"Bridging Experience and Prognosis: The Future of a Public Opinion Research Network"



PROCEEDING

2016 ANPOR Annual Conference

Le Meridian Angkor, Siem Reap

University of Battambang, Battambang

Cambodia

November 8th - 12th, 2016

Co-Host

Asian Network for Public Opinion Research

University of Battambang

Center for Asian Public Opinion Research & Collaboration Initiative

Chinese Association for Public Opinion Research

Co-Sponsor

Cambodia Development Resource Initiative

Battambang Province

Friedrich Naumann Foundation for Freedom

Proceedings

2016 ANPOR Annual Conference

Bridging Experience and Prognosis:
The Future of a Public Opinion Research Network

Battambang-Siem Reap, Cambodia
8-12 November 2016



2016 ANPOR Annual Conference
Bridging Experience and Prognosis : The Future of a Public Opinion Research Network
BATTAMBANG-SIEM REAP, CAMBODIA

Welcome greetings from the President of ANPOR

It is my great pleasure to welcome you to the fourth annual ANPOR Conference. The seed of the idea for an Asian network started at the WAPOR Conference in Hong Kong in June 2012, and by November 28th, 2012, ANPOR was officially established.

Since then, under the leadership of the founding president, Prof. Sung Kyum Cho, we have accomplished a lot for such a young organization. We have published three full years of our quarterly journal, the Asian Journal for Public Opinion Research and have just published the first issue of our fourth year. We have also held three conferences: the first in Seoul, South Korea, the second in Niigata, Japan and the third in Bangkok, Thailand. This year, our network expands to Cambodia with the University of Battambang, where we are getting together in the land of ancient civilization. We have become a real network; a network of colleagues; a network of friends as reflected in this year's theme.

As the second president, I believe that we can carry on our passion to make ANPOR "a knowledge production community" as the cornerstone of ANPOR's vision. We will continue to have lively debates and produce some great papers. We were able to be a crossroad venue for professors from difference disciplines, i.e., from communication, nursing, economics, and sociology, among others. International research and collaboration projects have been undertaken. Thanks to this network.

I look forward to seeing what we will achieve next: new conferences, new research projects, new opportunities to collaborate, and new members and countries joining us in our mission. Together we can drive our organization to its full potential. Please join me on that mission. I look forward to making plans with you to grow our "knowledge production community."

Jantima Kheokao
President of ANPOR

Welcome greetings from the Rector of University of Battambang

It gives me great pleasure indeed to welcome you all to the 4th ANPOR Annual Conference in Cambodia with the main theme of public opinion research networking as a bridge between people and development. I would like to extend a special welcome to our international guests especially as it the first time for some of them to come to Cambodia and it is my sincere hope that we shall see more of you in the future under the ASEAN collaborative framework.

Today, with the integration of ASEAN countries, we are facing new challenges of economic, social and cultural development toward glories in each member country, which is thirsted more international cooperations and exchanges among the member countries to support the ASEAN community blueprints. Indeed, scientific research and technology play a crucial role in our contemporary society, and they are part of almost every aspect of our lives.

The 4th ANPOR Annual Conference will provide an opportunity for scholars, researchers, political actors, decision makers and students to express their opinion as well as to present and discuss the state-of-the-art of scientific research and development within the Asian region in various sub-disciplines of engineering, science, and technology. Also to bring together the knowledge of different fields so as to put forward the existing science, technology, and innovation into practice in order to ultimately create sustainable well-being to humankind and a good ASEAN community. More precisely, it contributes to promoting Science, Technology, Engineering and Mathematics (STEM) linked to the society and human development as well as to create an academic network that strengthens academic societies prior to the wisdom of ASEAN Integration.

Finally, once again I would like to thank you all for attending this Annual Conference and once more welcome you all to the land of ancient civilization, Angkor - Cambodia. Hopefully, you will enjoy your stay and that the conference will be an informative and enjoyable event. Your experience, expertises, and readiness to share your knowledge and ideas are highly valuable and needed. I wish all of you fruitful discussion, interesting findings and observations from the 4th ANPOR Annual Conference in Cambodia.

Sieng Emtotim
Rector of the University of Battambang
Chair of the Local Organizing Committee

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A. ORGANIZATION PROFILE OF THE CO-HOST

I. Asian Network for Public Opinion Research (ANPOR)

The Asian Network for Public Opinion Research (ANPOR) was officially established on November 28, 2012, by scholars and experts in public opinion research coming from 9 different Asian countries and regions. The aims and objectives of ANPOR are:

a) to promote in each country or region in Asia the right to conduct and publish scientific research or practical analysis on what the citizens at large and organized or unorganized groups think and how this thinking is influenced by various factors or influences decisions and opinions,
b) to promote the knowledge and application of scientific methods in this objective,
c) to assist and promote the development and publication of public opinion research in Asia,
d) to promote worldwide the publication of public opinion research on Asia,
e) to promote international cooperation and exchange among academic, commercial, or political researchers, journalists, and political actors, as well as between the representatives of the different scientific disciplines.
f) to engage in any kind of activity directly or indirectly supporting the above-mentioned activities.

ANPOR's activities include professional meetings and publications, encouraging high professional standards, promoting improved research techniques, informing journalists about the appropriate forms of publishing poll results, observing the democratic process and use of polls in elections, promoting personnel training, coordinating international polls, and maintaining close relations with other international and regional research associations.

The incumbent officers of ANPOR include:

1) President Jantima Kheokao from Thailand
2) Vice President Xie Yungeng from China
3) Past-President and Publisher of AJPOR Sung Kyum Cho from South Korea
4) Editor-in-Chief Takashi Inoguchi from Japan
5) Chair of the Next Local Organizing Committee Sieng Emtotim from Cambodia
6) Secretary-Treasurer Jong-Seok Byun from South Korea
7) Secretary-General Nattawadee Boonwattanopas from Thailand

II. University of Battambang

In accordance with qualified lectures, standard curricula and its reputation, the University of Battambang is also equipped with number of high-quality facilities to assist students study, practice and socialize and has five faculties and an institute: Faculty of Business Administration and Tourism, Faculty of Science and Technology, Faculty of Agriculture and Food Processing,

Faculty of Sociology and Community Development, Faculty of Arts, Humanities and Education and Institute of Foreign Language.

Furnished with many modern equipment ranging from plant tissue lab to microbiology lab, scientific laboratories are very important equipment for those attending in majors of horticulture, animal science and food processing. Nuclear Machine, on the other hand, is a key tool empowering for students learning in Nuclear Engineering Major to explore the real science experiment. Computer labs, consisting more than 400 computers, are also playing an important role for students both surfing the information for their study and doing their paper works or they can access the internet by using their laptops or gadget via wireless available everywhere in UBB campus. Lecturers and Students can comfortably study owing to every lecturing room and hall is equipped with LCD Projectors and Internet access; video conferencing is available for students conducting in the form of distance learning. The art gallery contains both classical and traditional instrument.

These facilities are conducive more effective and comprehensive teaching and learning. The more importantly, UBB has a wonderful library comprising many valuable books covering number of subjects, which make availability for students to search for information and conduct their research.In order to balance out theory and practice, UBB provides students with the various facilities including:

- Expansive and Spacious Study Buildings (20000m2);
- Library (2400m2: 2 floors)
- Agriculture Building (m2)
- Sport Center (Volleyball, Basketball), Tennis, and Soccer);
- Research and Training Centers (221 hectares: 2 farms);
- A wide range of Technological Laboratories covering such aspects as: Microbiology, Basic Science, Food Processing, Animal Science, Plant Tissue Culture, Water Processing, and Engineering Laboratories, Staff Residence Building (44 rooms), Student Dormitory (2222 rooms), Nuclear computer Lab; Computer Labs (more than 200 computers), Art Gallery (Traditional and Modern Music Instruments), Conference Room (500 seats), Meeting Rooms), Video Conference Room, Audio Labs, Cafeteria, Bookshop; and Two spacious parking lots.

B. COMMITTEES AND MEMBERS

I. Co-Host

Asian Network for Public Opinion Research (ANPOR)
The University of Battambang (UBB)
Center for Asian Public Opinion Research & Collaboration Initiative (CAPORCI)
Chinese Association for Public Opinion Research (CAPOR)

II. Co-Sponsor

Cambodia Development Resource Initiative (CDRI)
Battambang Province
Friedrich Naumann Foundation for Freedom (FNF)

III. Conference Committee

Jantima Kheokao
Jong-Seok Byun
Syed Arabi Syed Abdullah Idid
Hong Chen

IV. Scientific Committee

Sung Kyum Cho (Chair)	Dean, College of Social Sciences, Chungnum National University, Korea
Jantima Kheokao (Co-Chair)	School of Communication Arts University of the Thai Chamber of Commerce, Thailand
Rhayun Song	College of Nursing, Chungnam National University, Korea
Cheong Tae Kim	President of KASR, Korea
Monica Haavisto Swahn	School of Public Health, Georgia State University, USA
Sureeporn Thanasilp	Dean, Faculty of Nursing, Chulalongkorn University, Thailand
Dieter C. Umbach	Law Faculty, Potsdam University, Germany
Syed Arabi Syed Abdullah Idid	International Islamic University, Malaysia
Mingue Park	Korea University, Korea
Ofer Feldman	Doshisha University, Japan
Chen Hong	East China Normal University, China
Xie Yungeng	Shanghai Jiao Tong University, China
Elena E. Pernia	Dean, College of Mass Communication, University of the Philippines, Philippines
Chairun Nasirin	Director, STIKES Mataram, Indonesia
Evi Hastina	Director, STIKES Fort De Kock, Indonesia
Siritorn Yingrengreung	Boromarajonani College of Nursing Bangkok, Thailand
Nattawadee Boonwattanopas	Sukhothai Thammathirath Open University, Thailand

V. Organizing Committee

Chair:	H.E. Emtotim Sieng Rector of University of Battambang	
Co-chair:	Tassanee Krirkgulthorn Director of Boromarajonani College of Nursing Saraburi	
Member:	Rethy Chhem Pao Srean Sovanna Seav Bunroeun Thach Cheyvuth Seng Seanghai Sarot Hak Yeong SoKunthy Nam Nangsamith Each Koemseang Nhuong	Anchalee Pichedpan Sopacha Eamopas Nattawadee Boonwattanopas
Graphic Designer:	Fazy Man	Naris Pichedpan
Web Master:	Natthakorn Ruengdit	
Editorial Committee:	Dhanaraj Kheokao (Chair) Dussadee Chareonsuk Siritorn Yingrengreung Natthakorn Ruengdit Nattawadee Boonwattanopas	

C. SPECIAL LECTURE

2016 ANPOR Annual Conference
Battambang, November 9th, 2016

Human Rights, Public Opinion and the Green Policy for the Protection of the Environment – Sustainability in SEA and Europe

Professor Dr.jur. Dr.h.c. Dieter C. Umbach
Potsdam University, Germany

ABSTRACT

A.

Reading the title of this lecture, you may with reasonable doubts think: How may this come under one roof as each of the institutions mentioned would merit a whole one week or even longer seminar. So what should be shown in the first place is the inter-relation of Human Rights, Public Opinion and the Search for Sustainability.

B.

1. Human Rights

All of us have more or less precise idea of Human Rights. Some see them as the fundamental Values and Rights, others rather skeptically as "cheap coins" used in every discussion or political fight from both parties on different sides. In nearly all constitution of your Southeast Asian Nations, they are – to a different degree – enshrined in the Constitution, the highest law of your land. Like in Thailand, Cambodia, Indonesia, Korea, China, etc. There are mostly also-so-called fundamental rights or even bills of rights. The most important difference to the fundamental constitutional right is the fact that Human Rights are not given by the individual state to his citizens as a privilege or present, but that they exist before any statehood.

The Universal Declaration of Human Rights from 10 December 1948 is the cornerstone document in the history of Human rights. Nobody here at this Conference would be so naïve to think that their proclamation would be sufficient to change the world. Last not least their interpretation is a sensible factor, which might also be influenced by Public Opinion: What is regarded as being inside or outside the framework of Human Rights.

2. Public Opinion

Usually, the desires, wants and thinking of the majority of the population – or the collective opinion on an issue might be called "Public Opinion." There may be dozens of another

definition, and the whole subject is under discussion as: How much has Mass Media Effect on the Public Opinion? How can Public Opinion be measured? So, in addition Influentials, networks, etc. may have an impact on Public Opinion and without any doubt, this is a most ambivalent field of research, not only on a national level but an internationals level – so just what ANPOR wants to do. And there is a clear connection between Human Rights and Public Opinion; There is a strong consensus in the international community on the importance and value of Human rights, a kind of an international public opinion. But there has been little research on the role played by the mass public opinion in the field of Human Rights And to quote an example: The consumer behavior might be changing given violations of Human Rights regarding products made by child – labor.

3. Sustainability

Terms like Climate Change, Global Warming, Ecological Responsibility, Preserving and Saving of Nature, Energy Change and Protection of the Environment and others have become of worldwide importance. Since several years the term "Sustainability" has been added. Altogether they come under the heading of "Green Policy."

Green Policy has been developing in different countries and continents in quite diverse stages from very progressive and commonly accepted to nearly zero and nil or at least superficial and only as lip service. This depends on many issues: It is much easier for a rich industrialized country to observe green environmental rules with laws to force the industry to filter sewage water than for a poor development country not to throw the garbage into the next river because they cannot afford a proper and controlled waste disposal.

Of course behind all political discussions the important question comes up more and more: Do we have a fundamental right to a clean environment and a sustainable general policy, is it perhaps a constitutional guarantee in view of coming generation? This leads to the question, if the protection of the environment and the principle of sustainability are not only maybe simple and progressive national rights in developed countries, or have they become Human Rights. The answer lies in the – hopefully near – future.

D. TECHNICAL WORKSHOP

2016 ANPOR Annual Conference
Battambang, November 9th, 2016

"Conducting Public Opinion Research in Multidisciplinary"

Professor Dr. Sung Kyum Cho
Chungnam National University, South Korea

This workshop provides an introduction to public opinion research. We will discuss the importance and some purposes of public opinion research and some ways that it is used in different fields. Survey methodology will be explained, including sampling methods, questionnaire design, survey mode, and kinds of survey error. Using big data, including social networking sites, to analyze public opinion will also be discussed.

E. KEYNOTE LECTURE

2016 ANPOR Annual Conference
Siem Reap, November 10th, 2016

"Referendums: A Serious or Doubtful Statement of Public Opinion?"

Professor Dr.jur. Dr.h.c. Dieter C. Umbach
Potsdam University, Germany

ABSTRACT

A.

The word referendum has Latin roots. It comes from "re" (=back) and ferre (= to bring) and that means the voters bring back to the sovereign power the answer to a question which has been placed before them. There have been some recent examples of referendums or referenda – the wording depends on the knowledge of Latin grammar – in different countries: Take the Vote in the United Kingdom on the membership in the European Union, which ended in the so-called Brexit; take the referendum in Hungary on the question if the EU should be allowed to influence immigration; or take the popular vote in the motherland of referendums and plebiscites Switzerland on an unconditional basic income. And even the more recent the referendum of the electorate in Colombia for the peace treaty between the Government and the FARC-Rebels. And lately, you had the referendum in Thailand on the draft of a new constitution. If you analyse the conditions in view of the political background, then the question asked then the results, the degree of voter turnout and finally the interpretation of the results or answers, it seems to be extremely ambivalent to value the outcomes. The question may arise: Do we have a kind of Public Opinion in the individual results pf these examples?

B.

We should have a close look at the two notions: A referendum, which in some countries is a synonym for a plebiscite, is a direct vote in which the entire electorate is asked to vote on a particular proposal. The terminology is different across the globe; some countries use plebiscite for votes to change the constitution. Public Opinion means the desires, wants and thinking and even emotions of the majority of the population or the collective opinion, even feeling of the citizens of society, or a state or nations on an issue, a problem, a politically controversial

question – all that comes under the notion of Public Opinion. So the question remains: Do referendums really mirror the or a Public Opinion? The answer is difficult. A genuine Public Opinion comes in principal from classical elections. Free and fair elections are essential in assuring the consent of the governed, which is the cornerstone of democratic politics. Elections serve as the principal mechanism for transferring that consent into governmental authority. Insofar all democracies hold elections, but not all elections are democratic. Right wing dictatorships, Maoist regimes, and single party governments also stage elections to give their rule the aura of legitimacy.

C.

As elections are only taking place every 4 – 5 years or so, one could say the more chances to vote in between, the more democratically the country is. From a political – philosophical perspective, referendums are an expression of direct democracy. On the other hand, as British politician, Chris Patton remarked: in 2003, referendums "are awful." He quoted the famous Julian Critchley, who said that referendums were the favourite form of plebiscitary democracy of Mussolini and Hitler. So it is – to say the least – very difficult to judge to what extent the outcome of a referendum shows really the existing Public Opinion. It depends mainly on the country where it is held – no doubt that in Switzerland you really see the Public Opinion reflected. And the same applies to referendums in the States of the Federal Republic of Germany, where in Bavaria and the City State of Hamburg the proposal of Olympic Games was clearly rejected. Just recently the British Brexit vote shows no absolute clear Public Opinion or better: It shows two competing ones: The turnout of voters was 70 %, the Remain Votes: 48 %, the Remain Votes 52 %.

D.

Maybe you had a recent referendum in your country. How would you answer the question of this paper?

F. LOCATION

I. Pre-Conference: University of Battambang (UBB), Battambang, Cambodia

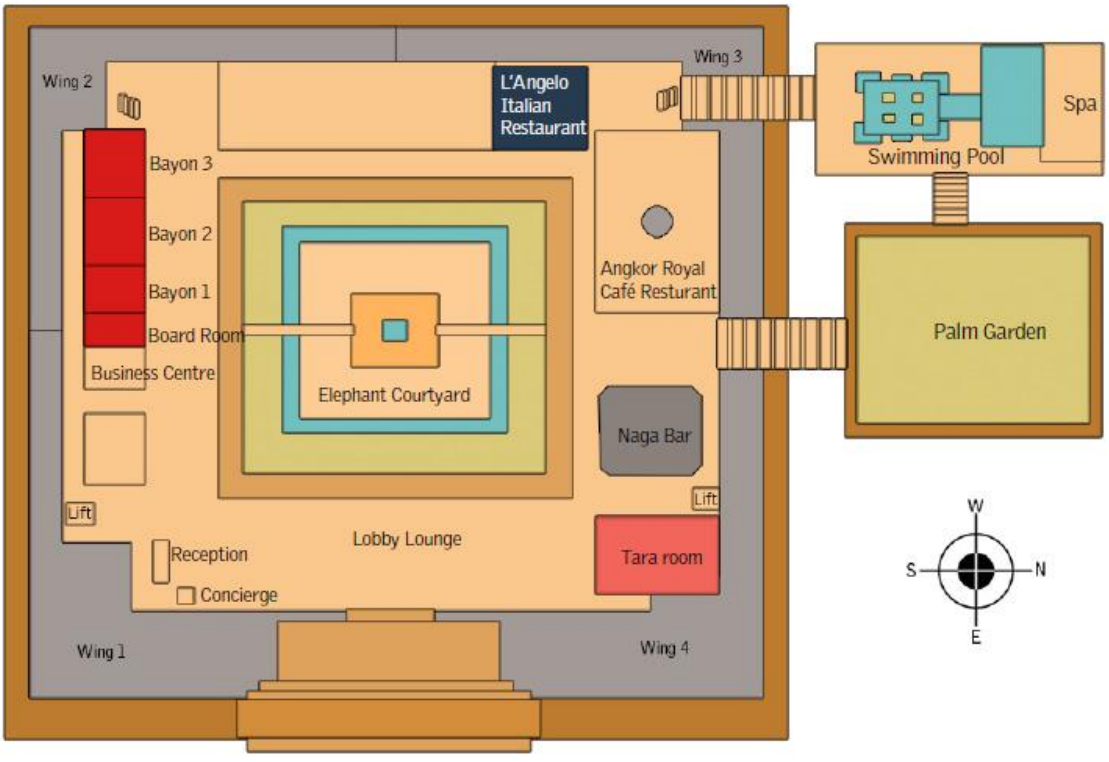
Address: National Road 5, Sangkat Preaek Preah Sdach, Battambang City, Battambang Province, Cambodia
Tel: (855)53 952 905

II. Main-Conference: Le Méridien Angkor, Siem Reap, Cambodia

Address: Vithei Charles de Gaulle, Khum Svay Dang Kum, Siem Reap, Cambodia
Tel: (855)63 963 900

Main-Conference Floor plan at Le Méridien Angkor

Conference Center:	Business Center
Registration:	Lobby Lounge
Main room:	Tara Room
Oral Session Room:	Tara Room, Naga Bar, Bayon 2 and L'Angelo
Poster Session Room:	Tara Room
Lunch and Dinner:	Angkor Royal Café' Restaurant and Elephant Courtyard
Conference Banquet:	Palm Garden



G. CONFERENCE PROGRAM

I. Pre-Conference: University of Battambang (UBB), Battambang, Cambodia

<table>
<tr><th>Time</th><th colspan="2">08-Nov-16</th><th>09-Nov-16</th></tr>
<tr><td rowspan="2">8.00 - 9.00</td><td></td><td rowspan="9"></td><td rowspan="2">Registration</td></tr>
<tr><td>Pick up at Le Meridien Angkor (Group1)</td></tr>
<tr><td rowspan="2">9.00 - 10.00</td><td rowspan="2">Pick up at Siem Reap International Airport (Group1)</td><td>National Anthem</td></tr>
<tr><td>Blessing Dance by the UBB Students</td></tr>
<tr><td rowspan="4">10.00 - 11.00</td><td rowspan="5">Transfer to Battambang</td><td>Welcome Speech by the UBB Rector</td></tr>
<tr><td>Welcome Speech by the President of ANPOR</td></tr>
<tr><td>Opening Remarks by the Governor of Battambang</td></tr>
<tr><td>Photo Session</td></tr>
<tr><td rowspan="2">11.00 - 12.00</td><td>Coffee Break</td></tr>
<tr><td>Special Lecture 1 "Human Rights, Public Opinion and the Green Policy for the Protection of the Environment – Sustainability in SEA and Europe" by Professor Dr. Dr. h.c. Dieter C. Umbach, Potsdam University, Germany</td></tr>
<tr><td rowspan="2">12.00 - 13.00</td><td>Pick up at Le Meridien Angkor I (Group 2)</td><td>Special Lecture 2 "Conduting Public Opinion Research: An Introduction to the Survey Methodology" by Professor Dr. Sung Kyum Cho, Chungnam University, South Korea</td></tr>
<tr><td>Pick up at Siem Reap International Airport (Group 2)</td><td rowspan="2">Lunch</td></tr>
<tr><td rowspan="2">13.00 - 14.00</td><td rowspan="2">Check-in at King Fy Hotel</td><td rowspan="6">Transfer to Battambang</td></tr>
<tr><td>Presentation "Impact of Women Entrepreneurship Program"</td></tr>
<tr><td rowspan="3">14.00 - 15.00</td><td rowspan="4">Visit Battambang Provincial Referral Hospital and Radio National Battambang Chamka Chek FM 92.70 MHz</td><td>Presentation "Profit Comparison between Pig Raising for Reproduction and for Meat of Households in Battambang Province”</td></tr>
<tr><td>Presentation "Profit Comparison between Pig Raising and Chicken Raising of Households with Disability in Battambang Province”</td></tr>
<tr><td>Presentation " ASEAN Economic Integration and the Labour Market of the University's students in Battambang City”</td></tr>
<tr><td rowspan="2">15.00 - 16.00</td><td>Presentation "Perception od Students in the University of Battambang on the Cambodia Securities Exchange”</td></tr>
<tr><td>Presentation " Effect of Using Three Different Kinds of Yeast in Fermenting Pineapple Wine”</td></tr>
<tr><td rowspan="2">16.00 - 17.00</td><td rowspan="2">Bamboo Train</td><td>Presentation " Porcine Reproductive and Respiratory Syndromes Virus (PRRSV) detective methods”</td></tr>
<tr><td>Coffee Break</td></tr>
<tr><td>17.00 - 18.00</td><td>Relax at the hotel</td><td>Check-in and relax at King Fy hotel</td><td rowspan="3">Transfer to Siem Reap and Check-in at the hotel</td></tr>
<tr><td>18.00 - 19.00</td><td colspan="2" rowspan="2">Welcome Reception at the University of Battambang</td></tr>
<tr><td>19.00 - 20.00</td></tr>
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2016 ANPOR Annual Conference

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BATTAMBANG-SIEM REAP, CAMBODIA

II. Main-Conference: Le Méridien Angkor, Siem Reap, Cambodia

<table>
<tr><th>Time</th><th colspan="3">10-Nov-16</th><th colspan="2">11-Nov-16</th><th>12-Nov-16</th></tr>
<tr><td>8.00 - 9.00</td><td colspan="3">Registration</td><td>Session D1
Chair: Choi, Sook
Place: Naga Bar
Paper: 237, 175, 212</td><td>Session D2
Chair: Singh, Kumar Paramjeet
Place: L'Angelo
Paper: 195, 217, 150</td><td>7.30: Pick up at Le Meridien Angkor</td></tr>
<tr><td rowspan="2">9.00 - 10.00</td><td colspan="3">Welcome Speech
by Chair of the local organizing committee</td><td colspan="2" rowspan="2">Poster Presentation 1</td><td rowspan="11">Excursion</td></tr>
<tr><td colspan="3">Welcome Speech by President of ANPOR</td></tr>
<tr><td rowspan="2">10.00 - 11.00</td><td colspan="3">Opening Ceremony</td></tr>
<tr><td colspan="3" rowspan="2">Keynote Speech
by Ministry of Education, Youth and Sport (Cambodia)</td><td colspan="2">Coffee Break</td></tr>
<tr><td rowspan="2">11.00 - 12.00</td><td colspan="3">Coffee Break</td><td>Session E1
Chair: Suwannaka, Yoavadee
Place: Naga Bar
Paper: 193, 122, 197, 199,</td><td>Session E2
Chair: Runkawatt, Viliporn
Place: L'Angelo
Paper: 183, 204, 157, 149, 170</td></tr>
<tr><td colspan="3">Keynote Lecture "Referendums: A Serious or Doubtful Statement of Public Opinion?" by Professor Dr. Dr. h.c. Dieter C. Umbach
Award Winning Essay Presentation "Asian Perspectives on Public Opinion in the 21st Century: Using the Lens of Philippine Election 2016" by Dr. Gerardo L. Guiuan</td><td colspan="2">Lunch</td></tr>
<tr><td>12.00 - 13.00</td><td colspan="3">Lunch</td><td colspan="2">Poster Presentation 2</td></tr>
<tr><td>13.00 - 14.00</td><td>Session A1
Chair: Paek, Hye-Jin
Place: Tara Room
Paper: 171, 200, 231</td><td>Session A2
Chair: Chen, Hong
Place: Naga Bar
Paper: 114, 176, 220, 202</td><td>Council Meeting (Business Center meeting room)</td><td colspan="2">Coffee Break</td></tr>
<tr><td rowspan="2">14.00 - 15.00</td><td colspan="3">Coffee Break</td><td>Session F1
Chair: Guiuan, Gerardo Laureta
Place: Naga Bar
Paper: 194, 225, 192, 125, 242, 238</td><td>Session F2
Chair: Tham, Jen Sern
Place: L'Angelo
Paper: 170, 198, 208, 233</td></tr>
<tr><td rowspan="2">15.00 - 16.00</td><td>Session B1
Chair: Byun, Jong-Seok
Place: Tara Room
Paper: 113, 139, 110, 201</td><td>Session B2
Chair: Nasirin, Chairun
Place: Naga Bar
Paper: 196, 213, 162</td><td>Session B3
Chair: Cho, Sung Kyum
Place: Bayon 2
Paper: 230</td><td rowspan="2">Session G1
Chair: Nam, Inyong
Place: Naga Bar
Paper: 229, 235, 189, 232, 190</td><td rowspan="2">Session G2
Chair: Zanuddin, Hasmah
Place: L'Angelo
Paper: 111, 133, 112, 241</td></tr>
<tr><td rowspan="2">16.00 - 17.00</td><td>Session C1
Chair: Srean, Pao
Place: Tara Room
Paper: 135, 187, EXT1</td><td>Session C2
Chair: Kanyuk, Pattama
Place: Naga Bar
Paper: 221, 203, 218</td><td>Session C3
Chair: Chaudhary, Vishavjeet
Place: Bayon 2
Paper: 128, 205, 166</td></tr>
<tr><td colspan="3">Free time</td><td colspan="2">Free time</td></tr>
<tr><td rowspan="2">17.00 - 18.00</td><td colspan="3" rowspan="2">General Meeting</td><td colspan="2">Closing Ceremony and Award Giving + Conference Banquet</td><td>17.30 Tour ends at LMA</td></tr>
<tr><td>18.00 - 19.00</td><td colspan="3">Dinner</td></tr>
</table>

H. LIST OF SESSIONS

Session Number	Title	Chair	Place
A1	Health Promotion and Nursing Science	Paek, Hye-Jin (Hanyang University)	Tara Room
A2	Propaganda Democracy and Public Opinion	Chen, Hong (East China Normal University)	Naga Bar
B1	Social, Political, Economic, and/or Cultural issues	Byun, Jong-Seok (Hanshin University)	Tara Room
B2	Health Promotion and Nursing Science	Nasirin, Chairun (College of Health Science (STIKES) Mataram)	Naga Bar
B3	Korean	Cho, Sung Kyum (Chungnam National University)	Bayon 2
C1	Social, Political, Economic, and/or Cultural issues	Srean, Pao (University of Battambang)	Tara Room
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2016 ANPOR Annual Conference

Bridging Experience and Prognosis : The Future of a Public Opinion Research Network

BATTAMBANG-SIEM REAP, CAMBODIA

FULL PAPERS SUBMITTED TO THE CONFERENCE COMMITTEE

"Bridging Experience and Prognosis: The Future of a Public Opinion Research Network"



PROCEEDING

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University of Battambang, Battambang

Cambodia

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Battambang-Siem Reap, Cambodia
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2016 ANPOR Annual Conference
Bridging Experience and Prognosis : The Future of a Public Opinion Research Network
BATTAMBANG-SIEM REAP, CAMBODIA

Welcome greetings from the President of ANPOR

It is my great pleasure to welcome you to the fourth annual ANPOR Conference. The seed of the idea for an Asian network started at the WAPOR Conference in Hong Kong in June 2012, and by November 28th, 2012, ANPOR was officially established.

Since then, under the leadership of the founding president, Prof. Sung Kyum Cho, we have accomplished a lot for such a young organization. We have published three full years of our quarterly journal, the Asian Journal for Public Opinion Research and have just published the first issue of our fourth year. We have also held three conferences: the first in Seoul, South Korea, the second in Niigata, Japan and the third in Bangkok, Thailand. This year, our network expands to Cambodia with the University of Battambang, where we are getting together in the land of ancient civilization. We have become a real network; a network of colleagues; a network of friends as reflected in this year's theme.

As the second president, I believe that we can carry on our passion to make ANPOR "a knowledge production community" as the cornerstone of ANPOR's vision. We will continue to have lively debates and produce some great papers. We were able to be a crossroad venue for professors from difference disciplines, i.e., from communication, nursing, economics, and sociology, among others. International research and collaboration projects have been undertaken. Thanks to this network.

I look forward to seeing what we will achieve next: new conferences, new research projects, new opportunities to collaborate, and new members and countries joining us in our mission. Together we can drive our organization to its full potential. Please join me on that mission. I look forward to making plans with you to grow our "knowledge production community."

Jantima Kheokao
President of ANPOR

Welcome greetings from the Rector of University of Battambang

It gives me great pleasure indeed to welcome you all to the 4th ANPOR Annual Conference in Cambodia with the main theme of public opinion research networking as a bridge between people and development. I would like to extend a special welcome to our international guests especially as it the first time for some of them to come to Cambodia and it is my sincere hope that we shall see more of you in the future under the ASEAN collaborative framework.

Today, with the integration of ASEAN countries, we are facing new challenges of economic, social and cultural development toward glories in each member country, which is thirsted more international cooperations and exchanges among the member countries to support the ASEAN community blueprints. Indeed, scientific research and technology play a crucial role in our contemporary society, and they are part of almost every aspect of our lives.

The 4th ANPOR Annual Conference will provide an opportunity for scholars, researchers, political actors, decision makers and students to express their opinion as well as to present and discuss the state-of-the-art of scientific research and development within the Asian region in various sub-disciplines of engineering, science, and technology. Also to bring together the knowledge of different fields so as to put forward the existing science, technology, and innovation into practice in order to ultimately create sustainable well-being to humankind and a good ASEAN community. More precisely, it contributes to promoting Science, Technology, Engineering and Mathematics (STEM) linked to the society and human development as well as to create an academic network that strengthens academic societies prior to the wisdom of ASEAN Integration.

Finally, once again I would like to thank you all for attending this Annual Conference and once more welcome you all to the land of ancient civilization, Angkor - Cambodia. Hopefully, you will enjoy your stay and that the conference will be an informative and enjoyable event. Your experience, expertises, and readiness to share your knowledge and ideas are highly valuable and needed. I wish all of you fruitful discussion, interesting findings and observations from the 4th ANPOR Annual Conference in Cambodia.

Sieng Emtotim
Rector of the University of Battambang
Chair of the Local Organizing Committee

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A. ORGANIZATION PROFILE OF THE CO-HOST

I. Asian Network for Public Opinion Research (ANPOR)

The Asian Network for Public Opinion Research (ANPOR) was officially established on November 28, 2012, by scholars and experts in public opinion research coming from 9 different Asian countries and regions. The aims and objectives of ANPOR are:

a) to promote in each country or region in Asia the right to conduct and publish scientific research or practical analysis on what the citizens at large and organized or unorganized groups think and how this thinking is influenced by various factors or influences decisions and opinions,
b) to promote the knowledge and application of scientific methods in this objective,
c) to assist and promote the development and publication of public opinion research in Asia,
d) to promote worldwide the publication of public opinion research on Asia,
e) to promote international cooperation and exchange among academic, commercial, or political researchers, journalists, and political actors, as well as between the representatives of the different scientific disciplines.
f) to engage in any kind of activity directly or indirectly supporting the above-mentioned activities.

ANPOR's activities include professional meetings and publications, encouraging high professional standards, promoting improved research techniques, informing journalists about the appropriate forms of publishing poll results, observing the democratic process and use of polls in elections, promoting personnel training, coordinating international polls, and maintaining close relations with other international and regional research associations.

The incumbent officers of ANPOR include:

1) President Jantima Kheokao from Thailand
2) Vice President Xie Yungeng from China
3) Past-President and Publisher of AJPOR Sung Kyum Cho from South Korea
4) Editor-in-Chief Takashi Inoguchi from Japan
5) Chair of the Next Local Organizing Committee Sieng Emtotim from Cambodia
6) Secretary-Treasurer Jong-Seok Byun from South Korea
7) Secretary-General Nattawadee Boonwattanopas from Thailand

II. University of Battambang

In accordance with qualified lectures, standard curricula and its reputation, the University of Battambang is also equipped with number of high-quality facilities to assist students study, practice and socialize and has five faculties and an institute: Faculty of Business Administration and Tourism, Faculty of Science and Technology, Faculty of Agriculture and Food Processing,

Faculty of Sociology and Community Development, Faculty of Arts, Humanities and Education and Institute of Foreign Language.

Furnished with many modern equipment ranging from plant tissue lab to microbiology lab, scientific laboratories are very important equipment for those attending in majors of horticulture, animal science and food processing. Nuclear Machine, on the other hand, is a key tool empowering for students learning in Nuclear Engineering Major to explore the real science experiment. Computer labs, consisting more than 400 computers, are also playing an important role for students both surfing the information for their study and doing their paper works or they can access the internet by using their laptops or gadget via wireless available everywhere in UBB campus. Lecturers and Students can comfortably study owing to every lecturing room and hall is equipped with LCD Projectors and Internet access; video conferencing is available for students conducting in the form of distance learning. The art gallery contains both classical and traditional instrument.

These facilities are conducive more effective and comprehensive teaching and learning. The more importantly, UBB has a wonderful library comprising many valuable books covering number of subjects, which make availability for students to search for information and conduct their research.In order to balance out theory and practice, UBB provides students with the various facilities including:

- Expansive and Spacious Study Buildings (20000m2);
- Library (2400m2: 2 floors)
- Agriculture Building (m2)
- Sport Center (Volleyball, Basketball), Tennis, and Soccer);
- Research and Training Centers (221 hectares: 2 farms);
- A wide range of Technological Laboratories covering such aspects as: Microbiology, Basic Science, Food Processing, Animal Science, Plant Tissue Culture, Water Processing, and Engineering Laboratories, Staff Residence Building (44 rooms), Student Dormitory (2222 rooms), Nuclear computer Lab; Computer Labs (more than 200 computers), Art Gallery (Traditional and Modern Music Instruments), Conference Room (500 seats), Meeting Rooms), Video Conference Room, Audio Labs, Cafeteria, Bookshop; and Two spacious parking lots.

B. COMMITTEES AND MEMBERS

I. Co-Host

Asian Network for Public Opinion Research (ANPOR)
The University of Battambang (UBB)
Center for Asian Public Opinion Research & Collaboration Initiative (CAPORCI)
Chinese Association for Public Opinion Research (CAPOR)

II. Co-Sponsor

Cambodia Development Resource Initiative (CDRI)
Battambang Province
Friedrich Naumann Foundation for Freedom (FNF)

III. Conference Committee

Jantima Kheokao
Jong-Seok Byun
Syed Arabi Syed Abdullah Idid
Hong Chen

IV. Scientific Committee

Sung Kyum Cho (Chair)	Dean, College of Social Sciences, Chungnum National University, Korea
Jantima Kheokao (Co-Chair)	School of Communication Arts University of the Thai Chamber of Commerce, Thailand
Rhayun Song	College of Nursing, Chungnam National University, Korea
Cheong Tae Kim	President of KASR, Korea
Monica Haavisto Swahn	School of Public Health, Georgia State University, USA
Sureeporn Thanasilp	Dean, Faculty of Nursing, Chulalongkorn University, Thailand
Dieter C. Umbach	Law Faculty, Potsdam University, Germany
Syed Arabi Syed Abdullah Idid	International Islamic University, Malaysia
Mingue Park	Korea University, Korea
Ofer Feldman	Doshisha University, Japan
Chen Hong	East China Normal University, China
Xie Yungeng	Shanghai Jiao Tong University, China
Elena E. Pernia	Dean, College of Mass Communication, University of the Philippines, Philippines
Chairun Nasirin	Director, STIKES Mataram, Indonesia
Evi Hastina	Director, STIKES Fort De Kock, Indonesia
Siritorn Yingrengreung	Boromarajonani College of Nursing Bangkok, Thailand
Nattawadee Boonwattanopas	Sukhothai Thammathirath Open University, Thailand

V. Organizing Committee

Chair:	H.E. Emtotim Sieng Rector of University of Battambang	
Co-chair:	Tassanee Krirkgulthorn Director of Boromarajonani College of Nursing Saraburi	
Member:	Rethy Chhem Pao Srean Sovanna Seav Bunroeun Thach Cheyvuth Seng Seanghai Sarot Hak Yeong SoKunthy Nam Nangsamith Each Koemseang Nhuong	Anchalee Pichedpan Sopacha Eamopas Nattawadee Boonwattanopas
Graphic Designer:	Fazy Man	Naris Pichedpan
Web Master:	Natthakorn Ruengdit	
Editorial Committee:	Dhanaraj Kheokao (Chair) Dussadee Chareonsuk Siritorn Yingrengreung Natthakorn Ruengdit Nattawadee Boonwattanopas	

C. SPECIAL LECTURE

2016 ANPOR Annual Conference
Battambang, November 9th, 2016

Human Rights, Public Opinion and the Green Policy for the Protection of the Environment – Sustainability in SEA and Europe

Professor Dr.jur. Dr.h.c. Dieter C. Umbach
Potsdam University, Germany

ABSTRACT

A.

Reading the title of this lecture, you may with reasonable doubts think: How may this come under one roof as each of the institutions mentioned would merit a whole one week or even longer seminar. So what should be shown in the first place is the inter-relation of Human Rights, Public Opinion and the Search for Sustainability.

B.

1. Human Rights

All of us have more or less precise idea of Human Rights. Some see them as the fundamental Values and Rights, others rather skeptically as "cheap coins" used in every discussion or political fight from both parties on different sides. In nearly all constitution of your Southeast Asian Nations, they are – to a different degree – enshrined in the Constitution, the highest law of your land. Like in Thailand, Cambodia, Indonesia, Korea, China, etc. There are mostly also-so-called fundamental rights or even bills of rights. The most important difference to the fundamental constitutional right is the fact that Human Rights are not given by the individual state to his citizens as a privilege or present, but that they exist before any statehood.

The Universal Declaration of Human Rights from 10 December 1948 is the cornerstone document in the history of Human rights. Nobody here at this Conference would be so naïve to think that their proclamation would be sufficient to change the world. Last not least their interpretation is a sensible factor, which might also be influenced by Public Opinion: What is regarded as being inside or outside the framework of Human Rights.

2. Public Opinion

Usually, the desires, wants and thinking of the majority of the population – or the collective opinion on an issue might be called "Public Opinion." There may be dozens of another

definition, and the whole subject is under discussion as: How much has Mass Media Effect on the Public Opinion? How can Public Opinion be measured? So, in addition Influentials, networks, etc. may have an impact on Public Opinion and without any doubt, this is a most ambivalent field of research, not only on a national level but an internationals level – so just what ANPOR wants to do. And there is a clear connection between Human Rights and Public Opinion; There is a strong consensus in the international community on the importance and value of Human rights, a kind of an international public opinion. But there has been little research on the role played by the mass public opinion in the field of Human Rights And to quote an example: The consumer behavior might be changing given violations of Human Rights regarding products made by child – labor.

3. Sustainability

Terms like Climate Change, Global Warming, Ecological Responsibility, Preserving and Saving of Nature, Energy Change and Protection of the Environment and others have become of worldwide importance. Since several years the term "Sustainability" has been added. Altogether they come under the heading of "Green Policy."

Green Policy has been developing in different countries and continents in quite diverse stages from very progressive and commonly accepted to nearly zero and nil or at least superficial and only as lip service. This depends on many issues: It is much easier for a rich industrialized country to observe green environmental rules with laws to force the industry to filter sewage water than for a poor development country not to throw the garbage into the next river because they cannot afford a proper and controlled waste disposal.

Of course behind all political discussions the important question comes up more and more: Do we have a fundamental right to a clean environment and a sustainable general policy, is it perhaps a constitutional guarantee in view of coming generation? This leads to the question, if the protection of the environment and the principle of sustainability are not only maybe simple and progressive national rights in developed countries, or have they become Human Rights. The answer lies in the – hopefully near – future.

D. TECHNICAL WORKSHOP

2016 ANPOR Annual Conference
Battambang, November 9th, 2016

"Conducting Public Opinion Research in Multidisciplinary"

Professor Dr. Sung Kyum Cho
Chungnam National University, South Korea

This workshop provides an introduction to public opinion research. We will discuss the importance and some purposes of public opinion research and some ways that it is used in different fields. Survey methodology will be explained, including sampling methods, questionnaire design, survey mode, and kinds of survey error. Using big data, including social networking sites, to analyze public opinion will also be discussed.

E. KEYNOTE LECTURE

2016 ANPOR Annual Conference
Siem Reap, November 10th, 2016

"Referendums: A Serious or Doubtful Statement of Public Opinion?"

Professor Dr.jur. Dr.h.c. Dieter C. Umbach
Potsdam University, Germany

ABSTRACT

A.

The word referendum has Latin roots. It comes from "re" (=back) and ferre (= to bring) and that means the voters bring back to the sovereign power the answer to a question which has been placed before them. There have been some recent examples of referendums or referenda – the wording depends on the knowledge of Latin grammar – in different countries: Take the Vote in the United Kingdom on the membership in the European Union, which ended in the so-called Brexit; take the referendum in Hungary on the question if the EU should be allowed to influence immigration; or take the popular vote in the motherland of referendums and plebiscites Switzerland on an unconditional basic income. And even the more recent the referendum of the electorate in Colombia for the peace treaty between the Government and the FARC-Rebels. And lately, you had the referendum in Thailand on the draft of a new constitution. If you analyse the conditions in view of the political background, then the question asked then the results, the degree of voter turnout and finally the interpretation of the results or answers, it seems to be extremely ambivalent to value the outcomes. The question may arise: Do we have a kind of Public Opinion in the individual results pf these examples?

B.

We should have a close look at the two notions: A referendum, which in some countries is a synonym for a plebiscite, is a direct vote in which the entire electorate is asked to vote on a particular proposal. The terminology is different across the globe; some countries use plebiscite for votes to change the constitution. Public Opinion means the desires, wants and thinking and even emotions of the majority of the population or the collective opinion, even feeling of the citizens of society, or a state or nations on an issue, a problem, a politically controversial

question – all that comes under the notion of Public Opinion. So the question remains: Do referendums really mirror the or a Public Opinion? The answer is difficult. A genuine Public Opinion comes in principal from classical elections. Free and fair elections are essential in assuring the consent of the governed, which is the cornerstone of democratic politics. Elections serve as the principal mechanism for transferring that consent into governmental authority. Insofar all democracies hold elections, but not all elections are democratic. Right wing dictatorships, Maoist regimes, and single party governments also stage elections to give their rule the aura of legitimacy.

C.

As elections are only taking place every 4 – 5 years or so, one could say the more chances to vote in between, the more democratically the country is. From a political – philosophical perspective, referendums are an expression of direct democracy. On the other hand, as British politician, Chris Patton remarked: in 2003, referendums "are awful." He quoted the famous Julian Critchley, who said that referendums were the favourite form of plebiscitary democracy of Mussolini and Hitler. So it is – to say the least – very difficult to judge to what extent the outcome of a referendum shows really the existing Public Opinion. It depends mainly on the country where it is held – no doubt that in Switzerland you really see the Public Opinion reflected. And the same applies to referendums in the States of the Federal Republic of Germany, where in Bavaria and the City State of Hamburg the proposal of Olympic Games was clearly rejected. Just recently the British Brexit vote shows no absolute clear Public Opinion or better: It shows two competing ones: The turnout of voters was 70 %, the Remain Votes: 48 %, the Remain Votes 52 %.

D.

Maybe you had a recent referendum in your country. How would you answer the question of this paper?

F. LOCATION

I. Pre-Conference: University of Battambang (UBB), Battambang, Cambodia

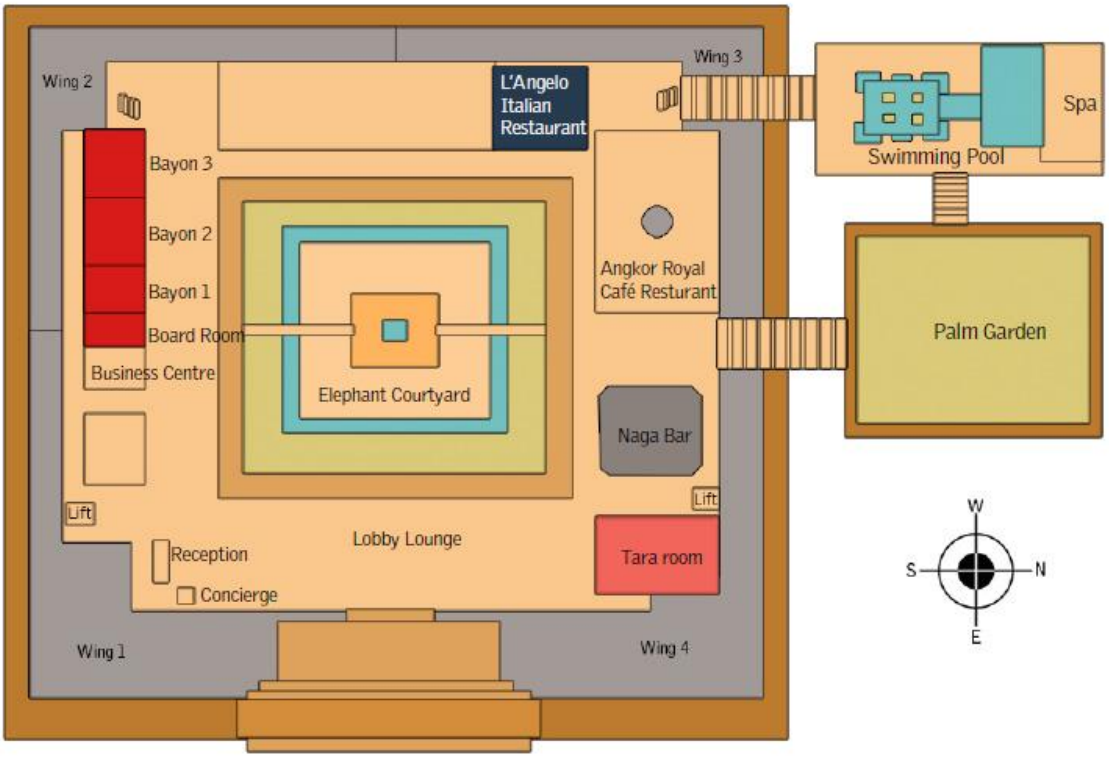
Address: National Road 5, Sangkat Preaek Preah Sdach, Battambang City, Battambang Province, Cambodia
Tel: (855)53 952 905

II. Main-Conference: Le Méridien Angkor, Siem Reap, Cambodia

Address: Vithei Charles de Gaulle, Khum Svay Dang Kum, Siem Reap, Cambodia
Tel: (855)63 963 900

Main-Conference Floor plan at Le Méridien Angkor

Conference Center:	Business Center
Registration:	Lobby Lounge
Main room:	Tara Room
Oral Session Room:	Tara Room, Naga Bar, Bayon 2 and L'Angelo
Poster Session Room:	Tara Room
Lunch and Dinner:	Angkor Royal Café' Restaurant and Elephant Courtyard
Conference Banquet:	Palm Garden



G. CONFERENCE PROGRAM

I. Pre-Conference: University of Battambang (UBB), Battambang, Cambodia

<table>
<tr><th>Time</th><th colspan="2">08-Nov-16</th><th>09-Nov-16</th></tr>
<tr><td rowspan="2">8.00 - 9.00</td><td></td><td rowspan="11"></td><td rowspan="2">Registration</td></tr>
<tr><td>Pick up at Le Meridien Angkor (Group1)</td></tr>
<tr><td rowspan="2">9.00 - 10.00</td><td rowspan="2">Pick up at Siem Reap International Airport (Group1)</td><td>National Anthem</td></tr>
<tr><td>Blessing Dance by the UBB Students</td></tr>
<tr><td rowspan="4">10.00 - 11.00</td><td rowspan="5">Transfer to Battambang</td><td>Welcome Speech by the UBB Rector</td></tr>
<tr><td>Welcome Speech by the President of ANPOR</td></tr>
<tr><td>Opening Remarks by the Governor of Battambang</td></tr>
<tr><td>Photo Session</td></tr>
<tr><td rowspan="2">11.00 - 12.00</td><td>Coffee Break</td></tr>
<tr><td>Special Lecture 1 "Human Rights, Public Opinion and the Green Policy for the Protection of the Environment – Sustainability in SEA and Europe" by Professor Dr. Dr. h.c. Dieter C. Umbach, Potsdam University, Germany</td></tr>
<tr><td rowspan="2">12.00 - 13.00</td><td>Pick up at Le Meridien Angkor I (Group 2)</td><td>Special Lecture 2 "Conduting Public Opinion Research: An Introduction to the Survey Methodology" by Professor Dr. Sung Kyum Cho, Chungnam University, South Korea</td></tr>
<tr><td>Pick up at Siem Reap International Airport (Group 2)</td><td rowspan="2">Lunch</td></tr>
<tr><td rowspan="2">13.00 - 14.00</td><td rowspan="2">Check-in at King Fy Hotel</td><td rowspan="6">Transfer to Battambang</td></tr>
<tr><td>Presentation "Impact of Women Entrepreneurship Program"</td></tr>
<tr><td rowspan="3">14.00 - 15.00</td><td rowspan="4">Visit Battambang Provincial Referral Hospital and Radio National Battambang Chamka Chek FM 92.70 MHz</td><td>Presentation "Profit Comparison between Pig Raising for Reproduction and for Meat of Households in Battambang Province”</td></tr>
<tr><td>Presentation "Profit Comparison between Pig Raising and Chicken Raising of Households with Disability in Battambang Province”</td></tr>
<tr><td>Presentation " ASEAN Economic Integration and the Labour Market of the University's students in Battambang City”</td></tr>
<tr><td rowspan="2">15.00 - 16.00</td><td>Presentation "Perception od Students in the University of Battambang on the Cambodia Securities Exchange”</td></tr>
<tr><td>Presentation " Effect of Using Three Different Kinds of Yeast in Fermenting Pineapple Wine”</td></tr>
<tr><td rowspan="2">16.00 - 17.00</td><td rowspan="2">Bamboo Train</td><td>Presentation " Porcine Reproductive and Respiratory Syndromes Virus (PRRSV) detective methods”</td></tr>
<tr><td>Coffee Break</td></tr>
<tr><td>17.00 - 18.00</td><td>Relax at the hotel</td><td>Check-in and relax at King Fy hotel</td><td rowspan="3">Transfer to Siem Reap and Check-in at the hotel</td></tr>
<tr><td>18.00 - 19.00</td><td colspan="2" rowspan="2">Welcome Reception at the University of Battambang</td></tr>
<tr><td>19.00 - 20.00</td></tr>
</table>



2016 ANPOR Annual Conference

Bridging Experience and Prognosis : The Future of a Public Opinion Research Network

BATTAMBANG-SIEM REAP, CAMBODIA

II. Main-Conference: Le Méridien Angkor, Siem Reap, Cambodia

<table>
<tr><th>Time</th><th colspan="3">10-Nov-16</th><th colspan="2">11-Nov-16</th><th>12-Nov-16</th></tr>
<tr><td>8.00 - 9.00</td><td colspan="3">Registration</td><td>Session D1
Chair: Choi, Sook
Place: Naga Bar
Paper: 237, 175, 212</td><td>Session D2
Chair: Singh, Kumar Paramjeet
Place: L'Angelo
Paper: 195, 217, 150</td><td>7.30: Pick up at Le Meridien Angkor</td></tr>
<tr><td rowspan="2">9.00 - 10.00</td><td colspan="3">Welcome Speech
by Chair of the local organizing committee</td><td colspan="2" rowspan="2">Poster Presentation 1</td><td rowspan="11">Excursion</td></tr>
<tr><td colspan="3">Welcome Speech by President of ANPOR</td></tr>
<tr><td rowspan="2">10.00 - 11.00</td><td colspan="3">Opening Ceremony</td></tr>
<tr><td colspan="3" rowspan="2">Keynote Speech
by Ministry of Education, Youth and Sport (Cambodia)</td><td colspan="2">Coffee Break</td></tr>
<tr><td rowspan="2">11.00 - 12.00</td><td colspan="3">Coffee Break</td><td>Session E1
Chair: Suwannaka, Yoavadee
Place: Naga Bar
Paper: 193, 122, 197, 199,</td><td>Session E2
Chair: Runkawatt, Viliporn
Place: L'Angelo
Paper: 183, 204, 157, 149, 170</td></tr>
<tr><td colspan="3">Keynote Lecture "Referendums: A Serious or Doubtful Statement of Public Opinion?" by Professor Dr. Dr. h.c. Dieter C. Umbach
Award Winning Essay Presentation "Asian Perspectives on Public Opinion in the 21st Century: Using the Lens of Philippine Election 2016" by Dr. Gerardo L. Guiuan</td><td colspan="2">Lunch</td></tr>
<tr><td>12.00 - 13.00</td><td colspan="3">Lunch</td><td colspan="2">Poster Presentation 2</td></tr>
<tr><td>13.00 - 14.00</td><td>Session A1
Chair: Paek, Hye-Jin
Place: Tara Room
Paper: 171, 200, 231</td><td>Session A2
Chair: Chen, Hong
Place: Naga Bar
Paper: 114, 176, 220, 202</td><td>Council Meeting (Business Center meeting room)</td><td colspan="2">Coffee Break</td></tr>
<tr><td rowspan="2">14.00 - 15.00</td><td colspan="3">Coffee Break</td><td>Session F1
Chair: Guiuan, Gerardo Laureta
Place: Naga Bar
Paper: 194, 225, 192, 125, 242, 238</td><td>Session F2
Chair: Tham, Jen Sern
Place: L'Angelo
Paper: 170, 198, 208, 233</td></tr>
<tr><td rowspan="2">15.00 - 16.00</td><td>Session B1
Chair: Byun, Jong-Seok
Place: Tara Room
Paper: 113, 139, 110, 201</td><td>Session B2
Chair: Nasirin, Chairun
Place: Naga Bar
Paper: 196, 213, 162</td><td>Session B3
Chair: Cho, Sung Kyum
Place: Bayon 2
Paper: 230</td><td rowspan="2">Session G1
Chair: Nam, Inyong
Place: Naga Bar
Paper: 229, 235, 189, 232, 190</td><td rowspan="2">Session G2
Chair: Zanuddin, Hasmah
Place: L'Angelo
Paper: 111, 133, 112, 241</td></tr>
<tr><td rowspan="2">16.00 - 17.00</td><td>Session C1
Chair: Srean, Pao
Place: Tara Room
Paper: 135, 187, EXT1</td><td>Session C2
Chair: Kanyuk, Pattama
Place: Naga Bar
Paper: 221, 203, 218</td><td>Session C3
Chair: Chaudhary, Vishavjeet
Place: Bayon 2
Paper: 128, 205, 166</td></tr>
<tr><td colspan="3">Free time</td><td colspan="2">Free time</td></tr>
<tr><td rowspan="2">17.00 - 18.00</td><td colspan="3" rowspan="2">General Meeting</td><td colspan="2">Closing Ceremony and Award Giving + Conference Banquet</td><td>17.30 Tour ends at LMA</td></tr>
<tr><td>18.00 - 19.00</td><td colspan="3">Dinner</td></tr>
</table>

H. LIST OF SESSIONS

Session Number	Title	Chair	Place
A1	Health Promotion and Nursing Science	Paek, Hye-Jin (Hanyang University)	Tara Room
A2	Propaganda Democracy and Public Opinion	Chen, Hong (East China Normal University)	Naga Bar
B1	Social, Political, Economic, and/or Cultural issues	Byun, Jong-Seok (Hanshin University)	Tara Room
B2	Health Promotion and Nursing Science	Nasirin, Chairun (College of Health Science (STIKES) Mataram)	Naga Bar
B3	Korean	Cho, Sung Kyum (Chungnam National University)	Bayon 2
C1	Social, Political, Economic, and/or Cultural issues	Srean, Pao (University of Battambang)	Tara Room
C2	Social Media, Big Data, and Emerging Technologies	Kanyuk, Pattama (Boromarajonnani Nursing College Nakhonratchasima)	Naga Bar
C3	Social, Political, Economic, and/or Cultural issues	Chaudhary, Vishavjeet (Jindal Global University)	Bayon 2
D1	Social, Political, Economic, and/or Cultural issues	Choi, Sook (Hankuk University of Foreign Studies)	Naga Bar
D2	Health Promotion and Nursing Science	Singh, Kumar Paramjeet (Jindal Global University)	L'Angelo
E1	Health Promotion and Nursing Science	Suwannaka, Yoavadee (Boromarajonani College of Nursing Praputhabat)	Naga Bar
E2	Social Media, Big Data, and Emerging Technologies	Runkawatt, Viliporn (Boromarajonnani College of Nursing Nakhonratchasima)	L'Angelo

Session Number	Title	Chair	Place
F1	Public Opinion Theory and/or Methods	Guiuan, Gerardo Laureta (St. Paul University Manila)	Naga Bar
F2	Health Promotion and Nursing Science	Tham, Jen Sern (Universiti Tunku Abdul Rahman)	L'Angelo
G1	Social, Political, Economic, and/or Cultural issues	Nam, Inyong (Pukyong National University)	Naga Bar
G2	Alcohol and Gambling Studies	Zanuddin, Hasmah (University of Malaya)	L'Angelo
	Propaganda Democracy and Public Opinion		
	Social Media, Big Data, and Emerging Technologies		
	Communication of Science, Environment, and Risk		
P1	Poster Presentation		Tara Room
P2	Poster Presentation		Tara Room

I. LIST OF PRESENTERS

Session	Paper ID	Author	Title
Session: A1 Chair: Paek, Hye-Jin Place: Tara Room			
A1	171	Yaowaluck Meebunmak, Jiriya Intana, Kwanjai Pataipakaipet, Sumalee Eamsamai, Churairat Duangchan	Adaption of persons with mobility and physical disability in one rural area of Thailand
A1	200	Suree Jinruang, Thanyarak Jaikhor	Differences in Health Literacy: A Survey among Patients with Diabetes Mellitus, Cancer, and Obesity
A1	231	Nattiya Peansungnern, Ratchanee Choonkor, Viliporn Runkawatt, Haruethai Kongmaha, Armpaporn Nunklang	Evaluation of Training Course for Caregivers to Older Adults

Session	Paper ID	Author	Title
Session: A2 **Chair: Chen, Hong** **Place: Naga Bar**			
A2	114	Ofer Feldman	Battle ground or Common Ground? The Struggle between Interviewers and Interviewees on Public Opinion during Televised Political Interviews in Japan
A2	176	Yaxin Wang	Research on the Public Opinion Guidance of Network Media in the Relationship between Doctor and Patient -- Based on the Analysis of the Content of Sina News and Phoenix News
A2	202	Wan, Xiaohong	The network public opinion mobilization in social media The event of Sun yang and Mark Horton in the Rio Olympic Games
A2	220	Zhijie Liu	Market Failure and Government Failure :Dual Opinion Fields in China in the New Media Era
Session: B1 **Chair: Byun, Jong-Seok** **Place: Tara Room**			
B1	110	Phyrom Eam, Cheyvuth Seng	A Path Analysis of Cambodian Faculty's Research Intention: Focusing on Direct and Mediating Effects at Individual Level
B1	113	Hasmah Zanuddin, Nurul Hidayah Watimin	Viral Issues and Public Opinion Formation on Social Media: A Case Study of "Low Yat" Racial Disagreement and Opposition Party "Bersih 4.0" Public Demonstration in Malaysia
B1	139	Xiaojie Cao	A critical response to public opinion research in the Internet era, or some possible responses to challenges
B1	201	Cecilia Cheng	A Population-Based Telephone Survey on the Prevalence of Mobile Phone Addiction and its Psychological Correlates among Hong Kong Community Residents
Session: B2 **Chair: Nasirin, Chairun** **Place: Naga Bar**			
B2	162	Pattama Kanyuk	Identifying the strengths & weaknesses of resilience from the perspective of older people
B2	196	Suree Jinruang, Wipasiri Naraphong, Prakit Rachawat, Panitna Chamnansua	Health Literacy among Caregivers

Session	Paper ID	Author	Title
B2	213	Wareewan Siriwanich, Jantima Kheokao, Panitnat Chamnansua, Yaowaluck Meebunmak, Pornlert Chumchai, Tunyarat Duangkam, Chattong Jaruphisitphaibun, Kristsana Hongthong	Health-related Internet Use, Health Information literacy and e-Health Literacy among the Students in Nursing Colleges Under Jurisdiction of the Praboromarajchanok Institute (PBRI) Who Had and Did Not Have Practicum Experiences
Session: B3 Chair: Cho, Sung Kyum Place: Bayon 2			
B3	230	Sook Choi, Sung Kyum Cho	A Case Study on International Journalism Education as Cultural Exchange between South Korea and Vietnam
Session: C1 Chair: Srean, Pao Place: Tara Room			
C1	135	Arief Arman	Al-Qaeda: The Anthrax of Humanity
C1	187	Hong Chen, Licheng Wang, Guangjia Zheng	An Empirical Study of Factors Influencing Trust in Government in College Students
C1	EXT1	Chhem Rethy	Public communication of science and technology: The case of Fukushima nuclear disaster
Session: C2 Chair: Kanyuk, Pattama Place: Naga Bar			
C2	203	Akinori Seki, Do Sy Huy	Developing Intercultural Learning and Competency through a Student Exchange Program: Implications for Students and Teachers
C2	218	Hay Chanthol	Labor standard, pays and labor rights in Cambodia: the case of garment sector
C2	221	Hum Chan, Moeurng Chamroeung	Analysis of Micro-Livelihood Impacts of Cambodian Migrant Workers from Thailand on Communities
Session: C3 Chair: Chaudhary, Vishavjeet Place: Bayon 2			
C3	128	Seanghai Sarot, Emtottim Sieng	Consumer Behavior Towards Pure Drinking Water In Battambang City
C3	166	Xiaoping Luo, Li Gu, Yuan Luo, Weiwei DU	How to make interactive ritual online?: A case study of the instant on-screen comments on a high-profile Chinese military parade

Session	Paper ID	Author	Title
C3	205	Somaly Sour, Sovanna Seav	Customers' Behavior Toward Shopping Online in Battambang City
Session: D1 **Chair: Choi, Sook** **Place: Naga Bar**			
D1	175	Guiuan, Gerardo	Facing DU 30
D1	212	Hay Chanthol	Productivity and Socioeconomic Development in Cambodia
D1	237	Bunroeun Thach	Cambodia: Strategies for diversification and industrial upgrading
Session: D2 **Chair: Singh, Kumar Paramjeet** **Place: L'Angelo**			
D2	150	Thassanee Thipsungnoen, Watcharee Sangsai, Kornkan Phuengnam	The Effects Of Group Counseling Program Based On The Satir Model On Adaptation And Mental Health Of The First Year Nursing Students, Boromarajonani College Of Nursing, Nakhonratchasima Thailand
D2	195	Panitnat Chamnansua, Jantima Kheokao, Tassanee Kirkkultorn, Pornlert Chumchai, Yaowaluck Meebunmak	Health Information Literacy, Ehealth Literacy, And Health Status of Foreign Workers in Thailand
D2	217	Jen Sern Tham, Zanuddin Hasmah	The Knowledge, Perceptions, Attitudes, and Perceived Risk in HIV/AIDS among Women in Malaysia: A cross-sectional study
Session: E1 **Chair: Suwannaka, Yoavadee** **Place: Naga Bar**			
E1	122	Mayuree Pha-ngam	Nursing Support: An Overlooked Key to Coping with Childbirth
E1	193	Chairun Nasirin	Mother Knowledge of Neglect Child Nutrition Drawback: Eradicate Cultural Beliefs of Unhealthy Feeding Practice in Kampung Society in Mataram
E1	197	Wiyakarn Sanghuachang, Wilaiwan Sangtum, Wilaiwan Wongjalearn	Opinion for participating in the empowering program to perceived power and stroke prevention behavior among older adult with chronic illness
E1	199	Suree Jinruang, Pisanu Singsai	Health Literacy in Patients with Cerebrovascular Disease, Hypertension, and Chronic Obstructive Pulmonary Disease
Session: E2			

Session	Paper ID	Author	Title
Chair: Runkawatt, Viliporn **Place: L'Angelo**			
E2	149	Yifei Ding	The Research of Communication of Online Rumor-Refuting Platform, illustrated by the case of "the rumor pulverizer" microblog.
E2	157	Danmin Li	The causal analysis of Fu Yuanhui's popularity in Rio Olympics based on the public opinion of Sina Weibo
E2	170	Angkana Montong	Outcome of Research-based Learning Instruction for Nursing Care of Persons with Mental Health Problems Course
E2	183	Hong Chen, Guangjia Zheng, Yu Pan, Jing Qin	Influence of Social Trust on Trust in Government New Media
E2	204	Kumar Paramjeet Singh	Labour Law in a Changing World: New Perspectives and Approaches
Session: F1 **Chair: Guiuan, Gerardo Laureta** **Place: Naga Bar**			
F1	125	Inho Park, Jong-Seok Byun	The Use of Weights in Business Tendency Surveys
F1	192	Zhuya Cheng	The Communication Features and Laws Study of Healthy Emergencies Network Public Opinion Based on Field Theory Perspective
F1	194	Sung Kyum Cho, Indeok Song	An Omnibus Survey in South Korea: KAMOS
F1	225	Silvia Bottega	Migration Waves and European Policy-Shaping: The Ambivalence of Mediatic Emotions
F1	238	Tassanee Kirkkultorn, Jantima Kheokao, Panitnat Chamnansua, Siritorn Yingrengreung, Pornlert Chumchai, Yaowaluck Meebunmak	Self-Assessment: Health Status of Cambodian Workers in Central Region of Thailand
F1	242	Ananya Kannasoot	Thai Cuisine in Singapore: A Case Study of Sensory Perception and Brand Loyalty
Session: F2 **Chair: Tham, Jen Sern** **Place: L'Angelo**			
F2	198	Pissamai Podhipak	Relationships between Health Behaviors, Stress and Quality of Life among Nursing Personnel in Saraburi Hospital

Session	Paper ID	Author	Title
F2	208	Thanaporn Yamsri, Kittipoom Pinyo, Darin Phokaew, Chatchadapon Chantarasuk	The experience and the opinion of the roles of Chamob: Cambodian Traditional Birth Attendant
F2	233	Prapai Kittiboonthawal, Kanyarat Ubolwan, Munthana Mneechoti, Naiyana Pulom, Jeeraporn Chuencham, Phuwasit Singprapai, Pattama Phatipattrarakul, Supusorn Lorhana	The Outcome of Identity Development to 21St Century Of Nursing Student
Session: G1 **Chair: Nam, Inyong** **Place: Naga Bar**			
G1	189	Xun Cao	Resistance and Dialogue: A Study of Symbolic Resistance on Internet Public Events
G1	190	Yungeng Xie, Jing Li, Qianqian Yu, Yannan Ji, Xiang Fu, Ting Rong	Study on the relationship among media use, social justice, and political trust in china
G1	229	Paula Rayman, Andrea Andzenge, Jennifer Castano, Gabrielle Davis, Maria Deiana, Donna Hackley, Limheang Heng, Michele Ross	Positive Peace and Gender Equity
G1	232	Hay, Chanthol	Returns to education and labour markets in Cambodia
G1	235	Sook Choi, Hyun Jung Kim	Representation of Children in Korean Television Drama
Session: G2 **Chair: Zanuddin, Hasmah** **Place: L'Angelo**			
G2	111	Eng Titya, Seng Cheyvuth	Member Management System in Union Of Youth Federation of Cambodia by Using Technology And Mobile Application
G2	112	Pao Srean, Buntha Eang	Profitability of rice farming in Northwest Cambodia
G2	133	Gao Jinping	Beijing's Change Enveloped in the 29th Olympic Games in 2008

Session	Paper ID	Author	Title
G2	241	Kunlapat Kanjanaparangkul	Strengths and Weaknesses about Corporate Management of local cable TV company in 2016
Session: P1 Place: Tara Room			
P1	107	Supisara Suwannachat, Rumpai Munsraket, Issarawan Sonthiphumat	The importance of caring for nursing students
P1	116	Supawadee Chaidachatorn, Suchada Klaimanee, Laorwan Oongsakul, Jeranut Somehock, Wanna Thanauphapphisan, Somporn Prasertsil	Prevalence and Risk Factors for the Incidence of Osteopenia and Osteoporosis Among Women Working at Boromarajonani College of Nursing, Nakhonratchasima.
P1	121	Suchada Klaimanee, Issarawan Sonthipumas, Supawadee Chaidachatorn, Watcharee Aphateeraphong, Kanlaya Phantu	Health Status of Nursing Students at Boromarajonani College of Nursing, Nakhon Ratchasima
P1	123	Vishavjeet Chaudhary, Kumar Paramjeet Singh	Legitimacy, Authority and Fairness of the Law: A Public Theory Perspective
P1	124	Sriwan Emratch, Wichitra Nawanantawong, Kanlaya Phantu	Effects of a Self-Management Support Program on Dietary and Exercise Behaviors and Blood Pressure among Elderly Persons with Hypertension
P1	131	Wiparat Suwanwaiphatthana, Jongkolnee Tuichareon, Thassanee Thipsongneon, Wipawee Ponkeaw	Drinking in Thai adolescents: Do gender or child rearing style differences?
P1	136	Namfon Waithayawongkorn, Jeranut Somchock, Somjitt Wiangperm	Perceptions from Nursing Students on their First Clinical Practice
P1	138	Chatthong Jarupisitpaiboon, Sinsakchon Aunprom-me, Pakatip Singkham, Nattineeporn Chantaranothai, Narumon Showsungnoen	Contaminant in food which sell in red-cross fair in NakhonRatchasima province
P1	141	Pornpak chomklang, Kotchakorn Kaewprom, Kalaya Phantu	Satisfaction with the Clinical Laboratory Service of the Second Year Nursing Students of Boromarajonani College of Nursing, Nakhonratchasima, Thailand
P1	143	Angsana Wisarutkasempong, Namfon Waithayawongkorn, Nuchamart Gaewgoontol	Factors Related to Rapid Repeat Pregnancy among Pregnant Adolescents

Session	Paper ID	Author	Title
P1	145	Haruethai Kongmaha, Partoom Kongmaha, Viliporn Runkawatt, Kannika Hansoongneon	Economic Needs Assessment of Elderly Patients Undergoing Stroke Recovery at Home
P1	147	Dutchanee Sinthuvongsanon, Viliporn Runkawatt	Factors Associated with Stress of Cancer Patient Care-takers at Pakthongchai Hospital, Nakhon Ratchasrima Province
P1	152	Thassanee Thipsungnoen, Somjitt Wiangperm, Praphaporn Suemram,	The Effects of the Program Self-Help Group on Person-Centered Nursing Theory on The Proudly of Nursing Students At Boromarajonani College of Nursing, Nakhonratchasima
P1	154	Maneeporn Somanusorn, Supisara Suwannachart, Piromlak Meesattayanan, Prangthip Thasanoh Elter	Perceptions of the First- and Second-Year Nursing Students on Volunteer Activities in Health Care Facilities
P1	156	Prangthip Thasanoh Elter, Maneeporn Somanusorn, Supisara Suwannachart, Piromlak Meesattayanan	Perceptions of Clients to Volunteer Activities of Nursing Students
P1	163	Anya Plodpluang, Supannee Kanhadilok, Nattaporn Uthaithum, Penpak Look-in, Pornpan Pomphayoon	Factors Affecting Quality of Life in Thai Pregnancy: A Population Based Study
P1	167	Juan Liu, Dean Cheng, Jiani Wu	Productive consumption in cross-culture communication: A survey on Chinese College Students' watching behavior of American TV series
P1	184	Wrangkana Khumsuk, Umakorn Jaiyungyuen, Wassana Uppor	Self-Care Behavior And Quality Of Life Among Patients With Chronic Disease In The Community
P1	191	Yoavadee Suwannaka, Boonsurb Sosome, Kanok-on Chaowaing	Development and Evaluation of Teaching Competency Assessment Tool for Promoting the Cultural Competence in Thai Nursing Students
P1	211	Eunho Jin, Inyong Nam	Impact of Corporate Social Responsibility (CSR) Activity and Corporate Authenticity on University Student Consumer's Repurchase Intention
P1	216	Achara Suksamran, Chettha Kaewprom	Promoting reflective thinking skill of nursing students using reflective journal writing in Community Health Nursing Practicum
P1	222	Purin Srisodsaluk, Chiraphun Phothong	Quality of life of People with Disability in Suphanburi Province

Session	Paper ID	Author	Title
P1	228	Panisara Songwatthanayuth	Perception of Organizational Development among Personnel, Prachomklao College of Nursing, Phetchaburi Province, Fiscal Year 2015
P1	236	Haruethai Kongmaha, Viliporn Runkawatt, Thanathbhorn Koolsantao, Prattana Thipkrathoke	Research title Factors Related to Flexibility in Older Adults
P1	239	Anchalee Pichedpun	Analysis of Meaning of Advertising Image of Thai Controversial Products
P1	240	Sopacha Eamopas	Marketing Communication Factors Affecting Decision to Homestay's Travel of Thai's Tourism in Bangkok
P1	EXT2	Vey Sep, Pao Srean	Effect of Chemical Fertilizer and Trichdomerma harzianum on Cambodia rice Variaties
P1	EXT3	Koemsan Sihn, Sothun Park, Pao Srean	Potency Of Aquatic Local Resources In Cambodia
P1	EXT4	Sothun Park, Sopheak Neang, Panha Tann, Koemsan Sihn Pao SREAN	The Effect of Stocking Density on Silver Barb (Barbodes gonionnotus) Growth and Survival
Session: P2 Place: Tara Room			
P2	109	Suchada Setaphan, Weeranuch Mayuret, Nuntawadee Jaihan, Sirinat Chaboonruang, Patcharee Promsuwong	The Development of Nursing System for Pediatric Patients with Asthma in Sunpasittiprasong Hospital, UbonRatchathani
P2	117	Hye-Jin Paek, Thomas Hove	Public Support for MPOWER Tobacco Control Strategies in South Korea
P2	118	Kotchakorn Kaewprom	The Resilience Quotient of Nursing students of Boromarajonani College of Nursing, Nakhonratchasima, Thailand
P2	129	Somjitt Wiangperm, Prapaporn Suemram, Pornthip Pholkrathok	Prevalence and Identified Risk Factors of Dementia in The Elderly at Nongpalan Sub-District Hospital, Nakhonratchasima
P2	134	Kanitta Pinsuwan, Chatthong Jarupisitpaiboon	Exercise'S Behaviour in People
P2	137	Nattineeporn Chantaranothai, Kanittha Pinsuwan, Chatthong Jarupisitpaiboon, Dussadee Triyawong, Narumon Showsungnoen	Behavioural in Indigenous Knowledge to use herb for health caring of the people in Nakhon Ratchasima province

Session	Paper ID	Author	Title
P2	140	Phunthip Chubkhuntod, Poolpet Phutongjai. Prangthip Thasanoh Elter	Natural Childbirth: Concepts and Applications in a Secondary Care Hospital
P2	142	Patamaporn Khongkhoontot	Qualities and Identities of New Graduates According to Thai Qualification Framework for Higher Education (TQF) in Perceptions of Stakeholders
P2	144	Viliporn Runkawatt, Haruethai Kongmaha, attiya Peansungnern, Wanna Chaichanaruang	The needs of elderly patients and caregivers of stroke recovery at home
P2	146	Nongpanga Leelayana, Siriwan Kuttiyavitayakul	A Development of Referral System Operations Approaches of Nakhon Ratchasima Province
P2	148	Kannika Hansoongnoen, Piromlak Meesattayanan, Maninthon Girapakpinyo, Piyapruek Prueksachat,	Quality of Life among Perceptions of Nursing Students at Boromarajonani College of Nursing Nakhon Ratchasima, Thailand
P2	153	Apiradee sookksangdaow, Vijitra Nawanontawong, Srisaowalux Aunpromme, Sriwan Aimratch, Manothai Wongsala	Exploring Desirable Health Status and Depression among Elderly from a Rural Northeast Region of Thailand
P2	155	Piromlak Meesattayanan, Maneeporn Somanusorn Prangthip Thasanoh Elter, Supisara Suwannachart, Wikanda Sriphumpreuk	Attitudes of Preceptors toward Nursing Students during Volunteer Activities
P2	159	Boonsurb Sosome, Narumaol Jankasme, Kao Jungasem, Arjaree Junpanit	The Meaning of Diabetes Mellitus: Findings from People with Diabetes Mellitus type 2 and Their Family Caregivers of Praputhabat District, Saraburi Province, Thailand
P2	161	Nattiya Peansungnern	Resilience among Older People Living in Rural Suburban and Urban Areas
P2	164	Treechada Punsomreung, Supannee Kanhadilok	Effects of Project-based Learning Approach on Students' Academic Achievement, Critical Information Retrieval Skills, and Value of Thai Wisdom with a Sense of Pride: The Topic of “Applying Thai Wisdom for Maternal and Newborn Care”
P2	169	Phenchamat Khamthana, Sarunrattana Polin, Wirot Chinglek, Yaowaluck Meebunmak	Humanized Health Care Behavior of Undergraduate Nursing Students of Prachomklao College of Nursing, Phetchaburi Province.

Session	Paper ID	Author	Title
P2	209	Umakorn Jaiyungyung, Wrangkana Khumsuk, Sineeporn Yuenyong, Wassana Uppor	Competencies Nurse Practitioners Working In Primary Health Care Units
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The Importance of Caring for Nursing Students[1]

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Abstract

Nursing is a profession that provides a whole host of skills as part of holistic care. Not only do they provide direct care to the patient but they also incorporate disease prevention, rehabilitation, and promote health education. Their direct and close contact with patients requires a special type of person, one who is generous, patient, and kind-hearted.

This research is a descriptive research paper. Its purpose was to study how the patients rated the level of caring behaviors of nursing students. There were 72 patients participating in this study who were being cared for by second year nursing students as part of their course, Principles, and Techniques in Nursing Practicum.

The data collected was extracted from a questionnaire created by Chutima Suebwonglee, Siridej Sucheva and Suwimon Wongwanich (2011) consisting of 24 questions using a Likert scale rating the answers from 1 to 5. The reliability of the questionnaire using Cronbach's Alpha Coefficient was at .86. Data was analyzed using descriptive statistics.

Results showed that the clients perceived that the caring of the nursing students was of a high standard. (M = 4.48, S.D. = .77)

The students were rated highly on three main criteria set out in the questionnaire;

1) Students showed dignity to their patients through their communication (M = 4.75, S.D. = .56)
2) Students spoke politely and with a gentle tone (M = 4.74, S.D. = .56)

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3) Students displayed a professional manner when dealing with specific ailments or dealing with situations involving blood, saliva, feces or urine and students provided gentle care (M = 4.71, S.D. = .59)

The students were rated in the following aspects;

1) Student communication to the patients advising them to relax, to be calm or to pray. (M = 4.06, S.D. = 1.12)
2) Student communication to the patients regarding their ailments, their progress and health care education to them and their caregivers. (M = 3.92, S.D. = 1.17)
3) Student communication regarding post-hospital behavior such as preventing further complications, medication schedules, and exercise. (M = 3.76, S.D. = 1.39)

The results of this study can be used as a guide for teaching the next generation of students to develop behaviors consistent with the values of holistic nursing in dealing with patients in a kind and respectful manner.

Keywords: Compassionate caring behaviors, Nursing students

Background

Nursing is a profession that focuses on holistic care covering all physical, mental, emotional, social and spiritual dimensions. Nursing is also integrated care, including health promotion, disease prevention, rehabilitation and medical treatment for people. A nurse is professional health personnel who help patients more closely than other professionals. Nurses not only have knowledge and expertise of nursing but also are compassionate to patients or clients. Compassionate-caring behaviors are the unique characteristics of the nursing profession that are expected. It is also the commitment of the nursing profession to society and the reason why the society needs the nursing profession (Watson, 2008). With this reason, nurses should have been taught to be compassionate as a student nurse.

Developing compassionate nurses is the core of education in the Colleges of Nursing under the jurisdiction of Praboromarajchanok Institute for Health Workforce Development, Ministry of Public Health. The Boromarajonani College of Nursing, Nakhonratchasima is one of the nursing colleges under the jurisdiction of Praboromarajchanok Institute for Health Workforce Development. It has a teaching policy by integrating ethics and moral skills and critical thinking into the curriculum to develop the student according to the guidelines of the National Education Act of 2009 and the identities of the graduates of the college including good performance, discipline, understanding of humanity, and benefits to the community. Researchers are working in the nursing department Boromarajonani College of Nursing, Nakhonratchasima, and taking responsibility for planning and teaching in accordance with the policies of the institution.

Subjects the department are responsible for are Principles and Techniques in Nursing and Concepts Nursing Theories and Nursing Process which aims to give students the ability to be able to discuss and analyze nursing theories and other related theories. Nursing students will be able to describe the nursing concepts, nursing processes, nursing theory and related theories to care for people, family, and community extensively with physical, mental, social, and spiritual while honoring their human rights. Nursing students will be able to recognize the importance of being individuals to apply the holistic care as well. Also, nursing students will be able to write a holistic nursing care plan based on nursing processes, nursing concepts, and nursing theories. This subject is comprised of two credits and focused on providing students with the knowledge and understanding of the knowledge that is the core of the nursing profession, particularly caring behaviors.

Moreover, the Department is also responsible for teaching in the subject of Principles and Techniques in Nursing for two credits in theory and one credit in the laboratory. The content of this subject is about the principles and techniques of holistic care for people of all ages of life with healthy or an unhealthy condition based on the theory of caring, ethical principles and human rights. At the end of the course, nursing students are required to be able to explain the principles and techniques of nursing care. Also, nursing students should be able to identify nursing care based on caring theory, ethical principles, and human rights for their friends as assumed to be clients in the laboratory. Nursing students should recognize the importance of holistic nursing practice based on the principles and techniques of nursing care.

When nursing students have concluded their lab practicum, they will practice on patients in the wards for the subject of Principles and Techniques in Nursing for two credits (140 hours). They are required to practice in nursing and care for individuals of all ages of life both in healthy and unhealthy states by applying the nursing processes to provide holistic care based on caring theory, humanity, and safety for clients under the scope of the law, professional ethics, ethical principles, and human rights. Nursing students should be able to communicate with individuals, families, and communities effectively. At the end of the two credits of practice, students must be able to apply the nursing concept, principles and theories of nursing into nursing care based on caring theory, human's rights, value, and dignity for individuals, families, and communities both in healthy and unhealthy people. Nursing students should be able to practice in principles and techniques of nursing care to individuals of all ages and recognize the importance of holistic nursing care based on the principles and techniques of nursing.

It can be seen that nursing students have been shaped to get a better understanding of the concept of caring. They have practiced in nursing care based on the caring theory both in simulation cases and to real patients. However, no research has been done on caring behaviors of nursing students according to learning outcomes. The researchers are responsible for teaching and learning in these subjects, so we are interested in investigating the ability of nursing students to apply their knowledge of the theory and experiments in practice. It is the best to get the answer from the patients in the care of students. With this importance, the researchers are very interested in studying the caring behaviors of nursing students. The study results were anticipated that they will be useful for the development of teaching and will be

able to guide the direction of education for the Boramarajonani College of Nursing, Nakhonratchasima.

Aims of the study

To study caring behaviors of nursing students as perceived by their clients

Research questions

Which level of caring behaviors as perceived by the clients is nursing students at?

Research methodology

Population in the study were patients from the medical and surgical departments of, Maharat Hospital, Nakhonratchasima.

The participants were patients from the medical and surgical departments of Maharat Hospital, Nakhonratchasima who were in the care of second year nursing students practicing the principles and techniques in nursing practice. Participants were specifically collected with following criteria:

1. Taken care of nursing students not less than one day
2. Have good consciousness, no hearing problem, no visual and speech problems, understanding the communication with speech or listening to Thai language or Northeast language.
3. Voluntarily willing to cooperate in research

The tools used in this study was a questionnaire of the caring behavior of nursing students which the researchers are applying from Chutima Suebwonglee, Siridej Sucheva and Suwimon Wongwanich (2011). The 24-item Caring behavior questionnaire was comprised of 6 elements: Element 1) Relationship building; Element 2 Professional skills; Element 3 Clemency and empathy; Element 4 Mental and physical health education providing; Element 5 Genuine care; and Element 6 Respect for the patients. The response options were Likert's scale ranged from 1 to 5.

The tool assessments

Reliability was tested by trial out the questionnaire in 30 patients who were receiving care from nursing students with similar qualifications of participants at medical and surgical departments. Coefficient alpha of Cronbach was used to test for reliability. The confidence was at .86.

Protecting the rights of the participants: the researchers took into account the research ethics for all stages of the study by the following steps:

1. Submitted research proposal to the Ethic Committees of Maharat Hospital, Nakhonratchasima and got the approval from November 20th, 2014 to November 19th, 2015 (Certificate No. 076/2014).
2. Gave a choice to the participants to join or not to join the study. The researchers explained the details of the study, expected benefits, the research methodology, participant's rights, confidentiality, and the researcher's responsibility, the researcher's telephone number to call for questions about the research. Gave freedom of consent without any consequences to receiving medical treatment.
3. Participants have rights to conceal certain information or can withdraw from the study at any time.

Data collection

1. Prepared a letter from the Boromarajonani College of Nursing, Nakhonratchasima and sent to the director of Maharat Hospital, Nakhonratchasima through the Human Research Ethics Committees. After approval from the committees, a letter was sent to the head nurses for permission to collect data. The researchers and research assistants met the head nurses to provide all research details and request for their cooperation on the data collection.
2. Explored a list of participants from an assignment book and recruited participants according to research criteria.
3. Study the basic information and illness history from medical records.
4. Introduced a research team, explained the purpose of the research, the duration of the interview, identify the rights of participants in the research, allowed participants an opportunity to quit the study at any time. When the participants understood, allowed them to sign a consent form to participate in the research. When the interview was finished, the researchers or research assistants said thank you and let them know the interview was over.

Data analysis: Data were analyzed using the computer program as followed:

1. Personal Information was analyzed using descriptive statistics
2. The caring behaviors were analyzed by using mean (M), standard deviation (S.D.) of both in overall and each dimension.

Research results

Demographic data of the participants

Participants received care from Year two nursing students while training in the principles and techniques of nursing practice at the medical and surgical departments at Maharat Hospital, Nakhonratchasima. Of total 72 participants, mostly female (66.7 percent), had a primary education (69.4 percent), had an agricultural career (45.8 percent), admitted to the surgical ward 2 (41.7 percent).

Caring behaviors of nursing students

Table 1 Caring behaviors of nursing students as perceived by their clients

Item	Questions	M	S.D.	Level of caring behaviors
Element 1 Relationship building				
1	Nursing students speak with civility gentle voice	4.74	.56	Highest
2	Nursing students had smiling face and good mood	4.68	.53	Highest
3	Nursing students say hello, friendly, and have good relationships with patients and their family members	4.67	.56	Highest
4	Nursing students regularly visit and ask for the symptoms of patients	4.64	.61	Highest
5	Nursing students intently listen to problems or symptoms of patients or their family members	4.61	.67	Highest
6	Nursing students pay attention to and make eye contact with patients while talking or providing care	4.51	.65	Highest
Total of element 1		**4.64**	**.60**	**Highest**
Element 2 Professional skills				
7	Nursing students provide gently care for patients	4.71	.59	Highest
8	Nursing students let patients know before providing care such as before dressing, before injection, before intravenous administration, etc.	4.63	.64	Highest
9	When patients call or request for assistance, nursing students quickly provide care without leaving patients to wait for too long	4.57	.67	Highest
10	Nursing students help patients relieve pain and discomfort	4.42	.82	High
11	Nursing students take care of patients discreetly and without error or any harm	4.39	.85	High
12	Nursing students give patients the opportunity to talk or ask questions	4.25	1.00	High
Total of element 2		**4.50**	**.76**	**Highest**
	Element 3 Clemency and empathy			
13	Nursing students are eager and willing to care for patients	4.64	.70	Highest
14	Nursing students use words to encourage, comfort the patients to help them feel comfortable, not discourage for example ‘be patient’ etc.	4.51	.73	Highest
15	Nursing students use words show concerning while providing care for pain for example ‘How hurt you are?’ ‘It will be hurt a little’ ‘How do you feel?’ etc.	4.46	.87	High
16	Nursing students provide care to meet the patient's needs.	4.39	.78	High
Total of element 3		**4.50**	**.77**	**Highest**

Item	Questions	M	S.D.	Level of caring behaviors
	Element 4 Mental and physical health education providing			
17	Nursing students provide mental health education by advising them to calm temples or pray	4.06	1.12	High
18	Nursing students describe the diseases, progression of symptoms, and treatment guidelines for patients or caregivers to understand	3.92	1.17	High
19	Nursing students give advice on health and behavior such as exercise, medication taking, complication prevention	3.76	1.39	High
Total of element 4		**3.91**	**1.23**	**High**
	Element 5 Genuine care			
20	Nursing students care for patients without showing aversion to dirt, blood, saliva, urine, or feces	4.71	.59	Highest
21	Nursing students ask questions or talk to patients while providing care such as dressing wound, giving bed bath, etc. not only do their own work in order to complete it as quick as possible.	4.56	.81	Highest
22	Nursing students gently touch patient's hands or the arms while providing care	4.43	.93	High
Total of element 5		**4.57**	**.78**	**Highest**
	Element 6 Respect for the patients			
23	Nursing students use the appropriate and respectful words to call patients such as uncle, aunt, grandfather, grandmother, sister, or politely call patient's name with 'Khun' as a prefix if patients are younger	4.75	.56	Highest
24	Nursing students respect the privacy of the patient's by using a curtain or veil to undress patients	4.40	.74	High
Total of element 6		**4.58**	**.65**	**Highest**
Overall Caring behaviors of nursing students		**4.48**	**.77**	**High**

Nursing students had compassionate caring behaviors as perceived by the clients overall was at a high level (M = 4.48, S.D. = .77). It was found that nursing students had compassionate-caring behaviors regarding relationship building at the highest level (M = 4.64, S.D. = .60), followed by compassionate-caring behaviors regarding respecting the patients (M = 4.58, S.D. = .65). Moreover, compassionate-caring behaviors regarding genuine care at the highest level (M = 4.57, SD. = 0.78).

The top three items for the nursing students showing compassion were following:
1) Nursing students use the appropriate and respectful words to call patients such as uncle, aunt, grandfather, grandmother, sister, or politely call patient's name with 'Khun' as a prefix if patients are younger (item 23) (M = 4.75, S.D. = .56)
2) Nursing students speak with civility gentle voice (item 1) (M = 4.74, S.D. = .56)

3) Nursing students care for patients without showing aversion to dirt, blood, saliva, urine, or feces (item 20) (M =4.71, S.D. = .59) at the highest level.

The bottom three items for the nursing students showing compassion were:
1) Nursing students provide mental health education by advising them to calm temples or pray (item 17) (M = 4.06, S.D. = 1.12);
2) Nursing students describe the diseases, progression of symptoms, and treatment guidelines for patients or caregivers to understand (item 18) (M = 4.32, S.D. = 1.17) and
3) Nursing students give advice on health and behavior such as exercise, medication taking, complication prevention (item 19) (M = 4.76, S.D. = 1.39), at high level.

Discussion

Researchers discussed the findings according to the research questions as followed.

The compassionate behavior of nursing students as perceived by the clients in overall was at a high level (M = 4.48, S.D. = .77). Consistent with the study of Sudkanya Panchareon and Sakulrat Sirikul (2010), the study investigated the compassionate-caring behaviors of nursing students perceived by the clients. 102 participants were patients who received care from year three nursing students of Boromarajonani College of Nursing, Sawanpracharak Nakhonsawan, practiced on the subject of Nursing Care of Persons with Health Problems 3, at the male surgery department, female surgical department, and gynecological department, Sawanpracharak hospital, the academic year 2006. Results showed that the patients perceived nursing students compassion at an overall high level (M = 4.25, S.D. = .47).

Consistent with the study of the Roongthip Phromboot, Watcharee Amornrojanavaravutti, Wachirasak Aphipatkan & Titiporn Keatkangwan.)2010(, who studied the caring of year three nursing students, Boromarajonani College of Nursing, KhonKaen in the teaching of the subject of Nursing Care of Persons with Health Problems 3 as perceived by patients. The participants were 135 patients in the care of the nursing students. The results found that the average level of compassionate caring behavior of nursing students was at a high level. This was consistent with the study of Krittaporn Sirisom, Panatsaya Wunnawilai & Orathai Keawmahakarn. (2008), who studied the caring behaviors of the nursing students currently practice of nursing students while practiced in the subject of Nursing Care of Persons with Health Problems 1 as perceived by nursing lecturers and patients. The participants were purposely selected consisting of 63 year two nursing students, 8 nursing lecturers, and 63 patients. Results showed that patients perceived the level of compassionate caring behaviors in nursing students in overall with mean score of 4.18.

The compassionate caring behaviors shown by nursing students with the highest scores at the top three were 1) Nursing students use the appropriate and respectful words to call patients such as uncle, aunt, grandfather, grandmother, sister, or politely call patient's name with 'Khun' as a prefix if patients are younger (M = 4.75, S.D. = .56) 2) Nursing students speak with civility gentle voice (item 1) (M = 4.74, S.D. = .(56 3) Nursing students care for patients

without showing aversion to dirt, blood, saliva, urine, or feces and as well as nursing students provide gently care for patients (M =4.71, S.D. = . (59at the highest level. This was consistent with a study of Supisara Suwannachat, Waraporn Tunthasuwanna, Watcharin Wongsala & Issarawan Sonthiphumas (2014), they studied the opinions of the clients on academic service providing and behaviors of nursing students. Participants were 418 of patients and their relatives who obtained the academic services.

The results showed that patients had the opinions on the behavior of nursing students in overall at very satisfactory level (M = 4.47). The first top three were: 1) Nursing students had service focused mind, good relationship, and attentive care for patients (M = 4.61); 2) Nursing students were disciplined, polite manner and conversation suited for being nurses (M = 4.60); 3) Nursing students respected for value, honor, dignity and rights of patients (M = 4.55) at mostly agreed. This showed that the teaching of the curriculum encouraged nursing students to gain knowledge, had the professional capability, had ethics, as well as good attitude towards providing care based on the philosophy of the curriculum. Nursing students had behaviors showing respect, kindness to the patients. This may be a result of the teaching and learning in the subject of Concepts Nursing Theories and Nursing Process which provided knowledge of how to care with respectfully.

The designing of teaching and learning in the subject of Principles and Techniques in Nursing aimed to improve teaching and learning that focus on student learning center, to encourage nursing students to form the identities and to achieve learning outcomes according to Thai Qualifications Framework (TQF) for Higher Education, Nursing, and to encourage nursing students to have a graduate's identities including good performance, discipline, understanding of humanity, and benefit to community, as well as to have the graduate's identities of the Boromarajchanok Institute for Health Workforce Development including humanizing health care, a service focused mind, analytical thinking, and participation. Researchers developed learning outcomes, teaching methods, tools and methods of evaluation for these courses.

The teaching in the laboratory was set as in the actual situation Nursing students practiced under the guidance of the instructors and their friends who contribute to observations and feedback of nursing skills followed the validation form. In addition, the teaching practice, nursing students may perceive behaviors of nurses or lecturers in nursing practices. The social cognitive learning theory was identified that human behaviors are from observations and imitations. Consistent with the study of Prapai Kittiboonthawal, Jeeraporn Chuencham, Pudsadee Korjedee, Katkaew Sondee & Phuwasit Singpraphai. (2013), they studied the opinion of nursing students, nursing lecturers, and clients towards nursing practices with caring in the community service and related factors. Participants were 78 of year two nursing students of Boromarajonani College of Nursing, Saraburi, 10 nursing lecturers, and 78 clients. The study result revealed that the related factor which had the most impact on humanizing health care was the lecturer's role model.

Moreover, patients whose stay was for 3-2days allowed nursing students to build relationships between with their patients. There was an exchange of experience and knowledge between the

two causing mutual understanding. The course activities allowed nursing students to reflect on their learning by taking notes in the portfolio allowing students to reflect on the day activities, how practices helped them to meet the graduate's identity. What are the impressed events and what is not? It encouraged nursing students to accept either positive or negative feeling which were very important in building compassion. If nursing students are able to accept their own feelings they will feel that they would be open-minded to the patient and will not blame or judge others.

Caring behaviors of nursing students with the last three including: 1) Nursing students provide mental health education by advising them to calm temples or pray (M = 4.06, S.D. = 1.12); 2) Nursing students describe the diseases, progression of symptoms, and treatment guidelines for patients or caregivers to understand (M = 4.32, S.D. = 1.17) and 3) Nursing students give advice on health and behavior such as exercise, medication taking, complication prevention (item 19) (M = 4.76, S.D. = 1.39), at high level. According with the study of Supisara Suwannachat, Waraporn Tunthasuwanna, Watcharin Wongsala & Issarawan Sonthiphumas (2014), it was a study of the client's opinions on academic service providing and behaviors of nursing students. 418 participants were patients and their relatives. The results showed that nursing students had a deep understanding of the advice shown at the high level (M = (4.34, but mean score was less than other items. This can be explained that patients with a variety of health problems, complex, and difficult to understand, need answers about their illnesses and expect to get the answers or explanations satisfactorily.

Patients expect the nursing students must be able to explain all they want to know. If it meets expectations, patients will be satisfied, felt or perceived that they had care. However, the nursing students who were in year two and practiced for the first time for the subject of Principles and techniques in nursing practice, students learned the theory and practice in the lab but have not studied diseases. As a result, students may also have not enough knowledge and experience. They cannot answer all questions or make recommendations on all matters relating to the patient's ailments. That's why patients recognized that they received care from nursing students regarding this less.

Recommendations

Nursing Education

To improve compassionate caring behaviors in nursing students and to allow students to be able to apply caring theory to achieve the objectives of the nursing care. This should be promoted and improved by:

1. Provide knowledge and skills through teaching and learning activities to strengthen the spiritual power to nursing students because the results showed that patient perceived less compassionate caring behaviors from nursing students.
2. Add the concept of caring in every nursing courses.

3. Provide extracurricular activities to improve nursing students allowing them to be sensitive to their own feelings and others, and have positive thinking or inspiration to do good deeds.

Research

1. Should study compassionate caring behaviors in nursing students continually to see the improvement and apply research results into teaching and learning activities.
2. Should study compassionate caring behaviors in nursing students in all practical courses.
3. Should study-related factors affecting the compassionate caring behaviors in nursing students.

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Member management system in Union of Youth Federation Cambodia (Battambang province) by using technology and mobile application[1]

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Abstract

According to the research of member management in Union of Youth Federation of Cambodia, (Battambang province), some issues were found in the old system such as all data stored on paper which cause difficulty to search, save it safely, and all information can't access from outside workplace. Especially, SMS is used to send information to all members which cost much money. Moreover, SMS can't be sent to many numbers at the same time due to Telecom policy.

Because of these issues, the organization and I decided to make a new system to manage members and send information to a member more effectively, rich information and cost less. It's called "Member management system in Union of Youth Federation of Cambodia, Battambang province." In the development of this new system, we decided to use MySQL as a Database to store information, Visual Studio 2015 Ultimate to create Desktop Software, Android Studio to make an app for Android, and GCM (Google Cloud Messaging) for sending real-time information to the member.

As a result, the new system can manage member data very effectively such as search, insert, edit, delete. Moreover, data is stored in the cloud so members can access it everywhere whenever they have Internet connection and application. Especially it can bring information to the member via SMS, Email, and Android with low cost, in time, and rich information.

Keywords: technology, Android, information system, mobile application, real-time messaging

Introduction

Nowadays, Technology has changed the way people study, communicate, create something new and amazing. Advancing of Technology made people or community and business becoming better in communication (Todd, 2013). Additionally, it's was added in the curriculum of mostly all schools, colleges, and universities. In these institutions in addition to giving computer education solely, computers have become essential for teaching other subjects as well (Chimoriya, 2014).

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As technology is very useful in communication, I have decided to take this opportunity to make a system called “Member Management System in Union of Youth Federation of Cambodia (Battambang province).” It is a computer-based system aims at developing the information management and information delivery system from organization to all its members. The core application areas of this Member Management System are handling member information with delete, insert, update, search, send information to members via Email, SMS, and Android (push notification) function. It is a system with a combination of technology: computer, web server, the internet, and smartphone (Android). Software on the computer is used by an administrator to control member information and send information to the member. An Android app for the member is used to received information with push notification technology, a technology that enables the user to receive real-time information via the internet. A web server used to handle information with MySQL database and PHP function for sending a push notification.

Technology Overview

1. Google Cloud Messaging (GCM)

Google Cloud Messaging (GCM) is a free service that enables developers to send messages between servers and client apps. This includes downstream messages from servers to client apps and upstream messages from client apps to servers. For example, a lightweight downstream message could inform a client app that there is new data to be fetched from the server, as in the case of a "new email" notification. For use cases such as instant messaging, a GCM message can transfer up to 4kb of payload to the client app. The GCM service handles all aspects of queueing of messages and delivery to and from the target client app (Google Cloud Messaging, 2016).

2. Android

Android is a mobile operating system that is based on a modified version of Linux. It was originally developed by a startup of the same name, Android, Inc. Then, it was acquired by Google in 2005. Google released Android under the open source Apache License, which means that anyone can see and edit the source code for free. Moreover, vendors (typically hardware manufacturers) can add their proprietary extensions to Android and customize Android to differentiate their products from others. This simple development model makes Android very attractive and has thus piqued the interest of many vendors. These manufacturers see Android as a solution — they will continue to design their hardware and use Android as the operating system that powers it. The main advantage of adopting Android is that it offers a unified approach to application development. Developers need only develop for Android, and their applications should be able to run on numerous different devices, as long as the devices are powered using Android (Lee, 2012).

Existing System

In the existing system, UYFC didn't use technology to manage member information, and they used SMS as the main delivery system to its members. It's cost much money to send to its members. Moreover, we don't know which users received the information and which users read the information. In the present system, the administrator can manage member information remotely from anywhere by just have a computer, the internet and software. Moreover, the administrator can send information to the member via three different methods: SMS, Email, and Android (push notification).

Implementation Tools

In the present paper, we developed front-end application using Android Studio 2.2 for Android app and MySQL as a database for store member information. Microsoft Visual Studio is used as in IDE for writing software for an administrator to use on Window Operating system. Last but not least, PHP is used for writing a web page for viewing online.

Architecture Model

1. Brief Architecture



Figure 1: Brief System Architecture

The main elements of the system are Computer. Web Server acts as database and web page and Android phones. Administrator used software on the computer to add, update, delete, search information of members and send information to members. Web Server stores all members' information and it has a PHP function for pushing notification to specific devices. Android phone used to receive a push notification, another smartphone also able to receive a link to see information via email.

2. Sending via Email to member Functionality Architecture

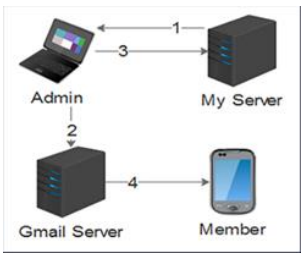


Figure 2: Sending Email Functionality Architecture

When administrator sends information to members via email, the software on the desktop which used by administrator queries emails of defined members and gets the result back and then using Mail API to send to those members' emails and finally update the database.

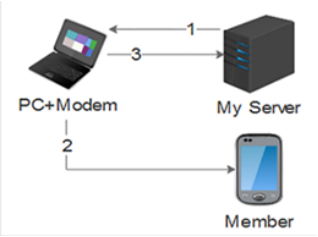


Figure 3: Sending SMS Functionality Architecture

Sending via SMS to member Functionality ArchitectureSending via SMS required a modem and a valid sim card to use this function. When administrator sends information to members via SMS, the software on the desktop which used by administrator queries phone numbers of the members and send to those number via Serial Port and finally update the database.

3. Sending to Android member Functionality Architecture

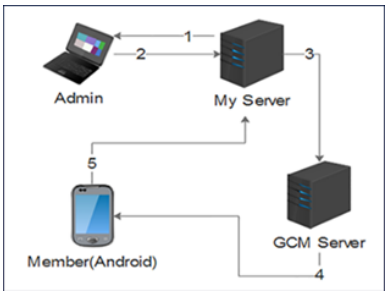


Figure 4: Sending to Android Architecture

This is the most effective way to deliver information to members. Sending to the Android member can send only if those members have a registered Android phone. When administrator sends information to members via this method, the software on the desktop which used by administrator queries which members have registered with the system and call PHP push notification function to send information to those members and finally update the database. After the user received the information, the app will update the status of delivery to the database.

4. Register Android Phone Architecture



Figure 5: Register Android Phone Architecture

To received information from an administrator with Android app. Member must have the app and register with the server first. After member register with the system. They can use the login detail provided by the system to login with their Android phone. This way they can get rich and in-time information. First, member open app and the app request to GCM server for unique id for that devices. Then GCM server gives back the id and app save that id to our server for further usage.

System Interface

1. Login Activity (Android App)

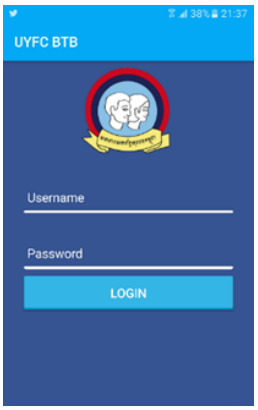


Figure 6: Login Activity

The login activity on Android app takes two arguments: username and password. After that, it compares the arguments with the system if that user is in the system. They will allow seeing information sent by the administrator. If they aren't on the system, the app will throw a message login is invalid.

2. Information Activity (Android App):



Figure 7: Information Activity

This is the information screen where a member can see the information that sent by an administrator from this screen. Moreover, they also able to share this information with a social network like Facebook, Google plus, twitter, etc. This screen is an Android activity with Webview that load data from web server. When a member shares it, this activity shares the link to the information, and anyone with the link can view it on any browser.

3. Send Information (Desktop Software)

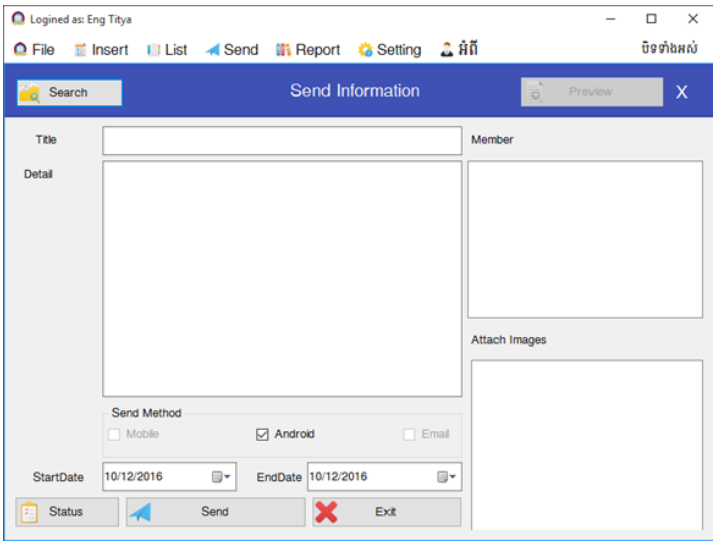


Figure 8: Send Information Form

This form used to send information to a specific group of members defined in the system. In this form, admin can select method to send via SMS, Android or Android. Moreover, admin is also able to attach image and preview before sending it.

4. Sent Information Report

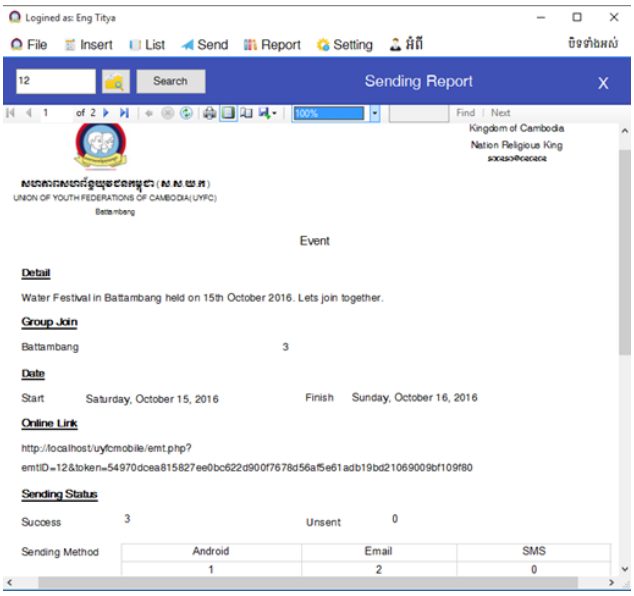


Figure 9: Sent Information Report

The report on desktop software shows the detail about what information that sent to members, attachment images, the link to the information and status of delivery.

Conclusion

In conclusion, after testing this new system, we can conclude that this system can manage member information and send information to member very effectively. It has enough function to manage member such as insert, remove, delete and search, especially this system can send information to the member via email, SMS, and Android. The sending to Android functionality is very stateful; we can know which information is delivered to the member, unsent or read by a member. Especially, it delivers information in real-time, low cost, and rich information. Moreover, data is stored in the cloud so members can access it everywhere whenever they have Internet connection and application. In this paper, by using mobile application and technology combine, we proposed an efficient way of managing and delivering information to the client.

Some features for further development are adding chat feature and support for a popular mobile operating systems such as Window Phone and IOS.

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Profitability of Rice Farming in the Northwest Cambodia[1]

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Abstract

Battambang is located in the northwest region of Cambodia and known as "Rice Bowl" of the country. Rice farming is practiced differently from one area to the others. Rice farming profitability and correlated factors are little known. This study aims to estimate rice farming profitability and correlated factors influencing on rice production in Battambang, based on data survey of 135 rice growers collected in Thmakoul, Banan, Sankae and Battambang districts. The individual land area ranked from 0.50 to 12 ha. Profit of rice farming per ha was estimated by subtraction of direct cost per ha from total revenue per ha. Sixteen rice varieties were found in the study areas and used depending on locations. Direct seeding was preferable than transplanting for rice farming in this areas. Average rice yield was 2.48±0.92 tons per ha, although some growers could achieve up to 3.754 tons per ha when the fertilizers were up to 173 kg per ha of ammonium phosphate (AP) with some other fertilizers. The combined fertilizers of between 63 kg per ha of AP and 55 kg of Urea or up to 158 kg of AP and less than 50 kg of urea were the most profitable combinations for small-scale rice farming in Battambang. The average direct cost was ca. US$ 440 per ha and profit of ca. US$ 250 to $ 500 per ha can be obtained. Managing fertilizer application (i.e. types and amount), weed, pests, diseases and water supply were main factors influencing on the profit of rice farming in northwest Cambodia.

Keywords: Battambang, constraint, profit, rice farming, yield

Introduction

Rice (Oryza sativa L.) is the most important crop in Cambodia and is the staple food for Cambodians. Main rice growing areas are located in the central flat land of the country. Battambang province is located in the northwest part of the country with a population of 1.05 million and 70% of those living in rural areas are farmers (Battambang Provincial Hall, 2010). Battambang is well known as "Rice Bowl" of the country and rice cultivated area increased from 100,000 ha in 1988 to 300,000 ha in 2010 (26 % of the total land areas; Fig. 1). Since fertile soil covers most of the land area of the province, it supports a very strong agricultural sector (SCW, 2006). In the 2010 rainy season, 269,498 ha of rice growing areas produced

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756,458 tons. This is 11.27% of the total rice growing areas in Cambodia but results in 11.55% of the country's rice production (MAFF, 2011).

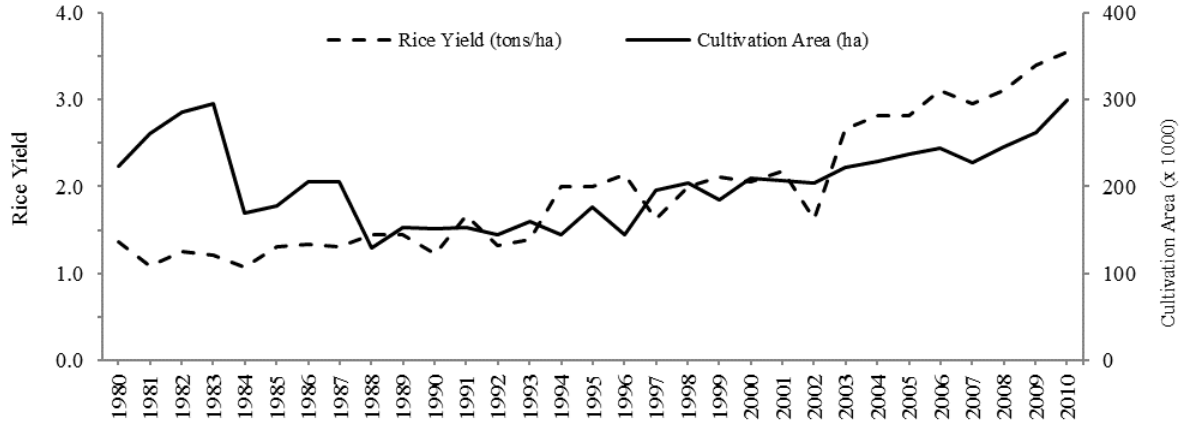


Fig.1: Rice production and yield in Battambang province from 1980 to 2010.
Source: Agricultural Statistics, Department of Planning, Statistics and International Cooperation, Ministry of Agriculture, Forestry and Fisheries (2011).

Rice farming is practiced differently from one area to the others. Typically farmers apply granular fertilizer, often at above the recommended application rate thereby increasing the cost of production without boosting yields. Higher rice yields and lower production costs would have a significant impact on the livelihoods of about 0.735 million people who are small-scale rice farmers throughout Battambang province. Yu and Fan (2011) have indicated that fertilizers and irrigation are potential inputs for output expansion of rice farming in Cambodia. However, rice farming profitability and correlated factors are little known. This study aims to estimate rice farming profitability and correlated factors influencing on rice production in Battambang.

Methods

Study areas and data collection

One hundred thirty-five (135) rice growers were randomly selected from Sangkae (19), Banan (20), Thmakoul (20) and Battambang (76). All districts locate in the northwest region of the country (Fig. 2), to collect data on rice farming practices, direct cost, and yield per ha by using the structured interview. The interviews were conducted in March 2011 and the data were compiled on rice production in the rainy season in 2010.

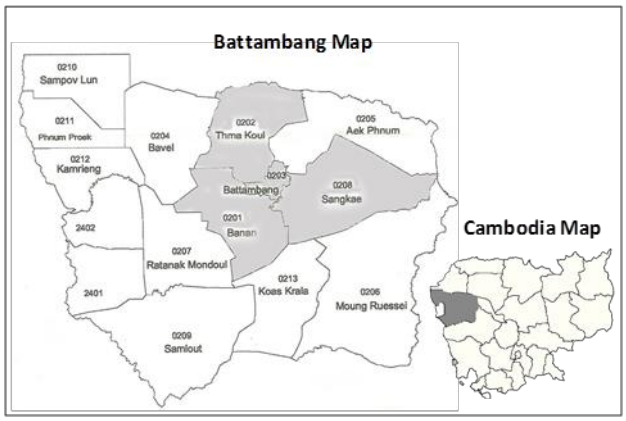


Fig.2: Map of study areas indicated as grey highlight.

Soil and climate conditions

The soils of the study areas were classified by White et al. (1997) as Toul Samrong soil group or Brown Hydromorphic soil group by Crocker (1962) having pH 5.3 (Soil: Water; 1:5), organic carbon content 1.24%, total nitrogen 0.084%, available P 83ppm (Olsen), exchangeable K 1.19 (meq/100 g soil), exchangeable Ca 5.75 (meq/100 g soil), exchangeable Mg 5.00 (meq/100 g soil), exchangeable Na 0.65 (meq/100 g soil), and particle size: 49.75% of clay, 17.10% of fine silt, 9.87% of coarse silt, 20.70% of fine sand, and 2.12% of coarse sand. The soil characteristic is based on the results of soil analysis that took a sample at top soil (20 cm depth) in the rice field of Research and Training Farm of the University of Battambang in 2006, which located in Srah Keo village, Kampong Preah Commune, Sankae district, Battambang province. Monthly climate characteristics such as rainfall, temperature, evaporation and wind speed in 2010 are presented in Tab.1.

Tab.1: Annual variability of climate characteristics: rainfall, temperature, wind speed and humidity in 2010.

Month	Rainfall (mm)	Evaporation (mm/d)	Max. Temp (°C)	Min. Temp (°C)	Wind Speed (m/s)	Humidity (%)
Jan	2.77	3.93	32.20	22.38	2.48	68.71
Feb	4.00	3.80	35.30	24.91	2.50	68.32
Mar	8.40	4.21	35.66	25.15	2.61	59.39
Apr	9.99	4.30	37.09	26.95	2.77	68.53
May	7.73	4.31	36.32	27.24	3.94	71.03
Jun	7.13	4.43	34.28	26.34	3.10	77.60
Jul	12.10	4.41	33.12	25.57	3.35	80.81
Aug	10.83	4.61	32.30	25.42	3.45	83.10
Sep	10.17	4.48	31.90	25.53	2.48	84.20
Oct	14.78	5.13	30.47	23.75	2.77	84.16

Nov	8.10	4.11	30.60	22.97	2.63	75.83
Dec	0.40	4.03	31.09	21.68	2.30	73.29

Source: Meteorology Station of Veal Bek Chan, Battambang (2010). Note: Min.: minimum, Max.: maximum, Temp: temperature.

Data analysis

Chi-square test was used for categorical data to explore rice varieties or cultivation methods applied in the study areas. To estimate profitability of rice farming per ha, profit was calculated from subtracting revenue per ha by direct cost per ha, where the revenue per ha is equal to rice yield times US$ 270 per ton (rice price in March, 2010 in Battambang), and the direct cost per ha includes fertilizers, seeds, labor, land preparation, irrigation, and thrashing. To visualize correlations between all pairwise combinations of rice farming practices and profitability variables, bivariate relationships were analyzed using Pearson's correlation coefficient for numerical variables by performing correlation matrix using scatter plots in the package 'PerformanceAnalytics' (Carl and Peterson 2010). All statistical analyses were performed using R software of version 3.3.1 (R Core Team, 2016).

Results

Rice cultivation

Land used for rice farming ranked from 0.5 to 12 or average of 3.12 ± 2.24 (SD) ha per household, and rice varieties such as Senpidao, Senkra Ob, Somaly, Phkaromdol, Rang Chey, Neang Leak, Phka Malis, and IR-54 were observed in the study areas. These rice varieties were found significantly in different locations ($\chi 2 = 166.3$, df = 45, $P < 0.001$; Fig. 2).

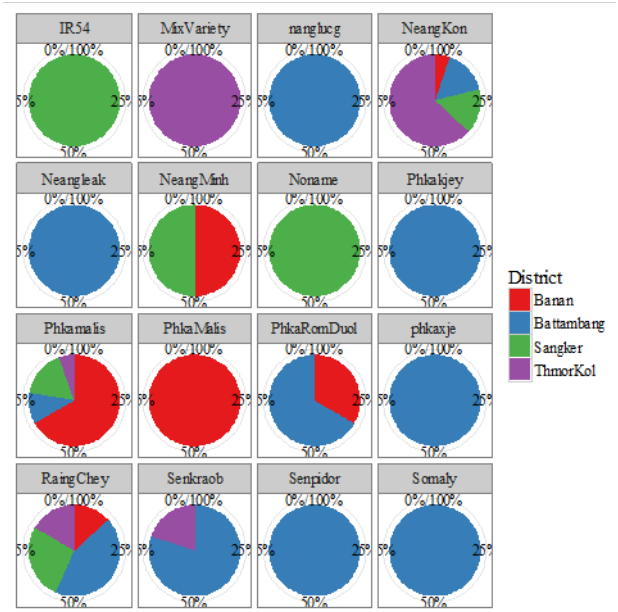


Fig. 2: Proportion of rice varieties cultivated in the study areas.

Broadcast seeding method (96%) was applied to most of the farmers, while a minority used the transplanting method (Fig. 3). Farmers reported that the lack of an adequate labor force and relatively large farm size are the reasons that farmers have chosen the broadcast seeding method. Average seed quantity of 128 ± 42 (SD) kg/ha, with a minimum of 50 kg/ha and a maximum of 200 kg/ha. Famers begin farming from late April to June for rainy season rice; it depends on water available in the rice field. Rainfall is the main water source of irrigated rice in the rainy season in this region.

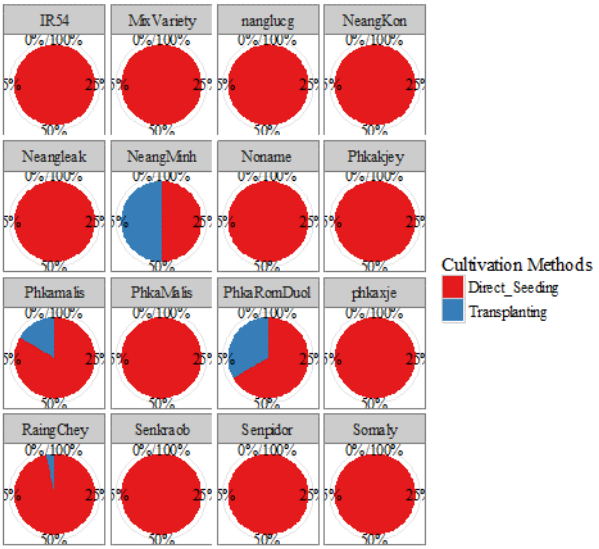


Fig. 3: Proportion of cultivation methods applied to rice varieties in the study areas.

Rice yield ranged from 1.0 to 5.7 ton per ha (Fig. 4) and average yield was significantly different in comparing to locations ($P < 0.001$), which yield was greater in Thmakoul following by Sangkae, Banan and Battambang districts.

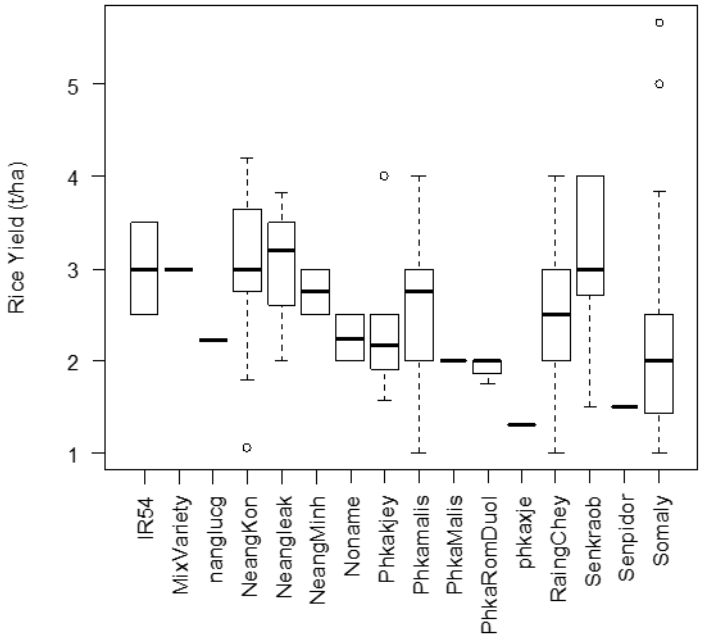


Fig. 4: Boxplot of rice yield for each variety cultivated in Battambang.

Rice farming practices and profitability

Correlations between all pairwise combinations of rice farming practices and profitability variables are given in fig. 5. The farming experience of rice growers and the amount of seed usage were positively correlated to the rice yield, indicating that farmers who had longer experience may receive fewer constraints than those who hade fewer experiences (Fig. 5). The amount of seed usage also increased with rice yield, suggesting that seed quality (e.g. purification, germination) should be improved, because farmers usually used the seeds from previous harvests. Fertilizers such as urea, ammonium phosphate (AP; 16:20:00), di-ammonium phosphate (DAP; 18:46:00) and AP were mainly used as soil applied fertilizers in these areas, whereas organic fertilizer was used as a minority, with the maximum amount of one ton per ha. The amount of fertilizers, on average, 83 ± 54 kg of urea and 68 ± 58 (SD) kg of AP were applied per ha. A number of fertilizers application was a combination of AP (63 kg/ha) and Urea (55 kg/ha) or AP (158 kg/ha) and urea (less than 50 kg/ha), to obtain the net profit in range between US$ 348 to 495 per ha, outside of this amount, net profit decreased. However, profit was negatively correlated to direct cost or chemical fertilizers used but positively related to the rice yield (Fig. 5). Surprisingly, cultivated area was not significantly correlated to any variables.

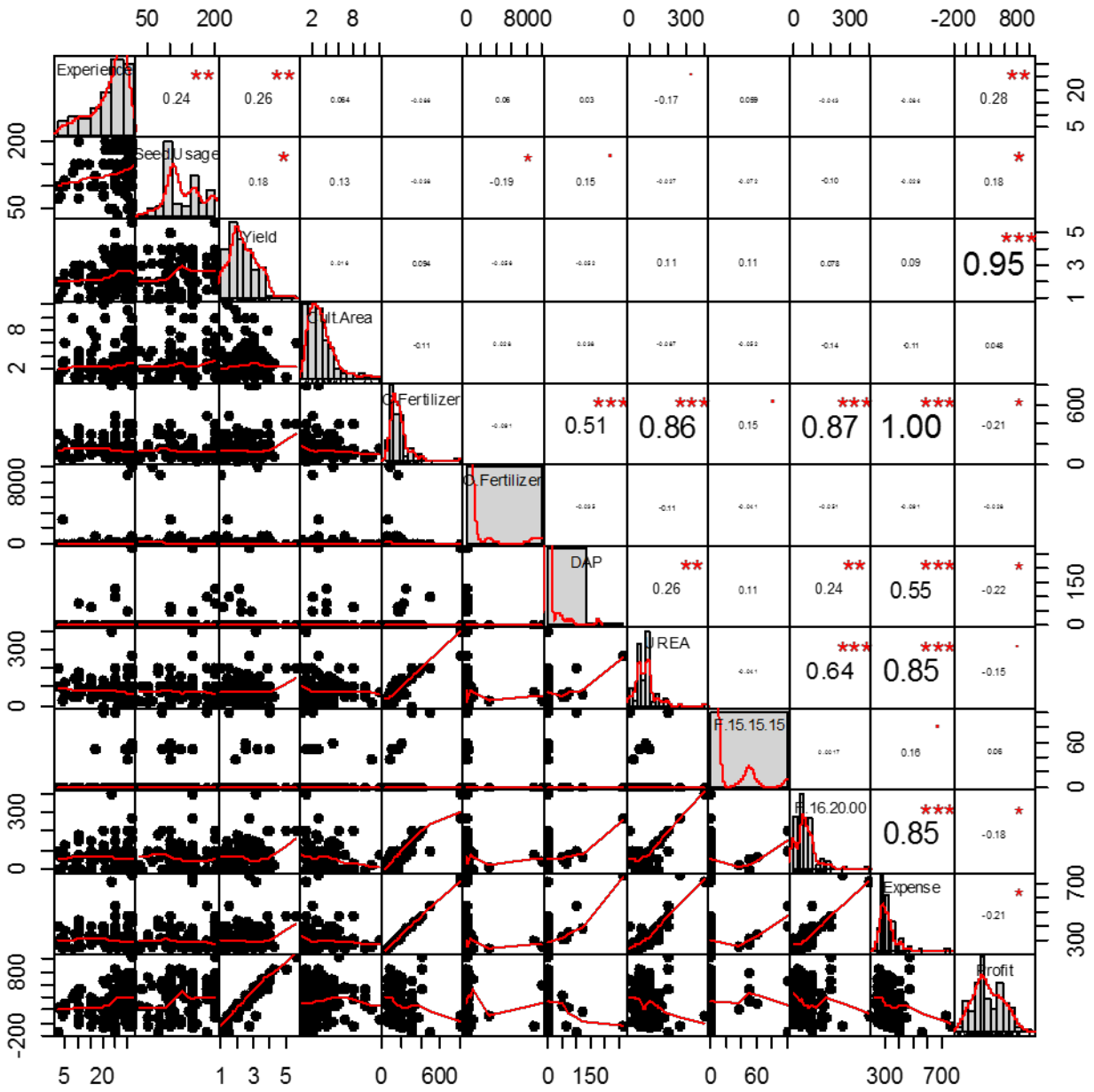


Fig. 5: Plot of correlation matrix for variables of rice farming practices and profitability. Note: ***: P < 0.001, **: P < 0.01, *: P < 0.05, •: P < 0.1; C.Fertilizer: chemical fertilizer (kg/ha); Cult_Area: cultivated area (ha); DAP: di-ammonium phosphate (kg/ha); Expense: direct cost per ha (US$); F.15.15.15: 15:15:15 fertilizer (kg/ha); F.16.20.00: ammonium phosphate (kg/ha); Experience: experience of rice farming (year); O.Fertilizer: organic fertilizer (kg/ha); Profit: profit per ha (US$); UREA: urea fertilizer (kg/ha); Seed_Usage: amount of rice seed used (kg/ha); and Yield: rice yield (ton/ha).

Discussion

Cost and profit

Net profit of rice farming in Khon Kaen was greater than in Battambang due to rice price and yield. See comparing the direct costs of rice farming per ha in Khon Kaen province, Thailand and Battambang province, Cambodia in Table 2, and profitability of rice farming in the both provinces in Table 3.

Table 2: Average cost of rice farming in Khon Kaen in 2009 and Battambang in 2010 (unit: US$ per ha).

Types of direct cost	*Khon Kaen [(a)]*	*Battambang [(b)]*
Seed	42.40	25.53
Fertilizer	54.60	103.17
Pesticide	30.50	11.85
Labor	335.30	88.75
land preparation	n.a	52.00
Irrigation	n.a	6.86
Thrashing	n.a	44.77
Other	32.40	n.a
Total direct cost	***495.20***	***332.93***

Source: (a) Kawasaki and Herath (2011); and (b) Survey data in 2011.

Tab.3: Average profitability of rice farming in Khon Kaen in 2009 and Battambang in 2010.

Items	*Khon Kaen [(a)]*	*Battambang [(b)]*
1. Rice Yield (tons per ha)	3.79	2.48
2. Rice Price (US$ per ton)	310	270
3.Total Revenue (US$ per ha)	1173.66	669.60
4. Total Cost (US$ per ha)	495.20	332.93
5. Net Profit: (3) – (4)	678.46	336.67
6. Benefit-Cost Ratio: (3)/(4)	2.37	2.01

Source: (a) Kawasaki and Herath (2011); and (b) Survey data in 2011.

Chemical fertilizers and labor were major costs for rice farming in Battambang. Urea and AP were commonly combined for fertilization, with an average amount of 83 kg/ha urea and 68 kg/ha AP. The fertilizer amounts were usually applied lower or higher than the recommended dose for the Toul Samrong soil group, suggested by White et al. (1997). The net profit ranged between US$ 250 to 500 per ha when direct cost was not exceeded US$ 400 per ha and least constrains (i.e. pests, diseases, drought) for rice farming. The rice growers can earn up to US$ 5,827 when the cultivated area reaches more than 4.75 ha and yield was more than 2.8 tons per ha. On the contrary, they earn US$ 3,788 if their yield is less than 2.8 tons per ha. However, in Khon Kaen, Thailand, the profitability was US$ 575 per ha in rainy season and US$ 811 in dry season of 2009 (Kawasaki and Herath, 2011), which was more profitable than rice farming in

Battambang due to better rice price and productivity in Thailand and Cambodian farmers' lack of access to inputs, e.g. fertilizers and seed (Yu & Fan, 2011).

Overall, broadcast seeding method is usually applied for 15 varieties in rice farming areas in Battambang, with yield varied depending on varieties and locations. Costs of chemical fertilizers and labor are the main direct cost for rice farming in this region. Profitability could be obtained from US$ 250 to 500 per ha when direct of less than US$ 400 per ha. Fertilizers application (i.e. types and amount), pests, diseases, weed and water supply, are considered as main factors influencing on the profitability of rice farming in northwest Cambodia.

Acknowledgement

Financial support for this research is provided by the University of Battambang, Cambodia.

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Prevalence and Risk Factors for the Incidence of Osteopenia and Osteoporosis Among Women Working at Boromarajonani College of Nursing, Nakhonratchasima[1]

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Abstract

The purpose of this cross-sectional analytical study was to evaluate the prevalence and risk factors of the occurrence of osteopenia and osteoporosis among women health personnel who are working at Boromarajonani College of Nursing, Nakhonratchasima. The 72 participants were recruited from September to December, 2013. Bone mineral density of vertebral spine and hip was measured by dual energy x-ray absorbtiometry (DXA) at the nuclear medicine department, Maharaj Nakhonratchasima Hospital. The risk factors questionnaire was used to collect data. Descriptive statistics, odds ratio, and logistic regression analysis were used to analyze data.

The results showed that the average age (±SD) of participants was 47.4 ± 8.2 years. No regular exercise and BMI > 25 were the first and second risk factors among these participants. The results of bone mineral density among these participants revealed that the prevalence of osteopenia and osteoporosis at vertebral spine and hip bones were 22.2%, 4.2%, and 23.6%, 4.2%, respectively. The occurrence ratio of osteopenia and osteoporosis at vertebral spine between premenopausal and postmenopausal women was 3.3 times (95% CI: 1.1, 9.9) for postmenopausal women whereas the occurrence ratio of osteopenia and osteoporosis at hip bone was 5.3 times (95% CI: 1.7, 16.1) for postmenopausal women. The results of logistic regression analysis showed that BMI > 25 and menopause were the significantly predicted factors for osteopenia and osteoporosis of these participants at vertebral spine and hip bone accounted for 34.5 % ($P < .05$) and 37.3 % ($P < .05$), respectively.

[1] Financial support for this research is provided by Boromarajonani College of Nursing, Nakhonratchasima, Thailand. Correspondence concerning this article should be addressed to Suchada Klaimanee, Boromarajonani College of Nursing, Nakhonratchasima Thailand. Contact: suchadak@knc.ac.th

This study revealed the extent of problems and risk of osteopenia and osteoporosis occurrences in women health personnel who are working at this nursing school. This result will lead to encouraging employee health programs, such as caring and curing, promoting correct self-care behaviors, to prevent and reduce the risks of fracture, complications, and consequences according to osteopenia and osteoporosis.

Keywords: prevalence, risk factor, osteopenia, osteoporosis, women

Introduction

Osteoporosis is a silent disease of the bones in which the quality and density of bone is reduced. This makes bones porous and fragile, greatly increasing the risk of fracture. The loss of bone occurs quietly and progressively. In the early stages of the disease, one probably won't have symptoms. As the disease progresses, the risk of sudden and unexpected fractures increases. In some cases, the first sign of osteoporosis is a fractured bone or one or more collapsed vertebrae. Collapsed vertebrae may first be felt or seen when a person develops severe back pain. Spinal vertebrae, the hip, and wrist are the most commonly affected bones, causing pain, immobility, and hospitalization.

Clinically, bone strength is estimated by non-invasive assessment of bone mineral density (BMD) by dual-energy X-ray absorptiometry (DXA). Numerous epidemiologic studies confirm that low BMD is among the strongest risk factors for fracture. As endorsed by the World Health Organization (WHO), the clinical diagnosis of osteoporosis is based on BMD measurements and the presence of fractures. For these diagnostic criteria, BMD is transformed into a T-score, which reflects the number of standard deviations (SD) above or below the mean in healthy young adults. The thresholds for each bone category are shown in the table below. Table 1. WHO criteria for clinical diagnosis of osteoporosis BMD T-score Diagnosis T-score ≥ -1 Normal -1 > T-score > -2.5 Low bone mass T-score ≤ -2.5 Osteoporosis T-score ≤ -2.5 with existing fracture Severe osteoporosis II. Epidemiology and financial burden of osteoporosis

BMD T-score	Diagnosis
T-score ≥ -1	Normal
-1 > T-score > -2.5	Low bone mass
T-score ≤ -2.5	Osteoporosis
T-score ≤ -2.5	with existing fracture Severe osteoporosis

Osteoporosis is the major underlying cause of fractures in postmenopausal women and the elderly (NIH, 2016). This disease affects women more than men because it is sometimes associated with postmenopausal women. Osteoporosis affects an estimated 200 million people worldwide, approximately one-tenth of women aged 60, one-fifth of women aged 70, two-fifths of women age 80, and two-thirds of women aged 90 (UCB, 2016). In Thailand, the prevalence of this disease also increases as people age, especially as women pass through

menopause (19.2 % at age 50-59, 25% at age 60-69, and 34.6% at age 70 and more) (Chatleard, 2009). Over the course of their lifetime, one in three women will suffer an osteoporotic fracture (UCB, 2016). Of all fractures, hip fractures have the most serious impact. Most hip fractures require hospitalization and surgery. About one in five hip fracture patients over age 50 die in the year following their fracture as a result of associated medical complication (NIH, 2016; International Osteoporosis Foundation, 2002). Vertebral fractures can have serious consequences, including chronic back pain and disability. They have also been linked to increased mortality in older people (NIH, 2016). Having a fracture can lead to a negative body image, poor self-esteem, and a sense of limitation in activity and mobility. All osteoporotic fractures increase patient morbidity; however, fractures of the hip and vertebrae are also linked with significant mortality (Holroyd, Cooper, & Dennison, 2008). Some fractures can be permanently disabling, especially when they occur in the hip. In addition to the financial costs, osteoporosis takes a toll in terms of reduced quality of life for many people who suffer fractures (Cumming & Melton, 2002). It can also affect the lives of family members and friends who serve as caregivers (NIH, 2016).

Osteoporosis patients may have symptoms related to the weakened bones, including back pain, loss of height. Spine malformations such as a stooped or hunched posture, a curved upper back or dowager's hump, fractures might occur with a minor injury, especially in the hip, spine, and wrist, and compression fractures in the spine that may cause severe back pain (WebMD, 2016). Osteopenia is the forerunner of osteoporosis. It is a silent but destructive condition that robs bones even during a women's most productive time (WebMD, 2016). Although osteoporosis was once viewed primarily as a disease of old age, it is now recognized as a disease that can stem from less than optimal bone growth during childhood and adolescence, as well as from bone loss later in life (NIH, 2016). A major contributor to bone loss in women during later life is the reduction in estrogen production that occurs with menopause. After menopause, the rate of bone loss speeds up as the amount of estrogen produced by a woman's ovaries drops dramatically. Bone loss is most rapid in the first few years after menopause but continues into the postmenopausal years (NIH, 2016). Osteoporosis can also result from bone loss that may accompany a wide range of disease conditions, eating disorders, and certain medications and medical treatments. Other causes of osteoporosis include alcoholism, anorexia nervosa, abnormally low levels of sex hormones, hyperthyroidism, kidney disease, and certain gastrointestinal disorders. Sometimes osteoporosis results from a combination of causes (NIH, 2016).

There are some risk factors that are linked to the development of osteoporosis such as sex, age, body size, race, family history, sex hormone deficiency, diet, certain medical conditions, medication, an inactive lifestyle or extended bed rest, excessive use of alcohol, and smoking (NIH, 2016; Dargent-Molina, Poitiers, & Breart, 2000; Albrand, Munoz, Sornay-Rendu, Duoeuf, & Delmas, 2003). In general, women have lower peak bone mass and smaller bones than men. They also lose bone more rapidly than men in middle-age because of the dramatic reduction in estrogen levels that occurs with menopause. Slender, thin-boned women are at greater risk (NIH, 2016). People who are very thin and do not have much body fat to cushion falls have an increased risk of fracture. People whose parents have a history of fractures also

tend to have reduced bone mass and an increased risk for fractures. An inadequate supply of calcium over a lifetime is thought to play a significant role in the development of osteoporosis. From childhood into old age, a diet low in calcium and vitamin D can increase the risk of osteoporosis. Many published studies show that low calcium intakes are associated with low bone mass, rapid bone loss, and high fracture rate (Pongchaiyakul, Pongchaiyakul, & Pratipanawatr, 2004). In addition to sex hormone problems and eating disorders, other medical conditions are associated with increased risk of osteoporosis. Anorexia nervosa, for example, is an eating disorder that leads to abnormally low body weight, malnutrition, amenorrhea, and other effects on the body that adversely affect bone health. Long-term use of certain medications, including glucocorticoids and some anticonvulsants, leads to bone loss and increased risk of osteoporosis. Caffeine is also an associated factor with bone mineral density in young adult women (Conlisk &Galuska, 2000). Low levels of physical activity and prolonged periods of inactivity can contribute to an increased rate of bone loss as well. Chronic heavy drinking is a significant risk factor for osteoporosis. People who drink heavily are more prone to bone loss and fracture because of poor nutrition and harmful effects on calcium balance and hormonal factors. Drinking too much also increases the risk of falling, which is likely to increase fracture risk (Hansen, Folsom, Kushi, & Sellers, 2003). Most studies indicate that smoking is a risk factor for osteoporosis and fracture, although the exact reasons for the harmful effects of tobacco use on bone health are unclear. Women who smoke have lower levels of estrogen compared to nonsmokers and frequently go through menopause earlier (NIH, 2016). Negative effects of coffee have been suggested, such as increased risk of hip fractures (Cummings, Nevitt, & Cummings, 1997). These fractures constitute a large and growing problem with a profound impact on quality of life (Riggs & Melton, 1995) and mortality rate (Center, Nguyen, Schneoder, Sambrook, & Eidman, 1999).

The primary goal in treating people with osteoporosis is preventing fracture. Significant advances in preventing and treating osteoporosis continue to be made worldwide. The aim of the present study was to evaluate the prevalence and risk factors associated with osteopenia and osteoporosis among women health personnel working at Boromarajonani College of Nursing, Nakhonratchasima.

Methods

The 72 women health personnel participated in this cross-sectional analytical study after the consent form was completed. Bone mineral density (BMD) at the vertebral spine and hip was measured by dual-energy x-ray absorptiometry (DXA). Data were collected from September to December, 2013. Demographic questionnaire and risk factors to osteopenia and osteoporosis questionnaire of World Health Organization (WHO) which was translated into Thai language by Jeranut Somchock was used for data collection. Descriptive statistics, odds ratio, and logistic regression analysis were used for data analysis.

Risk factors to osteopenia and osteoporosis questionnaire of World Health Organization (WHO)

1. Have you had a previous hip or vertebral fracture? ○ Yes ○ No
2. Have you had any fractures during your adult life which did not result from significant trauma (e.g., auto accident)? ○ Yes ○ No
3. Did either of your parents ever have a hip fracture? ○ Yes ○ No
4. Do you smoke? ○ Yes ○ No
5. Have you ever taken Glucocorticoids? ○ Yes ○ No
6. Do you have rheumatoid arthritis? ○ Yes ○ No
7. Do you have secondary osteoporosis? ○ Yes ○ No
8. Do you drink 3 or more alcoholic drinks per day? ○ Yes ○ No
9. Are you being treated for osteoporosis? ○ Yes ○ No

10. Have you ever taken any of the following medications:
    - ☐ Actonel (i.e. risedronate)
    - ☐ Boniva (i.e. ibandronate)
    - ☐ Evista (i.e. raloxifene)
    - ☐ Forteo (i.e. parathyroid hormone)
    - ☐ Fosamax (i.e. alendronate)
    - ☐ HRT (i.e. estrogen/hormone therapy)
    - ☐ Miacalcin (i.e. calcitonin)
    - ☐ Protelos (i.e. strontium ranelate)
    - ☐ Reclast (i.e. zoledronate)
    - ☐ Prolia (i.e. denosumab)
    - ☐ Vitamin D
    - ☐ Calcium
    - ☐ Other - Please specify: _____
11. Do you have any of the following medical conditions:
    - ☐ Anorexia or Bulimia
    - ☐ Any Seizure Disorders
    - ☐ Asthma or Emphysema
    - ☐ Cancer
    - ☐ End stage renal disease
    - ☐ Inflammatory bowel diseases
    - ☐ Hyperparathyroidism
    - ☐ Hysterectomy
    - ☐ Other - Please specify: _____
12. What was your maximum height (inches)? _____
13. Do you perform weight bearing exercise regularly? ○ Yes ○ No
14. Do you regularly consume dairy products? ○ Yes ○ No
15. Do you drink caffeinated beverages? ○ Yes ○ No

If female:

16. At what age did your period start? _____
17. Are you premenopausal? ○ Yes ○ No
18. How many full term pregnancies have you had? _____
19. Have you ever missed your period for more than 6 months in a row (not including pregnancy or menopause)? ○ Yes ○ No

Results

1. Risk factors of study participants

The average age (±SD) of these participants was 47.4 ± 8.2 years. No regular exercise and BMI > 25 were the first and second risk factors among these participants. The number and percentage of other risk factors were presented in Table 1.

Table 1. Risk factors of participants (N= 72)

Risk factors	Number (n)	Percentage
No regular exercise	56	77.8
BMI > 25	49	68.1
Regular coffee intake	48	66.7
No dairy product intake	38	52.8
Menopause	30	41.7

2. Bone mineral density (BMD) results

In Table 2, the results of bone mineral density among these participants revealed the prevalence of osteopenia and osteoporosis at vertebral spine and hip bones that more than 72-73 % of participants were in normal condition. Only 4.2 % of participants have osteoporosis at vertebral spine, and hip bones whereas 16 - 17% of them have osteopenia.

Table 2 The prevalence of osteopenia and osteoporosis of participants at vertebral spine and hip bones (N= 72)

Bone mineral density results	Prevalence			
	Vertebral spine		Hip	
	n	%	n	%
Normal	53	73.6	52	72.2
Abnormal	19	26.4	20	27.8
Osteopenia	16*	22.2	17*	23.6
Osteoporosis	3*	4.2	3*	4.2

* The results found one or more than one area of osteopenia and osteoporosis

3. Predicted factors related to osteopenia and osteoporosis

In Table 3, menopause was a significant factor related to osteopenia and osteoporosis ($p < .05$). Postmenopausal women have a higher risk of osteopenia and osteoporosis at vertebral spine 3.3 times (95% CI: 1.1, 9.9) and 5.3 times (95% CI: 1.7, 16.1) at hip bone compared to premenopausal women.

Table 3 Factors related to osteopenia and osteoporosis of participants at vertebral spine and hip bones (N= 72)

Factors	Vertebral spine			Hip		
	Odds ratio	95%CI	P value <.05	Odds ratio	95%CI	P value <.05
BMI > 25	0.4	0.1,1.2	.093	0.8	0.3,2.5	.730
Menopause	3.3	1.1,9.9	.027*	5.3	1.7,16.1	.002*
Dairy product intake	1.8	0.6,5.2	.277	2.1	0.7,5.8	.178
Regular coffee intake	1.1	0.3,3.4	.850	0.9	0.3,2.6	.852
Regular exercise	1.7	1.5,2.3	.432	1.6	0.5,7.5	.361

4. Level of predicted factors for osteopenia and osteoporosis

In Table 4, the results of logistic regression analysis showed that BMI > 25 and menopause were the significantly predicted factors for osteopenia and osteoporosis of these participants at vertebral spine bone accounted for 34.5 % (P < .05).

Table 4 The logistic regression analysis results of predicted factors for osteopenia and osteoporosis of participants at vertebral spine bone (N= 72)

Factors	B	S.E.	Wald	df	Sig	Nagelkerke R Square
Age	.024	.058	.175	1	.676	.345
BMI > 25	.370	.127	8.516	1	.004*	
Menopause	2.052	.976	4.423	1	.035*	
Dairy product intake	.710	.682	4.082	1	.298	
Regular coffee intake	.338	.742	.207	1	.649	
Regular exercise	.783	.873	.804	1	.370	

*P < .05

In Table 5, the results of logistic regression analysis showed that BMI > 25 and menopause were also the significantly predicted factors for osteopenia and osteoporosis of these participants at hip bone accounted for 37.3 % (P < .05).

Table 5 The logistic regression analysis results of predicted factors for osteopenia and osteoporosis of participants at hip bone (N= 72)

Factors	B	S.E.	Wald	df	Sig	Nagelkerke R Square
Age	.057	.059	.929	1	.335	.373
BMI > 25	-.296	.113	6.803	1	.009*	
Menopause	2.058	.937	4.819	1	.028*	
Dairy product intake	.711	.675	1.112	1	.929	
Regular coffee intake	-.179	.711	.063	1	.801	
Regular exercise	.873	.892	.959	1	.327	

*P<.05

Discussion

The results of this study showed that more than half of the participants have some risk factors for osteopenia and osteoporosis such as no regular exercise, BMI > 25, regular caffeine intake, and no regular dairy product intake. Although their average age was 47.4 years, their risk factors could be well predicted factors for osteopenia and osteoporosis in the future. The results of this study supported the report of Chatleard (2009) which presented that about 19% of samples aged lower than 60 showed a problem with osteoporosis. However, the proportion between osteoporosis and normal BMD (2: 5) among these participants seemed to be higher than the report from UCB (2016) which was 1:10. Taking dairy product regularly is not common for Thais. Therefor, daily calcium intake could be a major cause of osteoporosis of these participants. Many studies reported that high consumption of coffee has been suggested to the development of osteoporosis (Hansen, Folsom, Kushi, & Sellers, 2003). Low levels of physical activity and regular caffeine intake could be a combination of causes to an increased rate of bone loss for these participants (NIH, 2016).

Limitation

Because the number of staff for being the participants is not large, future research needs to be tested with a larger sample size.

Suggestion

A health promotion program for preventing fracture among the participants with osteoporosis needs to be set up to increase their self-awareness and self-care behaviors.

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The Resilience Quotient of Nursing Students of Boromarajonani College of Nursing, Nakhon Ratchasima, Thailand[1]

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Abstract

This research aims to study the level of resilience quotient of nursing students of the Boromarajonani College of Nursing, NakhonRatchasima, Thailand. Participants comprised of 145 first year students, aged 18 – 20 years old ($\bar{x}$ =18.56, S.D = 0.57). Of this sample, 95.83% were female, and the remaining 4.17% were male. All of the participants of this study were Buddhist, but 69.45% of them lived outside the province of NakhonRatchasima. Their average GPA was at 3.44 (S.D = 0.30). The proportion of participants who like the nursing career was 50.69 percents of the. They had stress during the past week with stress score between 0 – 8 ($\bar{x}$ = 2.69, S.D = 1.83). The causes of their stress were varied. The majority causes of stress were studying which accounted for 75.64%, finances accounted for 36.11%, and being in the college was at 29.86%. Relationship stress accounted for 23.61% while stress from friends was at 22.22% and family related stress was 7.64%. Finally, adhering to rules accounted for 17.36%, and miscellaneous stress was 22.22%.

The tool used in this research was the resilience quotient (RQ) questionnaire developed by Department of Mental Health, Thailand. The Cronbach's alpha coefficient was used to test for reliability of the questionnaire. Its reliability was at .76.

Results: The study found that the overall level of Resilience Quotient of the first year nursing students was between 45 and 80. The average overall score was at a normal level ($\bar{x}$ =64.14, S.D =7.04). The study revealed that 66.70 percent of the participants had normal scores for all three dimensions of Resilience Quotient while 24.30 percent of participants had a higher Resilience Quotient score than normal. 9 percent of participants had a lower Resilience Quotient score than normal. This group who had a lower score of Resilience Quotient than normal had 13.90, 8.30 and 2.80 percent of emotional stability, coping skills and will power dimension respectively.

Keywords: Resilience Quotient; Nursing students

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Background

Poor mental health was associated with one's stress from the outside and their strategy to deal with the problems (Andrews and Wan, 2009). Year-1 students have to face with enormous challenges which cause stress in students. Many studies showed that nursing students were faced with the stress from their courses (Limthongkul&Aree-Ue, 2009; Hegge& Larson, 2008; Pryjmachuk& Richards, 2008).

There were few studies found that depression in nursing students of Boromarajonani College of Nursing, Nakhon Ratchasima, Thailand was accounted for 8.3 percents (Kotchakorn Kaewprom & Chanokruthai Choen-arom, 2013). The study of stress in year-1 nursing students of Boromarajonani College of Nursing, Nakhon Ratchasima, Thailand reported that 82.7 percents of these students had stress (Kathalae, Treesaranuwatthana & Sageamnaimuang, 2008). Moreover, a study of stress in year-1 nursing students in academic year of 2013 revealed that 30.2 percents of these students had highest level of stress (score 6 – 10), and the stress of study came at the first accounting for 81.87 percents(Guidance section of Boromarajonani College of Nursing, NakhonRatchasima, 2013).

Such stress may affect one's adjustment to make an inappropriate decision. To have the strenuous mental health (Resilience Quotient: RQ) will help individuals facing crisis or difficulty in life. One's strength has changed over time. Sometimes you will have less, but sometimes you will have more dependent on learning and experience in life. One's strength also can be increased by their own or learn from others (Department of Public Health, 2011). If a person with strong resilience quotient (RQ) and ready to solve any problems in life, they will be able to face a crisis and step over that situation quite well.

A survey to assess the resilience quotient (RQ) of year-1 nursing students should be carried out to be basic data strengthening key features of good mental health powers to the next generation of nursing students.

Objectives

The aim of this study was to investigate level of the resilience quotient (RQ) in year-1 nursing students at Boromarajonani College of Nursing, NakhonRatchasima, Thailand

Methodology

This cross-sectional survey research was conducted in year-1 nursing students of Boromarajonani College of Nursing, NakhonRatchasima, Thailand. The questionnaires were distributed to all 156 students, and the returning rate was 144 (92 percent). The questionnaire for data collection consisted of 2 parts. Part 1 was the demographic data such as age, gender, religion, homeland, averaged GPA, the feeling towards a nursing career, stress score within one week, and factors related to stress. Part 2 was a resilience quotient (RQ) questionnaire of the Department of Mental Health, Thailand in 2007. It comprised of 20 items divided into three

parts including the emotional stability (item 1 – 10), the willpower (item 11 – 15), and the coping skills (item 16 – 20). Response option was a rating scale on four levels. Its reliability using the alpha coefficient (Coefficient alpha or Cronbach) was .76.

Participants had right to accept or reject to join this study by signing or verbally agreeing to participate in research. All data were kept secretly, and the information was presented in the overall population. If participants had questions about the study, they could ask the researchers all the time.

Data were analyzed with a computer. The demographic data and the resilience quotient (RQ) score were presented in frequency, percentage, mean and standard deviation.

Results

Participants were aged between 18-20 years (=18.56, S.D. = 0.57). Most participants were female (95.83 percents). All of them were Buddhist (100 percents). 69.45 of them had a homeland at Nakhon Ratchasima. Their GPA was at 3.44 (S.D. = 0.30). Only 50.69 of them felt like nursing career. They had stress during a week ago at score 0-8 (= 2.69, S.D = 1.83). Their stress were about family (7.64 percents), study (75.69 percents), rules and regulations (17.36 percents), daily living (29.86 percents), finance (36.11 percents), love problem (23.61 percents), friends (22.22 percents), etc. (6.25 percents).

The Resilience Quotient (RQ) score

Participant's overall resilience quotient (RQ) score was between 45-80 (= 64.14, S.D. = 7.04) as shown in Table 1. Most participants (66.70 percents) had resilience quotient (RQ) score at normal. 24.30 percents of them had resilience quotient (RQ) score at higher than normal, and nine percents of them had resilience quotient (RQ) score at lower than normal as shown in Table 2. The last group who had lower resilience quotient (RQ) score at lower than normal had a low percentage of the emotional stability, the coping skills, and will power at 13.90, 8.30, and 2.80 percents respectively as shown in Table 3.

Table 1 Mean, standard deviation and the resilience quotient (RQ) level of participants (N = 144)

The Resilience Quotient (RQ)	Mean	S.D.	Level
The emotional stability aspect			
1. Things that makes me feel little uncomfortable distraught me	3.27	0.57	-
2. I do not care people who laugh at me	2.50	0.77	-
3. When I made a mistake, I admitted it	3.40	0.63	-
4. I used to endure hardship for the better future	3.42	0.68	-
5. When I feel sorrowful, I will be sick	3.27	0.77	-
6. I teach and remind myself	3.10	0.70	-
7. Difficulties made me stronger	3.30	0.63	-
8. I do not remember bad events in the past	2.43	0.75	-

The Resilience Quotient (RQ)	Mean	S.D.	Level
9. Even though there was serious problem, my life was not so bad	3.30	0.68	-
10. When there was trouble I had someone to talk to	3.26	0.75	-
Total averaged score	31.25	3.77	Normal
The will power aspect			
11. From past experiences, I'm so sure that I can solve the problems that have come to life	3.19	0.67	-
12. I have family and a close one as a supportive	3.82	0.43	-
13. I have plans to make my life step forward	3.49	0.59	-
14. When there was a crisis occurs, I felt I was incompetent	3.41	0.58	-
15. It is difficult for me to make life better	3.68	0.56	-
Total averaged score	17.59	1.89	Normal
The coping skills aspect			
16. I want to get away if there are serious problems that I have to take responsibility	3.25	0.67	-
17. The problem solving gives me more experience	3.38	0.58	-
18. In the conversation, I find reason that everyone accept or agree with me	2.81	0.65	-
19. I prepared for the solution if the problem is more serious than I thought	2.81	0.67	-
20. I like listening to the different idea	3.04	0.70	-
Total averaged score	15.29	2.21	Normal
The overall resilience quotient(RQ)	64.14	7.04	Normal

Table 2 Number, percentage of students in each level of resilience quotient (RQ)

The Resilience Quotient (RQ)	Number (person)	Percentage
Lower than normal	13	9.00
Normal	96	66.70
Higher than normal	35	24.30
Total	144	100.00

Table 3 Number, percentage of resilience quotient (RQ) in each aspect

The Resilience Quotient (RQ)	Number (person)	Percentage
The emotional stability aspect		
Lower than normal	20	13.90
Normal	94	65.30
Higher than normal	30	20.80
Total	144	100.00
The will power aspect		
Lower than normal	4	2.80
Normal	116	80.50
Higher than normal	24	16.70

The Resilience Quotient (RQ)	Number (person)	Percentage
Total	144	100.00
The coping skills aspect		
Lower than normal	12	8.30
Normal	116	80.60
Higher than normal	16	11.10
Total	144	100.00

Discussions

The majority of participants were categorized as having normal to high levels of resilience quotient. The 66.70 percents of students had resilience quotient (RQ) score at normal. Whereas 24.30 percents of participants had resilience quotient (RQ) score at higher than normal and nine percents of participants had resilience quotient(RQ) score at lower than normal. According to the study of Jannoppacun&Suppapitiporn(2015) investigating 193 new graduated nurses from the Thai red cross-college of nursing with average age 22.66 years (S.D. = 1.27), it was reported that most newly graduated nurses (75.20 percents) had resilience quotient(RQ) score at normal. 15 percents of them had resilience quotient(RQ) score at a high level, and 9.80 percents of them had resilience quotient(RQ) score at a low level. This may be due to resilience quotient (RQ)allows a person facing a crisis or difficulty in life to help them adapt and find a solution for the problem-solving. Naturally, the resilience quotient (RQ)is the power to be able to change at any time. Sometimes there is more or less depending on the past learning and experience through life. Moreover, the resilience quotient (RQ) can be developed by one's self or learn from someone else (Department of mental health, Ministry of public health, Thailand, 2011). Most participants had stress level in a past week at score 0 – 8 (= 2.69, S.D. = 1.83). Most of their stress was from the study (75.69 percents) which is not a severe stress event or crisis in their lives. The resilience quotient (RQ)of participants was at normal level may be developed by their own by gaining knowledge to strengthen their resilience quotient (RQ) for example training of coping skills, encouraging their willpower, Participants with the resilience quotient(RQ) at high level should maintain their potentiality whereas participants with the resilience quotient(RQ) at low level should improve their ability (Bureau of mental health promotion and development, Department of mental health, Thailand, 2011).

Limitation of the study

This study was investigated only in year-1 nursing students of Boromarajonani College of Nursing, Nakhon Ratchasima, so the study cannot be able to represent to all nursing students population. Also, the study was cross-sectional, so its results can summarize only in this group during the study.

Suggestions

Promoting the resilience quotient(RQ) among nursing students, nursing lecturers should think about how to increase the level of the emotional stability, the coping skill, and the self - willpower in these students.

Acknowledgment

Thank you, the Boromarajonani College of Nursing. Nakhon Ratchasima to give fund for this research. Thank you to Miss ChatladaKonlasan and her team (student number 25 – 48) nursing students of the Boromarajonani College of Nursing, NakhonRatchasima to help coordinate and participate in completing this research achievement.

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Health Status of Nursing Students at Boromarajonani College of Nursing, Nakhon Ratchasima [1]

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Abstract

The aims of this cross-sectional study were to assess health status and the prevalence of health problems among Thai nursing students studying in the four-year nursing program. The 1,116 participants in the academic year 2011 to 2015 were received health screening annually to identify their health problems such as the test for hepatitis B antiserum, Complete Blood Count, stool exam, urine exam, chest x-ray, measuring for weight and height. Some of those who had health problems were referred for consulting with specialists, receiving the vaccination, medical treatment, and individually advice for their health problems. Descriptive statistics was used to analyze data.

Results found that the prevalence of health problems from the 2012 - 2016 academic year, were 63.8%, 68.8%, 62.1%, 45.0%, and 52.5%, respectively. Anemia was the most common health problem (37.7 %) among these participants followed by underweight, BMI < 18.5, (27.0%), abnormal urinary test (16.6%), obesity, BMI > 25, (12.3%), abnormal stool test (3.4%), abnormal chest x-ray (1.9%), and high risk for hypertension (1.2%). The freshmen who had negative immune or anti-serum of hepatitis B in each academic year were 81.2%, 82.7%, 88.8%, 85.6%, and 83.1%, respectively. A hundred percent of those (741 cases) were received hepatitis B vaccine.

The results of this survey suggest that the students with the anemic problem along with the underweight need to have a close check-up. On the other hand, overweight and obesity among these participants need to be examined and focus on the cause since body image is important for the nursing profession.

Keywords: health, status, prevalence, nursing, student

Background

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Students accepted into a nursing program at Boromarajonani Nursing College, Nakhonratchasima, Thailand requiring clinical practicum will be required to complete the health examination record. Once a physician certifies that the candidate meets the technical standard requirement as established by the Praboromarajchanok Institute of Health Workforce Development (PBRI), Ministry of Public Health, within the scope of practice of the nursing profession, and the PBRI receives and concurs with the physician's certification, the candidates will be considered as met the technical standard requirement (Praboromarajchanok Institute of Health Workforce Development, 2016).

Because the four-year nursing program requires specific health information, all nursing students are required to have a completed health examination before the start of the first semester in the nursing program. Nursing students must be free of contagion and possess sufficient stamina and mental stability to fulfill the requirements of the program and the customary requirements of the profession. Therefore, all undergraduate nursing students must have a health examination and report any significant change in their health status that impacts their ability to meet the educational achievement.

Students are required to have completed the Health Examination Record which includes a physical exam by a physician before the program start date; proof of routine immunization; free from tuberculosis evidenced by a chest x-ray. This is the only health examination required during the program under ordinary circumstances. This document includes a health care provider's (physician or nurse practitioner) statement documenting that the student's mental and physical health is sufficient to meet the core performance standards of the program.

Aim of the study

The aims of this study were to assess health status and the prevalence of health problems among Thai nursing students studying in the four-year nursing program.

Research Question

1. What is the status of health among 1,116 nursing students in the academic year between 2011 and 2015
2. What kinds of health problems among those participants?
3. How was the prevalence of those health problems?

Research Methods

Study design

A cross-sectional study was conducted in order to evaluate health status and the prevalence of health problems among nursing students at Boromarajonani College of Nursing, Nakhonratchasima, Thailand.

Study Population

The study population consisted of all full-time undergraduate nursing students. The 1,116 target population consisted of all ages and genders of nursing students studying at Boromarajonani College of Nursing, Nakhonratchasima, Thailand in the academic years from 2011-2015.

Research Instrument

Health status was assessed using the students' health examination record. It was composed of two parts of demographic information of participants and identifying health problems using the self-reported questionnaire.

Procedure

Before the initial commencement of the health examination, all participants signed an informed consent agreement and completed a demographic information questionnaire. After the complete of demographic data, the participants received the interview and completed the self-reported questionnaire.

Ethical considerations

Participation was voluntary and informed written consent was obtained from each participant prior to collecting data. The students' health examination record was not linked to the signed informed consent to maintain anonymity. Human rights, anonymity, and confidentiality, were maintained throughout the study.

Data analysis

Descriptive statistics are presented for all variables. Categorical variables are presented as frequency and percentages.

Results

1) The status of health among nursing students between the academic years of 2011 and 2015 found that the overall number of nursing students who completed the health examination record in each academic year was higher than 99 percentages. The details of the numbers and percentages were presented in Table 1.

Table 1 Numbers and percentages of nursing students completed the health examination record

Academic year	Total number of students	Number of students who completed the health examination record	Percentage
2011	385	384	99.7
2012	497	491	98.8
2013	522	515	98.7
2014	698	689	98.7
2015	738	733	99.3

2) The prevalence of health problems was highest in the academic year of 2012 (68.8%) whereas the lowest prevalence was in 2014 (45%). The prevalence of health problems in each year was presented in Chart 1

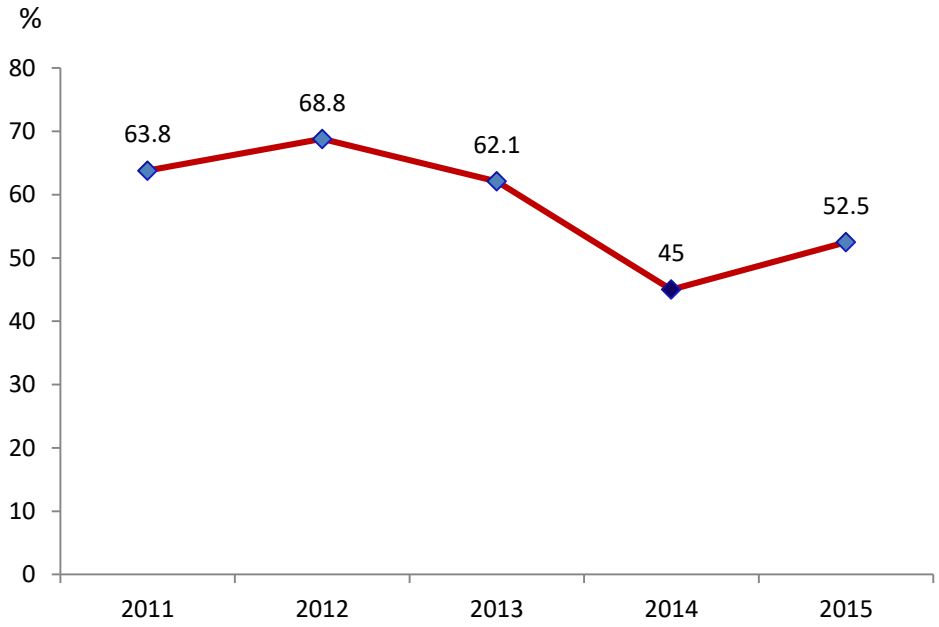


Chart 1 Prevalence of health problems from 2011-2015

3) The most common health problem among these participants was anemia followed by underweight, abnormal urinary test, and obesity. The percentages of health problems in each academic year were presented in Chart 2.

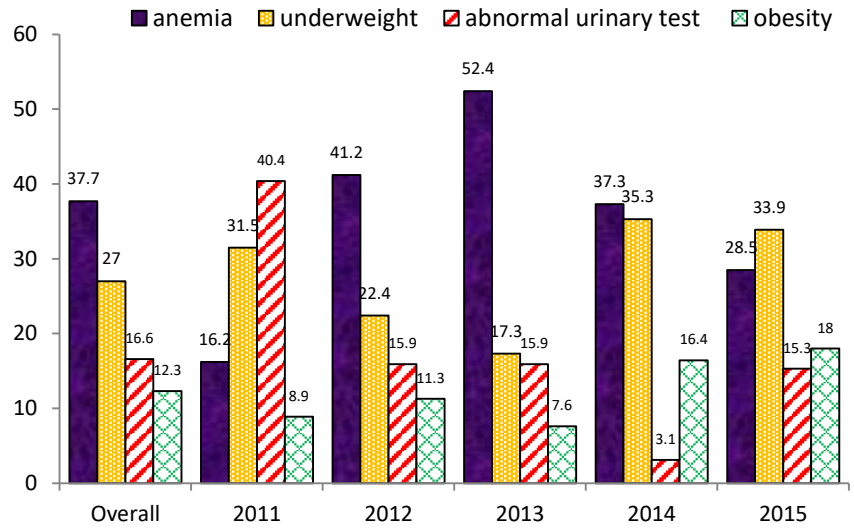


Chart 2 Percentages of health problems from 2011-2015

4) The results of negative anti-serum of hepatitis B in each academic year were presented in Chart 3

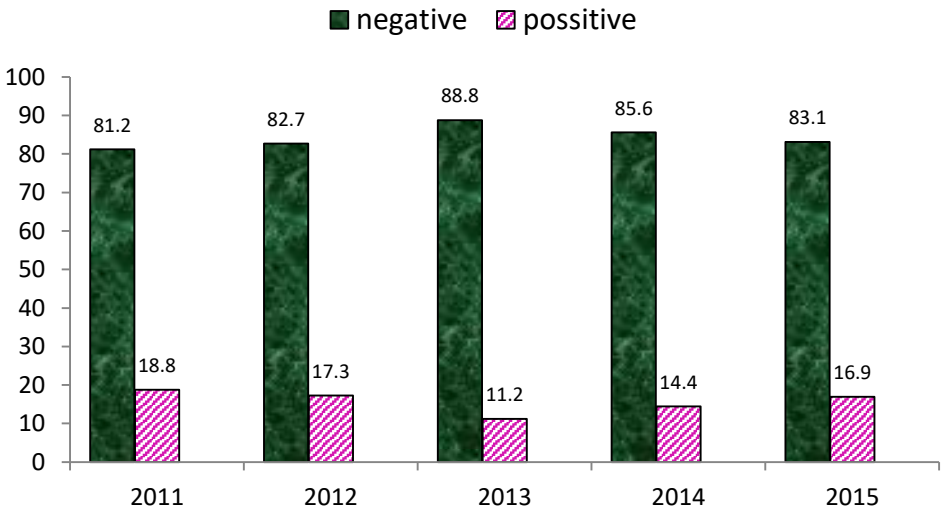


Chart 3 Percentage of positive and negative anti-serum of hepatitis B

Discussion of finding

The present study showed that anemia prevalence among adolescent female nursing students in this study was relatively high compared to other health problems. A study in northeast Thailand revealed that the prevalence of anemia was 31% which was very close to the result of

this study. Iron deficiency is assumed to be the major cause of anemia in northeast Thailand (Thurlow, Winichagoon, Green, Wasantwisut, Pongcharoen, Bailey, & Gibson, 2005). During adolescence, anemia may lead to underweight. The high prevalence of underweight among university students in Thailand found more females (21.8%) than males (6.2%) and 5.1% of nursing students were underweight (Pengpid & Peltzer, 2015). However, the prevalence of underweight of the participants in this study was extremely high compared to the previous studies.

Double burden of malnutrition (DBMN), the coexistence of under- and overnutrition in the same population, is an emerging public health concern in developing countries, including Thailand (Winichagoon, 2013). The prevalence of overweight is high among Thai adolescents, including nursing students. Several factors have contributed to this problem including the increased consumption of high-calorie food, sweetened beverages, and unhealthy snacks, a lack of exercise and physical activity, and more time spent studying, watching television, and using computers, etc. As the country progressed regarding economic and social development from a low-income to a middle-income country, over-nutrition among adolescent affected all socio-economic levels. The results of this study confirmed that nursing students from urban and rural areas of northeast Thailand had been changed in lifestyles, food access and eating patterns. Therefore, many participants of this study gained some body weights after they moved into the dormitories which were located in the city and close to many food markets and shopping areas.

Implications

The study results confirmed that prevention and proper management of under- and overweight including treatment of anemia should be considered in nursing students.

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Effects of a Self-Management Support Program on Dietary and Exercise Behaviors and Blood Pressure among Elderly Persons with Hypertension[1]

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Abstract

This one group pre-posttest experimental study aimed to examine the effects of a self-management support program on dietary and exercise behaviors and blood pressure among elderly persons with hypertension. Thirty participants who met the inclusion criteria were purposively selected from the hypertensive clinic at Khok Krachai and Mab Krad Health Promoting Hospitals, Nakhon Ratchasima province, Thailand. The study participants received a 13-week self-management support program and routine nursing care. The program consisted of five phases: 1) goal setting, 2) self-management education, 3) self-management at home, 4) follow-up, and 5) self-evaluation and group discussion. Data were collected by means of the dietary and exercise behavior questionnaire and blood pressure measurement before and after participation in the program. The reliability values of the dietary and exercise behavior questionnaire determined using Cronbach's alpha coefficients was 0.80. The data were analyzed regarding frequency, percentage, mean, and standard deviation and hypotheses were tested using the paired t-test and One-Way ANOVA.

The findings showed that 1) the mean score of dietary and exercise behaviors obtained after program implementation was higher than that obtained before program implementation ($\bar{x}$ = 3.24, S.D. = 0.27 and $\bar{x}$ = 2.77, S.D. = 0.41, respectively) and they were different with statistical significance (p-value<0.01), and 2) the means of systolic and diastolic blood pressures measured after program implementation were statistically significantly lower than those measured before program implementation (p-value<0.01).

The study findings have indicated that the self-management support program could effectively improve dietary and exercise behaviors and reduce blood pressure among elderly persons with hypertension. Therefore, health professionals can apply the self-management support program in their actual practice to enable elderly persons with hypertension to more effectively control their blood pressure levels.

Keywords: elderly persons, hypertension, self-management support program

[1] Financial support for this research is provided by Boromarajonani College of Nursing, Nakhorn Ratchasima, Thailand

Introduction

In the year 2008, the number of the world population aged 25 years old or older who had been diagnosed with hypertension was as high as one billion. Hypertension is called a "silent killer" because it is asymptomatic in nature. Of the 17 million persons who died from cardiovascular disease, 9.4 million had cardiovascular disease that developed from hypertension. In 2013, the total number of newly diagnosed cases of hypertension in Thailand was 90,564, and the mortality rates increased from 3,684 in 2012 to 5,186 in 2013. Approximately 44% and 51.7% of Thai elderly persons in the 60-69-year-old age group and the 70-79-year-old age group suffered from hypertension. Also, it has been documented that more females were unable to control their blood pressure than males, with female and male elderly persons who were unable to control their blood pressure making up 27.3% and 25.3% in the 60-to-69-year-old age group and 32.5% and 24.2% of the 65-to-74-year-old age group, respectively. In general, blood pressure levels of elderly persons aged between 65 and 74 years old range from 140-159/90-99 mmHg. It has been documented that a high level of systolic blood pressure is associated with the onset of stroke and heart failure. Therefore, a decrease in blood pressure to lower than 140/90 mmHg. in cases of hypertension alone or 130/80 mmHg in cases of hypertension together with diabetes mellitus or renal failure could reduce mortality rates as well as incidences of stroke, heart disease, etc. Lifestyle modification has also been found to increase the effectiveness of treatment of hypertension. For example, adherence to the DASH diet and intake of sodium lower than 1,500 mg. per day could reduce blood pressure by 11.4/5.5 mmHg. Moreover, aerobic exercise for 30 to 45 minutes three times a week for four consecutive weeks could lower blood pressure by 5.57/4.22 mmHg. A study undertaken to investigate self-care practices in patients with hypertension had revealed that 61.73% ate salty food more than three times per week, 49.38% had fatty food one to three times per week, 53.09% ate fried food one to three times per week, and 96.30% did not exercise.

A self-management support program is a form of health assistance that aims to equip patients with knowledge and skills necessary to perform self-care to lessen the effects of an illness. Outcomes of self-management generally include behavioral modification which helps reduce blood pressure rates of hospital admission and rates of admission to the emergency unit. With consideration of possible benefits of the concept of self-management, the present study aimed at investigating the effects of a self-management support program on dietary and exercise behaviors, and blood pressure among elderly persons with hypertension. It was anticipated that the program would enable elderly persons with hypertension to modify their dietary and exercise behaviors to control their blood pressure as well as to lessen the impacts of hypertension.

Research Objective

This research aimed at examining the effects of a self-management support program on dietary and exercise behaviors, and blood pressure among elderly persons with hypertension.

Research Hypotheses

1. The post-test mean scores of dietary and exercise behaviors obtained after implementation of the self-management support program were higher than the pre-test mean scores and were different from the pre-test mean scores with statistical significance at the 0.01 level.
2. The mean blood pressure levels measured after implementation of the self-management support program were lower than those measured before implementation of the program and were different with statistical significance at the 0.01 level.

Methodology

Sample: The 30 participants in this study were recruited by means of purposive sampling based on the following inclusion criteria: 1) they were 60 to 79 years old; 2) their systolic blood pressure was ≥ 140 mmHg and their diastolic blood pressure was ≥ 90 mmHg.; 3) they did not suffer from myopathy caused by stroke or myocardial infarction; 4. they were able to communicate in the Thai language, and 5) they voluntarily agreed to participate in the study. The sample size was calculated using G*Power 3.1 Program. The calculated sample size was 25, and the dropout rate was 20%. The final number of participants was 30.

Instruments

1. The dietary and exercise behaviors questionnaire. The 21 questionnaire items were arranged on a four-point rating scale. A panel of five experts examined the questionnaires to ensure content validity, and the Index of Objective Congruence (IOC) ranged from 0.80 to 1.00. As for reliability, Cronbach's alpha coefficient was 0.80.
2. The self-management support program consisted of four sessions of group activities, lasting 13 weeks. The program activities were conducted as follows:

Week 1: The program participants' awareness of the significance of hypertension was raised. The goals in behavioral modification regarding dietary and exercise behaviors were set, and knowledge and information on hypertension and its causes, symptoms, complications, treatment, medication side effects, and food intake and exercise to reduce blood pressure.

Weeks 1-13: The participants managed their own behavioral modification regarding dietary and exercise behaviors as well as observed symptoms and complications of hypertension on their own at home.

Weeks 5, 9, and 13: The researchers conducted follow-ups to measure the participants' blood pressure, body weight, and waist circumference to reflect their health status. Group discussions were also conducted to find solutions to problems and obstacles in behavioral modification regarding dietary and exercise behaviors. Guidelines on how to overcome problems and obstacles in self-management was also provided.

Data collection

1. Data regarding dietary and exercise behaviors were gathered before and 13 weeks after the self-management support program commenced.
2. The participants' blood pressure levels were measured before program participation, during follow-ups in the fifth and ninth week, and in the 13th week when the program ended.

Data analysis

1. Data regarding dietary and exercise behaviors were analyzed in terms of descriptive statistics of mean and standard deviation. Also, the paired t-test was utilized to determine the difference between the mean scores obtained before and after implementation of the self-management support program.
2. The participants' systolic blood pressure and diastolic blood pressure were analyzed by means and standard deviation. In addition, the differences between systolic blood pressure and diastolic blood pressure before and at 13 weeks after program implementation were determined using the paired t-test, and the differences between systolic blood pressure and diastolic blood pressure before, at weeks 5 and 9 during program implementation, and at week 13 after the end of program implementation were analyzed using One-Way ANOVA.

Findings

1. Dietary and exercise behaviors of the study participants

The mean score of dietary and exercise behaviors of the participants obtained before program implementation was at a moderate level ($\bar{x}$ = 2.77, S.D. = 0.41). After program implementation, the mean scores increased to a good level ($\bar{x}$ = 3.24, S.D. = 0.27). The mean scores were different with statistical significance at the 0.01 level, as shown in Table 1.

Table 1: Mean, standard deviation, and differences in the mean scores of dietary and exercise behaviors obtained before and after program implementation

Dietary and exercise behaviors	**Mean (n = 30)**	**S.D.**	**Level of behavior**	**t**	**p-value**
- Before program implementation	2.77	.41	moderate	- 6.52	.000 **
- 13 weeks after program implementation	3.24	.27	good		

(**p-value<0.001)

2. Blood pressure

2.1 The mean systolic blood pressure and diastolic blood pressure measured before the participants took part in the self-management support program was 148.60/80.63 mmHg. ($\bar{x}$ SBP = 148.60, S.D. = 11.06; $\bar{x}$ DBP = 80.63, S.D. = 8.04). After program implementation, at week 13, the mean systolic blood pressure reduced by 19 mmHg. ($\bar{x}$ SBP = 129.97, S.D. = 9.70) and the mean diastolic blood pressure decreased by 5 mmHg. ($\bar{x}$ DBP = 75.93, S.D. = 7.45). The mean blood pressures measured before program implementation and after program implementation were different with statistical significance at the 0.01 level, as shown in Table 2.

Table 2: Mean, standard deviation, and differences in blood pressure levels measured before and after implementation of the self-management support program

Blood pressure	**Mean (n = 30)**	**S.D.**	**t**	**p-value**
Systolic blood pressure				
Before	148.60	11.06	10.58	.000**
After, at week 13	129.97	9.70		
Diastolic blood pressure				
Before	80.63	8.04	2.86	.008*
After, at week 13	75.93	7.45		

(*p-value<0.01, **p-value<0.001)

2.2 The mean blood pressure before the implementation of the self-management support program was 148.60/80.63 mmHg. ($\bar{x}$ SBP = 148.60, S.D. = 11.06 and $\bar{x}$ DBP = 80.63, S.D. = 8.04, respectively). At week 5 after the implementation commenced, the mean systolic blood pressure reduced by 7 mmHg. ($\bar{x}$ SBP = 141.57, S.D. = 8.54) and the mean diastolic blood pressure reduced by 2 mmHg. ($\bar{x}$ DBP = 78.80, S.D. = 7.05). At week 9, the mean systolic blood pressure reduced by 12 mmHg. ($\bar{x}$ SBP = 136.40, S.D. = 10.60) and the mean diastolic blood pressure reduced by 1 mmHg. ($\bar{x}$ DBP = 79.43, S.D. = 8.81). At week 13 after the program implementation started, the mean systolic blood pressure reduced by 19 mmHg. ($\bar{x}$ SBP = 129.97, S.D. = 9.70) and the mean diastolic blood pressure reduced by 5 mmHg. ($\bar{x}$ DBP = 75.93, S.D. = 7.45).

According to the study findings, the means of systolic blood pressure measured before program implementation, at weeks 5 and 9 during program implementation, and at week 13 after program implementation commenced were different with statistical significance at the 0.01 level. On the other hand, the means of diastolic blood pressure measured before program implementation, at weeks 5 and 9 during program implementation, and at week 13 after program implementation commenced were different with no statistical significance, as shown in Table 3.

Table 3: Mean, standard deviation, and differences in means of systolic blood pressure and diastolic blood pressure before, during, and after program implementation

Blood pressure	Mean (n = 30)	S.D.	F-test	p-value
Systolic blood pressure				
- Before program implementation	148.60	11.06		
- At week 5, during program implementation	141.57	8.54		
- At week 9, during program implementation	136.40	10.60	18.61	.000**
- At week 13, after program implementation	129.97	9.70		
Diastolic blood pressure				
- Before program implementation	80.63	8.04		
- At week 5, during program implementation	78.80	7.05		
- At week 9, during program implementation	79.43	8.81	1.92	.129
- At week 13, after program implementation	75.93	7.45		

(**p-value<0.001)

Discussion of Findings

1. The mean score of dietary and exercise behaviors obtained after program implementation was higher than that obtained before program implementation, and they were different with statistical significance at the 0.01 level ($p<0.001$). Such findings, which reflected the outcomes of the self-management support program, could be discussed as follows:

Development of knowledge and skills necessary for self-management suited the needs of the study participants. According to the group discussions and in-depth interviews, the participants lacked knowledge and awareness of the dangers of hypertension. Therefore, the researchers determined the contents of knowledge dissemination to cover the topics they needed. A manual was compiled to supplement knowledge dissemination, and an animation portraying generation of plaque in the arteries, which is a major cause of complications in the bodily system, was created. In addition to this, a video illustrating real-life images of a hypertensive man who lost his consciousness due to a stroke and subsequently died was produced to raise the participants' awareness of the dangers of hypertension.

It is worth noting that the self-management support program emphasized development of necessary knowledge and skills through lectures and group discussions so that the participants had a chance to learn from the researchers who were healthcare professionals as well as from

their fellow participants. Follow-ups were also consistently conducted. At weeks 5, 9, and 13, the participants' blood pressure, body weight, and waist circumference were measured, and the results were compared to the targets and previous results. Follow-ups enabled the participants to conduct self-monitoring and self-evaluation, so it could be concluded that systematic follow-ups included in the self-management support program helped promote behavioral modification, particularly face-to-face follow-ups which led to favorable outcomes.

The findings of the present study were consistent with the findings of Wattanakul et al. (2013) which have reported that persons at risk of hypertension had better self-management behaviors of dietary and exercise behaviors after the experiment and also better than those in the control group with statistical significance ($p<0.01$). Moreover, Thatsaeng, Lasuka, and Khampolsiri (2012) have found that elderly persons with hypertension had higher self-management behavior scores after receiving the self-management support program and their blood pressure levels reduced with statistical significance ($p<0.01$).

2. The means of systolic blood pressure reduced by 7 to 19 mmHg., and the means of systolic blood pressure measured before and 13 weeks after program implementation commenced, as well as the means of systolic blood pressure before program implementation, at weeks 5 and 9 during program implementation, and at week 13 after program implementation commenced were different with statistical significance at 0.01 level ($p<0.001$). Furthermore, the means of diastolic blood pressure reduced by 2 to 5 mmHg., and the means of diastolic blood pressure measured before and 13 weeks after program implementation commenced were different with statistical significance at the 0.01 level ($p<0.01$). However, the means of diastolic blood pressure before program implementation, at weeks 5 and 9 during program implementation, and at week 13 after program implementation commenced were different with no statistical significance. Such findings could be explained as follows:

After participating in the self-management support program, the participants cut down on their sodium intake. There were two participants who did not use monosodium glutamate to season their food, but most of them were addicted to the taste but tried to reduce the amount they used. They also tried to use less salt and fish sauce when cooking and modified their behavior by changing from pouring the salt from the container to using a teaspoon. Appel (2003) have pointed out that for healthy people who have not developed hypertension if they consume 65 mmol of salt per day, they could reduce their systolic blood pressure by 7.1 mmHg. As for hypertensive patients, if they consume 65 mmol of salt per day, they would be able to reduce their systolic blood pressure by 11.5 mmHg. Finally, a follow-up of the population who did not use salt in their cooking at all has revealed that their blood pressure did not increase with age, unlike the general population.

The participants in the present study did aerobic exercises for 30 to 45 minutes a day, three to five days a week. The findings showed that 17 participants (56.66%) walked, eight participants (26.66%) did the gardening, and six participants (20%) rode a bicycle. Data elicited during the follow-ups during weeks 5, 9, and 13 revealed that one of the participants "*ride a bike for 30 minutes every day, so my blood pressure levels have decreased, I have lost weight, my waist*

circumference has become shorter, and my legs are stronger." Other participants also shared the same sentiments, describing, *"I do the gardening. I trim the grass around my house every day, so I feel that my health has improved. I am no longer easily exhausted. I think I have more agility, and my body weight and my waist circumference have reduced. The last time I went to see the doctor, my blood cholesterol levels were better, as well as my kidney functioning. Now I get the green color," "the doctor said I can discontinue my hyperlipidemia medication," "I feel that I am now healthier. People start to say that I look better and I am not as fat as I used to be," "I ride a bicycle every day, and people say that my legs are strong."* The findings of this study yielded support to the research findings of Sangprasert (2007) that if the patients did moderate aerobic exercises (55%-69% of maximal oxygen consumption), they could reduce their blood pressure by 10 mmHg. Similar findings have been reported by Prasertthai, Suwanno, and Sonpaveerawong (2010) and Appel (2003) that aerobic exercise done 30 to 45 minutes at least three times a week could reduce systolic blood pressure by 4 mmHg.

Recommendations

Based on the study findings that the self-management support program could promote dietary and exercise behaviors and enable the elderly persons with hypertension to reduce their blood pressure levels, the following recommendations could be made:

1. Recommendations for nursing practices

The self-management support program for elderly persons with hypertension should be implemented by healthcare professionals who have knowledge and experience with patient care, with public health volunteers who have undergone training on how to measure blood pressure and waist circumference acting as assistants in the continuous and systematic follow-ups. In addition, provision of knowledge, information, and skills necessary for self-management should be conducted by combining knowledge dissemination by experts together with self-directed learning and peer-assisted learning of the elderly persons. A wide variety of supportive activities should be organized, and the contents of necessary knowledge and skills should be derived from an analysis of self-care behaviors and problems and obstacles in self-care behaviors of the patients before program implementation commenced.

2. Recommendations for further research

Further research should be undertaken to investigate the effects of the self-management support program on dietary and exercise behaviors and blood pressure among elderly persons with hypertension who live in other areas. Also, experimental research with a two-group pretest-posttest design should be carried out with the duration of follow-ups being extended to six to twelve months to ensure sustainability of self-management behaviors.

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BATTAMBANG-SIEM REAP, CAMBODIA

Consumer Behavior Towards Pure Drinking Water In Battambang City [1]

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Abstract

Consumers' behavior towards pure drinking water in Battambang City was studied by using gender groups, age groups, village variables to compare with significance to quality, service, and price of pure drinking water products. The object of study was to discover the perception of consumers using pure drinking water, consumers' demand, and influence of decision making when using pure drinking water in Battambang City. The outcome suggests that the major factor that persuades consumers to drink pure drinking water is the quality factor. One pure drinking water products are Lyon pure drinking, which some of the consumers thought was better than the others. This result will be the important information for all pure drinking water in Battambang to know the need of using drinking water so that they will able to prepare the strategic plan for manufacturing high-quality drinking water for customers.

Keywords: consumers; behavior; quality; price; services, Battambang

Introduction

Water is a liquid substance, and it is a natural resource that is important to people, animals, and plants (Ministry of Education, Youth and Sport, 2001; Grandjean, 2005). On the earth, water covers 70 percent of the surface of the earth; however, of that water, 93 percent is salt water, and fresh water makes up only 3 percent. Some of the people live in danger because of a lack of fresh water, and other people have problems caused by flooding (Ministry of Education, Youth, and Sport, 2001). Some people in the survey who did not boil or purify water can have health problems, such as, cramp in the calf muscle.

Through the 1997 statistical the report of the JICA organization showed that perhaps 7 million of people that lived in rural Cambodia still use water that isn't boiled or purified because the people do not have access to pure drinking water and they earn a little income (Noel Obrayen and Pon Lok, 2000). In Cambodia, which covers an area of 181.035 Km2 and has a population of 13.8 million, perhaps 50 percent of people have liver disease, because of poor quality drinking water (Leng, 2009). In fact, Cambodia's Social Activities document show that 1/3 of people use a well and another 1/3 use natural ponds, streams, and large rivers (En, 2007). These days, water which is boiled or purified is much better for the health of the citizens of

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Battambang City. So most of the people are living in Battambang City use pure drinking water. Consumers now demand quality products for themselves (Etzel, 2001). Although, before, through habit, they would always choose to buy one product consumers will now choose other brands if they think it is better quality (Levy and Barton, 2001).

The objective of the study was to identify consumer behavior when using pure drinking water in Battambang City, and this objective was to study the consumer's perception when using pure drinking water, all consumer demand include any factors influencing the consumers use of pure drinking water products.

Methodology

The study took two villages (20 Osaphear and Tul Taek Villages) which are located in Svaypor and Tul Taek Commune, Battambang City was chosen by purposive sampling method. The sample sizes were 94 households which were selected by Yamance formula (1967). Moreover, there were 1549 households in two villages. Tul Taek Village, which has 986 households and 60 households, were selected, and 20 Osaphear Village which has 563 households and 34 households were selected. Therefore, 94 households of the 986 were selected by random sampling method and that 94 households were selected by households name lists from the chief of the village a commune. The information was collected from questionnaires that interviewed the consumer target. These questionnaires asked about consumers' demand on using pure drinking water, consumers' perception focused on quality, price, services, and location of these products, and including the factor that persuaded consumers to use these pure drinking products. Furthermore, data analytic method was used in both Microsoft Excel and SPSS programs.

Results and discussion

The result of study and consumers' interviewed in Battambang City show that there was 95 percent of consumers' use and 5 percent of consumers' non-use. Because of factors such as their location had enough rain water; moreover, they thought that that pure drinking water was not better than rain water, and a high price too. Both consumers and non-consumers thought it had problems. Some consumers said that some of the pure drinking water had a problem, because of the taste was too brackish and the taste of pure water was similar to fresh water; moreover, those pure water had a bad smell. Popular Magazine (2008) shows pure drinking water was a problem because it was a higher in arsenic; contents; furthermore, pure drinking water could kill when we drink a lot of water at the same time (Popular Magazine, 2009).

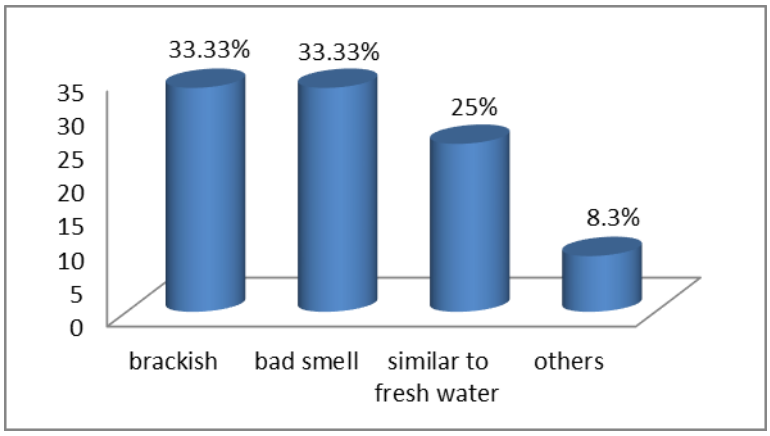


Figure 1: Perception of people on pure drinking water

Although consumers' perception thought that it had a problem, but according to the results of the Chi-Square Test show that there were non-significant between village, gender, and age categories, with the problem of using pure drinking water below. Among all of the pure drinking water Oral and Lyon pure drinking water did not have problem on using it.

Table 1: To compared groups of variable with the problem of using pure drinking water

Name of Products	Non	Little	Average	Much	Total	Chi-Square Test : Sig.		
						Village	Gender	Age
Record	34	1	2	-	37	0.692^{ns}	0.615^{ns}	0.060^{ns}
Oral	13	-	-	-	13	-	-	-
Loma	31	4	1	1	37	0.633^{ns}	0.519^{ns}	0.565^{ns}
Lyon	6	-	-	-	6	-	-	-
Ozone	7	-	2	-	9	0.073^{ns}	0.391^{ns}	0.687^{ns}
Welfare	7	1	-	-	8	0.408^{ns}	0.285^{ns}	0.767^{ns}
Others	30	4	4	-	38	0.262^{ns}	0.945^{ns}	0.886^{ns}

To understand the village, age, and gender categories compare with the quality of pure drinking water. The Chi-Square test showed that there were significant differences between village categories with the quality of Record, Oral or Loma pure drinking water. But it does show non-significant differences between age groups, and gender groups with all of pure drinking water except Oral, Record, and Loma(Table 2).

To see all the variables on price refer to Table 3:

Each village compared to the price of all pure drinking water products, except for Oral pure drinking water, the chi-square test shows that there were non-significant between village categories, with the price of all products except Oral pure drinking water product.

- Both gender comparison on the price of all pure drinking water products the Chi-square test shows that there were no significant between age categories, with the price of all products.

- Age categories compared to the price of all pure drinking water product except for Welfare pure drinking water. The Chi-square test shows that there were significant between age categories, with the price of all products.

Whereas Table 4, the Chi-Square shows that there were no significant between villages, gender categories, with companies' service. But perceptions there was a significant difference between age groups, with companies' service.

Table 2: To compared groups of variable with the quality of pure drinking water products

Name of Products	Not good	Not really good	Neutral	Good	Very good	Total	Chi-Square Test: Sig.		
							Village	Gender	Age
Record	-	3	16	18		37	0.048*	0.199ns	0.364ns
Oral	-	-	2	10	1	13	0.012*	0.514ns	0.965ns
Loma	1	5	14	17	-	37	0.040*	0.217ns	0.127ns
lyon	-	-	-	6	-	6	-	-	-
Ozone	-	-	3	6	-	9	0.058ns	0.571ns	0.308ns
Welfare	-	-	7	1	-	8	0.285ns	0.408ns	0.877ns
Others	-	1	19	17	1	38	0.447ns	0.654ns	0.073ns

Table 3: To compared groups of variable with the price of pure drinking water products

Name of Products	Very cheap	Cheap	Neutral	Expensive	Very expensive	Total	Chi-Square Test : Sig.		
							Village	Gender	Age
Record	3	4	26	4	-	37	0.802ns	0.959ns	0.927ns
Oral	-	-	9	4	-	13	0.021*	0.164ns	0.461ns
Loma	1	8	26	2	-	37	0.563ns	0.076ns	0.113ns
lyon	-	-	2	3	1	6	0.513ns	0.687ns	0.136ns
Ozone	-	-	6	3	-	9	0.343ns	0.571ns	0.369ns

Welfare	1	-	7	-	-	8	0.285^{ns}	0.408^{ns}	0.046*
Others	2	3	25	7	1	38	0.587^{ns}	0.344^{ns}	0.624^{ns}

Note: ns= Non-significant *=Significant at 0.05

Table 4: To compared groups of variable with the service of pure drinking water products

Name of Products	Not really good	Neutral	Good	Total	Chi-Square Test : Sig.		
					Village	Gender	Age
Record	1	10	26	37	0.330^{ns}	0.503^{ns}	0.114^{ns}
Oral	1	7	5	13	0.719^{ns}	0.237^{ns}	0.052^{ns}
Loma	6	15	16	37	0.776^{ns}	0.702^{ns}	0.737^{ns}
lyon	1	2	3	6	0.513^{ns}	0.223^{ns}	0.083^{ns}
Ozone	1	4	4	9	0.384^{ns}	0.852^{ns}	0.323^{ns}
Welfare	-	4	4	8	0.465^{ns}	0.157^{ns}	0.092^{ns}
Others	-	25	13	38	0.066^{ns}	0.429^{ns}	0.023*

Note: ns= Non-significant *=Significant at 0.05

Table 5 below showed that consumers' enjoy using supplies that have a quality products combined with good service as to Tseng et al. (1996) cited in Kumiawan et al.(n.d.).

Table 5: To compare villages group with the consumers' prefer about pure drinking water

Village		Pure drinking water's name							Total
		Record	Oral	Loma	Lyon	Ozone	Welfare	Others	
Tul Taek	frequency	20	5	13	3	3	3	10	57
	percent	22.5	5.6	14.6	3.4	3.4	3.4	11.2	64
20 Osaphear	frequency	6	3	10	2	3	-	8	32
	percent	6.7	3.4	11.2	2.2	3.4	-	8	36
Total	frequency	26	8	23	5	6	3	18	89
	percent	29.2	9	25.8	5.6	6.7	3.4	20.2	100

58.4% of respondents thought that the major factor in purchasing water products is quality. Another, major factor persuading consumers who lived in Phnom Penh City using these products was the price (Leng, 2009). Whereas, Peter and Donnelly (2001) showed that almost all of the consumers who bought one product was more depend on price factor than others factors. If the price of these products were suitable, then consumers would increase demand (Battambang Provincial Hall, 2008). An important second factor in making a decision on buying these products was price, and the third important factor was convenience is buying.

Conclusions

Research findings and discussions above suggest clearly that consumers' using pure drinking water had different needs. Table 05 above showed that there were 29.2 percent using Record pure drinking water product, 9 percent using Oral pure drinking water product, and 25.8 percent using Loma pure drinking water. 5% of respondents did not use pure water. They said this was because they did not believe pure drinking water companies could not eliminate viruses from their product. Nor, could the processing prevent other problems (Figure 1). Even though some consumers had problems with the product, they thought pure drinking water was important for good health, and help to avoid diseases carried in water. So that both user and non-user request pure drinking water products companies which should increase product quality and solve these problems.

Terminologies

Consumer	(*noun*) : GtifiCn
Behavior	(*noun*) : \riyabf
Quality	(*noun*) : KuNPaB
Price	(*noun*) : témø
Service	(*noun*) : esvakmµ

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Prevalence and Identified Risk Factors for Dementia of Elderly Clients at Nongpalan Sub-district Hospital, Nakhonratchasima[1]

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Abstract

The aims of this cross-sectional descriptive study were: 1) to determine the prevalence of dementia among Thai elderly who register to obtain primary health care service at the primary care unit (PCU) Named "Nongpalan Sub-district Hospital, Nakhonratchasima", and 2) to explore the identified risk factors for dementia of elderly clients in the service area of this hospital. The 209 population of the study were Thai elders age 60 and above living in three villages of the service areas of this PCU. Data was collected in the early of 2016. The screening consisted of a structured and comprehensive questionnaire to determine personal information included demographic characteristics, education, occupational status, marital status, lifestyle habit (alcohol consumption, smoking, and drug usage), body mass index, and current medical problems. The dementia screening sheet was used to determine their dementia levels. The Thai Mental Health Indicator-15 (TMHI-15) and Thai Geriatric Depression Scale (TGDS) were used to exploring their mental health status and depression. Content validity of a structured and comprehensive questionnaire was approved by three experts and the CVI was .97. Reliability was tested by KR-20 and was .80. Descriptive statistics was used to analyze data.

The result of dementia screening among these subjects revealed that the prevalence of dementia of elders in this study was 8.13%. The majority of subjects was female (60.8%) aged between 60-69 years (45.5%), married (58.9%), no occupation (53.1%), monthly income lesser than 2,500 baht, and BMI at normal level (62.7%), with current medical problems (53.6%), mental status at higher than normal level (56.9%), depression at normal level (90.4%), no alcohol consumption (84.7%), no smoking (79.4%), and no other drug usage (99.5). These are important baseline information for Nongpalan PUC in term of service plan for aging population in the future. The number of elders aged between 60-69 years (45.5%) is higher than other age group and almost a half of the total elder population who register to obtain primary health care service from this PCU. In this study, age is an essential identified risk factor for dementia among these elders, especially in the next few years. Therefore, future research and analysis of the data among these elderly population should be carried out on other issues.

Keyword: Prevalence, Dementia, Elderly, Risk Factors

[1] Financial support for this research is provided by Boromarajonani College of Nursing, Nakhorn Ratchasima, Thailand

Introduction

Thailand has been an aging society with older persons constituting more than 10 percent of the population since 2002. The statistics derived from the Population Projections for Thailand during 2010-2040 indicates that the percentage of the late elderly (aged 80 and over) population will increase sharply from approximately 12.7 percent to almost one-fifth of the total elderly population. The rise is attributable to improved life expectancy in the elderly, which also results in an increasing number of the population who are economical, socially, and physically dependent. When considering the distribution of the elderly population by gender, it is found that the elderly female accounts for 55.1 percent in 2010, and will have increased to 56.8 percent in 2040. The late-elderly female group, in especial, will have increased from 13.9 in 2010 to 21.3 percent in 2040, as they tend to live longer than their male counterpart. The elderly population is forecast to increase in the municipal and urban areas. In 2010, a total of 3.3 million elderly resided in the municipal areas, accounting for 39.7 percent. The number is expected to have increased to 11.6 million or 59.8 percent in 2040 due to the urbanization trend in Thailand (Foundation for Older Persons' Development, 2016).

In Thailand, the Ministry of Public Health is expanding the establishment of primary care unit (PCU). Each PCU is responsible for about 10,000 people. A PCU should be located in the area in which its target group lives, however, if it is located outside the area, the population should not have to travel more than 30 minutes by car to reach the PCU. Nongpalan PCU, the setting of this study, is located in an urban area of Nakhonratchasima. The total number of the population who register to obtain primary health care from this PCU was 2,167 cases, and of those numbers, there are 280 elderly persons living in this area. PCU is responsible for empowering the public to improve their physical and mental health, providing basic medical treatment, disease prevention programs, home visit, health monitoring, and monetary support for health initiatives. PCUs also provide other services on food safety, school health, and maternal and child health (Siriruttanapruk, Wada, & Kawakami, 2009).As each PCU is responsible for a population of about 10,000, the expected number of elderly who register to obtain primary health care service could be more than 10% or about 1,000 cases.

One of the important chronic diseases of Thai elderly population is dementia. The contribution of dementia in Thai elderly is unknown. Dementia is a progressive, degenerative condition that affects memory, thinking, behavior, emotion and day-to-day functioning. There are numerous diseases that cause dementia. Alzheimer's disease (AD) is the most common cause of dementia and accounts for 50-60% of all cases. It is caused by abnormal brain tissue changes - known as "plaques and tangles" that were identified by Alois Alzheimer, a German psychiatrist, and pathologist, in 1906. The onset of AD is insidious, and the disease lasts for 3-20 years from diagnosis, which is largely related to age. The second common cause is vascular dementia which accounts for a further 20-30% of cases of dementia and results from a narrowing of the arteries supplying blood to the brain. The lack of blood can cause damage to the brain, either due to reduced oxygen supply, strokes or mini-strokes, demyelination or mixed effects. Although the disease course can be highly variable, onset and life expectancy is similar to that of Alzheimer's disease (Asia Pacific Members of Alzheimer's disease International, 2006).

While the causes of dementia are not always completely understood, certain risk factors are known. Age is the most well-accepted risk factor, with the likelihood of dementia increasing from around 1 in a 1,000 for people under 65, to 1% for people in their sixties to nearly 25% for people 85 years and over. Family history such as genetic factors contributes to dementia risk. Gender is another important risk factor. Over the age of 80, women are at slightly higher risk of Alzheimer's disease while men may be at higher risk of vascular dementia (Asia Pacific Members of Alzheimer's disease International, 2006). Some studies show a slightly higher prevalence rate of Alzheimer's disease in women. However, many studies show no gender difference in the overall prevalence of dementia. Cardiovascular risk factors, stroke-related and atherogenic causes contribute to vascular dementia and there is increasing evidence that they also contribute to Alzheimer's disease. These include high blood pressure (severe systolic hypertension), narrowing of the arteries (atherosclerosis), irregular heartbeat (atrial fibrillation), ischemic (coronary) heart disease and attacks (myocardial infarction), diabetes, high saturated fat and LDL cholesterol intake and smoking. Coronary artery bypass graft surgery may contribute to vascular dementia. For education and employment, one hypothesis is that higher levels of education or a lifetime of mental activity may increase the brain reserve (Stern, Gurland, Tatemichi, Tang, Wilder, & Mayeux, 1994). Other studies suggest that specific occupational exposures may increase AD risk, such as manual work (Fratiglioni et. al., 1993) and exposure to organic solvents (Kukull e.t al.,1995) or electromagnetic fields (Sobel et. Al., 1995 and 1996), for example in occupations such as carpenter, electrician, machinist, sheet metal worker, typist or welder. Other possible risk factors include depression, diabetes, high levels of homocysteine (an amino acid) in blood, previous thyroid diseases, head trauma (eg, from motor vehicle accidents or boxing) and excessive alcohol intake (Asia Pacific Members of Alzheimer's disease International, 2006).

Although Alzheimer's disease is the most common form of dementia in Caucasian populations, this may not apply to other national or ethnic groups. Wimo et. al. (2004) estimated around 25 million in 2000 rising to 63 million by 2030 and 114 million by 2050, assuming no geographic variation in age-specific prevalence rates. Ferri et al, 2005 suggest that factors that may underlie regional variations include: genes, environment, infectious agents, chemical neurotoxins, diet, vascular disease and its risk factors, lifestyles and interactions between genes and environment.

There has been no epidemiology data of dementia in Thailand. Understanding physical and mental health status and health behaviors of Thai elderly dementia will assist the formation of public health policy and response to the needs of social welfare for the elderly.

Objectives

The aims of this cross-sectional descriptive study were: 1) to determine the prevalence of dementia among Thai elderly who register to obtain primary health care service at the PCU Named "Nongpalan Sub-district Hospital, Nakhonratchasime", and 2) to explore the identified risk factors for dementia of elderly clients in the service area of this hospital.

Methods

We screened Thai elders age 60 and above living in three villages of the service areas of the primary care unit (PCU) Named "Nongpalan Sub-district Hospital" in the early of 2016. The total number of those elders was 209. The screening consisted of a structured and comprehensive questionnaire to determine personal information included information on demographic characteristics, education, occupational status defined as a longest job in life, marital status, lifestyle habit (alcohol consumption, smoking, and drug usage), body mass index, and current medical problems. The dementia screening sheet was used to determine their dementia levels. The Thai Mental Health Indicator-15(TMHI-15) and Thai Geriatric Depression Scale (TGDS) were used to exploring their mental health status and depression. Content validity of a structured and comprehensive questionnaire was approved by 3 experts and the CVI was .97. Reliability was tested by KR-20 and was .80. Descriptive statistics was used to analyze data.

Results

1) Personal information

Two hundreds and nine elders were screened. Most of the subjects were female aged between 60-69 years, married, no occupation, and their monthly income lower than 2,500 baht. The personal information of subjects is presented in Table 1.

Table 1 Frequency and percentages of subject characteristics (N=209)

Subject characteristics	Frequency	Percentage
Gender		
Male	82	39.2
Female	127	60.8
Age (years) (M=71.11years)		
< 60	1	0.5
60-69	95	45.5
70-79	80	38.3
80-89	30	14.4
90-99	3	1.4
Marital status		
single	7	3.3
married	123	58.9
widowed	68	32.5
divorced	11	5.3
Education level		
primary school		
secondary school		

Subject characteristics	Frequency	Percentage
junior high school		
senior high school		
no education	50	23.9
Occupation		
no occupation	111	53.1
Self-employed	14	6.7
farmer	58	27.8
employee	18	8.6
Other	8	3.8
Monthly income (baht) (M=2694.09 baht/month)		
≤ 2,500	136	65.1
2,501-5,000	49	23.4
5,001-7,500	4	1.9
7,501-10,000	14	6.7
>10,000	6	2.9

2) Prevalence of dementia

The result of dementia screening among these subjects revealed that the prevalence of dementia of these elders was 8.13%. A detail of prevalence was presented in Table 2.

Table 2 Frequency and percentages of the prevalence of dementia (N=209)

Dementia screening results	Frequency	Percentage
yes	17	8.13
no	192	91.87

3) Health status

Most of the subjects had body mass index (BMI) in normal level (62.7%) with current medical problems (53.6%), mental health status in higher than normal level (56.9%) and depression score in normal level (90.4%). A detail of health status was presented in Table 3.

Table 3 Frequency and percentages of health status of subjects (N=209)

Subject health status	Frequency	Percentage
Body mass index ($kg*m^2$)		
Normal	131	62.7
underweight	38	18.2
Overweight	30	14.4
Obesity	7	3.3

Subject health status	Frequency	Percentage
Current medical problems		
yes	112	53.6
No	97	44.6
Mental health status		
lower than normal	22	10.5
normal	68	32.5
Higher than normal	119	56.9
Depression		
normal	189	90.4
slightly depression	15	7.2
moderate depression	5	2.4

4) Lifestyle habit

The lifestyle habit of subjects such as alcohol consumption, smoking, and drug usage found that the majority of elders were no alcohol consumption (84.7%), no smoking (79.4%), and no other drug usage (99.5%). A detail of lifestyle habit of subjects was presented in Table 4.

Table 4 Frequency and percentages of lifestyle habit of subjects (N=209)

Subject lifestyle habit	Frequency	Percentage
Alcohol consumption		
yes	32	15.3
no	177	84.7
Smoking		
yes	43	20.6
no	166	79.4
Other drug usage		
yes	1	0.5
no	208	99.5

Discussion

This study was attempted to assess the prevalence of dementia and other personal information in associated with the evidence of dementia. The result of dementia screening among these subjects revealed that the prevalence of dementia of elders in this study was 8.13%. The majority of subjects was female (60.8%) aged between 60-69 years (45.5%), married (58.9%), no occupation (53.1%), monthly income lesser than 2,500 baht, BMI at normal level (62.7%), with current medical problems (53.6%), mental status at higher than normal level (56.9%), depression at normal level (90.4%), no alcohol consumption (84.7%), no smoking (79.4%), and no other drug usage (99.5). These are important baseline information for Nongpalan PUC in term of service plan for aging population in the future. The number of elders aged between 60-69 years (45.5%) is higher than other age group and almost one-half of the total elderly

population who register to obtain primary health care service from this PCU. As in other studies, age is the most well-accepted risk factor, with the likelihood of dementia increasing from around 1 in a 1,000 for people under 65, to 1% for people in their sixties to nearly 25% for people 85 years and over (Asia Pacific Members of Alzheimer's disease international, 2006). The prevalence rate of dementia among the elderly population in this study did not differ from the prevalence rates among the elderly in other Asian and developed countries. The results of this study confirmed that age is an essential identified risk factor for dementia among these elders, especially in the next few years. The number of new cases of dementia in Thailand is projected to increase as in other countries. Different studies give slightly different results of the number depending on their methodology. But the dementia epidemic is a certainty because the numbers of people with dementia increase with an aging population. And those aged over 60 in Thailand will increase from under 10% today to 25% of the total population by 2050 and those over 80 years from 1% to 5% of the population (Asia Pacific Members of Alzheimer's disease International, 2006). Therefore, future research and analysis of the data regarding the elderly population should be carried out on other issues.

Limitation

The limitation of this study is that it includes only elderly living in three villages of Naknonratchasima province. It may not represent the whole province, but it is the important information for local primary health care unit for setting up service plan to meet the needs of local elderly persons. Our investigation on prevalence gives the overall information of burden both for the family and health personnel in the near future.

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Drinking in Thai Adolescents: Do Gender or Child Rearing Style Differences?[1]

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Abstract

This cross-sectional study aimed to determine the relationship between selected factors and drinking behavior of adolescents in Nakhonratchasima Province, Thailand. The 442 students in secondary schools, high schools, and vocational schools in Nakhonratchasima were selected by random sampling. The instruments of this study were the demographic questionnaires and a Survey of Thai Youth Health Risk Behavior. Data analysis used percentage, frequency and Chi-square test.

The majority of samples were female (61.51%, n = 272), 15 years old (25.11%, n = 111), studied in Middle school (54.52%, n = 241), monthly family income was 5,001-10,000 bath (46.38%, n = 205) and raised in reasonable rearing style (68.35%, n = 302). The result of this study showed that female adolescents reported drinking alcohol 35.75% (n=158) more than male (21.95%, n=97). There were no significant differences found between gender groups for drinking behavior ($X2=0.45$, $p>.05$). Adolescents who were raised in different rearing styles had different drinking behavior ($X2=14.89$, $p<.01$), surprisingly, the acceptance from peer group did not affect to teen drinking behavior ($X2=0.72$, $p>.05$).
Future study should conduct in-depth interview focus on adolescent female drinking behavior. Parents, teachers or health care providers, should practice reasonable rearing style in order to reduce teen drinking.

Keywords: Adolescent, drinking, gender, child rearing style

Introduction

Adolescence is a transitional stage of physical and psychological development that generally occurs during the period from puberty to legal adulthood. In the study of adolescent development (Arnett, 2007), adolescence can be defined biologically, as the physical transition marked by the onset of puberty and the termination of physical growth; cognitively, as changes in the ability to think abstractly and multi-dimensionally; or socially, as a period of preparation for adult roles. Major pubertal and biological changes include changes to the sex organ, height,

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weight, and muscle mass, as well as major changes in brain structure and organization. Adolescence needs to try the new things or discover the environment, they also learn either appropriate or inappropriate behavior.

Nowadays, Thai society has been changed; parents have to work hard, no enough time for guiding adolescence. There were 1,000 million adolescents, age 13 – 18 years old, including 17 million Thai adolescents. The study found that Thai adolescent drank alcohol 2.4 million persons (Setthapong, Kusol, Akwarangul, & Julapiya, 2010). In the drinking behavior study in high school in Nakornpanom, it found that students drink alcohol in the party with their friends 83.78 percents (Polchai, 2011). Moreover, the relationship in family related to drinking behavior of adolescence, less relationship in the family was more likely to drink alcohol (Hemachat & Yodnil, 2012).

In the year 2011, the study has shown that adolescents reported drinking as 31.50 percents out of the population in Thailand, late male adolescents (more than 15 years old) were five times more likely to drink alcohol rather than females. The study indicated that there was a discernible gender difference in the prevalence of drinking among the students. The higher rate of drinking in females is found from 10.8 to 10.9 percents within two years (Jirawatkul, 2010).

Drinking alcohol is the adolescents' risk behavior negatively affected to their health. Moreover, there were the accidents due to driving after drinking alcohol, the cause of death in Thailand. The researchers aimed to study risk behavior of adolescent in Nakornratchasima, especially the prevalence of drinking behavior and related factors. The results from this study would be the significant data to healthcare personnel for prevention and reduce drinking in adolescent in the future.

Purposes of the study

1. To study the prevalence of drinking behavior of adolescents in Nakhonratchasima.
2. To examine whether gender, peer group acceptance, rearing style were associated with the drinking behavior of adolescents in Nakhonratchasima.

Population and Sample

The target population of this study was the students who study in secondary schools, high schools, and vocational schools in Nakhonratchasima.

Sample was calculated from the total students 13-18 years old in Nakhonratchasima, 156,171 students, the sample size (Yamane) was,

$$n = \frac{156{,}171}{1+156{,}171(0.05)^2}$$
$$= 398.98$$
$$= 400$$

To account for potential missing data, the investigator chose to oversample by 20%. Therefore, the sample size of 480 subjects was required. The samples were selected by stratified random sampling.

The inclusion criteria were:

1. Students who were studying in secondary schools, high schools, and vocational schools in Nakhonratchasima.
2. Age 13-18 years old
3. Can read, write, and communication in Thai language

Protection of Human Subjects

The Institutional Review Board (IRB) application was submitted to the IRB of the Boromarajonani College of Nursing, Nakhonratchasima. The proposal and the consent form were reviewed by the IRB to determine that the rights of human subjects were not violated. The investigators obtained approval from the IRB of the Boromarajonani College of Nursing, Nakhonratchasima and the permission from the director of the school in Nakhonratchasima, Thailand before data collection.

Instrumentations

The instruments of this study were the questionnaires composed of two parts:

Part 1 Demographic of adolescent such as sex, age, religious, average grade, rearing style, peer group acceptance, family income

Part 2 Drinking behavior (checklist).

Content validity of this instrument was suggested by three experts in Psychiatric Nursing, Pediatric Nursing, and teen drinking research.

Data collection

Data collection followed approval from the IRB at Boromarajonani College of Nursing, Nakhonratchasima and the granting of permission to collect data by the directors of the school. The investigator met the teachers of each school and informed the purposes of the study. Then, the investigator approached the students. If students were interested in participation, they were asked to read and sign a consent form. The participants completed the Demographic questionnaire and Drinking behavior questionnaire.

Data analysis

The descriptive and inferential statistic, Chi-square test were used for data analysis. The 0.05 level of significance was used for all data analysis

Results

This cross-sectional study aimed to determine the relationship between selected factors and drinking behavior of adolescents in Nakhonratchasima Province, Thailand. The 442 students in secondary schools, high schools, and vocational schools in Nakhonratchasima were selected by random sampling were selected by stratified random sampling. The sample consisted of 241 secondary school students, 153 high school students, and 48 vocational school students.

Demographic characteristics of the participants were obtained from the Demographic Questionnaire. Table 1 and two displayed frequencies and percentages of adolescents' sex, age, educational level, family income and rearing style. The majority of samples were female (n=272, 61.50%), 15 years old (n=111, 25.10%), studied in secondary school (n=241, 54.52%), monthly family income was 5,001-10,000 bath (n=210, 46.70%) (Table 1) and raised in reasonable rearing style (n=302, 68.35%) (Table 2).

Table 1 Frequencies and Percentage of Adolescents in Nakhonratchasima (N = 442)

Variable	Number N=442	Percentage (%)
Sex		
Male	170	38.50
Female	272	61.50
Age (years old)		
13	78	17.65
14	82	18.56
15	111	25.11
16	93	21.04
17	39	8.82
18	39	8.82
Educational level		
Secondary school	241	54.52
High school	153	34.62
Vocational school	48	10.86
Family income (per month)		
No income	8	1.80
Less than 5,000 bath	50	11.10
5,001 - 10,000 bath	210	46.70

Variable	Number N=442	Percentage (%)
10,001 - 25,000 bath	94	20.90
25,001 - 50,000 bath	57	12.70
50,001 - 75,000 bath	16	3.90
75,001 - 100,000 bath	8	1.80
More than 100,000 bath	4	0.90

Table 2 Frequency, percentage, mean score and standard deviation of rearing style of Adolescents in Nakhonratchasima (N=442)

Rearing style	N	percentage	$\bar{x}$	S.D.
Reasonable	302	68.3	.68	.46
Control	126	28.5	.57	.90
Spoil/Indulge	14	3.2	.10	.52
Neglet	0	0	0	0

In this study, the prevalence of drinking behavior was based on adolescents' perception. It measured by Drinking behavior questionnair, is presented in Table 3. The majority of Thai adolescents drink (n= 255, 57.70%). Surprisingly, female adolescents reported drinking alcohol 35.75% (n=158) more than male (21.95%, n=97). They also reported mean age at first drink was 13.16 years old.

Table 3 Frequency and percentage of drinking behavior of Adolescents in Nakhonratchasima categorized by gender (N=442)

Drinking behavior	Number (N=442)	Percentage (%)
Male		
Drink	97	21.95
No drink	73	16.52
Female		
Drink	158	35.75
No drink	114	25.79

Table 4 Frequencies and Percentage of Drinking Behavior in Adolescents who reported drinking (N = 255)

Drinking behavior	Number N = 255	Percentage (%)
Person who invite to drink		
Parent	6	2.35

Drinking behavior	Number N = 255	Percentage (%)
Relative	50	19.61
Friend	123	48.24
Nobody	57	22.35
Other	19	7.45
The reason to have first drink		
Need to try	119	46.67
Invite from friends	32	12.55
Have problem	78	30.59
Socialize/party	26	10.19
Who is your company for drinking?		
Friends	181	70.98
Family	34	13.33
Alone	14	5.49
Other	26	10.20
How to buy alcohol?		
Difficult to buy	61	23.92
Easy to buy	194	76.08

Chi-square test was performed to determine the relationship between rearing style, sex, peer group acceptance and drinking behavior. As shown in Table 5, significant correlations was found between the rearing style and drinking behavior (X2 = 14.89, p<0.05).

Table 5 The relationship between selected factors and drinking behavior of adolescents in Nakhonratchasima (N=442)

	Drinking behavior				
	Drink (n=225)	No Drink (n=187)	n	x^2	P
Rearing Style			442	14.89	.001*
Reasonable	81	45	126		
Control	14	0	14		
Spoil/indulge	161	141	302		
Neglect	0	0	0		
Sex			442	.045	.831
Male	97	73	170		
Female	158	114	272		
Peer group acceptance					
Yes	248	181	439	.072	.788
No	8	5	13		

*p<.05, **p<.001

Discussions

The main finding of this study showed that female adolescents reported drinking alcohol 35.75% (n=158) more than male (21.95%, n=97). And, there was no significant differences found between gender groups for drinking behavior (X^2=0.45, p>.05). Both male and female have similar drinking behavior, it could explain that western culture and information worldwide effect to their attitude in this risk behavior. Related to Heamachat and Yodnil (2012), attitude of adolescents related to drinking alcohol. The one who accepted drinking alcohol in the positive way such as drinking built up confident, drinking represented adulthood would choose to drink, and the most important, girls could drink as the boys.

Adolescents who were raised in different rearing styles will have different drinking behavior (X^2=14.89, p<.01). That is, the rearing styles (reasonable, control, spoil, neglet) from parent would be the factor affect to different levels of drinking behavior adolescents. Similar to Jityasotorn (2009), the rearing style in the family had been shown to contribute to drinking in adolescents. This study found that the participants reported reasonable rearing style 68.33 percents, control rearing style 28.51 percents, and spoil rearing style 3.17 percents. There was significantly related between drinking behavior and the rearing style (p<.05). Adolescents developmental bases on their family, children would grow up in which way depending on parents who raise them. Child rearing style is one of the important variables to built up adolescent personality.

Surprisingly, the acceptance from peer group did not affected to teen drinking behavior (X^2=0.72, p>.05). It was not related to Sangkam (2009), found that, friends factor significant related to teen drinking behavior. It was recommended that nurses should be studied in depth interview in adolescent female drinking behavior. Parents, teachers or health care providers, should encourage family members or parent taking care their adolescents in reasonable style in order to reduce teen drinking. In conclusion, healthcare providers and parent can make a difference in the lives of adolescents.

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Beijing's Changes under the Halo of the 2008 Olympic Games —— Based on the Analysis of Beijing News in Foreign Mainstream Media

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Abstract

Since Beijing has become a member among global cities, we cannot portray its globalizing image in isolation anymore. Conversely, we should proceed from both the network systems of Beijing itself and the world, to deepen the macro control of its development. This thesis has studied Beijing news reported by foreign mainstream media since 2008 Olympic Games was hosted. By analyzing the news quantitatively and qualitatively, it is evident that the total amount keeps increasing, and specifically, news referred to 2008 Olympic Games get written up every year. Setting out from the development of the global city, this thesis comes up with a strategy for Beijing's image building: working toward efforts in communication content, method and also communicator to enhance the world understanding of Beijing.

Keywords: 2009-2015; Foreign Mainstream Media; Olympic Games; Beijing News; Global Cities

Introduction

2008, *Foreign Policy* released the rank of global city index initially. Regarding commercial activity, human resources, communication, culture accumulation and politic participation, Beijing ranked after London, Paris, New York and Tokyo, making itself a member of global cities (Brad Amburn, 2009). The rank is based on researches of Globalization and World Cities Study Group and Network, simply as GaWC, led by Saskia Sassen, a Dutch-American sociologist. After the first rank was released in 2008, GaWC has updated it once every two years. Global Cities are cities influence global affairs directly regarding social, economic, cultural and politics. They are the main place to achieve globalization and the centre location for global economic and politics function. Based on well-developed information infrastructure and other highly centralized services, they guide and implement globalization (Anthony Giddens, 2009:763).

The history point of Beijing became a global city from a city most prominent in politics, was the success of 2008 Olympic Games. Since 2012, AFP, the Economist, Wall Street Journal and other foreign media have mentioned Beijing as a global city for many times. From 2009 to 2015, the total amount of Beijing news in foreign mainstream medias kept increasing.

1. Overview of Beijing news in Foreign Mainstream Media

This study adopted 50 foreign mainstream media (including the 4 major news agencies of the world) from Factiva Database owned by Dow Jones as source of information, researched all databases limited with that Beijing occurred in the title and led at least 3 times (to remove the news using Beijing to refer to China as much as possible). From January 1st, 2009 to December 31st, 2015, the total amount of Beijing news released by foreign mainstream media is 52613, annually 7516 on average. During this period, the amount increased with years. And, the first three largest years are 2015 (9212), 2014 (8884) and 2012 (8209). (See Fig.1)



Fig. 1 Amount Trend Graph of Beijing News Foreign Mainstream Media 2009-2015

The news reported in 2012, 2014 and 2015 were involved a large part of Olympic Games. Due to the 2012 London Olympic Games, foreign media in Beijing focused Olympic legacy of the city, and as a result, the amount of Beijing news in 2012 headed toward no less than 8200. Thanks to Beijing's successful bid to host the 2022 Winter Olympics, foreign media showed great concern in both 2014 and 2015, so that the amount went up steadily. As the capital of the world's second-largest economy, every time Beijing goes through a new change and proposes new measures, or hosts major international events, it will be focused by foreign media who keep their eyes widely open.

The report sources showed that not only media of Western power, but also developing countries, were paying close attention to what happened in Beijing. (Fig.2)

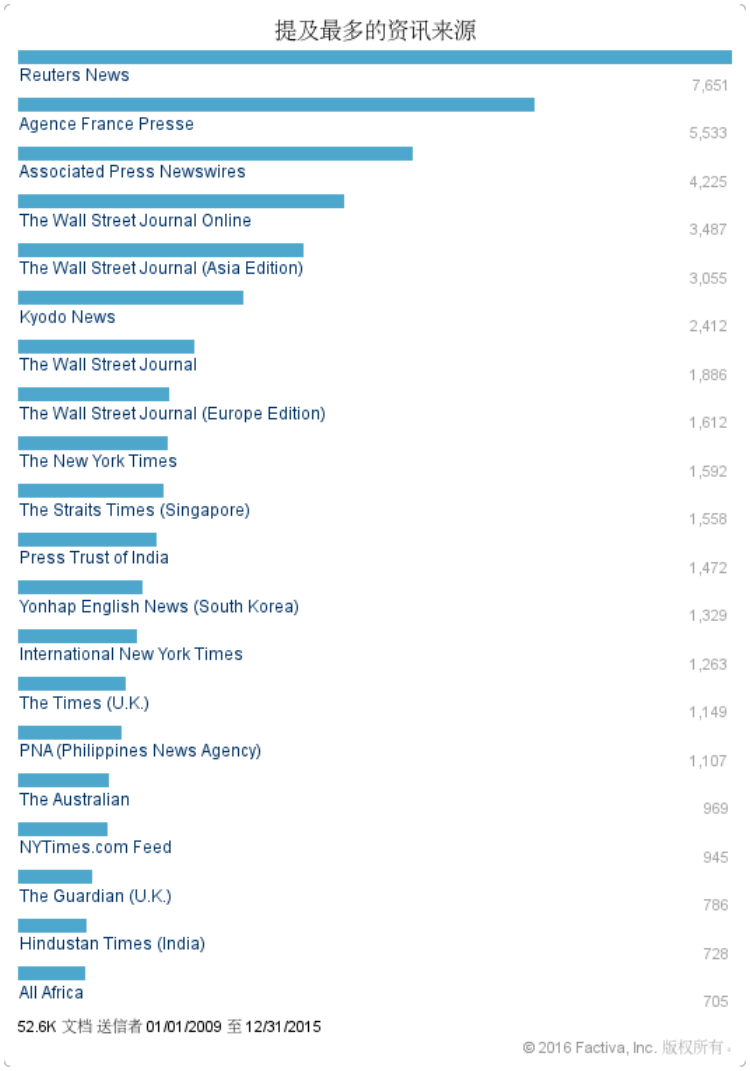


Fig.2 Report Source Graph Beijing News in Foreign Mainstream Media

2. Features and Trends of Beijing News in foreign mainstream media

During 2009 to 2015, there was news involved with 2008 Olympic Games every year. In 2009 to 2011, foreign media paid much attention to later usage of Olympic venues. In 2012, the hottest topic was the comparison between London and Beijing Olympic Games, and the merit of both. In 2013, Beijing news got the halo of Olympics again due to the 2022 Winter Olympics bid procedures was launched. In 2014 and 2015, Beijing succeeded in the bid, and foreign media had recorded the progress in details, including every speculation and difficulty. The line of Olympics just ran through Beijing news reported by foreign media, thus, it meant that 2008 Beijing Olympic Games was a great success, and in the other hand, it showed the significance of international activities to Beijing becoming a global city.

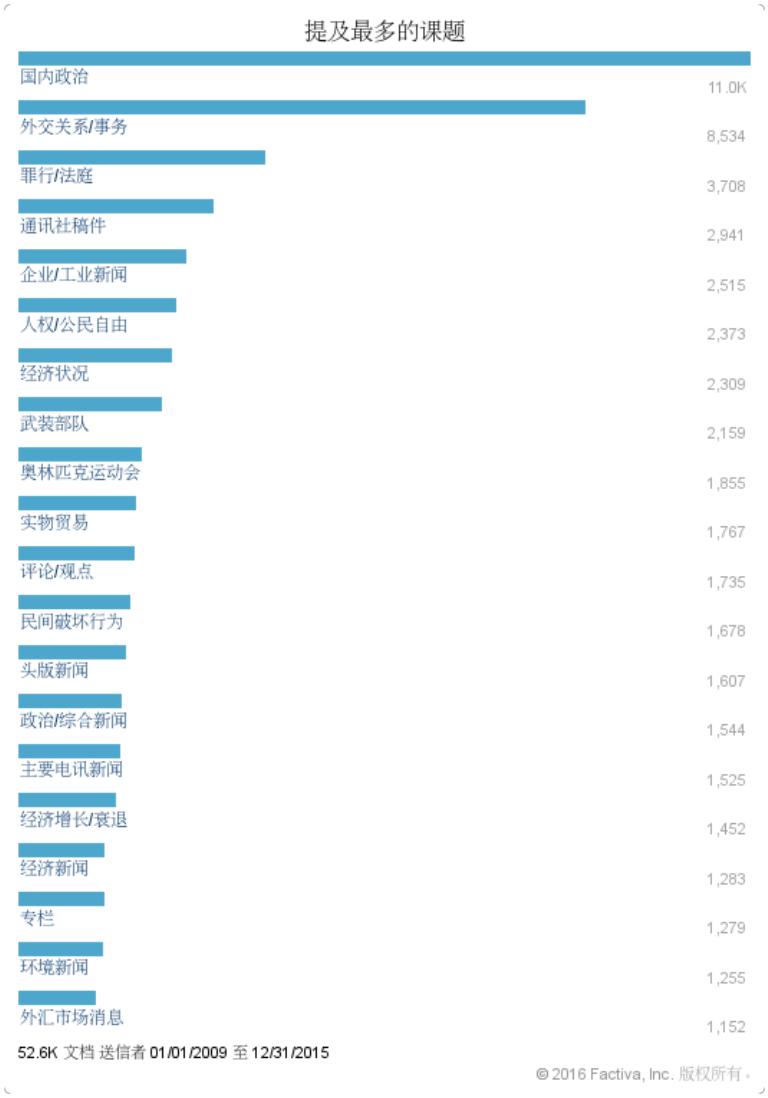


Fig.3 Report Subject Graph of Beijing News in Foreign Mainstream Media 2009-2015

Compared with that in 2008, Beijing news in recent 7 years did not get the same quantity. However, during this period, news involved with Olympics came out every year.
As the 31st Olympic Games opened in Rio de Janeiro on the August 31st, 2016, the Beijing news on Olympics would be continued. Moreover, it is predictable that the Olympics related news would also be increased in Beijing news reported by foreign media by 2018, because it would be hosted in Pyeongchang, Korea by then. And result from the Winter Olympic Games, there are reasonably believes that there would be a new boom of Olympic related Beijing news up to 2021 and 2022.

International events have brought luster to Beijing image. After 2008 Olympic Games, several regular international politics and cultural activities, like APEC Summit, China Open,

BJIFF and International Marathon Invitational etc. have been focused by foreign media. We can directly see that Beijing gets much attention from foreign media by the increasing news.

Realty industry is a window for foreign media looking through Beijing's economy. During the past 7 years, Beijing went through a real estate market boom. At the same time of bringing the city with rapid GDP growth, the over-heated market shows its fragility: virtual-high price and over-construction will take the toll someday. Foreign media have kept astonished toward Beijing realty industry; to which they are in constant concern.

Reports on emergency show Beijing authority's opening stance. In an emergency or social security reports during 2009 and 2010, foreign media mentioned that they had called some relevant department and got nothing but evasion. However, since 2011, the situation has been better. Moreover, in recent two years, the authority's response and contents in local media have been adopted by foreign media in their emergency reports, which is quite progressing.

The spread of city culture adds great glamor to Beijing. In recent seven years, regarding city culture, foreign media have put the main focus on the protection and inheritance of Beijing tradition and international spread of Beijing culture.

Authority's measure to heal "big city malaise" got acknowledgment from foreign media. In recent seven years, the news reported by foreign media about haze, traffic congestion, and population growth have been increased year by year. In particular, Beijing authority has taken many measures to wage war on pollution since 2013, which got quite much acknowledgment.

Compared with GaWC's global city evaluation standard, Beijing in reports and news in oversea has already seemed to be a veritable one. GaWC highlighted that a global city should meet the followings: 1. Large population and population mobility, urbanization level. 2. Huge financial cushion/expenditure and service supply. 3. Location of headquarters of multinational corporations. 4. Life index and city development projects. 5. High focused traffic facilities. 6. Significant science efficiency. 7. Excellent urban infrastructure. 8. Important urban function facilities. 9. Religion pilgrimage. 10. Headquarters of an international organization. 11. Location of the world heritage of the UNESCO. 12. High-quality cultural facilities. 13. Good tourism productivity. Meanwhile, since the foreign media have reported Beijing on all sides of urbanization progress, economy, life index, traffic, culture and international event, etc. as detailed as possible. There are objective reports, also subjective criticism, but, generally speaking, they present Beijing's changes as a growing global city from different and multiple perspectives.

3. Suggestions on Building Beijing as a Global City

As a global city, Beijing's future development is certainly related to internationalization and globalization. Nowadays, it still lacks recognition on the foreign connection in building an image as a global city. We should highlight the interconnection between Beijing and other global cities, also among integration cities of Beijing, Tianjin and Hebei. Moreover, we should

guide foreign media focus on Beijing's worldwide or regional contributions to politics, economy and culture development. On the other hand, Beijing will promote its competitiveness and influence in its connection and communication with the external.

For Beijing to enhance its image building of the global city, Beijing Municipal Government should do six terms: First, the government promotes the agenda - setting ability of publicity. Second, officers improve their international communication and agenda setting capacity; try to be able to work with media in the term of building a country image. Third, promote foreign public opinion evaluation and real-time monitoring. Fourth, draw support from international culture spread. Fifth, strengthen science and technological reports. Sixth, encourage citizens take an active part in city civilization progress.

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BATTAMBANG-SIEM REAP, CAMBODIA

Exercise Behavior Among Thai Adult[1]

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Abstract

This descriptive research design was to investigate exercise behavior of Thai adult in Nakhonratchasima province. The samples were 629 people age between 20-59 years old, who were received screening services in the cerebration of the Suranaree's victory exhibition. An exercise behavior questionnaire is the research instrument, that approved the content validity by three experts. Additionally, a reliability of this instrument, Cronbach Apha Coeffient, was 0.87. Data analysis used descriptive statistic, such as, frequency and percentage.

The study found that there was 39.43 percent of male and 60.57 percent of a female in the sample group. The majority of age was between 20-40 years old (59.62%), whereas age between 41-59 years old was 40.38 percent. There was 45.31 percent of income below than 10,000 Baht/month. For the health problem, the 24.61 percent of adult reported they had an allergy, and 24.08 percent had hypertension. The 36.57 percent of the sample had normal Body Mass Index (BMI =18.50 – 22.99 Kg/m^2) whereas 9.54 percent had a 2nd degree of obesity (BMI = 30 Kg/m^2). There was 41.70 percent do walking exercise. The 81.82 percent of sample spent less than 1,000 Baht/month for exercise's expense. The sample warmed the body up before exercise and relaxed the muscle after exercise 78.08 and 78.68 percent, respectively. The samples checked their pulse before and after exercise only 34.44 percent.

According to the results, further research needs to studying the type of support for the continuing of each exercise behavior. and pulse monitor before and after exercise for heart training and muscle safety among adult people

Keywords: exercise behavior, adult

Significance of the study

The changing of Thai economy and society was affected by the people's daily living and health status in a positive and negative way. That is, people have longer life expectancy, less mortality from the communicable diseases. On the other hand, people are more likely die from the non-communicable disease such as coronary disease, hypertension, diabetes, cancer, and the

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accident. One of the causes of death is physical inactivity. By increasing levels of physical activity or exercise it would contribute to the prevention and management of over 20 conditions and diseases.

Exercise is the physical exertion of the body - making the body do a physical activity which results in a healthy or healthier level of physical fitness and both physical and mental health. Exercise aims to maintain or enhance our physical fitness and general health. People exercise for many different reasons. Some of them are included Strengthening muscles, optimizing the cardiovascular system, practicing specific athletic skills, controlling bodyweight, for fun, to win, to socialize, and so on. Exercise is the health promotion activities to improve the effective function of organs, muscle and skeleton system, cardio-vascular system, and respiratory system. Moreover, exercise would prevent the diseases such as obesity, hypertension, heart and vascular disease (Department of Health, 2015).

The public health ministry of Thailand reported the health status of Thai people in 2007 that the chronic illness such as diabetes, hypertension, ischemic heart disease, stroke, and COPD caused by inappropriate health behavior was increasing. The main health care problems were eating unhealthy food and lake of exercise (Ministry of Public Health, 2007)

Being a good health of Thai people is the goal of life, including eat good food, sufficiency leisure, good health promotion, well life style, and the most important, regularly exercise which built up strength of muscle. Adulthood is the age for developing country. In the report of Thai Health Behavior (Wason, Chaninat, Taradol, Worapan, Supreeya, Mongkorn, 2005) found that early adulthoods eat unhealthy food, lake of regularly exercise, tend to more likely smoke and drink. Both male and female have inappropriate coping method which is affect to their health status.

From the importance of exercise or physical activity, the researchers aimed to study the exercise behavior among adult people. This descriptive data will guide the health care personnel for developing exercise program or encouraging people exercise in the appropriate method in the future.

Purposes of the study

1. To study the sample characteristic such as sex, age, income, health status, body mass index, and method of exercise
2. study exercise behavior of adult people

The variables

The variables were sex, age, income, health status, body mass index, characteristic of exercise, and exercise behavior

Definitions

Exercise was an activities requiring physical effort, carried out especially to sustain or improve health and fitness. This activity used muscle and motion of the body as a system which were selected type, frequency (time per week), length, including warm up and cool down after work out.

Exercise behavior was an activity that Thai adult decided to improve health and fitness doing by themselves or team as desires. They could use sport equipment such as football, volley ball, badminton, yoga mat or non-equipment as running, aerobic dance, walking etc.

Population

The population of this study was people age between 20-59 years old, receiving screening services in the cerebration of the Suranaree's victory exhibition

Sample

The total sample was 629 people age between 20-59 years old, who were received screening services in the cerebration of the Suranaree's victory exhibition during March 23 to April 3, 2014.

Instrument

The collecting data instrument was an exercise behavior questionnaire. This research instrument approved the content validity by three experts. Additionally, a reliability of this instrument, Cronbach Apha Coefficient, was .87. This instrument constructed by researchers using literature review and aliment with research purposes, consisted of 2 parts:

Part 1 Sample characteristic (8 items)
Part 2 Exercise behavior (10 items)

Data analysis

Descriptive statistic was used for data analysis which was frequency, percentage, mean, and standard deviation. The 0.05 level of significance was used for all data analysis.

Results and discussion

This descriptive research design studying exercise behavior among Thai adult in Nakhonratchasima province. The participants were 629 people age between 20-59 years old, who have received screening services in the cerebration of the Suranaree's victory exhibition. The results and discussion separated in two parts following the purposes of this study.

Part 1 Sample characteristic

Table 1 Frequency and percentage of sample characteristic)N=629)

Characteristic	Number	Percentage
Sex		
Male	248	39.43
Female	381	60.57
total	**629**	**100.00**
Age		
20 - 40years old	375	59.62
41 - 59years old	254	40.38
total	**629**	**100.00**
Income	285	45.31
Less than10 , 000Bath	172	27.34
10 , 001– 15, 000Bath	64	10.17
15 , 001– 20, 000Bath	34	5.42
20 , 001- 25, 000Bath	**74**	11.76
More than25 , 000Bath	**629**	**100.00**
total		

Demographic characteristics of the participants were obtained from the Sample characteristic part of questionnaire. Table 1 and 2 displayed frequencies and percentages of Thai adults' sex, age, income and health problem. The majority of participants were female (n=381, 60.57%), 20-40 years old (n=375, 59.62%), income was less than 10,000 bath (n=285, 45.31%) (Table 1) and the majority of health problems were allergy (n=47, 24.61%), hypertension (n=46, 24.08%), and hyperlipidemia (n=34, 17.80%), respectively (Table 2).

Table 2 Frequency and percentage of sample health problem (N=176)

Chronic Disease	Number	Percentage
Diabetes Mellitus	30	15.71
Hypertension	46	24.08
Chronic Heart Disease	6	3.41
Allergy	47	24.61
Gout	6	3.41
Thyroidism	2	1.05

Nephrotic	2	1.05
Respiratory Disease	7	3.66
Anemia	4	2.09
Epilepsy	1	.52
Aids	1	.52
Others		
Hyperlipidemia	34	17.80
Migraine	5	2.62

From the total participants 629 adults, this study found that there were 176 adults reported health problems (27.98%). Some of them reported more than one chronic diseases, the majority of chronic disease was allergy (24.61%), hypertension (24.08%), and hyperlipidemia (17.80%).

Table 3 Frequency and percentage of sample's Body Mass Index (Kg/m2) (N=629)

Body Mass Index	Number	Percentage
Less than normal) <18 .50(	63	10.01
Normal) 18.50 –22.99(	230	36.57
Over weight) 23.00 -24.99(	118	18.76
Obesity level 1)25. 00– 29.99(	158	25.12
Obesity level 2 (>30)	60	9.54
total	**629**	**100.00**

As the participants' report, the 230 adults or 36.57 percents of sample had normal Body Mass Index (BMI =18.50 – 22.99 Kg/m^2) whereas 9.54 percents had 2nd degree of obesity (BMI = 30 Kg/m^2). More than half of participant s reported over weight (n = 118, 18.76%) and obesity level 1 (n = 158, 25.12%) (see Table 3).

Table 4 Frequency and percentage of characteristic of exercise (N = 470)

Type of exercise	Number	Percentage
Walking	196	41.70
Running	137	29.15
Aerobic dance	40	8.51
Tai'chi Chuan	2	.43
Yoga	10	2.13
Ram Mai Plong	1	.21
Cycling/swimming	31	6.59
Weight lifting/fitness	5	1.06
Sit up/Hand moving	23	4.89
Football/Basketball/Badminton	25	5.32
total	**470**	**100**

As Table 4, the total number of 629 Thai adults who were received screening services in the cerebration of the Suranaree's victory exhibition, there were only 333 adults reported exercise, 52.94 percent. The majority of participants walked (n = 196, 41.70%) and run (n = 137, 29.15%) for exercise. Some of the participants chose more than one type of exercise, which were, two types of exercise as 218 persons and three types of exercise as 88 persons.

In 375 persons in early adulthood, 20-40 years old, there were 217 persons reported exercise (57.86%). The majority of them chose walking for exercise (n = 124, 57.14%).

For 254 middle adulthood person, 41- 59 years old, there were 116 person reported exercise (45.67%), walking was the popular type of exercise (n = 72, 62.07%).

Table 5 Frequency and percentage of cost of exercise

Cost of exercise (Bath/month)	Number	Percentage
≤1 , 000	27	81.82
1 , 001– 2, 000	4	12.12
2 , 001– 3, 000	2	6.06
	33	**100**

Total number of adults who reported exercise, only 10 percent (n = 33) pay for exercise. Twenty-seven persons (81.82%) paid less than 1,000 Bath per month. Four persons (12.12%) paid 1,001-2,000 Bath per month and only two persons (6.06%) paid 2,001-3,000Bath per month.

As the content analysis, the participants reported the benefit of exercise was healthy body and mind, felt relax, good blood flow, secret sweat from the body, best sleep at night time, effective body movement, weight loss without starvation, and met friends.

Part 2 Exercise Behavior

Table 6 Frequency and percentage of exercise behavior (N = 333)

Exercise Behavior	Yes)percent(	No)percent(
1. Warm up before exercise at least 5 – 10 minutes	260)78.08%(	73)21.92%(
2. Cool down/stretching muscle after exercise at least 5 – 10 minutes	262)78.68%(	71)21.32%(
3. Exercise at least 30 minutes at one time	256)76.88%(	77)23.32%(
4. Intense exercise at least 3 times a week	194)58.26%(	139)41.74%(

5. Do pulse check before and after exercise	128)38.44%(	205)61.56%(
6. Exercise until fully heart beat	222)66.67%(	111)33.33%(
7. After exercise you feel fresh or relax	262)78.68%(	71)21.32%(
8 .Take energy soft drink after exercise	148)44.44%(	185)55.56%(
9 .Chose the shoes or suit by satisfying me	250)75.08%(	83)24.92%(
10. Suitable manage time for exercise up to daily life	232)69.67%(	101)30.33%(

As Table 6, the total number of 333 Thai adults who reported exercise, they warm up before exercise at least 5 – 10 minutes as 78.08 percent and cool down/stretching muscle after exercise at least 5 – 10 minutes as 78.68 percent. Exercise at least 30 minutes at one time (76.88%). More than half (58.26%) of exercise person reported exercise at least three times a week. Therefore, the participants who exercised had knowledge how to perform activities using muscles and motion of the body as a correct system which was selected type, frequency (time per week), length, including warm up and cool down after work out. Unfortunately, they did pulse check before and after exercise only 38.44%.

According to the results, this research will be guided by the further research studying type of exercise behavior among adult people that should be supported and promoted aim to continue this behavior. Additionally, pulse monitor should be done before and after exercise for heart training.

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Al-Qaeda: The Anthrax of Humanity[1]

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The clarion call that is the invitation to prayer penetrates the air, with the muezzin summoning every ounce of energy within him to exclaim: 'God is great!'; *Allahuakbar*, the same phrase can be heard before an explosion goes off, from the enormous belly of Kabul to the ubiquitous tube line in London, where suicide bombers fight for a cause that is frightening, intimidating, and real. Maimed and wounded, the public are desperate for answers, with a yearning for closure an inevitable effect of the current predicament. There is now an incipient need to fathom the principles and ideals held by groups which promote different methods (through tangible violence) of structuring society, one that is dissimilar to Western democracy. As such, it is worth noting that the ideals carried forth are not shared by the majority of the global population. Led by the inspirational Brutus on the Ides of March, the conspirators stabbed Julius Caesar in the back, akin to the detestable violence perpetuated by specific groups in their bloody struggle for dominance and power. Terror has always been used to attract attention to a cause, be it justified or otherwise, political or religious. How far does religion effect the psyche of terrorist organizations such as Al-Qaeda and its offshoots (Jemaah Islamiyah, etc.)? This endeavor seeks to explain the upsurge in terrorism that is motivated by religion by looking at the entity that is Al-Qaeda, its ambitions, and expansion since the end of the Cold War. Anti-Semitism, which is a central theme in the group above's doctrines, will be analyzed within the context of the interpretation of Al-Qaeda's Islamist eschatology. By doing so, this essay will elaborate the role of Islam, and it's Qur'an (Koran) in being the catalyst for war-mongers and zealots to propagate fear and discord within the global society in general and the Western world in particular.

The end of the Cold War provides us with a fundamental shift whereby it presented the United States with a momentous opportunity to assume leadership of what would eventually be described as the 'free world.'[i] Moreover, the threat of Communism has been addressed and reduced to history in which the United States were keen to measure up to its traditions and prove itself worthy of preservation as a great nation. However, there was a massive entity that began to rear its horns under the guise of Islam which was Al-Qaeda, a new and gargantuan conundrum for the United States. In the Muslim domain, Islamism is a multifaceted attempt to transform the ruling regime(s) and societies into a more Islamic, and allegedly just, reality. In the Western framework, where 'level-headed' Islamism has yet to appear relevant, pockets of radical Islamists are also intent on some notion of 'justice.'[ii] Whereas there is nothing to justify the murders of hundreds of innocent civilians, is it conceivable that such Islamists have

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their own version of collateral damage? This intriguing question can be solved through understanding the psyche that is Al-Qaeda and its derivatives.

The mere mention of Al-Qaeda conjures up images of bearded men who are hell-bent on spreading their notion of 'truth' and the retaliation of the American invasion of Afghanistan (post 9/11) and nations in the Middle East. Is such a conception far removed from the reality of today? Firstly, it is crucial to understand what 'Al-Qaeda' means and it has to be understood by its name which implies a 'base of operation' or 'foundation' or as a 'precept' or 'method' from the Arabic word '*qaeda*'.[iii] The word or phrase 'Al-Qaeda' was certainly applied by the mid-eighties among the Islamist miscreants gathered from all over the Muslim world to combat the Soviets in Afghanistan after the Cold War, alongside local resistance groups.[iv] The aforementioned term was used in the most extreme elements among the militants fighting in Afghanistan, specifically those who decided that their melee did not end with the withdrawal of the Soviets from the country in 1989 (Berlin Wall brought down in the same year). It has to be noted here that Abdallah Azzam, the chief ideologue of the non-Afghan militants drawn to fight alongside the *mujahideen* (individuals who carry out *Jihad*) and an early spiritual mentor of the now deceased bin Laden. He had used the word (*qaeda*) to describe the role he envisaged for the volunteers to take part in after the battle with the Soviets was over. Azzam certainly viewed Al-Qaeda as a foundation, but a base that was to be composed of personnel committed to the cause who would, through the cumulative weight of their actions, instigate great reform. They would be the 'foundation' for the edifice Azzam aspired to construct, the bottom layer of the towering cloud, and the foot of the pedestal. In short, they would be a revolutionary 'vanguard of the strong' who would radicalize and mobilize the Islamic world. He was not referring to an extant organization, rather, he was talking about a dangerous tactic.[v]

It is crucial that we understand the drive that is religious fanaticism with Islam under the microscope when one talks about Al-Qaeda. In the pursuit to establish universal order, Islam confronts another 'system' with equally uuniversalist ambitions: what the Islamic thinker (leading member of the Muslim Brotherhood in Egypt), Sayed Qutb calls 'modern material civilization'. The separation between the worldly and the divine, stipulated as the bedrock of the 'modern material civilization', is particular to the history of Christianity in Europe; it is not inevitable that all civilizations must go through it on the road to advancement. Qutb also addresses the 'moral failure' of the West. The notion of 'perpetual progress' is the product of the historical circumstances of the Christian-European context. Material profit becomes the sole criterion, not only of the acceptance or the rejection of things, but also existence and non-existence.[vi] In this tradition of ferocious 'anti-Westernism', rather than in the theology or approaches to violence, that a link between Sayed Qutb's analysis and that of the Osama bin Laden may be gathered and understood. Whatever the resonance of bin Laden's rhetoric, a group such as Hizbu'llah (the Party of God) in Lebanon is more representative of Islamist opinion in the Arab world. It can be observed here that an Arab problem is generally an Islamic or Muslim predicament. The desire to propel as an *Ummah*, is what drives Islamist terrorism in which the negation of 'apparent' vice is followed by the uplifting of virtue and noble attitudes. With this said, Al-Qaeda are under the assumption that they are the exemplars of

Islamic purity and have a stranglehold of everything that is noble. This is ultimately a façade that is deep rooted in bigotry and intolerance of other ways of attaining truth.

In the attempt to establish whether 'moderate' Muslim attitudes are truly moderate, there is one infallible litmus test that can be used. It is the abhorrent resentment of many Muslims towards Israel and the Jews. Al-Qaeda has picked up on this hostility towards the Semites, in which the historical animosity has blown out of proportion due to Israel's incessant atrocities towards Palestinians. Thus, we have to delve deeper into the framework of Islamism and its attitude towards the Jews. This issue is absolutely fundamental to understanding the terrorist threat against the Western world. Islamists become obsessed with the archetype of a universal Jew, treacherous by nature, whose perfidy threatened not only Islam but all of humanity. This notion suited their Manichean mindset of a cosmic struggle between good and evil, which was central to the goal of the Islamists in the purging of the vices in society in accordance with un-Islamic teachings and practices, returning to Islam's original pure sources and establishing and idyllic Islamic state. It has to be mentioned here that Sayed Qutb's '*Our Struggle with the Jews*' (published in 1950) was the facilitator to establish anti-Semitism as the root of Islamist movements worldwide. This pandemic infected and poisoned mainstream Muslim society to the point of believing that problems of the world are caused by the Jews. It was Qutb who made the Jews a metaphor for Western domination and immorality, representing a threat to the integrity of Islam.[vii] This conception was held aloft by Al-Qaeda in which the organisation saw as a valid justification to classify the Jews as the genuine nemesis. The now deceased leader of the organization, Osama bin Laden, claimed that the Jews are eager to divide the Muslim world, enslave it and loot its wealth, and that they use Western powers and affiliations to achieve these aims. "They believe all other humans were created to be exploited by them (Jews) and engage in killing, raping and stealing. They have managed to install governments in America that serve as their agents and do their bidding."[viii] This clear bitterness towards the Jews has allowed bin Laden to manipulate the minds of his followers into believing that the enemy is everyone associated with America, be it Jews or those who support the state.

The morass that is seen can be traced to the interpretation of the Koran that calls for the struggle to liberate the people (Muslims) from the shackles of moral decline, ethical degradation, and secular ideologies. This is the cause, the ambition to see the world from one perspective and that is the lens of Islam. To submit to the will of God and to be His vicegerents, this is the biggest testament of faith for Muslims. Al-Qaeda has upped the ante by applying this moral compass that suit their whims and fancies in propagating a shift from 'decadence' to 'enlightenment'. Here, it has to be implied that Al-Qaeda, in its mindset, has developed notions of justice by interpreting the verse in the Koran "*O you who believe! Stand out firmly for justice, as witnesses to God, even as against yourselves, or your parents, or your kin, and whether it be against rich or poor*" (4:135). "*O you who believe! Be ever steadfast in your devotion to God, bearing witness to the truth in all equity, and never let hatred of anyone lead you into sin of deviating from justice. Be just: this is closest to piety*." (5:8).[ix] It is imperative that we understand that according to Muslims in general and Al- Qaeda in particular, acting justly to 'witness' God's truth is, as the Koran indicates, an individual and collective obligation. The only difference here is that bin Laden and his cohorts justify their actions by using the Koran,

in which "*the Muslim Ummah is exceptional to other human communities only as long as it fulfils its Koranic obligations."* (47:38). [x]

Another point that has to be addressed when one talks about the rise of religious based terrorism is the disgusting and twisted way in which groups use religion to validate their cause. This is evident in the engine that is Al-Qaeda, in which their primary drive is the negation of Western ideals that relate to liberty and free speech. The Koranic injunction of the 'Holy War' is seen as a major driving force for Al-Qaeda to attack the United States for its affiliation with Israel which is deemed to be the greatest of evils. This terrorist group is substantially more than a scattered group of fanatical killers who appear on the world stage every few years through acts of absurd violence and terror. Indeed, it is an enterprise of terror defined by its meticulous planning, complex fund raising (often through opium trade) and ongoing recruitment through extremist interpretations of Islam. Days after 9/11, President George W. Bush, supported by some American Muslim clerics, once announced that Islam is 'a religion of peace' that had been 'hijacked' by Al-Qaeda. How far does this proclamation concur in the doctrines of Islam and those who abide by it? The apparently reassuring statement was immediately disputed by those who claim that Islam is much more accurately seen as 'the religion of war'. In support, they cited the Muslim belief that the world is divided by a continuous struggle between the *dar al Islam* (the unified house of Islam) and *dar al harh* (the house of the infidel); the Muslim believer is duty-bound to participate in this 'Holy War' (jihad).[xi] It has to be stressed however, that portraying Islam as a warlike religion is just as simplistic as the image of Islam as a religion of peace. Although many Muslims divide the world into warring camps of believers and unbelievers, in real life it is not easy to decide who is who, since 'only God knows' the true content of the human heart. The problem that lies with Al-Qaeda is that it gives a sole idea of what Islam is in which it has taken the notion of *Jihad* a step further where ideas are transformed into action.

Terror has always been used by certain groups to promote their ideas against an established order. Terror and murder are among the most vexing words in our lexicon; they are also among the most distressing features of the human condition. The aforesaid words are so difficult to define, discomforting to contemplate, and anguishing to experience or behold. Although terror, terrorism and murder are existentially, psychologically and historically linked, their affinities have seldom been noted and scrutinized. The lives and fate of each one of us, of our species as a whole, indeed of life on Earth itself may rely on humanity's collective ability or inability to come to terms with terror, terrorism and other negative jargons that imply the dark side of human nature and consciousness. This essay has discussed the ambitions of Al-Qaeda and its relationship with the Jews and the Western *hoi polloi* as well as its abhorrent understanding of the world that we live in by its repulsive understanding of the Koran. In conclusion, Al-Qaeda**,** like any other terrorist organisations, have been and still are desperate for their ideals to be heard by a global audience in which the expansion of their ideology is held at the forefront of its objectives. Al-Qaeda is not a representation of Islam, it is the abuser of this Abrahamic faith. Its diabolical stance on what it means to be God's vicegerents on Earth can be regarded as shambolic and deceitful. The truth about all great religions is that the written record is ambiguous and vague: Islamic scripture, like that of the Christians and Jews (and/or Buddhists

and Hindus) can be construed in various ways for dissimilar purposes. The future of humanity depends on the way we treat one another, regardless of race, religion, creed and other constructs of identity that has separated and divided us into dissimilar levels or class structures.

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Perceptions of Nursing Students on their First Clinical Practice[1]

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Abstract

The purpose of this research was to describe the perceptions of nursing students on their first Clinical Practice fulfilling part of the requirements set out in the Principles and Techniques in Nursing Practicum course. The sample was composed of 111 second-year nursing students at the Boromarajonani College of Nursing Nakhon Ratchasima who completed the Principles and Techniques of Nursing Practicum (theory-based) course and was also enrolled in the Principles and Techniques in Nursing Practicum course in the last week or within one week after the course ended. Data were collected using the semi-structured focus group discussion guideline developed by the researchers based on a review of related literature. The focus group discussions were audio-recorded after receiving approval from the participants. Data were transcribed verbatim and analyzed using qualitative content analysis. The findings of the study produced seven themes: 1) feelings toward studying in the practicum course, 2) preparing for clinical practice, 3) feelings towards first clinical practice, 4) persons who helped nursing students through clinical practice, 5) patterns of clinical practice, 6) nursing students' expectations of clinical practice, and 7) readiness for future clinical practice.

The study findings led to better understanding of the perceptions of nursing students on their first clinical practice. The findings are useful to effectively improve clinical teaching in the Principles and Techniques in Nursing Practicum course because clinical practice is important in the preparation of nursing students for their roles as registered nurses. In addition, the findings could be used as a guideline for clinical supervisors to more clearly understand the students' perceptions towards clinical practices of other courses.

Keywords: Perceptions, Nursing Students, Clinical Practice

Background and Significance of the Study

Boromarajonani College of Nursing Nakhon Ratchasima offers an undergraduate degree program in nursing science using the revised curriculum B.E. 2552 (2009) which encompasses

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nursing science concepts and nursing education concepts, as well as instructors, students, individuals, family, and community who interact via nursing pedagogy and clinical practices. The curriculum emphasizes mutual care between instructors and students, with the learning process that suits the actual situations in the community. Also, the curriculum is student-centered, and the goal of the curriculum is to equip students with the knowledge and capability to provide holistic care to patients (Undergraduate Degree Program in Nursing Science, Praboromarajchanok Institute for Health Workforce Development, n.d.).

Nursing students need to undergo theoretical, experimental, and practical learning. In particular, the practical learning takes place in an actual patient ward where nursing students learn how to provide care to patients. In the first year of the program, the students take the general education courses and specific courses, and there is no clinical practice for the students. During laboratory experiments, the students practice giving nursing care with a dummy or their classmates. All experiments are conducted with close and constant supervision from the instructors to ensure correctness and students' readiness to perform actual clinical practices in the patients' ward (Sumalee Phothong, Warunee Jamgrajai, Suppawan Wongtheerasap, & Pattiya Chainakin, B.E. 2553). After completing theoretical and experimental learning, nursing students have to perform clinical practices, which are considered part of the professional courses. The first course to be taken by nursing students is called the Principles and Techniques in Nursing Practicum.

Some nursing students have never had experience giving care to patients, so they are nervous, embarrassed, worried, and stressed, due to lack of familiarity with the situations in the ward, so they have to learn to adjust themselves (Wirapan Wirojrat & Passamon Koomporntawee, B.E. 2547). Factors that cause stress among nursing students include lack of theoretical knowledge, lack of practical skills, and characteristics of supervisors (Montha Limthongkul & Suparp Aree-aeu, B.E. 2552). The first nursing practicum of nursing students is not easy to carry out. This is because supervisors have to pay close attention to the students' practices while having to create a learning environment that facilitates the accumulation of practical knowledge and experiences. Supervisors also need to establish rapport with the students and be fair, kind, and friendly to them (Montha Limthongkul & Pranom Pusrithong, B.E. 2549).
In general, nursing students have different learning styles and perceptions of their clinical practices. They vary in terms of feelings, attitudes, and ability to provide nursing care. For this reason, the researchers were interested in investigating perceptions of nursing students on their first clinical practice while they were taking the Principles and Techniques in Nursing Practicum course. It was anticipated that the study findings would shed light on nursing students' perception on their practicum, their attitudes toward the profession, and their knowledge and ability to perform clinical practices so that the findings could be subsequently used to further improve the Principles and Techniques in Nursing Practicum course and other courses that involve actual nursing practices in the patients' ward.

Research Objectives

The present study aimed at investigating perceptions of nursing students on their first clinical practice while taking the Principles and Techniques in Nursing Practicum course.

Methodology

The present study was qualitative research which utilizes interpretive phenomenology to investigate perceptions of second-year undergraduate nursing students on their first clinical practice while they were being enrolled in the Principles and Techniques in Nursing Practicum course. The research methodology used in this study was as follows:

Population and sample

Population: The population of the study consisted of the second-year undergraduate nursing student, batch 55, at Boromarajajonani College of Nursing, Nakhon Ratchasima Province.

Sample: The sample of the study consisted of 14 groups of second-year undergraduate nursing student, batch 55, who were taking the Principles and Techniques of Nursing Practicum course at Boromarajajonani College of Nursing, Nakhon Ratchasima Province, with seven to eight members in each group, totaling 111 nursing student participants. They were in the last week of the Principles and Techniques in Nursing Practicum course, or they completed the Principles and Techniques in Nursing Practicum course for no longer than one week. They had never done the clinical practice, and they were willing to participate in the study.

Instrumentation

The instrument used to collect data in this study was a semi-structured focus group discussion guideline which was developed by the researchers based on an extensive review of literature and professional experiences. The items included in the semi-structured focus group discussion guideline were the following:

1. What do you think about your nursing practicum?
2. What did you do to prepare for clinical practice in the patient ward?
3. How did you feel when you had to do clinical practice for the first time?
4. Who helped you learn while you were doing your clinical practice in the patient ward? How?
5. Did the teaching and learning that took place in the patient ward meet your expectations? How?
6. What is your expectation about the clinical practice in the patient ward?
7. How can nursing students' clinical practice be further developed or improved?

Protection of the Rights of Human Subjects

The researchers approached the prospective participants to introduce themselves and explain the study objective, data collection procedures, and possible benefits and risks involved in the

study. They were informed that their participation in the study was based purely on a voluntary basis and they were able to refuse to participate in the study or withdraw from the study any time if they wished without any effects on their study in the program. They were also assured that the data collected from them would be kept strictly confidential, the audio-records of the focus group discussions would be destroyed at the end of the study, and the transcripts of the interviews would be stored in a computer with access only available to the researchers.

Data collection

The researchers collected data with assistance from two research assistants. Data collection took place during the last week of the Principles and Techniques in Nursing Practicum course or no longer than one week after the clinical practice ended. Steps involved in data collection were as follows:

1. Before data collection started, the researchers and research assistants held a meeting about how to use the semi-structured interview guideline to ensure uniformity. The participants were divided into groups, with seven to eight members in each group. Appointments were made on the date and time the participants were free to take part in the focus group discussion.
2. Before focus-group discussion was conducted, the researchers introduced themselves to the participants and explained data collection procedures. After the participants indicated their willingness to participate in the study, the researchers asked them to sign the informed consent form.
3. The focus group discussions were carried out based on the semi-structured guideline previously designed, each of which lasted approximately 60 minutes. The focus group discussions were audio-recorded with permission of the study participants.
4. After the discussions ended, the researchers examined the completeness of the data collected. If it was found that the data were incomplete, the researchers resumed the discussion until data were completely collected. The researchers then thanked the participants for their participation in the study.

Data analysis

The audio-records were transcribed verbatim, and the transcripts were then analyzed by means of content analysis. The themes regarding perceptions of nursing students on their first clinical practice in the Principles and Techniques in Nursing Practicum course were then categorized by the researchers.

Findings

According to the study findings, there were seven themes of perceptions of nursing students on their first clinical practice as follows:

1. Feelings toward the practicum course

1.1 The participants described that they were glad and proud to study in the nursing degree program because they felt that the profession had stability and they would have a chance to help others, which increased their self-worth, and to sacrifice for the general public, which would make them admirable in other people's eyes, as evident in one of the participants' statement:

"…My father, mother, and relatives advised me to study nursing science because I will not be unemployed. After graduation, there will be work available for me. I don't have to struggle to find a job like other people…"

1.2 They did not like the profession as they perceived that the society did not recognize the value of the nursing profession. Also, the nursing profession was exhausting, and they would not have time to spend with their family since they would have to take care of other people, as one of the participants explained:

"…It is a profession that is very demanding, involves hard work, and is difficult to do. We wouldn't get to rest much. I think it is very difficult to take care of others, and there are many kinds of patients…"

1.3 The participants felt indifferent toward the nursing profession. They were able to study in the program without the feeling of like or dislike. They simply felt that once they entered the program, they were able to continue until graduation, after which they would have more opportunities to get a job more than those in other professions, as can be seen below:

"…As for my feelings about studying this, at first I didn't really like being a nurse, but I see that I will always be employed. I have chosen reality, not dreams. I think I am able to do it…"

2. Preparation for clinical practice

2.1 Physically, the participants felt that if they were healthy and did not have any illness or health problem, the problems in their clinical practice could be reduced, as one stated:

"…I prepared my physical condition. I took a lot of rest. My seniors said that working in the ward is very exhausting and I won't get to sleep much. The first time I knew I had to ask questions from my supervisors, and I didn't prepare much. I read a little bit. I mostly took a rest…"

2.2 Mentally, the participants tried to prepared themselves mentally because they believed that the clinical practice would have an effect on their mental well-being, so they needed mental preparation to make sure that they would have the willpower to cope with the problems, as illustrated below:

"…I prepared myself mentally. When I went back home I didn't do anything. I just did whatever that made me feel most comfortable. This is because I was not good at it yet. I knew

myself that I wasn't good, so I didn't prepare anything. I just prepared myself mentally because I think mental readiness is more important…"

2.3 Knowledge-wise, the participants reviewed the theories they had studied in class, practiced what they had learned from the laboratory at home, and consulted their seniors and buddies to ensure self-confidence during clinical practice, as could be seen in the following statement:

"…I read the checklist of steps in the practice, what should be done before the others. I tried to understand them…"

3. Feelings toward first clinical practice

3.1 The participants were scared because they did not know what they had to encounter. They felt that since it was their first clinical practice, it was likely that they would make a mistake and their carelessness may have caused serious harm or even death to patients. They were afraid that they would be scolded or condemned by their supervisors or professional nurses working in the ward, as one of them shared her feeling:

"…I am afraid. I feel unconfident because I have never done it before. When I go up the ward and have to give nursing care to the patients, I am afraid I would make a mistake and cause the patients harm…"

3.2 The participants felt excited even though they had made some physical and mental preparation. Once they encountered the actual situations in the ward, they still felt excited or nervous and did not know what to do. Some participants felt that they were worthless because they were unable to provide nursing care to the patients, as can be seen in the following sentiment:

"…On the first day I was excited. Once I got to practice in the ward, I felt as if I was in the seniors' way because I didn't know how to do this and that. It was like I just stood there doing nothing. I felt like I didn't want to be up there. I didn't know what to do there…"

3.3 The participants were stressed, unhappy, and worried because they did not know what to do when they were doing their practical training in the patient ward. They were not confident that they were able to offer nursing care to the patients, and they may have had to keep asking professional nurses or their supervisors, which could cause them to feel disheartened. In addition, personal characteristics of supervisors or medical staffs in the ward may have also caused them stress, as one of them described:

"…One week before it was my turn, I was so worried. I had heard my seniors said some supervisors were very strict and demanding and we had to be alert all the time, so I was stressed. I am a person who easily panics if someone scolds me. I will panic and can't do anything…"

4. Persons who helped nursing students through clinical practice

4.1 The participants felt that their supervisors were the persons who taught them steps involved in nursing care provision and nursing principles. Their explanation enabled them to think, and they never neglected the participants while they were doing clinical practice. The supervisors took care of the participants and taught them until they were able to adjust, gave advice on how to manage their studies and their personal life, and offered them moral support and encouragement, as one of the participants shared their experience:

"…The person who gave me the most knowledge was my supervisor. They gave me so many things, even more than the practice. They gave me the knowledge and trained me how to manage it. I had to plan what I would do first. The supervisors would give me tips. There were some topics that we had not learned in class and the supervisors would explain them to us…"

4.2 The participants also learned from professional nurses' actual practices with the patients. They witnessed the steps in the actual nursing care process, and they got a chance to learn technics that were convenient, simple, and safe. However, nurses did not review the detail of steps involved in the nursing practice principles, as could be seen in the following sentiment:

"…Seniors in the ward would teach me more technics. Nursing care can be done in different ways, with different technics. What is easy, simple, and safe, they would teach me. They may teach me additional things about the patients that I don't know, like when I was about to dress the patients' wounds. What is easy or convenient to do, they would prepare that for me. They would tell me where to start…"

4.3 The participants learned from their classmates who had a chance to offer care to patients before them. They had a better picture of what to do, and they learned from the advice and information their classmates offered them. Thus, this could be considered an exchange of information and experiences among group members, as one of them explained:

"…Watching my classmates and following them is a learning about what are the correct things to do from peers. If there is something that they have not done correctly, I would think about it and would not do it in my work…"

4.4 The participants also learned about what to do from the patients themselves or their family members. Some patients had been hospitalized for a long time, so they knew what the nurses in the ward would do for them. Some patients were able to tell the participants what to do before the others. Likewise, family members of the patients who had seen nurses giving care to the patients were also able to give the participants advice on care, as illustrated in the following sentiment:

"…The patients will tell me, and their family members will tell me, if they see something that is different from what the nurses have done. Learning occurs as a result of this…"

4.5 The nurse aids gave the participants advice on where to find and put away the tools and equipment to give care to the patients. This was because it took some of the nursing students a long time to find what they needed or to find the place to keep them after they were done. Sometimes they forgot because they were not familiar with the patents' ward, as one of them described:

"…On the first day, I didn't k now anything. I didn't know what to do. I couldn't find what I needed and I had to keep asking them. The seniors would give me advice and tell me where the supplies were kept. Sometimes I didn't remember what was kept where…"

5. Patterns of clinical practice

5.1 The participants felt that the program served their needs. They learned the theories and then had a chance to try out with their classmates before they actually gave care to the patients. When they did their clinical practice, they had better understanding of the theories and felt that what they had learned was in fact applicable, as one described:

"…I got to actually take care of the patients, and I got to experience the real life of a nurse. When I was studying the theories, I could not imagine what it was like. We practiced with a dummy, but the dummy was still and the patients moved around. Sometimes I wasn't able to solve immediate problems. But, once we got to do the clinical practice, we began to gain experience and were more able to care for the patients…"

5.2 Some participants felt that the program did not suit their needs, and they wanted it to be revised. For example, they wanted to both study the theories and do the clinical practice so that they would not forget the theories they had learned. Some participants explained that studying theories for a long time was exhausting for them, as evident in the following sentiment:

"…I wanted to study one thing and do the clinical practice about that. It should give me more knowledge and confidence than studying about everything and then doing everything in the clinical practice. When we had to do everything at once, we tended to forget. Sometimes I forgot the theories about what I should do before the others. For example, once we learned about injection, we should do the clinical practice of injection right away. It should be something like three days of theoretical studies and two days of actual practices, or something like this. It should be better because it is still freshened in our mind. If we learn and then do the clinical practice, we should be more efficient…"

6. Nursing students' expectation of the clinical practice

6.1 The participants wanted to do the clinical practice that was consistent with the theories they had learned earlier. They wanted to be able to follow the nursing principles and have more experience and expertise because they did not want to make mistakes while they were working, as can be seen as follows:

"...I expect that I will get to practice what I have learned. I hope it will become a basis for my next clinical practices. I am more confident..."

6.2 The participants felt that they were able to provide care to the patients. After they offered care to the patients and the patients' symptoms improved and the patients' family and relatives were happy, they developed the sense of self-worth and self-pride that they were able to help relieve the burdens of professional nurses working in the ward, as one of them shared her experience:

"...I want to be able to do it correctly because when I was studying the theories, I still couldn't imagine what it was like. I didn't know how it would turn out. Once I am doing the clinical practice, I have already had some ideas about the theories and practice principles, so my expectation has been fulfilled, and I can do what I had hoped to do..."

7. Readiness for the next clinical practice

7.1 The participants needed more knowledge, particularly theoretical knowledge. They believed that if they had sufficient knowledge, they would be confident to provide nursing care to the patients, possibly with fewer errors, as one of them described:

"...I think my knowledge is not enough, and this makes me afraid to do things. I am nervous or forgetful. I lack mindfulness and concentration. I am afraid to make a decision, so I need to develop my knowledge. If I have the knowledge, I will be confident to make a decision and it should be easier for me to do things..."

7.2 The participants realized that they needed a mental readiness to cope with the situations in the patients' ward. They were eager to learn more, and they were more confident to provide care to the patients. They explained that they might need to practice concentration to ensure mental stability and mindfulness before doing clinical practice, as shown below:

"...It should start with me myself. I am not confident or mindful. I am nervous. There should be a course on concentration and mindfulness before doing clinical practices. The more my supervisors are near me, the more nervous I become. The more people look at me or watch me do things, the more I get nervous. I need to develop myself to make sure I have concentration and self-confidence..."

7.3 In terms of physical condition, the participants felt that they needed to rest sufficiently and have enough food intake to stay healthy and prevent sicknesses so that they would have the energy to care for the patients, as one of the participants described

"...I prepare my physical condition. I take a lot of rest. If we don't have sufficient rest, we may lose concentration. We have to have enough sleep. We need to be mindful and have concentration before we do things. We have to be patient with hard work. We need to be

mentally ready, and we have to be patient with the patients' conditions. We have to be able to accept that…"

Discussion

The study showed that most of the participants were glad and proud that they had a chance to study in the nursing science degree program. However, some them did not like the program of study, while others felt indifferent and believed they could continue until they graduated. It is perceived that the nursing profession enables nurses to help others. They have to sacrifice and be responsible. A study undertaken by Phongrat Ratanathai et al. (B.E. 2552) found that nurses felt that their profession gave them self-worth and their profession allowed them to serve fellow human beings. On the other hand, some believed that society did not recognize the value of the nursing profession and compared nurses to housemaids. Such perceptions could have an effect on nursing students' belief or doubt about their choice of profession, which could affect their learning and future career.

When the nursing students do the clinical practice, preparation is deemed vital. A study conducted by Sumalee Phothong, Warunee Jamkrajai, Suppawan Wongtheerasap, and Pattiya Chainakin (B.E. 2553) found that preparation is necessary, particularly theoretical preparation because knowledge and nursing skills enable nursing students to develop the confidence to perform caregiving activities, with minimum mistakes. Furthermore, physical and mental preparation is also important. If nursing students stay healthy during clinical practice, problems can be reduced. Also, when they are mentally strong, they can endure different situations during the clinical practice and are not likely to give up.

In the present study, the participants shared their feelings when they did their clinical practicum for the first time. Some of them were excited, nervous, or scared. A similar finding has been reported by Wipapan Wiroterat and Passamon Koomtaweeporn (B.E. 2547). In fact, excitement and fear could have both positive and negative effects. On the positive side, it could promote learning and development, but on the negative side, if there is too much excitement or fear, nursing practices, communication, learning, and developments may be disrupted.

It was found that supervisors, professional nurses, healthcare staffs in the ward, classmates, patients, and patients' family and relatives were persons who enabled nursing students to learn while they were doing their clinical practice. In general, supervisors are the most important persons (Montha Limthongkul & Pranom Pusrithong, B.E. 2549). Supervisors can point out important issues in nursing care practices. Similarly, Sakorn Intolo and Siranee Imnamkao (B.E. 2552) found that if supervisors constantly gave advice during clinical practice and acted as a good role model before actual practice, nursing students would be able to learn from the actual situation and would have lower risks of errors or mistakes. Such findings were consistent with the findings of a study carried out by Kristofferzon, Martensson, Mamhidir, and Lofmark (2012) which revealed that supervisors taught critical thinking and reflective thinking to nurse students more than professional nurses. Moreover, Chuan and Barnett (2012) and Chesser-Smyth (2005) found that nurses' and supervisors' good attitude toward students'

clinical practice could promote their ability to perform caregiving tasks as it had an effect on nursing students' self-confidence.

In this study, the participants shared information regarding the nature of the clinical practice, their expectations, and their readiness for the next practicum. They agreed that theoretical teaching should come first, and the instruction should be given at a nursing laboratory so that they would have a chance to try out and do feedback demonstration. The clinical practice could then follow at the ward, under the supervision of supervisors. Such findings yielded support to the study of Ampai Jaruvajarapanichkul, Yupaporn Limkosit, Waraporn Lertpoonvilaisakul, and Pikul Boonchuang (B.E. 2551). Furthermore, the participants had an expectation that they would be able to actually do their clinical practice in accordance with the theories they had studied. They believed that in so doing they would be ready for the next practicum. Finally, they stated that they would apply the experience they had gain and further develop their knowledge as well as their physical and mental readiness based on what they had learned from the practicum.

Recommendations

For nursing practices

1. Instructors who teach the practicum should learn about the characteristics of the nursing students in each group by talking to them and establishing rapport. They should also create trust and ensure the students' readiness before doing clinical practice so as to reduce biases or exaggerated information.

2. Nursing students should have a chance to see the actual condition of the patient ward or watch a video of the ward so as to reduce their excitement, anxiety, and fear.

3. There should be a program that clearly teaches nursing students each basic nursing skill including giving an injection, making the bed, dressing wounds, washing hair, giving a sponge bath, administering oxygen, etc. so as to allow nursing students to have self-reviews and to boost their self-confidence to do clinical practice.

For nursing research

Qualitative research should be continuously conducted in other related subjects so as to gain better understanding of nursing students' thinking and feelings when they have to do clinical practices in different nursing subjects. The study findings could then be utilized to design lesson plans for other courses in the undergraduate nursing science degree program.

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Behavioural in Indigenous Knowledge to Use Herb for Health Caring of the People in Nakhon Ratchasima Province

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Abstract

This descriptive study aimed to examine indigenous Knowledge to use herbs for health care of people in Nakhon Ratchasima province. Eighty-nine participants age older than 20 years old who came to the Thao Suranaree fair at the town hall of Nakhon-Ratchasima province in March and April 2016 were recruited. Personal experience on herb usage in daily life, ways to adopt to promote herb usage for health, and problem, barrier and suggestion were assessed. Findings about the experience of herb usage in daily life in this study revealed that most of people use herb for health self-care, and the majority of herb came from their community, especially herbs planted at home. Learning sources of herbal usage can be attributed to community knowledge, and by word of mouth. The ways to promote herb usage should be conducted through development of herb transformation in community (93.3%), conversation (92.1%), and knowledge revival of herbal use in daily life (83.1%).

In conclusion, this study indicated that management such as recording the knowledge in a variety of media was very vital and the younger generation should be encouraged to see values of local herbal wisdom.

Keywords: indigenous knowledge, herbs, usage, health

Background

Indigenous Knowledge is a vital cultural capital of human. It's grows with sustainability, from knowledge and experiences including the desire to explore and discover, with deep self-intuition. Indigenous knowledge aims to change and improve local resources by using old knowledge to create valuable and appropriate use within the community, local and general society (Chuan Pethkaew, 2004). In terms of tradition, culture and lifestyle of all community is identity and inherited generation after generation in the community. Additionally, improving process related to lifestyle, environment, and resources within the community. For example, cultural of attire, eating, house building and health maintenance and treatment for disease. The Indigenous Knowledge passed the trial and error process until it became wisdom for health promoting and disease prevention for people in the community. For instance, vegetable

consumption which aims to nourish the body, cure diseases with herb, massage therapy to relieve sickness, hot herb press or steaming to relieve pain, and lying by the fire after child birth to promote a healthy recovery. Recently, it has been widely accepted that only modern medicine was unable to solve all health problems. This is because of the high cost of modern medicine and of medical supplies and medical equipment from aboard. All of these are limitations to modern medicine that created an inability to serve people thoroughly and equally. Hence, Indigenous Knowledge study to improve peoples' health, and pulling capacity of knowledge, and apply it appropriately within this era and in real situations within the community might will supplement current modern medicine techniques. In terms of peoples' opinions, folk medicine healing knowledge is decisively separated from modern medicine, but they still support each other. Therefore, developing of public health must be simultaneously developed, and people was able to choose the way to take care of themselves (Daranee Aonchomchun, 2005). The Thai Indigenous Knowledge is important to therapy, relief, and cures as well as disease prevention, and promoting health in the community. Not only does Thai Indigenous Knowledge help to improve the health of Thai people, but also help to decrease nation health problems because of the effect on reducing the cost of medical fees, and reducing medicine and medical instrument import orders. This may be effective when Thai people see the value, awareness and apply the natural resource benefits into their community in order to preserve self-care. Furthermore, applying generational knowledge of local wisdom to promote health care and prevention in health helps effectiveness.

Academic service and family and community nursing department of Boromarajonani college of nursing Nakhon-Ratchasima are the health providers concerned with applying the local wisdom of health promotion to all ages. This is done by provide academic services to people in the community, and then integrating it into nursing lessons and research studies for guiding the way to health promotion; and support folk wisdom into the community for sustainable self-care.

Research objective

To study behaviors on Indigenous Knowledge to use herbs for health care of the people in Nakhon Ratchasima province.

Scope of study

This study aimed to examine people who was 20 years old and older who came to obtain medical examination service from student nurses, in the feast day of the triumph of Thao Suranaree Fair 2016 between March and April, 2016, at the town hall of Nakhon-Ratchasima province and welcome to participate on this study.

Research methodology

1. Population: The people who was came to obtain medical examination service from student nurses in the feast day of the triumph of Thao Suranaree fair 2016, at the town hall of Nakhon-Ratchasima province.
2. Sample: people who was 20 years old and older who was came to obtain medical examination service from student nurses in the feast day of the triumph of Thao Suranaree fair 2016, at the town hall of Nakhon-Ratchasima province. Random sampling was done by volunteer to take part in this study by answering questionnaires.

Research Instrument

The instruments of data collection on this study consist of 4 parts as follows;

Part 1: Socio-demographic characteristics, it consisted of gender, age, educational level, marital status, occupational, and self-healthcare.
Part 2: Personal experience on herb usage in daily life.
Part 3: Ways to adopt to promote herb usage for health.
Part 4: Problem, barrier and suggestion

Research instrument validation

The step of instrument validation was to validate content by 3 experts to verify content validity then researchers revised before used.

Data collection

1. Asked the population who came to obtained medical examination service from student nurses in the feast day of the triumph of Thao Suranaree fair 2016 at town hall of Nakhon-Ratchasima province to participate in this study after providing information and informed consent.
2. Researchers introduce themselves to the participants and explain about research purpose, then ask to participate after data was collected by letting the participants to do the questionnaires by themselves.
3. Next, all of data was collected and checked for accuracy; and then preparing for analysis.

Human right protection of the subjects

This study was conducted based on the protection of human rights. They were explained study objectives, Expected Outcome / Benefits of the Project in the questionnaires, and then asked to participate in the study. The subjects who agreed to participate were informed and assured that their data was kept confidential. Furthermore, the participants could withdraw from the study at any time should they wish.

Data analysis

The data was analyzed by statistical package as follows:

1. Descriptive statistics, including frequency and percentage are used to describe socio-demographic characteristics of subjects.
2. Frequency and percentage are used to describe experience of using herb in daily life of subjects.
3. Data of opinion on way to promote herb using are analyzed by frequency and percentage.

Results

Part 1 Socio-demographic characteristics

89 participants were comprised of 22 males (24.7%) and 67 females (75.3%) the youngest was 17 years old, oldest was 83 years old, the average age was 52.0 years old (SD.= 16.7). Majority of them (88 participants = 98.9%) were Buddhist and there was one Christian (1.1%). Most of the participants (45 participants = 50.6%) had graduated from primary school, 20 participants (22.5%) graduated from secondary school, 20 of them (22.5%) had bachelor degree, and the others and 4 people answered other (4.5%) respectively. 56 participants (62.9%) were married, and 20 of them (22.5%) were single, 9 widows (10.1%) and 4 separated (4.5%). A quarter of them (24 participants = 27%) did not had occupation, agricultural and employee were equal = 14 each (15.7%), 9 participants (10.1%) were entrepreneur, 7 diplomats (7.9%) and the others = 21 participants (23.6) respectively. In terms of health status 54 of them (60.7%) were healthy without chronic health disease, chronic disease were 34 participants (38.2%), and the others = 1 participant (1.1%) respectively. Vast majority of their family member was students and teenagers, 17 adults (19.1%), 12 teenagers and adult (13.5%), and adult and elderly = 9 (10.1%). Family activities included cradlesong (8 participants = 9%), traditional food cooking (25 participants = 28.1%), storytelling (4 participants = 4.5%) and traditional games and instrument producing (5 participants = 5.6%). Moreover, 57 participants (64%) had support herb for health promotion, conversely 52 participants (58.4%) reported lack of exercise.

Part 2 Experience on herb using in daily life

The experience of herb usage in daily life, this study revealed that most of people use herb for health self-care, and the majority of herb came from their community, especially herbs planted at home. Learni

ng sources of herbal usage can be attributed to community knowledge, and by word of mouth. In terms of compression of herb and herb steaming and massage to treat illness, the results shown that a large amount of people had never used massage-compression and massage therapy including traditional spiritual dance.

Table 1 Experience on herb using in daily life (n=89)

Data	Number	Percentage
Using herb in daily life		
- used	51	57.3
- Non-used	37	41.6
Source of herb		
- Plant at home	62	69.6
- In their community	19	21.3
- Buy from Thai traditional drug store	8	9.1
Sources by which subjects learned about herbs		
- via family members	61	68.5
- book	8	9
- online media	12	13.5
- community expert	3	3.4
- Other	5	5.6
Herb press/herb steaming		
- previous experience	27	30.3
- never	62	69.7
Massage for treat disease		
- previous experience	38	42.7
- never	51	57.3
Mixed with modern medicine		
- never	80	89.9
- previous experience	9	10.1
Thai blessing ceremony	4	4.5
Spiritual traditional dancing (Ram-Phi-Far)	2	2.2
Traditional Ceremony destined to renew life	3	3.4

Part 3 Data of the way to promote herb usage

Majority of participants agreed that the ways to promote herb usage should be conducted through development of herb transformation in community (93.3%), conversation (92.1%), and knowledge revival of herbal use in daily life (83.1%) as showed in Table 2.

Table 2 Data of the way to promote herb usage (n=89)

Data	Number	Percentage
Conservation		
Herb is an valuable Indigenous Knowledge		
- Agreed	82	92.1
- Disagreed	7	7.9
To raise awareness of herb Indigenous Knowledge in descendant		

Data	Number	Percentage
- had raised awareness	52	58.4
- had not raised awareness	37	41.6
Revival		
Indigenous Knowledge revival of herbal use in daily life		
- Agreed	83	93.3
- Disagreed	6	6.7
Developmental		
Indigenous Knowledge developmental of herb transformation in community		
- no developmental knowledge	74	83.1
- had developmental knowledge	15	16.9
Inheritance aspect		
There was inherited knowledge spread to the children in the community on herbal medicine usage		
- no spread	71	79.8
- spread	18	20.2
Activity promotion aspect		
Do you want some activities to promote herb widely?		
- do not want	9	10.1
- want	80	89.9
There should be networking to continue promoting herb usage		
- Should not	9	10.1
- Should	80	89.9
Dissemination and exchange aspect		
What is the most effective media to help dissemination on the herb knowledge		
- Television	42	47.2
- Radio	10	11.2
- Brochure	10	11.2
- exhibition	7	7.9
- internet	8	9.0
- Newspaper	1	1.1
- Billboard	4	4.5
- Others	7	7.9

Part 4 Problem and barrier

Most importance problem and barrier which affected Indigenous Knowledge development of herb medicine and decrease in usage are modern medicine (38.2%), lack of experts (38.2%), and exclusion of the new generation (30.3%) as showed in Table 3.

Table 3 Problem and barrier affected knowledge and development of herbal medicine

Data	**Number**	**Percentage**
Most importance factor which affected Indigenous Knowledge development of herb medicine: And decrease in usage		
- modern medical technology	34	38.2
- industrial society	12	13.5
- Herb cook book did not accurately disseminate information	25	28.1
- Health belief	11	12.4
- emerging disease	1	1.1
- Others	6	6.7
What barriers create an inability to distribute Indigenous Knowledge		
- lack of support from state agency	24	27
- lack of expert(s)	34	38.2
- point of view of new generation, herb usage is obsolete	27	30.3
- lack of herb resource	3	3.4
- Other	1	1.1

Discussion

Of the 89 participants, 22 were male (24.7%) and 67 were female (75.3%), average of age = 52 years old, almost of them (88 participants = 98.9%) were Buddhist, graduation level; most (45 participants = 50.6%) graduated from primary school, 56 (62.9) of them were married, majority of the group (24 participants = 27%) were unemployed, farmer and employee each totaled (14 persons each = 15.7%), 54 (60.7%) of them were healthy and without disease, family activities that often or usually do i.e. sing cradlesong, prepare Thai traditional food for family member, storytelling, provide traditional toys for the children and others family member. And the family members promote herb using for health self-care.

According to the experience of herb usage in daily life, this study revealed that most of people use herb for health self-care, and the majority of herb came from their community, especially herbs planted at home. Learning sources of herbal usage can be attributed to community knowledge, and by word of mouth. According to the study of Supat Sreesawat et al. (2014) the study found that people in the southern part of Thailand known about usage herb from their neighbor and community in general, the knowledge was spread widely by they telling each other in their local area. Vast majority of herb were grown in their community, where it was

easy to find herbs for sickness such as cold, fever, cough, constipation, diarrhea and chronic illness; diabetes and hypertension (Oben et al., 2006). In terms of compression of herb and herb steaming and massage to treat illness, the results shown that a large amount of people had never used massage-compression and massage therapy including traditional spiritual dance. Conversely, the study of Warapun Pengjam (2013) presented that most people used Thai massage combined with modern medicine and herbal concoctions to treat their illness.

When asking subject opinions of local herbal wisdom, the results illustrated most people agreed that herbal usage was valuable, and the knowledge should be passed to next generation. According to a study done by Supaporn Pitiporn, (2009) found that most people begin to concerned with importance of Thai herbal medicine and tried to spread the knowledge generally, in order to help people, learn self-care methods, and to contribute awareness of local Thai wisdom.

The results on dissemination aspect had presented most effective media to disseminate on herbal usage was television. It was clearly that the growth of modern technology in present contributes to a decrease in local wisdom within communities. According to a study done by Jetsada Paktranon (2010) said that a major cause of change in society was medical technology development, it was increased dramatic effect on people concern with traditional wisdom, who now used chemicals to cure or relieve their illness instead.

Recommendations

1. To promote sustainable self-care, the study of using of local herbal wisdom in conjunction with local cultural, believe, religion, attitude and values should be examined in further research.
2. According to the findings of this study indicated that the younger generation should be encouraged to see values of local herbal wisdom. Management was very vital such as recording the knowledge in a variety of media, create herbal centre, and wide public relation usage with an aim to distribute easily accessible information to all people. Additionally, participation of local organizations may help to promote herbal usage effectively.

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Contaminant in Food Which Sell in Red-Cross Fair in Nakhon Ratchasima Province

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Background

Recently, the number of people who have non-infectious disease is increasing and that trend is continuing upward. One of the main causes of the problem is the consuming of contaminated food which is the number one cause of death in Thailand. A recent report found that 30% - 40% of the two most common causes of cancer are health behaviour related to consuming contaminated food and poor life style (Pairat Pratoomthong, 2004). Food is the most vital factor affecting people's health; clean food should not be contained germs or toxins or be contained by pathogens and chemicals. Additionally, the Food and Agriculture Organization of the United Nations (FAO) found that the high number of people with the disease resulting from food and water carrier between 2008 – 2010. In 2011, there were 19 million cases of diseases resulting from food and water carrier resulted in an economic loss of approximately 5,600 – 6,000 million Baht per year. Furthermore, poison and chemical especially insecticide in agriculture process is the most important problem (The national economic and social development plan, issue 10, 2007-2011), then the national economic and social development plan, issue 11 (2012-2016) focus on processing and consuming process in an environmentally friendly way.

The provincial office, the regional medical science center and mobile unit for food-safety and health product-safety, had worked on educating people on issues related to; how to keep safe from contaminated food. By testing sample food to find contaminants and residues in food, a study found that in general contaminated food had increased from 0.69% to 0.83% and then 1.91% by year 2008 to year 2009 and 2010 respectively. Contaminations were most common caused by pathogens, Aflatoxin, Agonist compounds, pesticide, formalin, sodium hydrosulfide and salicylic acid respectively (food safety centre, Ministry of Public Health, 2010)

As can be seen from the literature review, the researcher realized that contaminated food is harmful to peoples' health, the survey urged people to be concerned about choosing non-contaminated food, and clean food consuming, that is the main factor in promoting health in people. The main responsibility of Academic service of Boromarajonani College of Nursing Nakhon Ratchasima aims to promote, and support activities on health, in all organizations in Nakhon Ratchasima province, and to improve health and quality of life of the people in the

province. Hence, in the annual red cross fair in 2013 in Nakhon Ratchasima the academic service had collaborative work among lecturers, and second year student nurses who were studying health promotion and prevention. The nursing students and town hall officers provided knowledge on safety food to people who visited the annual Red Cross fair. They also surveyed contaminant food situation and factors which effect food seller's consideration on what food should be bought for selling in the fair. Benefits of these activities reached not only academic service, but integrated routine work to research, and also introduced guidelines to promote consuming food safety, in a better way.

Research objective

1. To study contaminated food in the annual red cross fair in Nakhon Ratchasima province
2. To study factors which effect a food seller consideration on what food to buy, and ultimately sell in the annual red cross fair in Nakhon Ratchasima province.

Research methodology

This study was designed as a cross-sectional descriptive research. The processes of methodology and data collection were presented in the following way.

Population and Sample

1. Population and sample for a study on contaminated food:

Population and sample for a study on contaminated food which had a risk to contamination within the following four substances:

- Food risk to formalin contaminant i.e. seafood such as squid
- Food risk to Borax contaminant i.e. pork and processed product from pork such as pork-ball, east sausage
- Food risk to sodium hydrosulfide contaminants such as ginger and bean-sprouts
- Food risk to fungal contaminants such as fermented fruit and vegetable

The sample in this study was fresh food that risks contaminating; with four substances as mentioned above which sold in annual Red Cross fair in Nakhon Ratchasima province in between December 29th, 2012 and January 9th, 2013.

The sample was selected by convenient sampling from food in food shops in the annual Red Cross fair.

2. Population and sample for a study on factors which affected sellers' consideration to buying food for selling in the fair.

Population and sample for studying factors which effected sellers' consideration when buying food to be sold at the fair, were all vendors who sold food in the fair between December 29th, 2012 and January 9th, 2013. The data was collected by providing vendors with questionnaires.

Research Instruments

1. Instruments for data collection to study contaminated food.

Laboratory instruments that conducted basic substance tests came from the department of medical science under the ministry of public health. These tests were conducted to provide basic analysis to find food contaminated by following 4 substances i.e. Formalin, Borax, hydrosulfide and salicylic acid.

2. An instrument for data collection to interview sellers on what consideration were taken before buying food to sell in annual Red Cross fair.

There were 3 parts, as follows:

Part 1 Selling type data: consisting of 11 items related to type of food sold.
Part 2 Basic understanding by the seller on safety food: consisting of 19 items
Part 3 Socio – demographic data: consisting of 5 items

Data collection

Researchers collected data for both contaminated food and factors which affect sellers' purchasing decision during the annual Red Cross fair 2013 in Nakhon Ratchasima province between December 29th, 2012 and January 9th, 2013.

Human right protection of the subjects

This study was conducted based on the protection of human rights. Eligible subjects were approached and asked to participate in the study. The researcher explained the purpose, method, and benefit of the study. The subjects who agreed to participate were informed and assured that their data would be kept confidential and reported only as group data. Furthermore, the participants could withdraw from the study anytime they wish and could refuse to answer any question they were not comfortable answering.

Data analysis

1. The statistical analysis for food contamination was employed in the following analysis:
    a. food contaminant chemical volumes were interpreted by compared with standard value of each substance.
    b. contaminant food situations were presented with descriptive statistics: containing frequency and percentage.

2. The statistical analysis for factors which affect the sellers' consideration: containing frequency and percentage.

Results

The results on food contaminant situation:

According to the survey on contaminant food situation, foods were chosen to test i.e. squid, pork ball, Esarn sausage, ginger, bean-sprouts and fermented vegetable and fruit from 69 shops with 70 shops in total found that 21 samples of squid contained formalin contaminated for 4.76%, 12 samples of fermented vegetables and fruit were contaminated by salicylic acid for 25%, and none of the tested food contained hydrosulfide and borax contamination. The results were shown in table 1

Table 1 The number and percentage of sampling food which found contaminant

Type of sampling (the number of sampling)	**Type of substance**			
	Formalin amount (%)	**salicylic acid amount (%)**	**Hydrosulfide amount (%)**	**Borax amount (%)**
Squid (21)	1(4.76)	-	-	-
Fermented vegetable and fruit (12)	-	3(25)	-	-
Pork ball (20)	-	-	-	-
Esarn sausage (7)	-	-	-	-
Ginger (3)	-	-	-	-
Bean-spouts (6)	-	-	-	-

The results on factors which affect the sellers' consideration:

There were 70 food shops in the 2013 annual Red Cross fair in Nakhon Ratchasima province. Sixty-eight people from 70 shops participated in the questionnaires (97.1%)

1. Socio – demographic data

The sellers in the annual red cross fair who participated consisted of the following demographics, most of them was 45 female (66.2%), average of age ($\bar{X}$) = 39.81 years old. The majority of the group graduated secondary school (mathayomsuksa)/ Vocational Certificate =24 (35.3%). Most of this group live in Nakhon Ratchasima province = 46 (67.6%) and 31 people (45.6%) had worked as a food vender for more than 9 years. All socio-demographic data of the group presented as table 2.

Table 2 Socio-demographic data of the seller who sold food in annual red cross fair 2012

socio-demographic characteristic	Number (N=68)	Percentage
1. Gender		
- Female	45	66.2
- Male	23	33.8
2. Educational level		
- Primary school (4th grade)	15	22.1
- Primary school (6th grade)	23	33.8
- secondary school / Vocational Certificate	24	35.3
- Higher than secondary school / Vocational Certificate	6	8.8
3. Habitant		
- Nakhon Ratchasima province	46	67.6
- Northeast of Thailand (e.g. Ubonratchathani, Roi-Ed, Mahasarakham)	7	10.3
- others (e.g. Bangkok, Chachoengsao, Nakhonsawun)	15	22.1
4. Duration (year) to work as a seller		
- less than 1 year	7	10.3
- more than 1 year but not over than 9 years	30	44.1
- more than 9 years	31	45.6
5. Average of age	39.8 years	

2. Types of food

2.1) Type of food selling

The majority of food sold during the fair was cooked and ready to eat, or ready to cook food, packaged in disposable food containers. These packages consisted of stirred fried noodle, Thai fried noodle, chilli paste, dried fruit and a dessert trolley. Moreover, sometimes the seller reheated the food by grill. This was done particularly often with grilled pork ball, grilled sausage, grilled squid and roasted chestnuts. Reheating was also done with blending raw food including spicy sausage mix, rice noodle, and Thai spicy salad. This was then packaged into plastic bags, paper bags or plastic boxes. There were 46 sellers (67.6%) who sold cooked food according to order. A minority of them = 22 sellers (32.4%) sold fresh or dried food. A vast majority of them (45 sellers = 66.2%) bought raw material from fresh market in the town of Nakhon Ratchasima province i.e. Mae-Kim-Heng market, Pra-par market, Suranakhon market and Yar-Mo market. A small number of them (7 seller = 10.3%) bought the material from supermarket or convenience store.

2.2) behavior of the seller after buying raw materials

Half of the sellers (34 sellers = 50%) soaked meat, vegetable and fruit in clean water, and then washed it before cooking, whereas another half (34 sellers = 50%) had not cleaned the raw material before cooking food.

2.3) behavior of the sellers when the food resold after the first one day:

Half of them (34 sellers = 50%) kept food in fridge or ice box for selling on the next day while 22 sellers (32.4%) provided information; their food sold out every day whereas few of them (2 sellers = 2.9%) disposed of food that was not sold. However some of the participants (10 sellers = 14.7%) did not keep the food in cool areas such as fridge, or ice box. They kept it in their portable/hawker stall waiting to sell the next day.

3. Basic understanding of safety food

The researcher asked participants of their basic understanding of contaminated food, particularly the following four substances i.e. formalin, sodium hydrosulfide and salicylic acid. The questionnaires related to contaminated food asked the seller about their knowledge on the four substances, did the sellers know how to properly clean and sell their food, including to signs and symptoms when people contact or obtained the substances in high levels or continued obtained the substance for a long duration of time.

3.1) Basic understanding of formalin

Most of the food sellers (39 sellers = 57.4%) had knowledge about formalin, one-third (23 sellers = 39%) was able to answer about the benefit of formalin correctly that formalin was used with fresh food for instance seafood; squid, shrimp, shellfish, fish, and also including fresh fruit and entrails. The main purpose of formalin use was to preserve food by preventing spoiling of food; and helping food to stay fresh for a longer period (27 sellers = 39.7%). However, nine sellers (13.2%) were able to answer the question on formalin toxication, and describe signs and symptoms and the human bodies response to high level of formalin in body i.e. gastro-intestinal tract disorders such as stomachache and nausea.

3.2) Basic understanding on Borax

A minority of seller (29 sellers = 42.6%) know about Borax, there were 20 sellers (29.4%) able to answer about how to use borax correctly; borax when used with meat ball became crisp bounced and had a better taste (22.1%). While there was a seller (1.5%) who was able to tell us about borax toxication on gastro-intestinal tract which included nausea and vomiting.

3.3) Basic understanding on Hydrosulfide

Most of sellers (33 sellers = 48.5%) report that they did not had prior knowledge about hydrosulfide, one-fourth (18 sellers = 26.5%) were able to answer correctly, on uses of hydrosulfide when used with beansprouts, mushroom and jackfruit to improve the colour of

food became whiter, brighter, and look fresh and look delicious (28 sellers = 41.2%). There were only 5 sellers (7.4%) that answered correctly on signs and symptoms of an over dose of hydrosulfide. The symptoms are diarrhea, nausea, vomiting, headache, and dizziness.

3.4) Basic understanding on salicylic acid

A large number of sellers (47 sellers = 69.1%) did not know about salicylic acid, while one seller (1.5%) did know about the substance, it uses with fermented vegetables to prevent fungal growth and prevent vegetable spoilage (8 sellers = 11.8%), and only 2 sellers (3.0%) were able to answer correctly on the toxicity of salicylic acid when the symptoms of overdose. Including diarrhea for gastro-intestinal tract poisoning.

Discussion

Regarding the results of this study, after finding four substances (Formalin, Borax, hydrosulfide and salicylic acid) in food, the study found that there was formalin and salicylic acid contaminate in food 4.76% and 25% of the time respectively. The study indicated that food sold in the annual Red Cross fair in Nakhon Ratchasima province still had contaminant, and is unsafe for consuming. When considering 6 types of food the study found 2 kinds of contaminants in food equally 33.33%, and the survey had presented 45 sellers out of 68 (66.2%) bought raw food products in markets around Nakhon-Ratchasima. Hence, people in Nakhon-Ratchasima who bought food in the market might also be at risk to contaminated food consuming as well.

As the results, factors which affected the behavior of sellers when buying food to sell in the annual red cross fair, had shown the vast majority of sellers still lacked sufficient knowledge on contaminated food, and showed a lack of concern when using substances to extend the freshness of food, reduce food spoilage and improve taste, colour, crispness and the look of food, which helps to increase circulation and sales volume of the food. The contaminant often found in the food were bought from the market i.e. formalin, borax, sodium hydrosulfide and salicylic acid. All the substances are harmful to health when eaten continuously or in high volume consuming.

According to previous medical research indicated that contaminated food and chronic disease are related with affects such as cancer. Factors that enhanced the chance to obtain contaminated food were seller behavior, and awareness to clean the raw material before cooking. The study found that 50% of sellers clean raw material properly before cooking. Social factors, including people rushing to work and working hard, were leading causes of people choosing to buy cooked food from the market.

Regarding knowledge of contaminated food, this study presented that there were gaps in knowledge, understanding of contaminated food in the market, and signs and symptoms of obtaining the substances in excessive volume or when consumed continually. Promotion of knowledge, changing attitudes and promoting appropriate behavior of food vender, in

particular avoid in buying contaminated raw material from the market, clean raw material properly before cooking is of the most importance. Not only should the behavior of the seller be adjusted, but also consumers' behavior should be improved in both knowledge and attitude to avoid buying contaminated food, understanding of the kinds of food which often become contaminated and avoiding food that could be contaminated including knowledge on signs and symptoms when obtained toxins from contaminated food.

Recommendation for the research

1. Food samples should be taken from a wide variety of food for wider exploration
2. Survey in other areas such as fresh market and free market
3. Survey in annually at the fair, and in other fairs in Nakhon-Ratchasima province

Recommendation for safety food operation

1. The safety food policy should be promoted to randomly sample for contaminated food often.
2. Widely promote and educate people on contaminated food.

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Natural Childbirth: Concepts and Applications in a Secondary Care Hospital[1]

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Abstract

One of the most important concepts of natural childbirth is client-centered care, where the primary focus is a normal physiologic process, without unnecessary invasive medical interventions. The ultimate goal of the natural approach is to ease the client, and her family through a meaningful family lived experience. In Thailand, since a medical approach has been firmly established in the country, implementing natural childbirth procedures is slowly progressing. Practitioners employing the medical approach treat a childbearing woman as a patient, who even without indication may get routine interventions, some of which are not supported by the World Health Organization. The purpose of this article is two-fold. First, the article is intended to review basic concepts of natural childbirth in contrast to medical childbirth. Second, it is to describe how nurses in a secondary care hospital integrate natural childbirth concepts into dominating medical care and successfully implement procedures, while delivering nursing care to clients and families.

The key to success is promoting natural childbirth to clients as soon as possible. Nurses should sufficiently educate and train pregnant women and their family so as to enable them to utilize learned knowledge and skills during labor and delivery. In addition, nurses should encourage the women to independently make informed decisions about their delivery. Nurses in the labor room should provide holistic nursing care, refrain from unnecessary medical interventions, and enhance the natural function of the women's body. A natural delivery should result in the high satisfaction of the women and her family with the childbirth experience. The present survey research aimed at investigating concepts and applications of natural childbirth among nurses and northeast women as well as to explore knowledge about natural childbirth and their attitudes towards it. It is anticipated that research and development are needed to implement and promote a natural childbirth program in a hospital where there are no such services so as to ensure suitability with the hospital contexts.

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Introduction

At present, childbirth care tends to be a medical care which focuses on the kind of care routinely given to sick clients including cleansing enema, shaving of the pubic area, fasting, administration of the intravenous fluid, and putting the pregnant women in a supine position with their legs raised on a trestle. Such activities are considered ineffective and can lead to certain negative outcomes (WHO, 1985; WHO, 1997). Unlike medical childbirth, natural childbirth is primarily client-centered. In addition, it emphasizes the physiologic process of the pregnant women, and nurses play a role of helpers who let the childbirth process occurs naturally without unnecessary medical interventions. Nurses also assist by arranging a friendly and relaxing atmosphere to ensure meaningful experiences of both the pregnant women and their family—physically, mentally, emotionally, and socio-culturally (Kritcharoen et al., 2011).

Guideline on care of natural childbirth

Promotion of natural childbirth should begin as soon as the women become pregnant. Pregnant women and their family should be prepared for natural childbirth by equipping them with knowledge and potential to perform self-care and to apply the learned knowledge and skills during labor. It is important that care providers adhere to a clinical practice guideline to promote natural childbirth and to encompass the following six fundamental aspects of natural childbirth: 1) provision of humane care, 2) provision of mental, emotional, and social care, 3) refrainment from unnecessary medical interventions, 4) avoidance of disruption of the natural childbirth process, 5) use of non-pharmacological pain relief, and 6) maximization of the natural process of childbirth (Kritcharoen, Phon-In, & Pongpaiboon, 2012), which can be discussed in details as follows:

1. Provision of humane care

Provision of humane care refers to the kind of care that takes the needs of pregnant women and their family members into careful consideration. It involves providing information about the progress of the labor from time to time, offering the pregnant women and their family an opportunity to fully participate in decision-making (Kritcharoen, Phon-In, & Pongpaiboon, 2012), respecting the rights of the service users as specified in the Declaration of the Patients' Rights (Thailand Nursing Council, n.d.), and giving care according to the rights of pregnant women and women in labor (Reader, Martin, & Koniak-Griffin, 1997).

2. Psychological, emotional, and social care

As for psychological, emotional, and social care, if nurses provide care by giving information and responding to the needs of pregnant women during labor, pregnant women are likely to have positive experiences with childbirth. Also, pregnant women would perceive that close

and constant care of nurses is beneficial for them, hence reduction in their anxiety (Phumdoung, 2005).

Hodnett et al. (2012) conducted a literature review on continuous palliative care during labor and found that pregnant women who received continuous palliative care from service providers, medical care staff, nurses, or family members were more likely to have vaginal birth, use less epidural during labor, and have a shorter duration of labor. In addition, the rates of medical childbirth would be decreased, as well as the rates at which newborn infants would have Apgar scores at five minutes after birth lower than normal.ar

Appropriate arrangement of the environment refers to an arrangement to ensure that pregnant women are in a warm and comfortable atmosphere. Family members are allowed to keep pregnant women company to provide assistance all through the period of labor. Chairs for family members are provided. When pregnant women are at a private place which is quiet and free from any disturbances, and when they have facilities that give them convenience and receive care from familiar persons, their stress levels can be lowered as well (Lowdermilk, Perry, & Cashion, 2014).

3. Abstinence from unnecessary medical routines

Abstinence from unnecessary medical routines includes shaving of the pubic area and cleansing enema. During the first stage of labor, pregnant women should receive food and drinks as appropriate, without administration of intravenous fluids. The heart rates of the fetus should be monitored with a stethoscope, and the use of an ultrasonic pocket doppler should be avoided (Kritcharoen, Phon-In, & Pongpaiboon, 2012).

4.Avoidance of disruption of natural childbirth

Disruption of natural childbirth should be avoided including administering labor-inducing drugs, rupturing of the amniotic sac, frequently doing the pelvic exam, cheering the pregnant mothers to push, and cutting the perineal (Kritcharoen, Phon-In, & Pongpaiboon, 2012).

Ratchukul (2007) investigated the effects of natural childbirth and induced childbirth and reported that the outcomes of childbirth that occurred to the pregnant women differed in the following six indicators: 1) childbirth methods, 2) administration of intravenous fluids, 3) use of painkillers, 4) complications during labor, 5) medical expenses, and 6) the third stage of labor with statistical significance at 0.05 level.

Yurachai et al. (2009) examined the effects of controlled pushing and natural pushing on fatigue and perineal pain after childbirth and satisfaction with childbirth. They found that 1) the mean scores of fatigue at two hours and 12-24 hours after delivery of the postpartum mothers who had natural pushing were lower than those of the mothers who had controlled pushing with statistical significance at $p = 0.01$ level; 2) the mean scores of perineal pain of mothers with natural pushing during 12-24 hours and one week after delivery were lower than

those of mothers who had controlled pushing with statistical significance at $p = 0.01$ and $p < 0.001$ levels, respectively; and 3) postpartum mothers with natural pushing had more satisfaction with child delivery than mothers with controlled pushing with statistical significance at $p = 0.01$ level.

Chaitikul et al. (2012) conducted a study to explore the effects of natural pushing together with squatting on an innovative cushion on the second stage of labor among primigravidas and found that those with the second stage of labor of primigravidas who had natural pushing together with squatting on an innovative cushion was shorter than that of primigravidas who had controlled pushing with statistical significance at 0.05 level.

5. Non-pharmacological pain relief

Use of pharmacological pain relief during labor could lead to oxygen deprivation in the fetus (Cunningham et al., 2014). Therefore, the fetus may have to be separated from the mother immediately to receive needed treatment. Use of non-pharmacological pain relief can help reduce chances of possible complications. They are as follows:

5.1 Relaxation reduces emotional stimuli, which in turn, relieve stress and promote comfort. Relaxation also stimulates blood circulation to the uterus, so the fetus receives sufficient oxygen, and uterine contractions are effective (Phongphokha et al., 2009). There are different relaxation methods, but their applications depend on the needs of pregnant women. They are as follows:

1) Music and audioanalgesia: Music with soft and natural sound or songs favored by pregnant women make them feel relaxed, and their perception of pain reduces, hence a higher pain threshold and more ability to control pain (Simkin & Bolding, 2004).

2) Aromatherapy: Use of fragrance from natural herbs helps relax pregnant women, reduce their anxiety, and relieve their pain during labor (Simkin & Bolding, 2004). Jittaworn (2009) conducted a study to investigate the effects of massage and aromatherapy on labor pain in 88 primigravidas and found that massage, aromatherapy, and massage together with aromatherapy could relieve labor pain.

3) Breathing: Breathing is a popular technique applied among pregnant women. Inhaling through the nose and exhaling through their mouth enhances circulation of air in the chest cavity and the diaphragm muscles are correctly used. If the pregnant women are trained to concentrate on the rhythm of breathing, their relaxation can increase. Once pregnant women have been trained to perceive relaxation that occurs while they are inhaling and exhaling, they can apply the technique to reduce labor pain (Phosai, 2001). A study undertaken in the United States of America has revealed that 61% of pregnant women in labor applied the breathing technique to relieve their pain. Moreover, 69% of those who used the breathing technique to relieve labor pain found that breathing helped them relax and control pain at a good and

excellent level (DeClerq, Sakala, Corry, Applebaum, & Risher, 2002, as cited in Simkin & Bolding, 2004).

4) Touch and massage: Touch and massage help increase relaxation and reduce pain in pregnant women. They can do it by themselves, or they can be assisted by medical care staffs. Sommer (1979, as cited in Simkin & Bolding, 2004) investigated the effects of 30-minute massage in mothers whose dilation was 8 to 10 centimeters and reported that the mothers who received massage had lower blood pressure levels and anxiety scores compared to those who did not receive massage. Thus, it could be concluded that massage could help relieve pain.

5.2 Application of heat or cold is another pain relief method. Application of heat helps reduce spasm of the tendon, joints, and muscles, hence promotion of blood circulation. This can be done by applying a hot water sac on the back or lower abdomen, with the temperature of the water being determined based on pregnant women's personal preferences. On the other hand, the use of cold can refresh pregnant women. A cold piece of cloth or gel can be applied on the face, back, and chest. Eungapithum (2011) explored the effects of application of a hot compact and a cold compact on labor pain in primigravidas and found that those who received a cold compact had lower pain scores during the active phase and the transition phase compared to those who received only routine nursing care with statistical significance ($p < 0.001$) and those who received a hot compact similarly had lower pain scores during the active phase and the transition phase compared to those who received only routine nursing care with statistical significance ($p < 0.01$).

5.3 Hydrotherapy refers to the use of warm water for pregnant women to soak in it. When the skin is exposed to the warmth of the water, blood vessels will dilate and muscle fibers will relax. In addition, more urine will be expelled, so swelling and blood pressure will decrease. Moreover, weight-bearing will also be reduced, and pregnant women will find it easier to move around. The pressure of abdominal muscles on the uterus will lessen as well, so pregnant women will experience less pain and more comfort. However, it is important that the temperature of the water be appropriately controlled, between 36.6 and 37.8 degrees Celsius. This is because an increase in temperature can affect heart rates and cardiac outputs, which can lead to arrhythmia (Lowdermilk, Perry, & Cashion, 2014). A previous study has revealed that pregnant women who soaked in warm water during labor experienced less pain that those who did not soak in warm water and 89% of women who used this method indicated that they would choose it again in their next labor (Cammu, Clasen, Van Wettere, & Derde, 1994, as cited in Simkin & Bolding, 2004).

5.4 Acupressure is based on a concept that acupuncture stimulates or controls the physiological functioning of the body. Acupuncture helps relieve both stress and pain (Simkin & Bolding, 2004).

6. Maximization of natural childbirth process

Maximization of natural childbirth process is utilized by letting pregnant women stay in the same room from the waiting period up until after childbirth. Pregnant women are arranged in an upright position, not in the supine position with their legs raised on the trestle. They push naturally (Kritcharoen, Phon-In, & Pongpaiboon, 2012). Support is given to pregnant women to make them move their body freely and to enhance their comfort so as to help control the muscles that are not related to the birthing process, during which only the uterine muscles are contracted and are beyond control. If unrelated muscles are tense or in spasm, the body will unnecessarily lose oxygen and requires more energy (Simkin & Bolding, 2004).

In addition, nurses should explain the guideline on natural childbirth service provision to the obstetricians. If complications or any other abnormality are detected, both with the mothers themselves and with the fetus, nurses need to report the obstetricians immediately to ensure that they receive the needed treatment and care (Krticharoen, Phon-In, & Pongpaiboon, 2012).

Concepts to promote natural childbirth and application of the concepts at a secondary healthcare setting

To promote natural childbirth at the delivery unit, Yangtalad Hospital has organized different activities to provide care to pregnant women in labor to cover the aforementioned six aspects. One key factor is arranging the pregnant women in an upright position and supporting their body movements. Different positions that can be used are the following (Delivery Unit, Yangtalad Hospital, March 2014):

1. Standing up or walking: This increases the pregnant women's comfort, particularly during the first stage of labor. The duration of labor will be reduced, and uterine contractions will be more effective. When they are entering the first stage of labor, pregnant women should be encouraged to stand up and to walk back and forth. They should bend forward when they experience uterine contractions, and they may lean back on a wall.

2. Squatting: This is the position that maximizes pregnant women's physiological condition because it allows the vagina to open widely, with the head of the fetus pressing on the vagina by the gravity.

3. Sitting and bending forward: This position can be used during labor as it helps increase the comfort of pregnant women, particularly during uterine contractions.

4. Kneeling down and bending forward: This position maximizes the pregnant women's comfort, especially when the dilation reaches six to ten centimeters. It also helps relieve pain in the lower back, and it enables the head of the fetus to turn into the pelvic area.

5. Stooping: Pregnant women lie down with their bottom raised during the phase of maximum slope. It helps lead the fetus to move forward, hence reducing the pressure on the cervix. Moving the thighs during uterine contractions helps accelerate dilation.

6. The positions that are suitable for the second stage of labor or the expulsive stage are squatting with someone who helps support the pregnant women on both sides, kneeling down or crawling, and lying down with the head raised high and with the hands under the knees that are pulled toward the body. Changing positions during the second stage of labor should only be done in accordance with the needs of pregnant women.

Benefits of Promotion of Natural Childbirth

The child delivery unit of Yangtalad Hospital has been offering natural childbirth services to pregnant women with a low risk for a certain period. Based on such service provision, benefits of natural childbirth for postpartum mothers and infants can be summarized as follows (Delivery Unit, Yangtalad Hospital, n.d.):

Benefits for mothers

1. Labor pain will not be intense, and pregnant women can appropriately cope with labor pain.

2. The duration of labor, the use of epidurals or painkillers, necessity to perform medical procedures, medical care costs, and anxiety during labor will all be decreased.

3. Postpartum mothers who have natural childbirth are more likely to have speedier recovery compared to postpartum mothers who have induced labor or a Cesarean section, and the good relationship among postpartum mothers, family members, and healthcare staffs is enhanced.

4. Postpartum mothers will be proud of their ability to endure pain and appropriately overcome problems that have occurred during labor.

Benefits for infants

In addition to benefits to mothers, natural childbirth benefits the infants because they can naturally develop and grow in their mother's womb. When it is due, infants who were born via natural vaginal birth without any instruments to assist the birth do not suffer from physical or mental disturbances. Furthermore, when the mothers do not receive any medication during labor, the newborn infants would be more alert and ready to suckle immediately.

Conclusion

Nursing care to promote natural childbirth is appropriate and able to serve needs of service users and their family, hence more satisfaction. Thus, basic concepts of natural childbirth should be applied to promote natural childbirth. In order for each hospital to become successful in offering natural childbirth services, some factors need to be taken into account including

determination and commitment, as well as collaboration among healthcare team members, and willingness to engage in knowledge exchange and mutual learning.

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Satisfaction with the Clinical Laboratory Service of the Second Year Nursing Students of Boromarajonani College of Nursing, Nakhonratchasima, Thailand[1]

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Abstract

This research aimed to study satisfaction levels with the service of the clinical laboratory of second year nursing students at Boromarajonani College of Nursing, Nakhonratchasima, Thailand. Participants were 109 of the 2nd year nursing students enrolled in 2012. The tools used to collect data were the demographic data questionnaire and the questionnaire of the satisfaction of the clinical laboratory service. The Cronbach's Alpha Coefficient, the reliability, was .96. Of the 109 participants, 90.80 percent were female. The average participant age was 20.06 years (S.D. = 1.44).

The results showed that participants had an average score of overall satisfaction at a moderate level (M = 3.40, S.D. = 0.56). Most participants were satisfied with the location at a moderate level (M = 3.66, S.D. = 0.52), at the service providers at moderate level (M = 3.51, S.D. = 0.65), and at the quality of service at a moderate level (M = 3.31, S.D. = 0.65). The participants had the lowest score of satisfaction with the process or step of the service at a moderate level (M = 3.09, S.D. = 0.76).

Background

The National Education Act of 1999, Thailand identified the guidelines of learning and teaching that one can learn and improve their full potential, and learners are the most important. Teaching and learning process must encourage learners to be able to naturally and fully improve their capability by learning the lessons learned from actual experiences, practical skills, as well as the atmosphere and materials of teaching that allow learners to learn to contribute to the knowledge and skills to work for happily living in the future (Office of the Education Council, 2016). The nursing laboratory is considered as a very important learning support for nursing education. The nursing laboratory services will provide not only the appropriate conditions to learn, but also considering the needs of users. The study of the

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satisfaction of our clients is one of the key processes for quality assurance of learning Support (Office of the Higher Education Commission, 2015).

Satisfaction is a result from the expression of the feelings of the clients. The evaluation of past experiences on the services, providers, the process of obtaining services, and the place of service was not an emotional evaluation, but it was feeling evaluation (Center for the Study of Social Policy, 2007). In addition, satisfaction is also a factor that indicates the quality of service. The satisfaction is based on the expectations of the clients and the perception of quality of service (Petruzzellis, D'Uggento, & Romanazzi, 2006), particularly the effectiveness of teaching and learning. It is a key factor influencing the overall satisfaction of students towards the college (Elliott & Healy, 2001). The prediction of overall satisfaction of nursing students in the Bachelor of Nursing program found that predicted variables of overall satisfaction were 1) academic development 2) Satisfaction with the facilities and services 3) Satisfaction with instructors and 4) Social interaction with peers (Liegler, 1997). The results on student's satisfaction on college services reflected the confidence of the students on the services which help promote and improve their education (Baykal, Sokmen, Korkmaz, & Akgun, 2005). Related factors of the client's satisfaction towards the quality of service included on-time service, comfort, caring, reliability, trustworthiness, provider's ability and professional, compassion, the service for client needs, ensuring, the availability, the facilities and equipment, and the nature of the service providers (Center for the Study of Social Policy, 2007).

The subject of the principles and techniques of nursing practice is a study on the basis of nursing practice during year two nursing students. Nursing practices in the nursing laboratory are extremely important for learning experiences; it gives students the confidence and skills to perform in the future. Thus, the nursing laboratory has to be efficient in helping to encourage the students to learn well. As well as it should be a conducive environment for learning. Service providing should meet the client's needs and their characteristics, otherwise, it will result in a failure of production's management (Godson, Goodman & Wilson, 2007).

The nursing laboratory is considered to be the heart of the Boromarajonani College of Nursing, Nakhonratchasima. It is used as the place for nursing practice for nursing students. For efficiently providing a nursing laboratory services, researchers studied satisfaction of nursing students on nursing laboratory services to determine the satisfaction level. This study will be a guide for the improvement of nursing laboratory services.

Objectives

To investigate the satisfaction of nursing students on nursing laboratory services.

Methodology

This research was a cross-sectional survey. Participants were 109, year two nursing students of the Boromarajonani College of Nursing, Nakhonratchasima. Tools were used to collect data including demographic data and a questionnaire of the satisfaction on the nursing laboratory

services that researchers developed based on theories related to the satisfaction on the nursing laboratory services. Cronbach's Alpha Coefficient was used to assess the reliability with the confidence of .96.

Researchers gave rights to the participants to accept or reject joining the study without impacting on their study and lives. The participants were kept secret. Information was presented as an overview. The researcher explained to the participants about the objectives, methodology, and procedures for data collection, benefits to receive from the study. The participants can ask questions anytime throughout the study.

The data was recorded and analyzed using computer software. The descriptive statistic was used to present data in frequency, percentage, mean, standard deviation. The analytic statistic used to test the research hypothesis was t–test.

Results

Of 109 participants, it was found that most participants were female (90.8 percent), male (9.20 percent), averaged age (M = 20.06, S.D. = 1.44). Level of satisfaction on the nursing laboratory services of nursing students in overall was at a moderate level (M = 3.39, S.D. = 0.56). The top three satisfaction levels were 1) Environment (M = 3.66, S.D. = 0.52) 2) service providers (M = 3.51, S.D. = 0.65), 3) quality of service (M = 3.31, S.D. = 0.65). The lowest level of satisfaction was on the process or procedure of the services (M = 3.09, S.D. = 0.76).

After comparing the satisfaction with the nursing laboratory services of year two nursing students between class A and class B, the results showed that the satisfaction with the nursing laboratory service of the two groups was not statistically significantly different. However, if comparing each dimension, the study showed that the satisfaction with the nursing laboratory service on service providers was statistically significantly different ($p < .05$) (Table 1).

Table 1 Compare the satisfaction with the nursing laboratory services of nursing students from two classes

Class	**Satisfaction with the Nursing laboratory services**		**Test**	
	Number (n)	**Mean**	**t**	**Sig**
Environment				
A	57	3.61	-.971	.273
B	52	3.70		
Service providers				
A	57	3.35	-2.025	.045
B	52	3.58		
Process or procedure of the services				
A	57	2.97	-1.505	.135
B	52	3.18		
Quality of the services				

A	57	3.30	-2.55	.799
B	52	3.33		
Overall satisfaction				
A	**57**	**3.31**	**-1.388**	**.168**
B	**52**	**3.45**		

Discussion

Satisfaction with the nursing laboratory service of the second year nursing students of Boromarajonani College of Nursing, Nakhonratchasima, Thailand was discussed as followed Satisfaction with the nursing laboratory service of the nursing students overall was at a moderate level (M = 3.40, S.D. = 0.56). The satisfaction in each dimension was clarified as followed: the environment (M = 3.66, S.D. = 0.52), service providers (M = 3.51, S.D. = 0.65), quality of service (M = 3.33, S.D. = 0.65), the process and procedures of service (M = 3.09, S.D. = 0.76). Different from the study of SiriratSadang et al. (2010), they studied the satisfaction of the nursing laboratory services of nursing students, Boromarajonani College of Nursing, Bangkok. The results showed that satisfaction with a high level was at 84.47 percent, and a moderate level of 15.53 percent. This perhaps was because the laboratory environment was a simulating clinical condition in a limited space. Also, during teaching and learning, there were too many lecturers and groups of students simultaneously resulting in an improper learning atmosphere and inadequacy of the teaching and learning devices. Moreover, the rooms are poorly ventilated, resulting in a subtropical climate.

Only two service providers were limited to prepare all kinds of equipment. Both of them had to prepare equipment for 11 nursing labs and 48 – 60 packs for a nursing lab. Nursing students must contact the nursing instructor before teaching at least one day to review the preparation of equipment to be used in the lab, and then come to contact the service providers to request for using the equipment and laboratory room. If there were items that meet requirements, nursing students could get the equipment instantly. But if there is a need for additional equipment, nursing students have to wait for 10 – 30 minutes, depending on the number of people waiting for service. If the return of the equipment was sometimes delayed, or some instructors had postponed their class, nursing students might not have enough equipment as required. This impacted on the quality of service and affected the level of satisfaction with the nursing laboratory service to be at moderate level.

The results can be implied that the nursing laboratory services need to be further improved in all dimensions. If considered in each dimension, the environment dimension should be improved for three things including 1) The number of tables and chairs (M = 3.30, S.D. = 0.87). 2) The layout of the facility (M = 3.52, S.D. = 0.72), and 3) The atmosphere in the laboratory to be better for study (M = 3.52, S.D. = 0.74). The service provider dimension needs to improve in these first three things including 1) The number of providers to be adequate for the services (M= 2.78, S.D. = 1.09). 2) Services that make an impression on the clients (M = 3.38, S.D. = 0.89), and 3) The good relationship from the service providers (M = 3.43, S.D. = 0.88). The process or procedure of the service dimension need to be improved for the first three things

including 1) Preparing of equipment to be ready to use (M = 2.72, S.D. = 1.07) 2) Promptness of services (M = 2.85, S.D. = 0.97) and 3) Reducing complexity of the process of Services (M = 3.01, S.D. = 0.98). The quality of service dimension need to be improved for the first three things including 1) The fast service (M = 2.93, S.D. = 0.98). 2) The modernization of equipment according to the actual and current use (M = 3.11, S.D. = 0.88), and 3) The prompt service providing (M = 3.27, S.D. = 0.91).

The comparison of the satisfaction with the nursing laboratory services of nursing students between the two rooms showed that the difference of satisfaction score with the nursing laboratory service of the nursing students between two groups was not statistically significantly different. If considered in each dimension, the difference of satisfaction of service providers between two groups was statistically significantly different ($p < .05$). This may be due to the nursing laboratory service in this institute are provided to the two groups of the students at the same time with two service providers. Nursing students for both groups had a laboratory class different times and different days with providing service from one or another service provider. The service provider is one of the factors that contribute to the satisfaction of service. The acceptances of service provider's characters affect access to services and satisfaction with the service (Price, Arnould, & Tierney, 1995). It could be said that the successful service must consist of providers with a great personality, inviting, and good manners (Greehirun, 2007).

Recommendations

The data from this study will be beneficial to educational institutions on the provision of nursing laboratory services particularly, the guidelines for the development of nursing laboratory services are as follows

1. The improvement of the environment in the nursing laboratory. It should have sufficient tables and chairs. If space is limited, the types of tables and chairs should be able to fold when not in use. There also should be a place to put things. More cabinets should be added for storage equipment with labeling. The type of equipment should be classified to comply with usage. There should be more air conditioning or fans in the laboratory to provide better air circulation for the students. The expansion of the room should be done in accordance with the number of students.
2. Development of provider: by increasing the number of service providers to meet the use of the students. In addition, providers should improve their personality to reflect their willingness to serve. As well as enhanced communication, both directly and indirectly to the students to establish conformity. Service providers should visit the nursing laboratory from other institutions to get more knowledge to improve their services.
3. Development of a process or procedure of the services provided: should take the principle of sufficiency, fast, and reduce complexity such as adding equipment to meet the student numbers and should have backup equipment in case a return is delayed. The introduction of computer systems to help with incoming and outgoing of loan equipment. The card shows lending - borrowing queue and so on. Should promote the

service access to the students to know the process and procedure of the service thoroughly.

4. Development of quality of service: There should be an increase in the number of service providers and the provision of adequate and modern equipment in alignment with nursing performance in the present.

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Qualities and Identities of New Nurse Graduates According to Thai Qualification Framework for Higher Education (TQF) in Perceptions of Stakeholders[1]

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Abstract

Evaluating new graduate qualities by stakeholders, such as supervisors and peers, is crucial in developing curriculum for educational institutions. This descriptive study is aimed at exploring expectations and perceptions of stakeholders toward qualities and identities of new nurses graduated. The sample was 140 administrators (i.e. hospital directors, nursing director, and head nurses) of 140 new nurses graduated from Boromarajonani College of Nursing, Nakhon Ratchasima (BCNM) in the 2015 academic year. Data were collected by using a questionnaire consisting of three parts, a) a demographic form to collect basic individual information, b) expectations to and perceptions of qualities based on Thai Qualification Framework of Higher Education, and c) expectations to and perceptions on identities of BCNM's graduates. Researchers developed the questionnaire from previous studies, had it validated by three experts in nursing education, and tried out for its reliability with 30 stakeholders. The Cronbach's alpha was excellent at .95. The questionnaires were mailed to their workplace. Demographic data, expectations on, and perceptions of qualities and identities of graduates were analyzed by using descriptive statistics. Differences between expectations and perceptions were examined by using t-test. Correlation between expectations and perceptions were examined by using Pearson's Correlation Coefficient.

The results showed the returning rate of 70.71 %. The stakeholders have rated their expectations to qualities of new graduates higher than what they have done for perceptions (M = 4.24, SD = .46, M = 3.45, SD = .56, respectively). Morality and ethics is rated highest both in expectations (M = 4.44, SD = .47) at the highest level and perceptions (M = 3.89, SD = .58) at medium level. Mathematical analytical thinking, communication skills, and information technology skills were least expected (M = 4.03, SD = 48 (at high level, while cognitive skills were least perceived (M = 3.11, SD = .67 (at medium level. In term of identities, the stakeholders have higher expectation to the new graduates' identities than perceptions (M = 4.60, SD = .55, M = 3.86, SD = .62, respectively). Their rated expectations highest in discipline skills (M = 4.82, SD = .38(at the highest level, but lowest in being beneficial for communities at the highest level. (M = 4.48, SD = .62(. After they have been working with the new graduates, they rated perception highest in humanized care (M = 3.80, SD = .69 (at high level, but lowest in discipline skills (M = 3.11, SD = .67 (at medium level. Average of expectations are the

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higher than perceptions in all aspects. The difference was statistically significant at the 0.05 level. There were significantly positive correlations between perceptions TQF and identities)r = .863, p = .000 (expectant TQF and identities)r = .802, p = .000 (

Based on the high expectation from healthcare professionals towards BCNNM graduates, nursing instructors should redesign core and extra curriculum to improve cognitive and discipline skills although the graduates are outstanding on morality, ethics, and humanized-care skills.

Keywords: Identities of nursing graduates, Qualities of nursing graduates, Thai Qualification Framework for Higher Education

Background

The Boromarajonani College of Nursing, Nakhon Ratchasima has brought the Thai Qualifications Framework for Higher Education (TQF) to organize teaching and learning. The framework identifies 6 skills which are very important for learners comprising of 1) Ethics and moral skills 2) Knowledge skills 3) Cognitive skills 4) Interpersonal skills and responsibility 5) Numerical analysis, communication and information technology skills 6) professional practical skills (Bachelor of nursing science program (reform program 2009), 2009) In addition, the college has determined that the graduate's identity with expectation upon post-graduation. Graduates will be able to operate effectively and in accordance with the expectation of society.

Graduate tracking helps to know the perception of the graduate stakeholders towards the quality and identity of graduates who have graduated from the Boromarajonani College of Nursing, Nakhon Ratchasima along with their comments and recommendations. This information is useful to implement improvements and to plan to teach and to learn to meet graduate attributes. Thus, it is interesting to study the perceptions and expectations of the graduate stakeholders to implement results and to improve and develop curriculum in the future.

The objectives

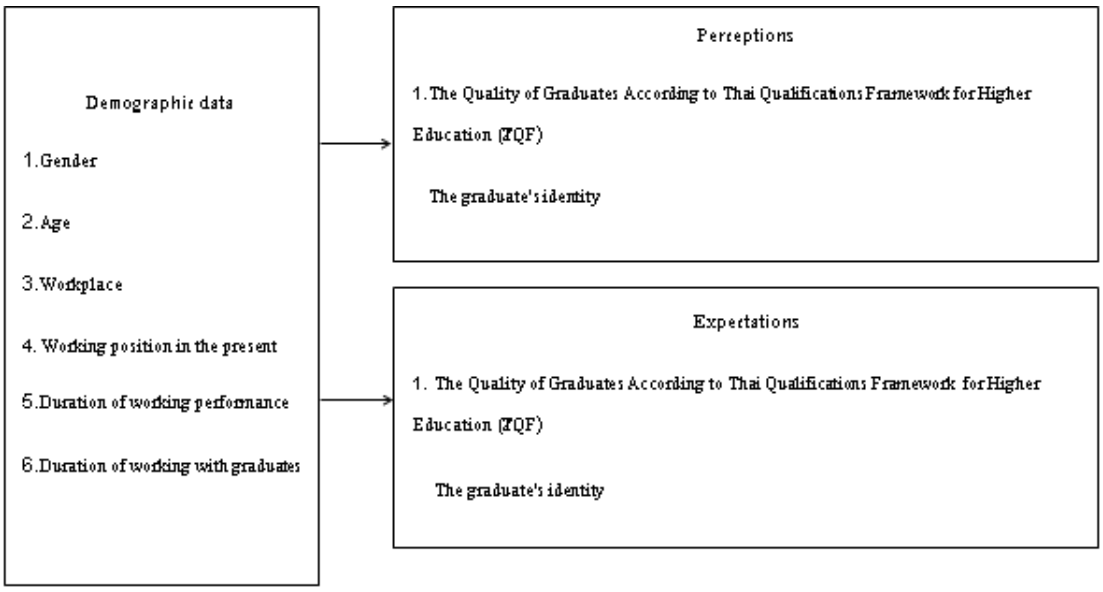
• To investigate perceptions and expectations of graduate stakeholders towards the quality of graduates according to Thai Qualifications Framework for Higher Education (TQF)

•To investigate perceptions and expectations of graduate stakeholders towards quality of graduates according to graduate's identity

•To study the differences in perceptions and expectations of graduate stakeholders according to Thai Qualifications Framework for Higher Education (TQF) and graduate's identity

•To study the relationships between perceptions and expectations of graduate stakeholders according to Thai Qualifications Framework for Higher Education (TQF) and graduate's identity

The study framework



The study hypothesis

•Mean of perceptions and expectations towards the quality of graduates according to Thai qualifications framework for higher education (TQF) and graduate's identity are different

•Mean of perceptions and expectations towards the quality of graduates according to Thai qualifications framework for higher education (TQF) and graduate's identity are related

Methodology

This study was a descriptive research.

Populations

Populations in this study were graduate stakeholders who were direct graduate commanders (hospital directors or head of nursing departments or the head of a ward). Participant numbers were calculated using a ratio of graduates: graduate stakeholders (1:1). With 140 graduates, it formulated 140 participants.

Study tools

To acquire the results of the study, a questionnaire of the quality of graduates according to Thai qualifications framework for higher education (TQF) and graduate's identity as Recognition by Graduates stakeholders consisting of 3 parts was used.

Part 1 Demographic data comprising of gender, age, workplace, duration of working performance, and duration of working with graduates

Part 2 The questionnaire of the quality of graduates according to Thai qualifications framework for higher education (TQF) as recognition by graduated stakeholders. The questionnaire was a Likert scale including 6 aspects and 35 items. The first aspect was ethics and moral skills consisting of 8 items. The second aspect was knowledge skills comprising of 6 items. The third aspect was cognitive skills including 6 items. The forth aspect was interpersonal skills and responsibility consisting of 4 items. The fifth aspect was numerical analysis, communication and information technology skills comprising of 6 items. The last aspect was practical professional skills including 5 items.

Part 3 The questionnaire of graduate's identity as recognition by graduate's stakeholders comprising of the quality of graduate's identity according to perceptions and the quality of graduate's identity according to expectations. The questionnaire was a Likert scale consisting of 4 aspects with 16 items. The first aspect was good performance including 5 items. The second aspect was discipline comprising of 4 items. The third aspect understood humanity including 4 items. The last aspect was the benefit to the community consisting of 3 items.

Part 2 and 3 have criteria as at least (1) to at most (5) which can be interpreted as following

Averaged score at 4.50 - 5.00 means quality as perceptions/ expectations at the highest
Averaged score at 3.50 - 4.49 means quality as perceptions/ expectations at high
Averaged score at 2.50 - 3.49 means quality as perceptions/ expectations at moderate
Averaged score at 1.50 - 2.49 means quality as perceptions/ expectations at low
Averaged score at 1.00 - 1.49 means quality as perceptions/ expectations at the least

Assessment of research tools

The content validity was approved by 3 experts. The questionnaires were tested by 30 people who had similar qualifications. Cronbach's alpha coefficient was used to test for reliability.

Protecting the rights of participants

Researchers protected the rights of participants by submitting the research proposal to the Ethics committees of Boromarajonani College of Nursing, Nakhon Ratchasima. After getting approval from the committees, the researchers provided the research information to the

participant and asked for the consent form from participants. The researchers kept data secretly and reported data anonymously.

Data collection

•Submit a research proposal to the ethic committees of the Boromarajonani College of Nursing, Nakhon Ratchasima
•Researchers created questionnaires then tested for validity and reliability. Content validity was approved by 3 experts. Reliability was tested by 30 people with similar qualifications as participants. Cronbach's alpha coefficient was applied for the reliability test.
•Collecting data
•Analyze data

Data analysis

The researchers analyzed data using a computer with the certain program.

•Demographic data analyzed by using frequency, percentage, mean, and standard deviation

•Compared perception level and expectation level of graduate stakeholders by using Pair t – test if data was a normal distribution. The distribution of data was tested preliminary agreement by using Kolmogorov-Smirnov test

•The relation between perception and expectation was tested using Pearson's Correlation Coefficient if data was normally distributed. The distribution of data was tested preliminarily by using the Kolmogorov-Smirnov test. If the data was not normally distributed, the Kendall and Spearman test was applied

Results

The demographic data was revealed that most participants were female (93.9%), aged between 41-50 years (65.7%), worked at a community hospital (54.5%), were the head of a ward (68.7%), worked longer than 10 years (63.6%), and worked with graduates for 9 – 12 months (92.9%)

The quality of graduates according to Thai qualifications framework for higher education (TQF) found that graduate stakeholders had a higher expectation of the quality of graduates according to Thai qualifications framework for higher education (TQF) than perception when they had worked together (M = 4.24, S.D. = .46, M = 3.45, S.D. = .56) respectively. The most expectation of the ethics and moral skills was at the highest level (M = 4.44, S.D. = .47) while the most of the perceptions of this aspect were at a high level (M = 3.89, S.D. = .58). The least expectation for numerical analysis, communication and information technology skills was at a high level; whereas the least perception of cognitive skills was at a moderate level (M = 3.11, SD = .67) (Table 1)

Table 1 Mean, SD., order and sequence of the quality of graduates according to Thai qualifications framework for higher education (TQF) as recognition by graduate stakeholders

The quality of graduates	Perceptions				Expectations			
	Mean	SD.	Level	Order	Mean	SD.	Level	Order
1.Ethics and moral skills	3.89	.58	High	1	4.44	.47	High	1
2.Knowledge skills	3.33	.57	Moderate	5	4.13	48	High	5
3.Cognitive skills	3.11	.67	Moderate	6	4.14	.56	High	4
4.Interpersonal skills and responsibility	3.55	.69	High	2	4.29	.54	High	3
5.Numerical analysis, communication and information technology skills	3.34	.63	Moderate	4	4.03	.48	High	6
6.Professional practical skills	3.48	.65	Moderate	3	4.41	.62	High	2
Total	3.45	.56	Moderate		4.24	.46	High	

The quality according to graduate's identity found that graduate stakeholders had higher expectations towards the graduates than perceptions (M = 4.60, S.D. = .55, M = 3.86, S.D. = .62, respectively). The discipline aspect was expected at the highest level (M = 4.82, S.D. = .38). After the stakeholders had worked with graduates, they perceived that the graduates had an identity of the benefits to the community aspect at a high level (M = 3.80, S.D. = .69), and the discipline aspect at a moderate level (M = 3.11, SD = .67) (Table 2).

Table 2 Mean, SD., order, and sequence of graduate's identity according to stakeholder's perceptions

Graduate's identity	Perceptions			Expectations		
	Mean	SD.	Level	Mean	SD.	Level
1.Good performance	3.63	.64	High	4.50	.61	Highest
2.Discipline	4.24	.66	High	4.82	.38	Highest
3.Understanding humanity	3.80	.69	High	4.58	.60	Highest
4.Benefits to the community	3.76	.70	High	4.48	.62	High
Total	3.86	.62	High	4.60	.55	Highest

The difference between perceptions and expectations towards the quality of graduates according to Thai qualifications framework for higher education (TQF) revealed that the mean of expectation was statistically significantly higher than the mean of perception towards the

quality of graduates according to Thai qualifications framework for higher education (TQF) both overall and each aspect ($p < 0.05$) (Table 3).

Table 3 Comparison of the difference between perception and expectation towards the quality of graduates according to Thai qualifications framework for higher education (TQF) both overall and each aspect (N = 99)

The quality of graduates	Perceptions		Expectations		t	*p*-value
	M	SD.	M	SD.		
1.Ethics and moral skills	3.89	.58	4.44	.47	-7.973	.000
2.Knowledge skills	3.33	.57	4.13	48	-11.749	.000
3.Cognitive skills	3.11	.67	4.14	.56	-13.166	.000
4.Interpersonal skills and responsibility	3.55	.69	4.29	.54	-9.642	.000
5.Numerical analysis, communication and information technology skills	3.34	.63	4.03	.48	-9.868	.000
6.Professional practical skills	3.48	.65	4.41	.62	-10.828	.000
Total	3.45	.56	4.24	.46	-11.726	.000

The difference between perceptions and expectations towards the quality of graduates according to Thai qualifications framework for higher education (TQF) found that the mean expectation was statistically significantly higher than perception towards the quality of graduates both overall and each aspect *(p* <0.05) (Table 4).

Table 4 Comparison of the difference between the perception and expectation towards the quality of graduates both overall and each aspect (N = 99)

Graduate's identity	Perceptions		Expectations		t-test	*p*-value
	M	SD.	M	SD.		
1. Good performance	3.63	.64	4.50	.61	-10.360	.000
2. Discipline	4.24	.66	4.82	.38	-8.288	.000
3. Understanding humanity	3.80	.69	4.58	.60	-10.337	.000
4. Benefits to the community	3.76	.70	4.48	.62	-8.134	.000
Total	3.86	.62	4.60	.55	-10.075	.000

The relationship between the perceptions and expectations of the quality of graduates according to Thai qualifications framework for higher education (TQF) and graduate's identity found that the perception of the quality of graduates according to Thai qualifications framework for higher education (TQF) and the perception of graduate's identity were related in a linear pattern and the same direction (r=.863, *p*=.000). The relationship between the expectations towards the quality of graduates according to Thai qualifications framework for higher education (TQF) and the expectations towards the graduate's identity was statically significant related in the linear pattern and the same direction (r=.802, *p*=.000) (*p*= .01). However, the perceptions and the expectations towards the quality of graduates according to Thai qualifications framework

for higher education (TQF) and the perceptions and the expectations towards the graduate's identity was not related (Table 5).

Table 5 The relationship between the perceptions and the expectations towards the graduate's identity (N = 99)

Variables	Pearson Correlation (r)	*p*-value
-The perceptions of the quality of graduates according to Thai qualifications framework for higher education (TQF) - The perceptions of the quality of graduates according to the graduate's identity	.863	.000**
- The expectations of the quality of graduates according to Thai qualifications framework for higher education (TQF) -The expectations of the quality of graduates according to the graduate's identity	.802	.000**
-The perceptions of the quality of graduates according to Thai qualifications framework for higher education (TQF) - The expectations of the quality of graduates according to Thai qualifications framework for higher education (TQF)	.146	.149
- The perceptions of the quality of graduates according to graduate's identity - The expectations of the quality of graduates according to graduate's identity	.158	.119

**Correlation is significant at the 0.01 level (2-tailed)

Discussion

The level of the perceptions towards the quality of the graduates according to Thai qualifications framework for higher education (TQF) as graduate stakeholder perceptions in overall was moderate (M = 3.45, S.D. = .56). For each aspect, most aspects of those perceptions were moderate, but only ethics and moral skills and interpersonal skills and responsibility were at a high level. Whereas, the perception towards the cognitive skills was at moderate (M = 3.11, S.D. = .67). Consistent with the study of Watcharaviwat et al. (2005) who investigated in the graduates of Boromarajonani College of Nursing, Surat Thani, it was reported that graduate's stakeholders were satisfied with the quality of graduates overall at a moderate level. The basic and the professional competency were moderate, whereas the professional ethics was high. The study of Sariyakorn et al. (2005(followed nursing graduates of the Red Cross College of Nursing in2002 who took a course guided by the revised version of the curriculum, 1996(was reported that the stakeholders were satisfied with the quality of graduates in knowledge, academic ability at a moderate level; whereas ethics and moral skills and professional ethics were high.

The study of the Supasri & Kampan (2006(followed nursing graduates of the Boromarajonani College of Nursing. Trang in 2002, 2003 and 2004 revealed that the stakeholders were satisfied with graduate's ability of the professional ethics at the highest level. Gaewgoontol et al. (2011(studied the satisfaction of the graduate's working performance who graduated in the academic year of 2007 from the Boromarajonani College of Nursing, Nakhon Ratchasima. The study found that stakeholders were satisfied with the quality of graduates in the ethics and moral skills at the highest level. This research is also consistent with several other studies which studied the satisfaction of the performance of the graduates. These studies found that the stakeholders were satisfied with the quality of graduates in the ethics and moral skills and the professional ethics at a high level. (Jindakul & Katesakorn, 2006; Wanwilai & Warahus, 2005; Tanthasuwanna et al., 2005; Oopakiew et al., 2011) These studies showed that the overall and each aspect of graduate's quality were at a moderate level.

The explanation for this is that the stakeholders felt that the performance of the graduates was not great but also not terrible. Probably it is due to a not having a large enough period working with the graduates, which was in the range of 3- 12months. Stakeholders might interpret what they see in the graduate's working performance as they ever had experienced (Katawanit, 2003). Most of the graduate stakeholders are head nurses, aged 41- 50years who had been working for more than 10years. They, of course, have more experiences and a higher capability. Also, they recognized the working performances of the earlier graduates from the Boromarajonani College of Nursing, Nakhon Ratchasima that the overall and each aspect of their working performance quality were at a high level (Khongkhoontot, 2014.(The performance of the graduates may not meet the standards as their perceptions. The reason for having high level of the ethics and moral skills and professional ethics in the graduates can be explained by the teaching and learning in nursing had encouraged nursing graduates to be people with ethics and moral skills and professional ethics as defined in the learning outcomes according to Thai qualifications framework for higher education (TQF), nursing (Office of the higher education commission, 2009(, and the nursing and midwifery practice standard (2001) as announcement of Thailand nursing and midwifery council. In accordance with the section 7 (2) of the Professional Nursing and Midwifery Act (1985), and a revised version of the Professional Nursing and Midwifery Act (1997), all involved in the primary, secondary, and tertiary level of care (Thailand nursing and midwifery council, 2010). Moreover, cognitive skills perceived to be at moderate can be explained that graduates had critical thinking skill, problem-solving skill, the development of problem management skill, research or innovation skill at a low level. These skills need quite a long time to develop.

The expectations on the quality of graduates according to Thai qualifications framework for higher education (TQF) in each aspect and overall were at a high level (M = 4.24, S.D. = .46). Mean of expectation was higher than the mean of perception both each aspect and overall. The ethics and moral skills has been expected and perceived at high level (M = 4.44, S.D. = .47, M = 3.89, S.D. = .58, respectively). This can be explained that the graduate stakeholders expected the quality of graduates according to Thai qualifications framework for higher education (TQF) including six aspects can happen to high level for graduates who work full one-year. The quality of graduates currently is under the expectation of graduate's stakeholders. This means

they have not been satisfied with the quality yet. Probably due to graduate stakeholders have expectations based on their knowledge and experiences in the past (Sereerat, 1998: 47 cited in Samosornsuk, Koonkam, & Kanjanalak, 2013). Most graduate stakeholders were head nurses, aged 41-50 years, and had a period of working performance over 10 years, they, of course, had more experiences, the higher capability of working performance, success in working professionally, and had much interest in the nursing profession. It is possible that these people will have high expectations. (Harlarp, 1995:10-11; Sitthilertaroon, 1979: 177-179 cited in Haruothai, Paisanpanitkul, Wong suwansiri, & Niumsri, 2007)

Graduate stakeholders also had recognized the quality of working performance of the earlier graduates from the Boromarajonani College of Nursing, Nakhon Ratchasima in overall and each aspect at a high level. (Khongkhoontot, 2014). So it is possible that they expect the present graduates to have a high level of quality of work (Harlarp, 1995:10-11; Sitthilertaroon, 1979: 177-179 cited in Haruothai et al., 2007). The graduate stakeholders have expectations and perceptions on the ethics and moral skills at the same level. It can be explained that the graduate stakeholders felt satisfied with this quality very much and expected to get it more than other aspects. Perhaps due to the nurses, who played a key role in patient care and get closer to patients than other professionals and as was perceived by the public as "Angels in White" (Terakam, 2013). The ethics and moral skills and professional ethics were conducted as a standard for all nurses to abide by following the announcement of Thailand nursing and midwifery council on standards for nursing and midwifery (2001) (Thailand nursing and midwifery council, 2010).

The level of stakeholder perceptions towards the quality of graduates according to the graduate's identity in each aspect and overall was at high (M = 3.86, S.D. = .62). The level of stakeholder expectations towards the quality of graduates according to the graduate's identity in overall was at the highest level. (M = 4.60, S.D. = .55); whereas those of each aspect were at the highest level except the aspect of benefits to the community was at high level. Mean of expectation was higher than perception in overall and each aspect. Agreeable with Paowpong et al. (2012), they studied the opinion of people inside and outside the Boromarajonani College of Nursing, Nakhon Ratchasima towards the graduate's identity of the Boromarajonani College of Nursing, Nakhon Ratchasima itself. The study found that participants strongly agreed with the graduate's identity of the Boromarajonani College of Nursing, Nakhon Ratchasima at a high level. There were 3 aspects that had the highest mean including good performance, understanding humanity, and benefits to the community. This can be explained that graduates had an identity of working performance, having discipline, understanding humanity, and working for community benefits to meet employers' satisfaction.

The identity of the discipline was expected at the highest level (M = 4.82, S.D. = .38(. The identity of benefits to the community was very little expected at the highest level (M = 4.48, S.D. = .62(. While the identity of understanding humanity was very much perceived at a high level (M = 3.80, S.D. = .69(.The identity of the discipline was very low perceived at a moderate level (M =. 3.11, S.D. = .67(. The explanation of this is that the graduate stakeholders have focused much more on the discipline, so they desired the graduates with the most discipline.

They recently perceived that the graduates lack discipline over the other aspects. This may be due to the professional ethics as main conduct and a benchmark to assess what should or should not do. The discipline is a part of ethics (Terakam, 2013) and the learning outcome of the ethics and moral as identified in the Thai qualifications framework for higher education (TQF), nursing (The national higher education commission, 2009).

When compare the expectations to the perceptions, it was found that mean expectation was statistically significant higher than of perception towards the quality of graduates according to the Thai qualifications framework for higher education (TQF) in overall and each aspect (p<0.05). Zeithaml et al, (1990(said that the quality of service was a comparison of expectation to perception. If the perception aligns with expectation, that means good quality of service. However, if there is no alignment of these two, that means poor quality of service. The expectation towards the quality of graduates according to the Thai qualifications framework for higher education (TQF) is higher than perception in overall and each aspect. Consistent with the study of Nimanun (2010(, she studied the expectation and perception of patients towards quality of service for inpatient department of Sripat medical center, Chiang Mai University. The study found that mean expectation was higher than of perception in all aspects.

Inconsistent with the study of Jampada (2008), she studied the expectation and perception of the quality of service from the pharmaceutical community center, Chiangmai University and found that mean expectation was lower of perception in all aspects. Also this study was not accordance with the study of Ngorsakul (2003(, she investigated the level of expectation and perception of the clients at the dental department, health science center of Burapa University. She found that the quality as the perception was statistically significantly higher than of expectation in overall and each aspect (p=001). The study results also were not in agreement with the study of Tanpradit (2008). She studied the expectations and perceptions of customers towards the quality of after-sales service, IngramMicro company (Thailand). The study showed that the customer perceptions of the quality of after-sales service in overall were statistically significantly higher than of expectations (p=.01). This can be explained that the quality of graduate's performance was poor and not as stakeholder's expectation. The aim was to have a better quality of graduates. Person's expectations are always high or even higher, if they ever succeed in the work (Halarp, 1995:10-11; Sitthilertaroon, 1979: 177-179 cited in Haruothai et al., 2007). It is possible that the majority of graduate stakeholders hold the position of head nurses, aged 41-50 years, and worked for at least 10 years. It showed that they succeeded in working performance, so, they expected to have a higher quality of graduates. (Halarp, 1995:10-11; Sitthilertaroon, 1979: 177-179 cited in Haruothai et al., 2007).

The perception of the quality of graduates according to the Thai qualifications framework for higher education (TQF) and the graduate's identity was correlated with a linear pattern and the same direction (r=.863, p=.000). Also, the expectation of the quality of graduates according to the Thai qualifications framework for higher education (TQF) and the expectation of graduate's identity was significantly statistical correlated in a linear pattern and the same direction (r=.802, p=.000).The perceptions and the expectations towards the quality of graduates according to the Thai qualifications framework for higher education (TQF), and the perceptions and

expectations towards the graduate's identity were not associated It can be explained that the quality of graduates according to the Thai qualifications framework for higher education (TQF), nursing which provided 6 learning outcomes expecting to occur in nursing graduates including ethics and moral skills, knowledge skills, cognitive skills, interpersonal skills and responsibility, numerical analysis, communication and information technology skills, and professional practical skills. (The national higher education commission, 2009). The identity of the graduates of Boromarajonani College of Nursing, Nakhonratchasima has four aspects including good performance, discipline understanding humanity, and benefits to the community. These quality aspects aim to form graduates to get the better the performance comparable to professional skills. Discipline identity is comparable with ethics and moral skills. The identities of the understanding humanity and benefits to the community are comparable to practical professional skills according to the Thai qualifications framework for higher education (TQF). It is possible that the graduate stakeholders had perceptions and expectations in the same direction.

Recommendations

After the evaluation of the quality of the graduates of Boromarajonani College of Nursing, Nakhonratchasima according to the Thai qualifications framework for higher education (TQF) found that the quality of graduates is outstanding in ethics and moral skills, which is a qualification that has been highly anticipated by health professionals. Moreover, the graduates also showed the identity of the understanding humanity which is one of the fourth identities of the nursing graduates of Boromarajonani College of Nursing, Nakhon Ratchasima. Instructors should design courses and extracurricular activities to encourage students to develop cognitive skills and identity of discipline. In the future, it is imperative to do the quality research and the identity of nursing graduates over the country to provide a clear picture of nursing in Thailand. Thai nurses are trained to be ready to serve patients in the 21st century.

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Factors Related to Rapid Repeat Pregnancy among Pregnant Adolescents[1]

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Background and Objectives: Rapid repeat pregnancy among adolescents, a pregnancy occurring within two years after previous pregnancy, affects health and could become social and public health concerns. This study is aimed to determine factors related to the rapid repeat pregnancy among adolescents.

Methods: This cross-sectional descriptive study conducted on 70 multiparous adolescents who attended the prenatal care unit at Maharat Nakhon Ratchasima Hospital. The data was collected during January to April 2013 by using questionnaires for collecting demographic data. The data was analyzed by using the descriptive statistics and binary logistic regression.

Results: Among the sample, thirty-four (48.57%) participants have rapid repeat pregnancy. Their average age is 17.89 years old (SD = 1.12), and the average age of the first pregnancy is 16.12 years old (SD = 1.70). Eighty-seven (87 %) are having the second pregnancy. The study reveals that there are five factors related to the rapid repeated pregnancy, i.e. the age (OR = 5.231; 95%CI = 1.023 – 26.736), the age when they had the first pregnancy (OR = 0.333; 95% CI = 0.121 – 0.916), a history of abortion (OR = 0.087; 95% CI = 0.028 – 0.267), the educational level (OR = 0.261; 95% CI = 0.081 – 0.840), and a number of living child (OR = 3.683; 95% CI = 1.269 – 10.685). A rapid repeat pregnancy tends to occur in adolescents at the age of 17 – 19 years old with the history of abortion or loss of a baby, completing the educational level no more than grade 9, and having at least one living child.

Conclusions and implications: The study suggests that a rapid repeat pregnancy in adolescents could be prevented by proactively giving sexual education to all early adolescents. A future study should be conducted with a larger sample size for being more representative of the population.

Key words: Pregnant Adolescents, Repeat pregnancy, Rapid repeat pregnancy

Preface

[1] Financial support for this research is provided by Boromratchonnani Nursing College, Nakhonratchasima. 177 Changphuak Road, Tambon Nai Mueang, Amphoe Mueang Nakhonratchasima, Nakhonratchasima, 30000 Thailand. Email: angsana_2523@hotmail.com

The World Health Organization advises that the criteria of pregnant adolescents aged under 20 years old shall not be more than 10% from every group of ages (McIntyre, 2006) of pregnant women. Currently, statistics reveals that in Asia, the highest adolescent birth rate occurs in Thailand, and this is recognized as the world's second highest rate. Similarly, the Department of Health, Ministry of Public Health found that from all pregnancies, 22.8 % are pregnancies in adolescents, according to which 79% of them are first-time mothers, and 21% of them have repeat pregnancy. (Cholatis Urairerkkul, 2011).

After the first pregnancy termination, adolescent mothers are likely to have a rapid repeat pregnancy, meaning the interval from each pregnancy is less than two years after the first pregnancy termination (Boardman, Allsworth, Phipps & Lapane, 2006). This incident has become a public health and society's significant concerns, and urgently requires proper solutions. In other countries, a research study reveals that the average age of pregnant adolescents are at 17.8 years old (de Fátima Rato Padin, 2009). The World Health Organization recommends that after birth of the first child, the recommended interval to the next pregnancy is at least two years, or after six months from the pregnancy termination, in order to recover the mother's health, prevent complications to the mother's and the children's health conditions, and allow the first child to fully receive care after birth (Shah & Portela, 2006).

Many health problems are particularly associated with complications of pregnancy during adolescence. These include anaemia. Teen mothers are likely to encounter anaemia during pregnancy more than mothers aged 20 to 35 years old (Cholatis Urairerkkul, 2011; Mahavarkar, Madhu, & Mule, 2008). In a case that a repeat pregnancy interval is less than six months after pregnancy termination, the risk of anaemia is more prevalent (Conde-Agudelo, Belizan, Breman, Brockman, & Rosas-Bermudez, 2005). For a repeat pregnancy in adolescents within the duration of fewer than 18 months, preterm delivery and low birth weight are likely to occur (Partington, Steber, Blair & Cisler, 2009). It is also found that there is a great risk of perinatal mortality (Reime, Schuching, & Wenzlaff, 2008). In addition, children of adolescent mothers face a risk of being abandoned and receive poor caring (El-Kamary et al., 2004), which adversely affect these children in the long run.

Not only has the adolescent pregnancy created an impact on the health of the children and the adolescent mothers, the young mothers' feelings and social status have also been impacted. Adolescent mothers who have repeat pregnancy within two years tend to have high stress from raising children (EL-Kamaey et al., 2004), and suicidal attempt is found more than the adolescent mothers without repeat pregnancies (Pfitner, Hoff & McElligott, 2003; Winship, 2009). Repeat pregnancy impacts the pregnant adolescent girls regarding their education and social aspects. That said, the teen mothers are likely to be cut off from continuing their study and it resulted in fewer chances to graduate (Raneri & Wiemann, 2007). In the long run, in terms of social perspectives, the adolescent mothers with repeat pregnancies are poor and require more of the government welfares (Manlove, Mariner & Papillo, 2000). From the above impacts in all aspects, rapid pregnancy among adolescent mothers requires urgent cause findings, preventive measures and proper solutions.

Research studies in foreign countries reveal that certain personal factors which are associated with repeat pregnancy include the followings. Research found that women who have a history of pregnancy termination, older husband, and have the first child at the maternal age below 17 years old are likely to have repeat pregnancy (Boardman et al., 2006). Repeat pregnancy is also found in women who do not have a regular birth control after giving birth (Coard et al., 2000), and women who complete compulsory education, and do not continue to higher education, or leave school after giving birth to the first child (Raneri & Wiemann, 2007). The circumstance is also found in women who marry or cohabitate with new husband (Rubin & East, 1999), or have a family in which her mother, siblings or cousins were adolescent mothers, or have school friends who are also pregnant (Raneri & Wiemann, 2007). Currently in Thailand, there are research studies about factors associated with repeat pregnancy among Thai adolescents. For example, Wisarutkasempong (2014) found that among adolescents, the woman's current age, the husband's age which is older than the woman and the positive attitudes towards the pregnancy are associated with the intention of having repeat pregnancy, and among this group mostly a pregnancy is repeated within two years after the first pregnancy termination.

Therefore, it is very important to find the root causes and related factors of a prevention of repeat pregnancy or an extension of repeat pregnancy to occur after the mothers' adolescent age range, especially the repeat pregnancy that is rapid due to a too-short pregnancy interval. It affects adolescent mothers and their children adversely. From a review of literature, most of the research studies on the factors associated with repeat pregnancy among adolescents are conducted in foreign counties where their social conditions and cultures are different from Thailand. To date, research studies in Thailand about the factors related to rapid repeat pregnancy among adolescent girls are quite limited. As a result, the researchers found it interesting to study about some selected factors that affect rapid repeat pregnancy among adolescent mothers. The findings enhance the midwifery and reproductive health practitioners' understanding about the factors which are associated with the incident and enable them to design proper services for prevention of rapid repeat pregnancy among adolescent mothers accordingly.

Research methodology

This research is a cross-sectional descriptive study conducted among young women aged below 20 years old, who, at the time of the study, have a second pregnancy, and attend the antenatal care unit at Maharat Nakhon Ratchasima Hospital, during January to April 2013, totaling 70 women. These women are voluntarily willing to involve in the research study. The research project has been granted permission by the Institutional Review Board of Human Research, Maharat Nakhon Ratchasima Hospital. Data is collected by using questionnaires requesting personal information totaling 9 questions, i.e. the current age, the age as when having the first pregnancy, times of pregnancy, a number of living child, the educational level, the history about pregnancy termination, the history about birth control practice, the marital status, the age of the husband, close relatives/persons who once were adolescent mothers, and a number of living child. Data is analyzed using frequency, percentage, average and standard deviation. Data is compared between those acquired from women with rapid repeat pregnancy and those

with non-raid repeat pregnancy by using Chi-square test. Upon the analysis of variables where the P-value is less than 0.05 ($p<0.05$), data is then analyzed using a Binary Logistic Regression. The analysis is shown in the Odds ratio (OR) at 95% confidence interval.
Study results: Table 1 shows that the study reveals that among the samples, 34 women have rapid repeat pregnancy. The average age of the rapid pregnancy group is 17.89 years old (SD=1.2). A majority of them (76.5%) are in the late adolescent age range. Fifty percent (50%) of them have the first pregnancy at the average age of 16.12 years old (SD=1.7). Seventy three point five (73.5%) of them have a history of pregnancy termination or losing a child. Seventy three point five percent (73.5%) of them do not take birth control or take birth control but not regularly before this pregnancy. The average age of the husband for the sample group is 23.11 years old (SD=4.77). Among those husbands, ninety four points one percent (94.1) of them are at least four years older than the pregnant women. Fifty percent (50%) of these women are pregnant with the new husbands. Seventy nine point four percent (79.4%) have close relatives/persons who once were adolescent mothers. Sixty one point eight percent (61.8%) of them completed compulsory education or lower. Lastly, before this pregnancy, fifty two point nine percent (52.9%) of which have at least one child.

Table 2 shows the analysis of personal information from totaling nine points, i.e. the current age, the age as when having the first pregnancy, the history about pregnancy termination, the history about birth control practice, the marital status, the age of the husband, close relatives/persons who once were adolescent mothers, the educational level and a number of living child (children). Such data of a group of women with rapid repeat pregnancy is analyzed comparing to such data of women with non-rapid repeat pregnancy using Chi-square test. The study reveals that, among these two groups, the current age ($p=0.032$), the age as when having the first pregnancy ($p=0.030$), the history of pregnancy termination or losing a child ($p=0.000$), the educational level ($p=020$), and a number of living child (children) ($p=0.014$) are different with statistical significance at p-value less than 0.05 ($p<0.05$).

Table 3 shows the analysis of factors which are associated with rapid repeat pregnancy using a Binary Logistic Regression, according to which the data is shown in Odds ratio (OR) at 95% CI. The study reveals that the current age is associated with rapid repeat pregnancy at 95% CI (OR=5.231; 95%CI=1.023 – 26.736). The late adolescent mothers (aged between 17-19) have a chance to have rapid repeat pregnancy 5.231 times higher than the middle-aged adolescents (aged between 14 to 16). The age as when having the first pregnancy is associated with rapid repeat pregnancy at 95% CI (OR=0.333; 95%CI=1.121 – 0.916). That said, adolescent mothers who are pregnant during a very young age (14-16 years old) have a chance to have rapid repeat pregnancy 0.333 times more than the late adolescents (17-19 years old). The history of pregnancy termination is associated with rapid repeat pregnancy at 95%CI (OR=0.087; 95%CI=0.028 – 0.267). Adolescent mothers who have a history of pregnancy termination have a chance to have rapid repeat pregnancy 0.087 times more than adolescent mothers who do not have a history of pregnancy termination. The educational level is associated with rapid repeat pregnancy at 95%CI (OR=0.261; 95%CI=081 – 0.840). Adolescent mothers who complete compulsory education level or lower have a chance to have rapid repeat pregnancy 0.333 times more than the adolescent mothers who graduate from an educational level higher than the

compulsory level. Lastly, some living child (children) is associated with rapid repeat pregnancy at 95%CI (OR=3.683; 95%CI=1.269 – 10.685). That is, adolescent mothers who already have one child before this pregnancy have a chance to have rapid repeat pregnancy 3.683 times more comparing to the adolescent mothers who never have a child before.

Discussions

The present age of the mother is associated with rapid repeat pregnancy. This is in line with an existing finding according to which it is found that among adolescents who did not practice a birth control or take birth control but not regularly after termination of the first pregnancy, they are likely to have rapid repeat pregnancy when reaching late adolescent age range (Coard, Nitz & Felice, 2000). Taking into consideration psychosocial qualities of the late adolescents, they are likely to be rational, responsible and have stable emotion similarly to such qualities of adults (Sieving & Stevens, 2000). Therefore, it is not unusual for them to have a repeat pregnancy. The study conducted by Rowlands (2000) supports this finding. Rowlands (2000) found that adolescent mothers who have repeat pregnancy are likely to have wanted to be successful in creating a warm and loving family more than getting back to school. It reflects that these adolescent mothers have positive attitudes towards being an adolescent mother (Stevens-Simon et al., 1996) so that they intend to have repeat pregnancy. They believe that having children when they are adolescents create positive rather than negative outcomes. Similarly, Wisarut Kasempong (2014) found that the late adolescents have positive attitudes towards repeat pregnancy. As a result, adolescent mothers tend to have repeat pregnancy with intention during their adolescent age.

The age of the mothers having the first pregnancy is associated with rapid repeat pregnancy. This study reveals such finding. That said, fifty percent of the research sample were pregnant for the first time, or they gave birth to the first child since the very young age (14 to 16 years old). This corresponds to the studies conducted by Boardman et al. (2006) and Crittenden et al. (2009) which found that adolescent mothers who gave birth to the first child at the age below 17 tend to have rapid repeat pregnancy. Furthermore, this study supports the finding of Coard et al. (2000) which found that adolescent mothers who gave birth to the first child at the age 16 or below are likely to have repeat pregnancy within two years, or within their adolescent age. In other words, upon the adolescent mothers' pregnancy of or giving birth to the first child, the younger the mothers are, the more chance of a rapid repeat pregnancy occurs.

Pregnancy termination history is found to be associated with rapid repeat pregnancy. As pregnancy termination brings to the mother's sadness and sorrow, the mothers, therefore, expect to be pregnant again. This corresponds to the existing studies, i.e. adolescent mothers who have pregnancy termination history or lost their babies from the past pregnancy have some relation to repeat pregnancy during when they are still in adolescent age (Coard et al., 2000; Pfitner et al., 2003; Boardman et al., 2006). In addition, a majority of the research sample already finished school, did not continue for further education and got married. These factors affect the decision to have repeat pregnancy of this group of adolescent mothers.

The educational level is associated with rapid repeat pregnancy also. It can be explained from the incident that the adolescent mothers complete the fundamental and compulsory education level, but do not continue to study in the upper levels. As a result, they tend to have pregnancy again within a shorter period than the teen mothers who graduate from the levels higher than compulsory ones. This is in line with the finding of the study conducted by Kalmuss and Namerow (1994). They found a relation between the adolescent mothers who do not get back to school after giving birth to the first child and a rapid repeat pregnancy within two-year duration. It reflects that the condition that adolescents being in the education system can prolong a rapid repeat pregnancy to be after the adolescent age. It is in accordance with the study of Raneri and Wiemann (2007). The said study found that adolescent mothers who do not have repeat pregnancy are likely to get back to study more than adolescent mothers who have repeat pregnancy.

Some living children is associated with rapid repeat pregnancy. It is found that a majority of adolescent mothers (52.9%) already has at least one child. It reflects that adolescent mothers have positive attitude about having children. The positive attitude towards being adolescent mothers is one of the factors leading to repeat pregnancy. It is revealed by a qualitative study conducted by Herrman (2006) about repeat pregnancy of adolescent mothers. Most of them believe that having children during their age of adolescence bring them a goal in their work, freedom from their parents, and it also improves their relationship with husband, etc. From this study, it also shows that after a majority of adolescent mothers finish school, they do not continue their study. Therefore, having one more child does not affect their school or study aspects.

However, the limitation on this study research is that the questionnaires of this study are developed from a review of foreign literature. Some questions might not be in accordance with the Thai context in respect of the Thai adolescent mothers. In addition, the size of the sample group of this study is relatively small and it might lead to limitation in finding some significant aspects in some variables. Furthermore, the study is conducted only in the hospital's antenatal care unit, which creates a limitation to make reference to other groups of the population. It can be recommended that this study is conducted in larger groups of samples, and in the antenatal care units in other hospitals which have more variety groups of populations. The midwifery or reproductive health practitioners should provide sex education and knowledge on birth control to those who are entering to adolescent age in order to prevent pregnancy among adolescents.

Table 1 General information of the samples (N=70)

Information	**Rapid Repeat Pregnancy**		**Total Quantity (%)**
	Yes (N = 34) Quantity (%)	**No (N =36) Quantity (%)**	
1. Age (Currently)			

Information	Rapid Repeat Pregnancy		Total Quantity (%)
	Yes (N = 34) Quantity (%)	No (N =36) Quantity (%)	
(Minimum 15 years old, maximum at 19 years old 15 , $\bar{X}$ = 17.89, SD=1.12) - Middle adolescents (14-16 Years old) - Late adolescents (17-19 Years old)	8 (23.5) 26 (76.5)	2 (5.6) 34 (94.4)	10 (14.3) 60 (85.7)
2. Age as when having the first pregnancy (Minimum 14 years old, maximum 18 years old, $\bar{X}$ = 16.12, SD=1.7) - Middle adolescents) 14-16 Years old(- Late adolescents) 17-19 Years old(	 17 (50.0) 17 (50.0)	 27 (75.0) 9 (25.0)	 44 (62.9) 26 (37.1)
3. History about pregnancy termination/ losing a child - Have a history of pregnancy termination/losing a child - Does not have a history of pregnancy termination/losing a child	 25 (73.5) 9 (26.5)	 7 (19.4) 29(80.6)	 32 (45.7) 38 (54.3)
4. Times of pregnancy - Second pregnancy - Third pregnancy - Fourth pregnancy	 26 (76.5) 8 (23.5) 0	 35 (97.2) 0 1 (2.8)	 61 (87.1) 8 (11.4) 1 (1.4)
5. History about birth control - Regularly practice birth control - No birth control or practice birth control but not regularly	 9 (26.5) 25 (73.5)	 15 (41.7) 21 (58.3)	 24 (34.3) 46 (65.7)
6. Marital status - Same husband - New husband	 17 (50.0) 17 (50.0)	 17 (47.2) 19 (52.8)	 34 (48.6) 36 (51.4)
7. Age of the husband)Maximum 17 years old, maximum 43 years old, $\bar{X}$ 23.11 =Years old , SD = (4.77 - Younger than or equal to the pregnant woman - Older than the pregnant woman	 2 (5.9) 32 (94.1)	 5 (13.9) 31 (86.1)	 7 (10.0) 63 (90.0)
8. Having close relatives/persons who once were adolescent mothers - Yes	 27 (79.4)	 26 (72.2)	 53 (75.7)

Information	Rapid Repeat Pregnancy		Total Quantity (%)
	Yes (N = 34) Quantity (%)	No (N =36) Quantity (%)	
- No	7 (20.6)	10 (27.8)	17 (24.3)
9. Educational level (compulsory education at Matthayom 3 (Grade 9 in junior high school)			
- Lower or equivalent	21 (61.8)	31 (86.1)	52 (74.3)
- Higher than compulsory level	13 (38.2)	5 (13.9)	18 (25.7)
10. Having a living child (children)			
- Yes	18 (52.9)	29 (80.6)	47 (67.1)
- No	16 (47.1)	7 (19.4)	23 (32.9)
11. Age as when having the first pregnancy (Minimum 14 years old, maximum 18 years old, $\overline{X}$ = 16.12, SD=1.7)			
- Middle adolescents (14-16 Years old)	17 (50.0)	27 (75.0)	44 (62.9)
- Late adolescents (17-19 Years old)	17 (50.0)	9 (25.0)	26 (37.1)

Table 2 Analysis of Variables based on Chi-square test (N=70)

Variable	Rapid Repeat Pregnancy		Chi-square test	p-value
	Yes (n = 34) (%)	No (n =36) (%)		
1. Age (Currently)				
- Middle adolescents (14-16 Years old)	23.5	5.6		
- Late adolescents (17-19 Years old)	76.5	94.4	4.613	0.032*
2. Age as when having the first pregnancy				
- Middle adolescents (14-16 Years old)	50.0	75.0		
- Late adolescents (17-19 Years old)	50.0	25.0	4.681	0.030
3. History about pregnancy termination/ losing a child				
- Have a history of pregnancy termination/losing a child	73.5	19.4		
- Does not have a history of pregnancy termination/losing a child	26.5	80.6	20.611	0.000*
4. History about birth control				
- Regularly practice birth control	26.5	41.7		
- No birth control or practice birth control but not regularly	73.5	58.3	1.792	0.181

Variable	Rapid Repeat Pregnancy		Chi-square test	p-value
	Yes (n = 34) (%)	No (n =36) (%)		
5. Marital status				
- Same husband	50.0	47.2		
- New husband	50.0	52.8	0.054	0.816
6. Age of the husband				
- Younger than or equal to the pregnant woman	5.9	13.9		
- Older than the pregnant woman	94.1	86.1	1.245	0.264
7. Having close relatives/persons who once were adolescent mothers				
- Yes	79.4	72.2		
- No	20.6	27.8	0.492	0.483
8. Educational level (compulsory education at Matthayom 3 (Grade 9 in junior high school)				
- Lower or equivalent	61.8	86.1		
- Higher than compulsory level	38.2	13.9	5.426	0.020*
9. Having a living child (children)				
- Yes	52.9	80.6		
- No	47.1	19.4	6.044	0.014*

Table 3 Analysis of Binary Logistic Regression by calculating (OR) at 95%CI

Variable	Rapid Repeat Pregnancy		OR	95% CI
	Yes (%)	No (%)		
1. Age (Currently)				
- Middle adolescents (14-16 Years old)	23.5	5.6		
- Late adolescents (17-19 Years old)	76.5	94.4	5.231	1.023 – 26.736
2. Age as when having the first pregnancy				
- Middle adolescents (14-16 Years old)	50.0	75.0		
- Late adolescents (17-19 Years old)	50.0	25.0	0.333	0.121 – 0.916
3. History about pregnancy termination/ losing a child				
- Have a history of pregnancy termination/losing a child	50.0	75.0		
-Does not have a history of pregnancy termination/losing a child	50.0	25.0	0.087	0.028 – 0.267

Variable	Rapid Repeat Pregnancy		OR	95% CI
	Yes (%)	No (%)		
4. Educational level (compulsory education at Matthayom 3 (Grade 9 in junior high school)				
- Lower or equivalent	61.8	86.1		
- Higher than compulsory level	38.2	13.9	0.261	0.081 – 0.840
4. Having a living child (children)				
- Yes	52.9	80.6		
- No	47.1	19.4	3.683	1.269 – 10.685

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The Needs of Elderly Patients and Caregivers of Stroke Recovery at Home[1]

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Abstract

Background: A stroke refers to Cerebrovascular Vascular Accident. It is very important due to a disability and independence of the elderly Thai people. A total of 90.9 % of elderly people is living with the after-effects of stroke.

Objectives: The objective of this study was to find out about needs of the elderlies and caregivers for elderly patients undergoing stroke recovery at home.

Methods: This qualitative study was to find out about needs of stroke survivors at home. In-depth Interview was the main approach employed following the structure interview questions. In addition, the questionnaires were used to collect personal information and activities of daily living. The samples were 12 stroke elderly patients and 10 family caregivers who had been providing care to stroke survivors at home continuously for at least one year.

Results: The results of the study revealed that the elderly patients of stroke recovery at home mainly needs assistance in 4 areas. First was physical needs as food, sleep, the disposal of body waste and accident protection. The second was mental needs related to fulfilling their human potential (self-actualization). The third was a need for care-taking by relatives. The fourth was care – taking by public health personnel. In addition, the most commonly reported needs of caregivers involved patients' moving and lifting, exercise, psychological changes, sleep and nutrition issues.

Keywords: Needs, Elderly Patients, Caregivers, Stroke recovery at home

Significance of the Problem

Stroke is the third important disease often found in the United States of America next to cancer and heart disease (Lioyd – Jones et.al., 2009). In Thailand, stroke patients ranked fourth behind cancer, heart disease, and accidents, respectively. In 2012, there were 20,675 stroke patients in Thailand or 32.17 patients per 100,000 persons (Office of Epidemiology, Department of

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Disease Control, Ministry of Public Health, 2012). In fact, stroke still is a problem throughout the world and it ranks fifth of the cause of mortality third in Thailand. In 2012, the mortality rate due to stroke was 37.49 per 100,000 persons (Statistics on mortality rate of people in Thailand, office of Polices and Strategies, 2013).

Nowadays, medical science and technology is advance and it can remedy stroke patients to be beyond the crisis condition and it helps decrease the mortality rate. However, it still has chronic disability due to the condition of stroke. This has an effect on physical, mental, and social aspects of the patient, including ways of life of the patient and his family (Hirankhro et.al., 2007). According to research reports in Thailand and abroad, it was found that those who take care of the stroke patient are spouse and children. This is on the basis of daily life activities, accidental prevention, and rehabilitation. This aims to make the patient be able to do activities by himself and be able to adapt himself to family member very well, results in a better quality of life (Hafsteinsdottir et.al.,2011).

Normally, most elderly patients used to be strong but later on the ailment has an effect on their capability in doing daily life activities, feeling about their image, and feeling about the society around them. They perceive and adapt themselves to change in their capability or limitations in self-care taking or they have to rely on others. Thus, they discontent with their existing condition which may have an effect on decreased life satisfaction (Mardkasem, 2009). According to home visits, it is found that elderly patients with stroke usually be the burden of family members or relatives. Most of the elderly patients usually have defectiveness in self-care taking and lack of skill development of daily life activities.

Therefore, it can be seen that the elderly patients of stroke who are beyond the crisis condition will be released from the hospital. However, they still have physical, intellectual, and emotional disorders. It is essential that family member takes care the elderly patient at home. Thus, it needs to enrich knowledge about care-taking to them and the elderly patients for a better rehabilitation. According to related research reports, it is found that most of it investigate patients in the hospital. Hence, the team of researchers was interested in the investigation and assessment of needs of elderly patients of stroke patients and their care-takers

Objectives of the Study

Specifically, this study aimed to investigate and assess needs of elderly patients with stroke and their care-takers.

Research Methodology

Population and Sample Group

The population in this study were elderly patients of 60 years old and above who were diagnosed as stroke patients living in Muang district, Nakhon Ratchasima province. The sample group was obtained by purposive sampling. There qualifications were as follows.

An elderly patient of stroke who was not received surgery or operation. He must not have chronic diseases which could not be controlled, and be was willing to join this study (12 persons). The care-takers in this sample group were those directly responsible for daily life activities of the elderly patients and rehabilitation i.e. spouse, children or relatives. They were literate and had been taking care of the elderly patients for more than one year (10 persons).

Research Instrument

1. An assessment form on the capability in doing daily life activities based on Barthel Activities of Daily Living: ADL index
2. Qualitative research instruments included interview schedule and observation from designed based on data obtained from a review of related literature and documents. Data were collected during April-October, 2015.

Data Collection

1. The researchers submitted the research proposal to the Research Ethics Unit, Nakhon Ratchasima Maharaj Hospital.
2. The researchers visited the sample group at home, introduced themselves, and explained the objective of the study as well as data collection procedures
3. Asking for coordination in the study and without enforcement. They could withdraw from the study any time without the explanation of reasons. Results of the interview had no effect on medical treatment. Also, the elderly patients signed their name to show that were willing to join the study.
4. Investigation of data based on observation about livelihoods and self care-taking of the elderly patients.
5. Investigation of data based on an in-depth interview with the sample group obtained by purposive sampling. The interview involved experience in disease perception and needs of the elderly patients and their care-takers.
6. Data inspection for completeness, content validity and reliability towards the truth of findings. After that, triangulation method was employed by review of data obtained from the inquiry with data providers and concerned people such as relatives and care-takers. Besides, repetition of questions was done at the different time.

The Sample Group's Rights Protection

The researchers protected the sample group's rights by proposing the research proposal to the ethics committee of Nakhon Ratchasima Maharaj Hospital. After granting to collect data, the researcher prepaid an informing document which included the objective of the study, and benefits of the study. Then, data were collected and the coordination in data collection was in accordance with the willingness of the sample group. In addition, the sample group could deny data provision in the case that they did not want to join the study and it would not have any effect on the sample group. In the case that the sample group did not feel at ease in the

interview, the researchers would stop interview immediately until they felt better. Data obtained from the interview would be kept confidently and it was not revealed individually. The presentation of data and publishing would be done in the whole picture.

Data Analyses

This included content analysis, formulation, and compilation from recording tape. The researchers sorted the process of investigation into steps as follows: arrangement of the data system, taking notes, the conclusion of data obtained from the observation, and data filing after the tape recording. Besides, the researchers sorted the data into the group by using cards. That was, the cards having the same meaning were kept together. Data content was arranged and the data were classified in accordance with the study framework. Categories of data were arranged for rapid analysis.

Scope and Delimitation of the Study

It was in the form of a case study of elderly patients who were disabled due to stroke and their main care-takers. This aimed to investigate needs for physical, mental, and social aspects. Also, there was the investigation of relations between elderly patients and their family by using observation and interview during home visit

Results of the Study

Results of the study revealed the following:

1. The capability of doing daily life activities of the elderly patients of stroke was in the range of 9-11 scores (10 elderly patients) which implied that they could take care of themselves at a Particular level, However, they were two elderly patients obtaining 2 – 3 scores which implied that they could not take care of themselves and really needed for close care-takers.

2. According to an analysis of qualitative data, it was found that the following were needed by the elderly patients and their main care-takers:

Needs of the elderly patients of stroke could be classified into 4 aspects as follows:

- Physical need e.g. clean body, clean food, relaxation, rehabilitation, prevention of complications, and accident prevention.
- Mental need e.g. they wanted other persons to understand them and listen to their persons.
- Need for care-taking by relatives e.g. close attention or care – taking
- Care – taking by public health personnel such as home visit and physical therapy

Needs of the main care-takers for the elderly patients could be classified into 4 aspects as follows:

- Physical need e.g. relaxation during holidays and they wanted other relatives to take care of them during the holidays.
- Mental need e.g. interest of relatives, doctors, nurses, and neighbors
- Potential development in the elderly patient care-taking such as body cleaning, accident prevention, prevention of complications, and physical/mental rehabilitation.
- Support on care – taking expenses by family members, the society, and social welfare provided by the government. This might be in the form of donation, salary, utensil donation, etc.

Discussions

The capability of doing daily life activities of the elderly patients of stroke (10 persons) who were able to take care of themselves at a particular level and two of those who could not take care of themselves (2 persons) which found that there was no difference in needs of the care – takers. This was because the ailment of a family member could make impacts on family members due to their anxiety. However, a low score level of Barthel ADL index would have an effect on a low level of the capability in self – assistance and they had to rely on family members or relatives at a high level. That was, the elderly patients needed for assistance in body cleaning, eating, medicine preparing, excreting, etc. All of these activities need continual care – taking. This conforms to a study of Import (2007, p.68) which found that relatives taking care of the elderly patients of stroke would assess needs of the elderly patients in them of a level of dependence. It was found to have a low level of dependence for 35 percent, a moderate level of 29.2 percent, and the lowest level of 10.8 percent.

Impacts of stroke cause the occurrence of physical change having an effect on a limitation of the capability in self-care – taking of the patients. That was, they could not take care of themselves. This resulted in stress, worries, and ailment. Thus, elderly patents of stroke needed interest of family members, relatives, doctors, nurses, and the society. This conformed to a study of Pengkaew (2008) which found that mental rehabilitation of patients' needs various factor including family members, doctors and nurses.

Since some patients needed care – takers all the times for the assistance throughout 24 hours per day, this had an effect on livelihoods of care – takers who also wanted to have a day – off for relaxation or did any activity, this conformed to a study of Hafsteindotler (2011) which found that the livelihoods pattern of patient care – takers has changed. This is because their available personal time is replaced by their task to take care of the patient.

In the case of relative having experience in patient care-taking, they were depressed and discouraged so they needed interest of family members. They wanted family members to perceived that they were sacrificers and important. This conformed to study of Jeor-oppatham (2010, p.48) which found the patients of stroke's care-takes needed for assistance on spiritual and emotional conditions very much which made them feel that they were important. As a smaller of fact, relative who were care-takes of the stroke patient needs for potential development in patient care-taking. Also, they want to observe conditional change of the

patient which would have an effect on complications such as bedsore, infection due to excretion, taking on water, skin care-taking, etc. This conformed to a study of Joeropptham (2010, p.48) which found that there was a need for data perception on patient care-taking($\bar{x}$ =3.94) based on observation.

Since there were expenses on an elderly patient of stroke care-taking and medical treatment, their family has to be responsible for this burden. Thus, they need to look for coordination of other to solve this problem. This also confirmed to a study of Pengkaew which found that spouse and children mostly gave financial assistance and looked the patient to the hospital.

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A Development of Referral System Operations Approaches of Nakhon Ratchasima Province[1]

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Abstract

This research is aimed at studying of referral system operations approaches of Nakhon Ratchasima Province. The research method used is a qualitative research include document study, in-depth interview, group interview and focus group. The researcher has come up with a recommendation concerning the development of referral system operations approaches of Nakhon Ratchasima Province as follow. Part 1; important basic referral system development according to referral system model include preparedness, referral organization, referral center development, capacity building and monitoring and evaluation. Part 2: recommend 2 alternatives for development of community hospital node. Firstly, simultaneous development of all nodes. Secondly, pilot development of 1-2 nodes. The researcher created a paradigm for highest benefit from utilization or common resource for node development and name it Korat "UTILIZATION" Node which means **U**nity, **T**rust, **I**ntegrity, **L**ean, **I**ntegration, **Z**ero Defect, **A**pproach, **T**echnology, **I**nformation System, **O**ne Stop Service and **N**ode Development.

Key Word: Referral System

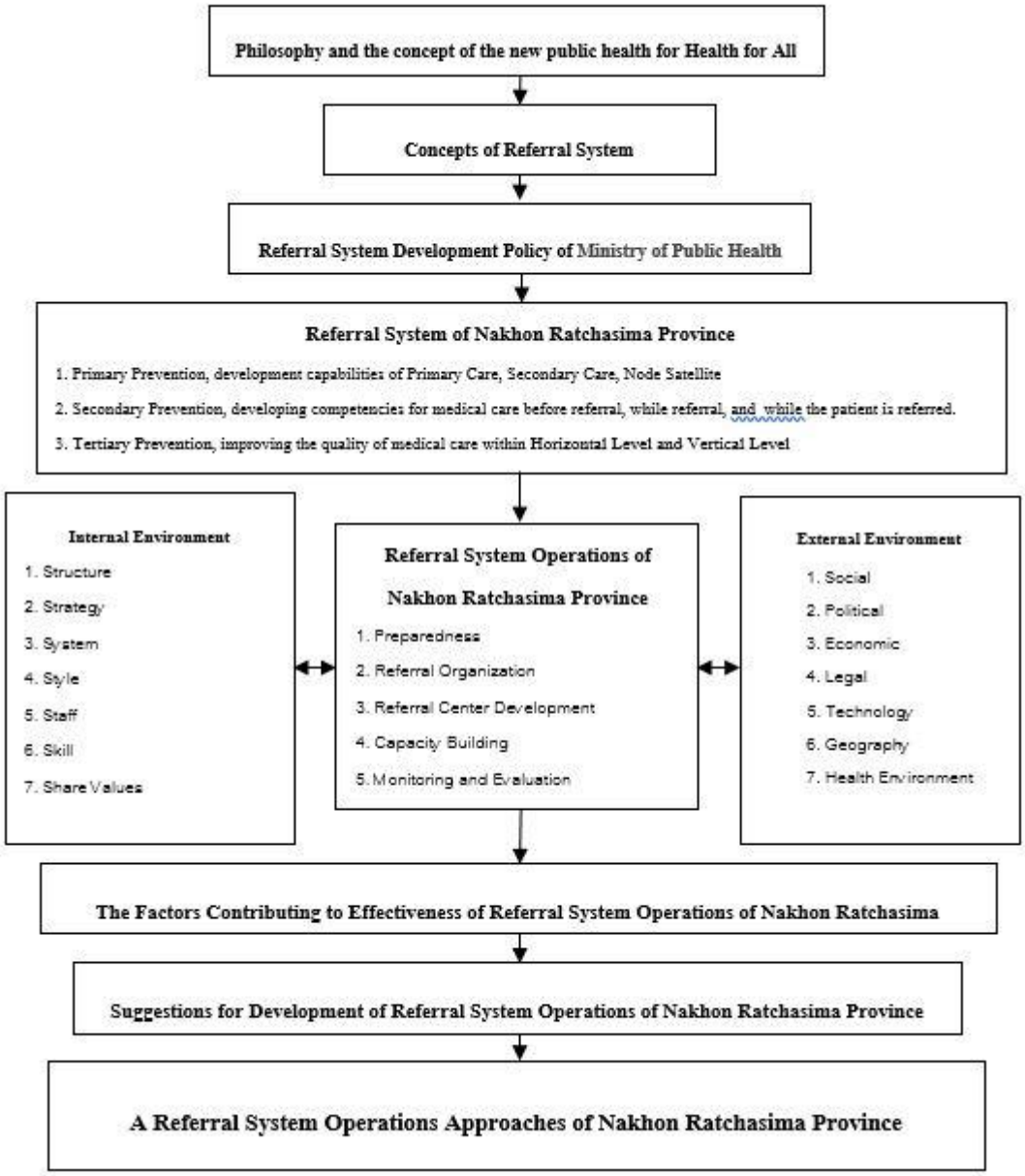
Introduction

Referral system is the heart of Thai health service system. A good quality and efficient referral system can reduce the problem of health distribution and people can equally access and have continuous care from health care provider. A good referral system should have a good referral management system at all level of health care service, have efficient utilization of shared resource and should refer patient appropriately with good quality, standard and safety. The important of referral system made Ministry of Public Health define the development of referral system as a main policy.

Nakhon Ratchasima Provincial Public Health Office had been proceed on the referral system under health for all policy of Minister of Public Health continuously and found that there are some problems, obstacles and limitations, such as communication, insufficient health personnel, systematic data gathering and analysis, inadequate data sharing between provincial health office and health care providers at all level, patient overcrowd at tertiary care center,

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inappropriate refer in and refer out. These problems, obstacles and limitations have not been solved systematically yet. Nakhon Ratchasima Provincial Public Health Office would like to conduct this research to analyze the environment of referral system of Nakhon Ratchasima Province and present guidelines for the development of referral system that consistent with Nakhon Ratchasima Province context. The result of this research will be adopted to develop the referral system for the improvement of all heath care providers to provide appropriate care to all patients that have a different degree of illness severity. The research framework was shown in figure 1.



Method

This research has been approved by ethic committer of human research of Marat Nakhon Ratchasima Hospital. This is a qualitative research consisted of studying all documents concerning referral system of Nakhorn Ratchasima Province, in-dept interview, group interview and focus group. Key informants consisted of high ranks executives of Nakhon Ratchasima Provincial Public Health Office and tertiary care center 4 persons, high-rank executives of secondary care centers 19 persons, doctors of secondary care counters 15 persons, staff in referral unit of every hospital 30 persons, and clients of referral system 78 persons. Interview content validity was approved by 3 research experts. Data was check by Triangulation method4. Data analysis was done SWOT analysis under 7s of Mc Kinsey5 which consisted of Strategy, Structure, System, Style, Staff, Skill and Share Values. These data analysis was integrated into the concept of referral system development model of Ministry of Public Health1. Data synthesis yield guidelines for development of referral system of Nakhorn Ratchasima Province. These guidelines were discussed within 10 members focus group that consisted of representative representatives from each key informant group. The result from focus group discussion comes up with guidelines for development of referral system that harmony with Nakorn Ratchasima province context.

Result

Referral system operations model of Nakhon Ratchasima Province consist of preparedness, referral organization, referral center development, capacity building and monitoring and evaluation. The Researcher found that the strength of the operation can enhance by (1) determine important indicators of secondary care hospital administrator (2) survey secondary care hospitals (3) supporting doctor specialist to secondary hospitals (4) service plan policy (5) character of high rank executives (6) patient care skill of tertiary care center (7) tertiary care center should have all branch of medical specialist. The weakness that should be strengthening includes (1) development of guidelines for referral system (2) database development (3) communication development (4) development of information technology (5) development share values (6) evaluation (7) capacity building of all level (8) human resource development (9) development of referral system structure of secondary heath care hospitals. The researcher also found that key success factor of referral system operations consists of (1) participation of all health care centers (2) clear policy (3) good preparedness that includes determining targets together, good planning and communication, database management, policy communication, communication among doctors and referral system guidelines (4) there are committee for continuous development (5) development of all referral centers (6) There are capacity development of all levels (7) administrator place important on monitoring and evaluations (8) administrator's intention for development (9) staff of all health care providers have intention for development.

The researcher recommends the development of referral system operations approaches of Nakhon Ratchasima Province as follow:

Part I: Important basic referral system development according to referral system model1 plus the development of referral system based on the problem found in Nakhon Ratchasima Province context. The priority of development is as follow: (1) Preparedness development include guideline for referral within network, database development, development of internal network communication, development of information technology, development of shared values, planning development, development of policy and strategy, management of supporting facilities within secondary care hospital, made up agreement within network. (2) Development of monitoring and evaluation and patient care development which include increase capacity of all health care service, human resource development, upgrade referral center to be a training center and sharing experience within the network. (3) Development of referral center and its structure. (4) Development of referral organization management.

Part II: Recommend 2 alternatives for development of community hospital node. Firstly, simultaneous development of all nodes as shown in figure 2. Secondly, pilot development of the most readiness 1-2 nodes as shown in Figure 3 and figure 4.

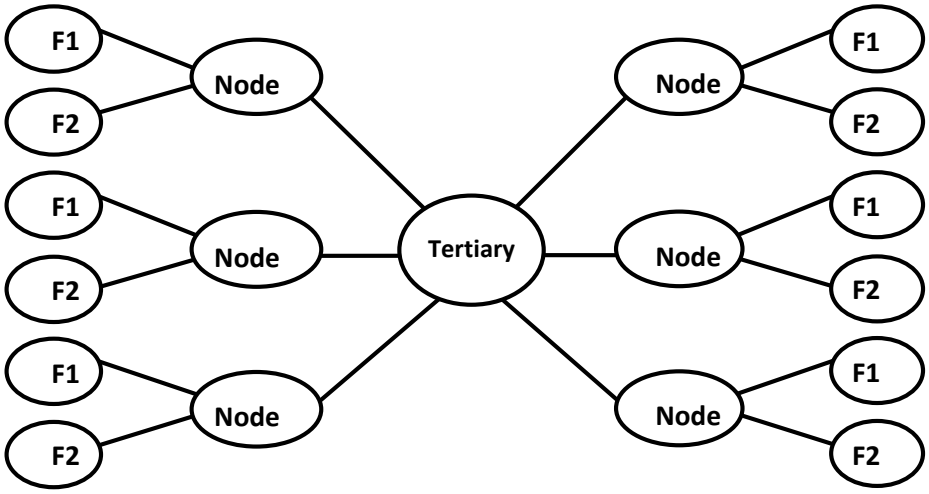


Figure 2 Type 1 Simultaneous Development of all Nodes

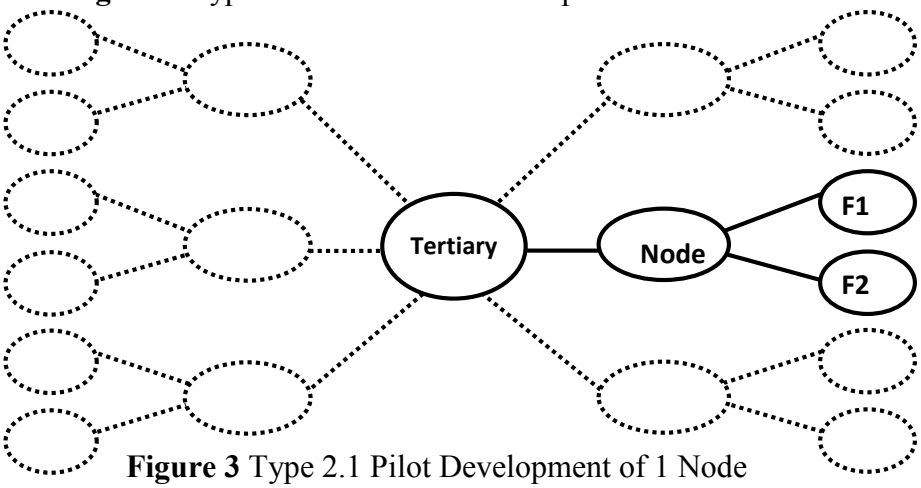


Figure 3 Type 2.1 Pilot Development of 1 Node

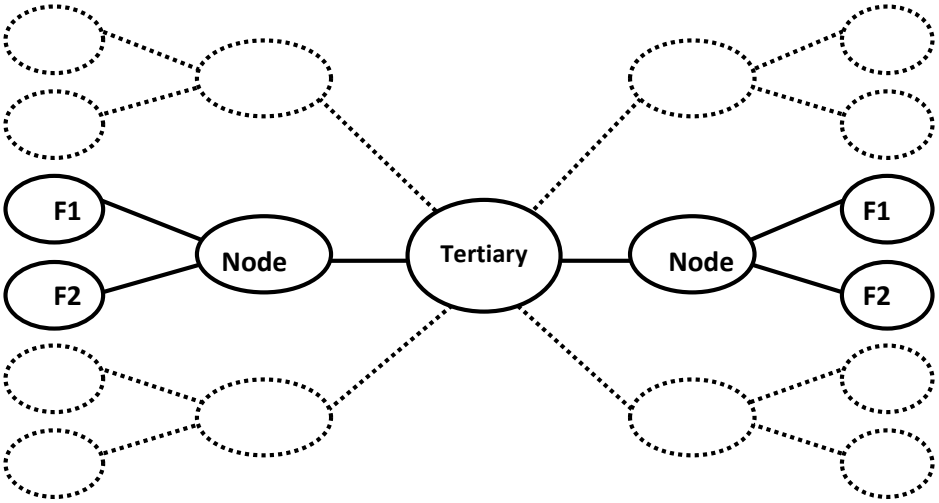


Figure 4 Type 2.2 Pilot Development of 2 Nodes

The researcher suggests the name Korat "UTILIZATION" Node as a symbol of community hospital node potency. This symbol demonstrates that the community hospital should take the highest benefit from all existing resource, sharing all resource and drive the development of referral system under good management for sustainable development as shown in figure 5.

K O R A T			
U	=	**Unity**	**means** all segments of the network are united in one team.
T	=	**Trust**	**means** created a trust to clients.
I	=	Integrity	**means** honesty to the profession.
L	=	**Lean**	**means** effectiveness, reduce working steps, use less resource.
I	=	**Integration**	**means** integrates referral system in hospital quality improvement (HA).
Z	=	**Zero Defect**	**means** services provided by patient-centered. And no loss per patient.
A	=	**Approach**	**means** communicate within the network with honor.
T	=	**Technology**	**means** the technology to be used in management information systems, communication system and allows the management of network more convenient and Real Time.
I	=	**Information System**	**means** management information system on the utilization of the network to network development.
O	=	**One Stop Service**	**means** organized or coordinated comprehensive services at a single point.
N	=	**Node**	**means** development potential host community hospitals to cover the entire province.
N O D E			

Figure 5 Korat "UTILIZATION" Node

Discussion

Nakhon Ratchasima is a very large province and the management of administrative structure, supportive system and service system is very complex3. From the past until present, Nakhon Ratchasimma Public Health Office had included the development of referral system into service plan and linked all level of health care providers into the network. 3-5 community hospitals are group into a small network called "Node"3. This research aim to emphasize the development of all hospital to deliver better service to all people within the network. Badaracco said that network management has no fixed rule and no guidelines that can apply to all. Each network has to invent their own management method which can create by trial and error6. The eminence of grouping community hospital into NODE are the maximum benefit of sharing common resource and potentiate service and performance. NODE may have a chance to get more budget and more resource provided. Patients within NODE may have more confidence in the standard of care provided by NODE7,8. Hence, a grouping of community hospital into NODE provide a great chance to have highest befit from the limited resource of Nakhon Ratchasima Province and increase the potential of patient care of all hospital within network9. The NODE should have coordination center10 to take care of development plan. This coordination center can minimize management cost and maximize its efficacy.

Every network should have their own development format and should develop according to referral system development model1 of Nakhon Ratchsima Province and according to Nakhon Ratchasima Province context. All network should have one symbol "Karat UTILIZATION NODE" which show important common nature of the network. That is getting maximum benefit from utilization of share resource as shown in Fugue 6.

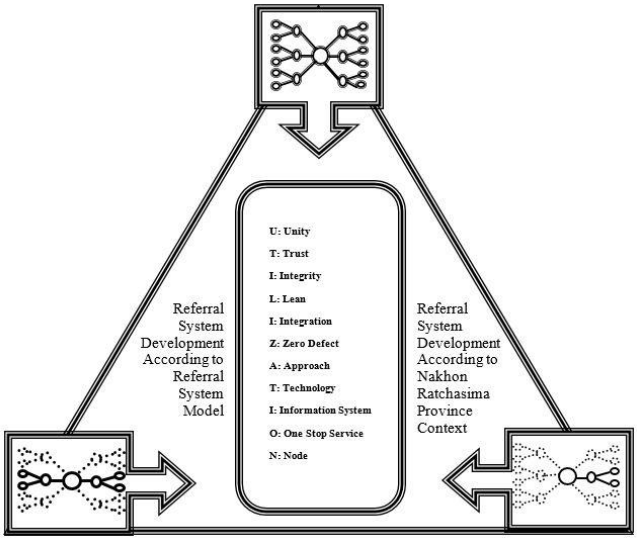


Figure 6 The Relationship Between Referral System Development According to Referral System Model and Nakhon Ratchasima Province Context, Development of Community Hospital Node and Korat "UTILIZATION" Node

Recommendation

1. Nakhon Ratchasima Public Health Office adopts the development of referral system model of Nakhon Ratchasima Province. Setup working group and define the main person in charge of, define success indication of 5 main task, setup monitoring and elevation included feedback system and integrated into Health Care Accreditation.
2. Two alternatives for development of community hospital nodes.
   2.1 Simultaneous of all nodes. This needs high budget, high management competency and need sub-network monitoring and evaluation from responsible administrators of Nakhon Ratchasima Public Health Office.
   2.2 Pilot development of 1-2 nodes. This needs less budget and less resource. This pilot node development needs high competency and high flexibility project manager. Long-term care should develop within large community hospital in harmony with pilot node development.
3. Setup central supporting center within a network such as blood bank, ambulance car service center, laboratory, food and drink supply.
4. Primary health care center should adopt referral system development for sharing a common resource which can potentiate health care service and increase patient confidence.
5. Government and Private health care center can adopt this referral system development for sharing a common resource such as sharing ambulance car service and sharing high-cost medical equipment utilization.

Recommendation: Policy Aspect

1. Recommendation for Provincial Public Health Office, Regional Public Health Office and Ministry of Public Heath include set up of center to take care of community hospital, create guidelines for national referral system operation, development of information technology and set up system to minimize turnover rate of community hospital doctor such as adjust salaries and compensation, sue protection, public relation about health benefits step to patient and confidence of patient to community hospital.
2. Recommendation for medical council and medical school include indoctrinate medical ethic to new graduated doctor, training specialist according to national need and adjust specialist training according to community hospital context.

Recommendation for further research

Development of Fast Tract referral system for specific important disease, development of node network, communication development, the relation among doctors, create unity and share values and share a resource among hospitals in both government and the private sector.

Acknowledgement

The successful of this research was supported by Nakhon Ratchasima Provincial Public Health Office fund. This research receives great supported from the head of Nakhon Ratchasima Provincial Public Health Office, all staff of service development department, experts and key informants.

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Factors Associated with Stress of Cancer Patient Care-takers at Pakthongchai Hospital, Nakhon Ratchasrima Province [1]

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Abstract

This study aimed to explore: 1) a level of stress of cancer patient care-takers at Pakthongchai hospital, Nakhon Ratchasrima province and 2) factors associated with stress of cancer patient care-takers at the hospital. Stress theory of Lazarus & Folkman (1984) was employed for conceptual framework of the study. The sample group consisted of 30 care-takers of cancer patients who were diagnose as cancer carriers. The target group had medical treatment at the hospital and at home and they were obtained by purposive sampling. Research instruments in this study included questionnaire, estimation form on the capability of daily activity doing of the cancer patients (10 items), and estimation form on stress of the cancer patient care-takers. Obtained data were analyzed by using frequency and percentage. Chi-square correlation was employed for analyzing a relationship between dependent variables and stress of the cancer patient care-takers. In the case that there were less than 5 cells for more than 20 percent, Fisher's Exact Test would be employed for an analysis.

Results of the study revealed that most of the cancer patient care-taker respondents were females (83.30%), more than 50 years old (63.30%), and elementary school graduated (60.00%). Around one-third of the respondents (33.3%) were engaged in agricultural occupations and their income was less than 3,000 baht per month. Most of the cancer patient care-takers were married (76.70%) and most of them always practiced the Dharma (60.0%). Most of them did not have chronic diseases (70.0%). More than one-half of the cancer patient informants (53.30%) were in the fourth stage of cancer. Their time span of ailment was less than 6 months (43.30%). More than one-half of them were in social attachment group (63.30%). Stress of the cancer patient care-taker respondents was found at a normal level (56.73 and followed by 13.30%). Regarding an analysis of a relationship between stress and personal factor as of the cancer patient care-taker respondents by using Fisher's Exact test, a statistically significant relationship at .05 was not found among 9 factors for the cancer patient care-takers and 3 factors for the cancer patients. Results of the study could be employed for developing a guideline for care-taking of cancer patient care-takes. This aimed to increase the capability of stress confronting in the group of high level of stress.

Keywords: stress of cancer patient care0takers, cancer patients, patient care-takers

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Significance of the Problem

Nowadays, cancer is a disease which primarily causes mortality in the world. The American Cancer Society (2014) expected that the United States of America has new 1.67 million center patients needed to 1.67 million center patients needed to be taken care in 2014. In Thailand, it was found that there were 15,000 cancer patients having medical treatment at The National Cancer Institute and regional cancer centers in 2112 (National Cancer Institute, 2013). In fact, cancer is a chronic disease which is an important problem of public health. It needs a long-term medical treatment and the ailment makes torture to both cancer patients and their families. That is, cancer patients must be torture particularly on the last period before die. The medical treatment is time consuming with high expenses. It also included loss of incomes of bath the patients and their families. This has a negative effect on the society and the country. Importantly, it has an effect on the patient care-taker who has to take care of the patient at both home and the hospital. All care-taking activities focus on patient care-taking to be responsive to physical and mental needs of the patient. According to review of related literature of Horowitz (1985, pp. 202-207, it was found the patient's relatives must take care of the patient in 6 aspects: 1) direct care-taking; 2) assistance in terms of emotional and spiritual aspects; 3) contact with health service place for cancer patient care-taking as well as other social welfares; 4) financial assistance; 5) home chore burden alleviation; and 6) community contact Roles and duties of cancer patient care-takers have an effect on their stress (threat). Lazarus (1971, pp. 53-60) stress as a temporary condition of unbalance due to the occurrence of perception or an estimation of an individual towards what involves in the situation. This perception or estimation is the consequence of mutual actions of the external environment i.e. social environment and other situation in life. This also includes the external environment i.e. personal attitudes, emotion, past experience, as well as needs of an individual.

Therefore, the researcher was interested to conduct a study on factors associated with stress of cancer patient care-takers. Results of the study would be data for nurses to truly understand the arises problem. This would be beneficial to the development of a guideline for adapting to roles of cancer patient care-takers and the promotion of quality of life of cancer patients as well as a guideline for further study.

Objectives of the Study

Specifically, this study aimed to explore:

1. a level of stress of cancer patient care-takers at Pakthongchai hospital and
2. factors associated with stress of cancer patient care-takers at Pakthongchai hospital.

Operational Definition of Terms

1. Stress of cancer patient care-takers refers to the score obtained from the assessment form of the Department of Mental Health. This was classified into 5 levels: lower than

normal criterion, normal criterion, low level of stress, moderate level of stress, and high level of stress.

2. Cancer patients refers to the patients who were diagnosed by the physician that they were cancer patients. This was likely to have a relationship with stress of cancer patient care-takers based on 3 factors: 1) ailment severe; 2) ailment time span; and 3) capability of daily life activity doing.
3. Cancer patient care-takers refers to an individual in the family of the patient who takes care of the patient and support on emotion and spirit of the patient. They are the middle who contacts health personnel for medical treatment of the cancer patient based on the following personal factors: sex, age, marital status, educational attainment, monthly incomes, relationships with the patient, practice of the Dharma and chronic diseases. The below conceptual frame work explained factors associated with stress of the cancer patient care-takers (Figure 1).

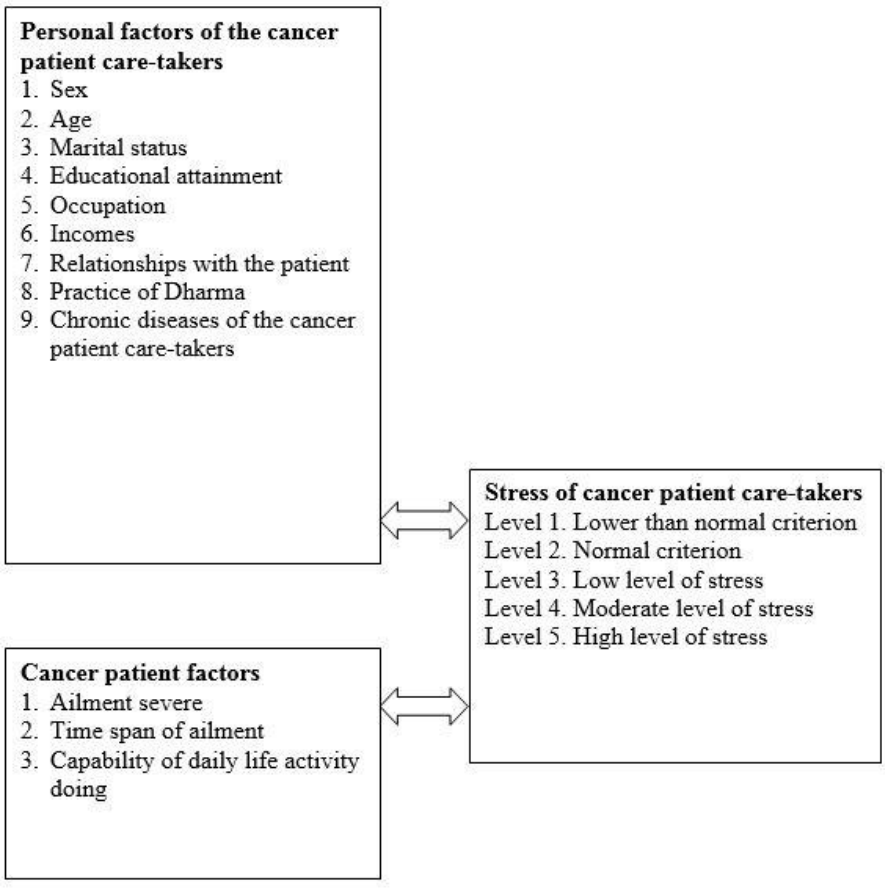


Figure 1. Conceptual framework of the study

Research Methodology

This descriptive study investigated a level of stress of relatives who took care of the cancer patient. Factors associated with stress of the care-takers were also investigated.

Selection of the Sample Group

The sample groups of cancer patient care-takers were obtained by purposive sampling (30 out of 57 persons, during March-May, 2016). Besides, 10 cancer patients at Pakthongchai hospital were include in this study as well as 10 cancer patients who used to be treated at the hospital during March-May, 2016. The qualifications of the sample group were: 1) 18 years old and above; 2) main cancer patient care-taker; 3) is able to speak and understand the Thai language; and 4) willing to join the study.

Regarding the determination of size of the sample group, the researcher was done based on a number of populations. In the case that the number of population was at hundreds, the sample group should be at least 25 percent (A-kakul, 2000).

Research Instrument

A set of questionnaires was used for data collection. It was designed on the basis of related documents and research. The questionnaire consisted of 3 parts as follows:

Part 1. A questionnaire on personal factors of the cancer patient care-takers at Pakthongchai hospital. It consisted of 9 question items (multiple choices). This includes sex, age, marital status, educational attainment, occupation, monthly income, relationships with the patient, practice of Dharma, chronic disease of the patient, disease severe.

Part 2. An assessment form on the capability of daily life activity doing of the cancer patients (10 items).

Part 3. An assessment form of a level of stress of the cancer patient care-takers of the Department of Mental Health, Ministry of Public Health.

The questionnaire was in the form of five-rating-scale in accordance with that of Likert's scale as follows:

Score		Descriptions
3	=	Always
2	=	Often
1	=	Sometimes
0	=	Never

Or

0 – 5	=	Below low level of normal stress
6 – 17	=	Normal level of stress
18 - 25	=	Low level of normal stress
26 - 29	=	Moderate level of stress
30 - 60	=	High level of stress

The research instrument was tried out with 30 cancer patients at Pakchong hospital, Nakhon Ratchasrima province and its reliability based on alpha coefficient and Cronbach was at 0.933

Rights Protection of the Sample Group

This study was certified based on research ethics by research ethics committee, Maharaj Nakhon Ratchasrima hospital in accordance with the Declaration of Helsinki, No. of certification: 036/2015. The researcher asked for coordination of the sample group and informed them purpose of the study and steps of data collection. The sample group agreed to the study and signed their name. Obtained data were kept confidentially.

Data Collection

The researcher introduced herself to cancer patient care-takers and informed them purpose of the study. The care-takers were asked if they were willing to be part of the sutyd. They signed their name when they were willing to be part of the sutyd. After that, the researcher collected data through interview and questionnaire. It lasted 30 minutes per person. Data were collected during March-May, 2016.

Results of the Study

Results of the study revealed that most of the respondents were female (83.30%), more than 50 years old (63.30%), followed by 41-50 years old (26.70%) and less than 41 years old (10.00%). Most of the respondents were elementary school graduates (60.00%), followed by lower secondary school graduates (16.70%) and upper secondary school graduates (10.00%). Around one-third of the respondents (33.30%) were engaged in agriculture. One-fifth of the respondents (20.00%) were hired workers and 10 percent were government officials, state enterprise employees, business owners. The rest (36.70%) did other jobs. Most of the respondents had a monthly income of less than 3,000 baht. Around one-third of the respondents (36.70%) had an income range of 3,000-5,000 baht and the rest (23.30%) had a monthly income for more than 5,000 baht. Most of the respondents (76.70%) were married. One-sixth of the respondents divorce (16.70%). One-half of the respondents (50.00%) were spouse of the cancer patients. The rest were children (33.00%) and relatives (16.70%). More than one-half of the respondents (60.00%) always practiced Dharma, 26.70 percent seldom practices Dharma and the rest (10.00%) did not. Most of the respondents (70.00%) did not have chronic disease. Regarding violence of cancer disease of cancer patients at Pakthongchai hospital, it was found that they were at stage 4 most (53.30%), followed by stage 1 (23.30%) and stage 2-3 (13.30%). It could be observed that all of the respondents (100%) did not know. The cancer patients had the period of ailment for less than 6 months most (43.30%), followed by 6 months-1 year (26.70%) and 1-5 years (20.00%). More than one-half of the cancer patients (63.30%) were engaged in social attachment most. This was followed by patients infected with bed (30.00%) and patients who preferred to stay at home (6.70%), respectively.

For a level of stress, it was found that the cancer patient care taker respondents had a normal level of stress most (56.70%). This was followed by a high level of stress (13.30%), a low level of stress (10.00%) and a moderate level of stress (10.00%). According to an analysis of a relationship between stress of the cancer patient care-takers and their personal factors by using Chi-square, it was found that cell which was less than 5 was more than 20 percent. Thus, Fisher's Exact Test was employed and found that there was no statistically significant relationship at .05 between the 9 factors and stress of the cancer patient care-takers.

Based on percentage of variables of 9 factors, however, it was found that the highest percentage value in the variable of each factor of the cancer patient care-takers having a high level of stress were as follows:

1. Male had a higher percentage of those having a high level of stress than female (20.00 and 12.00% respectively).
2. There were 2 groups of cancer patient care-takers having a high level of stress based on age: 41-50 years old (25.0%) and more than 50 years old (10.5%).
3. The cancer patient care-takers having a high level of stress were lower secondary school graduates (25.0%) and elementary school graduates (16.7%) of those who were upper secondary school and elementary school graduates.
4. Based on occupation, only agriculture was the one having cancer patient care-takers who had a high level of stress (20.0%) of those who were engaged in agriculture.
5. Based on income/salary, there were two groups of cancer patient care-takers having a high level of stress: 3,000-5,000 baht and more than 5,000 baht (27.3 and 14.3% of each income group).
6. The cancer patient care-takers who were married and include in the high stress group accounted for 17.4 percent of those who were married. Single and widowed persons were not included in the high stress group.
7. In terms of a relationship with the cancer patients, 26.7 percent of the cancer patient care-takers who were spouse had a high level of stress. They were the only one group having a high level of stress.
8. On the basis of practice on Dharma, it was found that those who always practiced it (16.7%) had a high level of stress and those who seldom practiced (12.5%) also had a high level of stress.
9. The cancer patient care-takers who did not have chronic disease had a higher percentage of those having a high level of stress than those having chronic disease (14.3 and 12.5% respectively).

Discussions

According to results of the study in terms of factors having relationships with stress of the cancer patient care-takers at Pakthongchai hospital. It was found that there was no statistically significant relationship at .05 between the 9 factors and a level of stress of the cancer patient care-takers (Fisher's Exact Test) was employed for an analysis. Also, there was no statistically significant relationship between the 3 factors and a level stress of the cancer patient care-takers.

Although a level of stress of the cancer patient care-takers was found at a normal one (56.70%), it could be explained based on factors of the cancer patient care-takers group having a normal level of stress. Regarding the variable value of the 9 factors, it was found that the highest percentage of a level of normal stress was found in female care-takers (64.0%); the care-takers who were more than 50 years old (68.4%); the care-takers whose educational attainment was higher than upper secondary school (66.7%); the care-takers who were government officials/state enterprise employees business owners (66.7%); the care-takers whose monthly income was less than 3,000 baht (78.7%); the care-takers who were married/single/widowed (57.1%); the care-takers who were relatives (80.0%); the care-takers who had never practiced Dharma (66.7%); and the care-takers having no chronic disease (62.5%). Based on factors of the cancer patients having 3 factors, violence of the cancer at stage 1 was found at 71.4 percent; 1-5 years old ailment time span was found at 83.3 percent; and capability in daily life activities doing in the group of the cancer patients who preferred to stay at home was found at 100 percent; and this was the highest average mean score in the level of normal stress.

With regard to the care-taker factor found, most of them were female and more than 50 years old. They had a good relationship with the cancer patients and family, making the care-takers had a normal level of stress. This conformed to results of the study which found that family members had good relationships with the cancer patients. The cancer patient care-takers had good attitudes toward cancer patient care-taking. Some of the cancer patients chose to be taken care by some family members. These meant that those people had good relationships with the cancer patients rather than others (Sirapo-ngam, 1996). Ther relationships between the cancer patient and the care-takers who were his/her family members could promote the atmosphere of solicitude. This can be an important reinforcement for solving various problems related to cancer patient care-taking at home (Larbwongwattna, 2009). Besides, culture of the rural Thai family was mostly an extended family (Keyuranon, 2009).

A level of stress of the patient care-takers having a high level of stress (13.30%) can be explained based on factor of the care-takers included in the high level of stress group and variable value of the 9 factors. The highest percentage value of a high level of stress was found in male care-takers (20.00%), aged 41-50 years (25%), lower secondary school graduates (25.0%), engaged in agriculture (20.00%), income range of 3,000-5,000 baht/month, married (17.4%), spouse (26.7%), always practiced Dharma (16.7%), had no chronic disease group (14.3%). For factors of the cancer patients having variable value of 3 factors: violence of cancer disease which the violence period was unknown accounted of r33.3 percent; ailment period of less than 6 months accounted for 23.1 percent; and capability in daily life activities doing of the cancer patients who preferred socialization accounted for 100 percent, the highest percentage value in the level of high stress.

Based on cancer patient care-taker factor found, the male care-takers had a high percentage of stress. This might be because male personality is of serious to life, hard working, and placing the importance on order. Hence, this has an effect on exhausted body. That is, the male care-takers became to have a high level of stress when they had to take care of the cancer patient. This conformed to a study of Department of Mental Health (1998, p.p.35-39) which claimed

that factors effecting stress include personal and environmental factors e.g. personality, mental health, various situation confrontations, situational changes having impacts on normal activities of an individual. Since the cancer patients did not know their stage of cancer and the initial stage of the disease, this had an effect on roles of the cancer patient care-takers on the basis of lack of perception and understanding about the cancer patients, ailment, care-taking, and skills/experience in patient care-taking. It also conformed to patient care-taking potential of care-takers; knowledgeable family members; understanding the patients; ailment; as well as skills/experience in patient care-taking. Anyone possessing these requirements has a high tendency to take-care of the patient rather than others (Sirapo-ngam, 1996).

Suggestions

Results of the study revealed that the cancer patient care-takers did not know the period of cancer ailment and the initial stage of the ailment so it had an effect on their stress (33.30 and 23.1%, respectively). Thus, the nurse should enhance care-taking potential of the cancer patient care-takers based on the following: knowledge and understanding the cancer patient; ailment period or care-taking; skills inpatient care-taking to reduce stress of the cancer patient care-taker; self competency perception of the cancer patient care-taker; relationships between the cancer patient, the cancer patient care-taker, and the family; and social support by the family.

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Quality of Life Perceptions of Nursing Students at Boromarajonani College of Nursing Nakhon Ratchasima, Thailand[1]

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Abstract

Background: Quality of life (QOL) is the perceptions of personal well-being, happiness, and life satisfaction. Nursing students have lived together 4 years in a dormitory at Boromarajonani College of nursing, Nakhonratchasima. Their qualities of life were surveyed.

Objectives: The objective was to understand 1) the perceptions of nursing students about the quality of life of their education at Nursing College and 2) the relationship between gender or age and quality of life domain.

Method: The survey approach was used for conducting this study during 1-9 August 2015 at Boromarajonani College of Nursing Nakhon Ratchasima. Participants including 500 who studied in academic 2014 and were the nursing students in the second, third, and fourth year. Data were collected by using the 4-domain World Health Organization Quality of Life (WHOQOL)-BREF-Thai. The Cronbach's Alpha method was used for reliability .873. The data was analyzed by using percentage, average, standard deviation, Pearson correlation analysis, and t-test.

Results: The results showed that the samples were 5.4% male and 94.6% female of nursing students. The averages ages are 20.48 year old (SD= 1.08). They had 18 minimal and 25 maximum of ages. The analysis presented that 1) the overall quality of life of samples was 72.8% at good level and 27.2% at medium level 2) the positive relationship among ages with physical domain, psychological domain and overall quality of life had significant at .05 3) the lowest relationship between ages and social domain and environment domain which had no significant and 4) the overall quality of life had relationship with 4 domains at significant at .05. Finally, Independent –test it had not different significant between male and female with

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their quality of life. One-Way ANOVA analysis, it was found that age was different significant at .05 with four domain scoring.

Conclusion: The results suggested that the different ages of nursing students had related to the physical and psychological domain. Ages show to experience which is increased in every year. Ages will represent how their quality of life. Although they live in the same places and environment more than 1 year, their perceptions between male and female did not relate to the quality of life.

Keywords: Quality of Life, Perceptions of Nursing Students, Boromarajonani College of Nursing Nakhon Ratchasima, Thailand

Introduction

People need the basic of life as Maslow theory. Maslow's Hierarchy of Needs consisted of 1) basic life needs- air, food, drink, shelter, warmth, sex, sleep, etc. 2) safety needs- protection, security, order, law, etc. 3) love needs-belonging, family, affection, relationship, work-group. 4) Esteem needs- achievement, status, responsibility. 5) Cognitive needs- knowledge, self-awareness, meaning. 6) Aesthetic needs- beauty, balance, form, etc. and 7) Self-actualization is that personal growth and fulfillment. ("Quality of Life Issues in Student Family Housing" UCDAVIS, 2014). For successful of Maslow theory, people need the wellness. Wellness is not the absence of disease, illness or stress, but the presence of purpose in life, active involvement in satisfying work and play, joyful relationships, a healthy body and living environment, and happiness ("Quality of Life Issues in Student Family Housing" UCDAVI, 2014). Student quality of life and well-being is at the heart of the health medicine in nursing college. The institutional priority is to enable each to accomplish as best possible their educational goals under the best possible conditions.

The postmodern world is found that Quality of life is a new research field. Results show that there are several factors beyond the material world which have an impact on our happiness and which can be influenced and developed by us. To transfer the knowledge that can help improve the quality of life requires authentic channels (Laszlo Edvy, 2013). Laszlo Edvy (2013) investigated this issue in Hungary. They compared university students' quality of life indicators with those of common people of similar ages. His research showed that the impact of some psychological factors is stronger with university students than with common persons. In this nursing college context, nursing students face considerable difficulties in the transition from family home to dormitory and shift between class room and clinical practice at the hospital, which sometimes lead to depressing, anxiety, and social network. In this study was to examine the perception of nursing students in the second year, third year and the fourth year to find out if the perception of quality of life may relate or difference from age or gender.

Methodology

Participants 500 people who studied in academic 2014 and were the nursing students in the second, third, and fourth year. They enrolled and studied at Boromarajonani College of Nursing Nakhonratchasima.

Measurement: Data were collected by using questionnaires in the World Health Organization Quality of Life (WHOQOL)-BREF-Thai. It has 26 items which are arranged 4 domains. The questionnaire consisted of 23 positively questions and 3 negatively questions. In this study, the students were asked what they think about their life in the last two week ago. The Cronbach's Alpha method was used for reliability .873. The students were indicated level of 5-point scale from 1 = not at all, 2 = a little, 3 = a moderate amount, 4 = very much, and 5 = an extreme amount. Total scores were categorized into 3 groups: have not quality of life (Physical:7-16 scores; psychology: 6-14 scores; social relationship: 3-7 scores; environment: 8-18 scores; total 26-60 scores), medium quality of life (Physical: 17-26 scores; psychology: 15-22 scores; social relationship: 8-11 scores; environment: 19-29 scores; total = 61-95 scores), and good quality of life (Physical: 27-35 scores; psychology: 23-30 scores; social relationship: 12-15 scores; environment: 30-40 scores; total = 96-130 scores) respectively. The survey approach was used for conducting answers during 1-9 August 2015. The participants agreed freely to answer this research.

Data analysis: The data was analyzed by using percentage, average, standard deviation, Pearson correlation analysis, t-test and One-Way ANOVA.

Ethics Statement: All the participants were informed about the content and the aim of the questionnaire. The study was an anonymous survey, and the results remain confidential. The questionnaire did not contain about the individual subjects. Participation in the study was totally voluntary, and participants had the option of declining to answer specific questions or leaving the entire questionnaire blank if they did not wish to participate.

Results

Descriptive participant's characteristic

The participants were 500 people: Female was 94.6% and male 5.4%. The average age was 20.48 year old (SD = 1.08). The rank of age was 18-year minimum, and 25 years maximum. The results showed in Table 1.

Table 1 Descriptive data in participants

Personal data	**Sex**	**Frequency**	**Percentage (%)**
Sex	Female	473	94.6
	Male	27	5.4
	Total	500	100
Age	18-25 years	*Mean (M)* = 20.48 years	*SD* = 1.08

Perception about quality of life in total nursing students

Table 2 indicated that the quality of life in nursing students from the second year to the fourth year was at a good level in the 4 domains and overall perception of quality of life.

Table 2 Quality of life level in nursing students 500 participants

Domain in quality of life	**Criteria to assess for quality of life**			***M*-Scores of quality of life**	***SD***	**Mean**
	not good	**medium**	**good**			
Physical	7 – 16	17 – 26	27-35	27.86	3.45	Good level
Psychological	6 – 14	15 – 22	23 – 30	23.91	2.85	Good level
Social relationship	3 – 7	8 – 11	12 – 15	12.03	1.58	Good level
Environment	8 – 18	19 – 29	30 – 40	29.92	4.17	Good level
Overall perception of quality of life	26 – 60	61 – 95	96-130	101.42	10.92	Good level

Frequency in quality of life of total nursing students

The results showed in Table 3. Details of domain level of frequency in the quality of life of nursing students, we found that the overall perception of quality of life was at good level and the highest frequency (72.8%). The first frequency level of good quality of life was a psychological domain (72%); the second domain was a physical domain (68.8%); the third domain was a social relationship (64.2%) and the fourth domain was environment (54.2%) respectively.

Students had 27.2% medium frequency level in the overall perception of quality of life. The highest frequency level in these group was environment domain (45.6%); the second domain was a social relationship (35.4%); the third domain was physical (31.4%) and the fourth was psychological (28%) respectively.

Two students pointed that both social relationship (0.4%) and environment domain (0.4%) that had not good quality of life.

Table 3 Frequency and percentage of nursing students in domain level of quality of life

Domain in quality of life	**has not a good level**		**has a medium level**		**has a good level**		**total**	
	frequency	**%**	**frequency**	**%**	**frequency**	**%**	**n**	**%**
Physical	-	-	157	31.4	343	68.8	500	100
Psychological	-	-	140	28	360	72.0	500	100

Domain in quality of life	**has not a good level**		**has a medium level**		**has a good level**		**total**	
	frequency	**%**	**frequency**	**%**	**frequency**	**%**	**n**	**%**
Social relationship	2	0.4	177	35.4	321	64.2	500	100
Environment	2	0.4	228	45.6	270	54.2	500	100
Overall perception of quality of life	-	-	136	27.2	364	72.8	500	100

Relationship between age and domain score level of quality of life

Pearson's correlation showed that age had a low positively correlated significant with overall perception of quality of life (r = .179**, p ‹ .001), physical domain (r = .214**, p ‹ .001), psychological domain (r = 175**, p ‹ .001), social relationship ((r = .099*, p =.028), and environment ((r = .095*, p = .033), respectively (table 4).

Table 4 Relationship between age and domain score level of quality of life

Items	Physical	Psychological	Social relationship	environment	Overall quality of life
Age	.214**	.175**	.099*	.095*	.179**
P value	.000	.000	.028	.033	.000
Physical	1	.670**	.560**	.571**	.851**
P value		.000	.000	.000	.000
Psychological		1	.504**	.595**	.837**
P value			.000	.000	.000
Social relationship			1	.574**	.724**
P value				.000	.000
environment				1	.863**
P value					.000
Overall perception of quality of life	.851**	.837**	.724**	.863**	1
P value	.000	.000	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed)., *. Correlation is significant at the 0.05 level (2-tailed).

Different between gender and domain level of quality of life

An independent-sample t-test indicated that scores for female and male were not significantly at .05 with every domain.

Table 5 Independent t-test between gender and domain score of quality of life

Domain	gender	Number	*mean*	*SD*	*t*	*df*	*P value*
Physical	female	472	27.87	3.46	.352	497	.725
	Male	27	27.63	3.36			
Psychological	female	472	23.91	2.87	-.099	497	.921
	Male	27	23.96	2.55			
Social relationship	female	472	12.03	1.56	-.156	497	.876
	Male	27	12.07	1.92			
Environment	female	472	29.97	4.19	1.224	497	.221
	Male	27	28.96	3.84			
Overall quality of life	female	472	101.49	10.99	.515	497	.607
	Male	27	100.37	10.89			

Different between ages and domain level of quality of life

One – Way ANOVA indicated that a main effect of overall perception of quality of life on preferences for ages: F (7, 492) = 4.481, p ‹ .001, ηp2 = .0599; physical domain: F (7, 492) = 6.941, p ‹ .001, ηp2 = .0899; psychology domain: F (7, 492) = 3.714, p = .001, , ηp2 = .0502 and social relationship: F (7, 492) = 2.416, p = .019, ηp2 = .0332 but age preferences did not differ significantly with environment domain, F (7, 492) = 1.772, p = .091 , ηp2 = .0246. (Table 6).

Table 6 One-Way ANOVA between age and domain score of quality of life

Domain	Age	Sum of Squares	df	Mean Square	F	Sig.	ηp2
Overall perception	Between Groups	3600.164	7	514.309	4.481	.000	.0599
	Within Groups	56467.794	492	114.772			.9401
	Total	60067.96	499				
Physical	Between Groups	534.686	7	76.384	6.941	.000	.0899
	Within Groups	5414.232	492	11.005			.9101
	Total	5948.92	499				
Psychology	Between Groups	203.807	7	29.115	3.714	.001	.0502
	Within Groups	3857.143	492	7.840			.9498
	Total	4060.95	499				

Social Relationship	Between Groups	41.288	7	5.898	2.416	.019	.0332
	Within Groups	1201.374	492	2.442			.9668
	Total	1242.66	499				
Environment	Between Groups	213.732	7	30.533	1.772	.091	.0246
	Within Groups	8477.906	492	17.232			.9754
	Total	8691.64	499				

Significant at the 0.05 level (2-tailed).

Discussion

The results showed that the samples were 5.4% male and 94.6% female of nursing students. The averages of ages are 20.48 year old (SD= 1.08). They had 18 minimal and 25 maximum of ages.

The One-ANOWAY analysis presented that age was different significant at .05 with the physical domain, psychological domain, social domain and overall quality of life, but it had not different significant with the environment at .05. This result confirms that age is the factor of individual personal. The older people have leaned, the more experiences have found. Their nursing students' experience has studied in clinical practice since the second year to the fourth year. It is meant that they have changed their mind, knowledge, and social network. Some nursing students feel that social relationship and environment had not good quality of life for them (2 person, table 3) due to they are associated with being anxious, unable on the task or be happy with oneself (Michele Baumann and et al, 2014). Students spend much time at college both sleeping and studying in the same environment thus it is not different with age. Age is reflected in their mind of nursing students, how they feel, how they are, or how their activity, and how their perception via thinking and older.

Conclusion

So, quality of life in nursing students who live in dormitory through 4 years in the same environment at nursing college by using WHOQOL)-BREF-Thai instrument. We can know about the quality of life during 2-4 year class, age is reflected in the physical, psychological, and social relationship domain quality of life. In this study Independent –test showed that it had not different significant between male and female with their quality of life. On the basic of the above findings, it seems significant that strategies are promoting the positive thinking, positive communication and positive connection among students and faculty to improved quality of life.

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The Effects of Group Counseling Program Based on The Satir Model on Adaptation and Mental Health of First Year Nursing Students At, Boromarajonani College of Nursing, Nakhonratchasima[1]

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Abstract

Background: Adaptation of first-year students with a changing environment regarding the transition to college influences mental health.

Purpose: The purpose of this study was to examine the effects of the group counseling program based on Satir Model on the levels of adaptation and mental health of first-year nursing students at the Boromarajonani College of nursing, Nakhonratchasima.

Methods: This research employed a quasi-experimental design. Participants were first-year nursing students who met the study criteria including being able to participate in the group counseling, having quite low and quite high level of adaptation, and willing to voluntarily participate in the study. Simple random sampling technique was used to recruit 16 samples from the 172 target population. Each sample was randomly assigned to experimental (n=8) or control group (n=8). All participants in the experimental group received group counseling program based on the Satir Model conducted for ten sessions, twice a week over a five-week period. Each session was approximately 60-90 minutes long. While participants in the control group received usual counseling from advisors of the college every month. The research instruments comprise 1) the Adaptation Assessment questionnaire consists of 32 items with Cronbach's alpha of .86. 2) the CCAPS-62 Thai questionnaire consists of 62 items with Cronbach's alpha of 0.89. 3) the Group Counseling Program based on the Satir Model which was developed by researcher, content validation by 3 experts, with the item-objective congruence index equal to 1. Descriptive statistics and t-test statistics were used for analyzing data.

Results: 1) The average score for adaptation of nursing students before receiving the intervention was at lower level (M=2.3, SD=0.19), while those after receiving the intervention was at good level (M=3.07, SD=0.12).

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2) The average score for the mental health of the participants before receiving the intervention was quite low (M=2.92, SD=0.13), while those after receiving the intervention was at a normal level (M=3.37, SD=0.27).

3) There was a statistically significant difference in pre- and post- scores for adaptation ($p<.05$). The average score for adaptation in the experimental group after receiving the intervention was higher than before the intervention.

4) There was no statistically significant difference between the post-score for adaptation in the experimental group and the control group ($p > .05$). The average score of adaptation in the experimental group after receiving the intervention was higher than the control group.

5) There was a statistically significant difference between the pre-score from the post-scores for mental health in the experimental group ($p < .05$). The average score for mental health in the experimental group after the intervention was higher than before the intervention.

6) There was no statistically significant difference between the post-score for mental health in the experimental from the control group ($p > .05$).

Conclusion: The results suggest that the group counseling program based on the Satir Model may be of benefit as a method to increase adaptation and mental health of nursing students. This intervention could be provided to other nursing students in order to improve their adaptive skills and mental health during the transition to nursing college.

Keywords: Nursing student, Group Counseling, Satir Model, Adaptation, Mental health

Introduction

Adaptation is an essential skill for a human being because people, who can adapt to changes in the environment successfully, they may have a good quality of life. On the other hand, people cannot be able to cope with adaptive challenges that may damage both physical and mental health, emotions and relationships with others. A previous study found that transition to college contributed developmental challenges to freshman nursing students that can disturb the students' adaptive mechanisms, so the students who cannot handle such the situation effectively may be suffered from mental health problems such as anxiety, stressors and depression.

The survey of the Nakornratchasima Boromarajonani College of nursing reported that the rates of nursing students' persistence in baccalaureate nursing programs decreased from 97.93% in 2012 to 97.73% in 2013, and dropped to 97.75% in 2014. Furthermore, the graduation rates of nursing students decreased from 100% to 97.01% between 2012 and 2014. The majority of studies presented that a specific reason for leaving the baccalaureate nursing programs was an inability to adapt to unfamiliar environments in nursing professional education so that caused the students to become stress and suffer from mental health problems.

Therefore, investigations in an intervention to assist the freshmen nursing students who cannot adapt to the transition to college and who have a risk for mental health problems is essential to the nursing college. In addition, a decrease in the number of nursing students' persistence and completion of a nursing program has caused shortages of nurses, so an intervention to maintain nurses to work in Thai public health care is needed. Thus, this study aimed to investigate an effective method which may be of benefit for the student's nurse population in terms of improving adaptive skills, so the students can complete the baccalaureate nursing program that may increase the rates of nursing students' persistence and completion of the nursing program.

Background

Adaptation refers to individuals' efforts to reduce stress and to seek methods which can response their needs and social needs so that a successful adaptation would lead life satisfaction during a changing environment. Similarly, Department of Mental Health, Ministry of Public Health (2015) pointed out that individuals, who can adapt to a changing environment successfully, may have mental well-being. Previous research has found that nursing students' adaptation can be divided into four categories including educational adaptation, social adaptation, personal adaptation and adaptation in the sense of the college (Chaichompoo, 2006). In terms of adaptation in the educational system, a study by (Suwannakhot, 2010) illustrated that the difference between the secondary educational system from the tertiary educational system in Thailand was a vital problem to students' adaptation because most of the students did not know how to perform in higher education leading stressors that can cause mental health disorders.

It was found in the review literature that group counseling is a useful intervention for helping clients to increase their self-acceptance because this intervention can encourage the clients to investigate problems by themselves, to learn how to face unpleasant situations, and to realize that others have similar problems (Supmee, 2007). Moreover, Virginia Satir believed in the potential of human beings that individuals can be able to make a change by using their own abilities. The Satir Model focus on investigating individual abilities and the differences in individual lived experiences so that individuals can utilize these differences in their own powerful resources in a change process. Therefore, the aims of the group counseling program based on the Satir Model were 1) to realize that others people's needs and problems 2) to improve self-acceptance, self-respect, self-confidence, and positive attitudes to themselves 3) to investigate the method of solving the problems and to decrease self-conflict 4) to recognize their own making decision and to wisely and well choose the choices 5) to plan for desired behavior change and to be responsible for the impact of their own plan 6) to improve social skills and to recognize others' feelings and needs.

Overall, there seems to be some evidence to indicate that the positive effect of the group counseling program based on the Satir Model, so this intervention was employed in this study as an intervention for on improving adaptation and mental health in the first-year nursing students at The Naknhonratchasima Boromarajonani College of nursing. Providing the

program for this population would contribute nursing students' satisfaction with nursing programs and profession. In addition, the effective adaptation and mental well-being are important for the nursing students in terms of academic performance and quality of life so that the students would be good health professionals in the future.

The purposes of research

1. The study compared averages of the pre-and post-scores for adaptation and mental health of all participants in the experimental group.
2. The study compared averages of the post-scores for adaptation and mental health of all participants in the control group and the experimental group.

Research hypothesis

1. It was hypothesized that an average of the post-scores for adaptation in the experimental group would be higher significant than the pre-scores.
2. It was hypothesized that an average of the post-scores for mental health in the experimental group would be lower significant than the pre-scores.
3. It was hypothesized that an average of the post-scores for mental health in the experimental group would be higher significant than those in the control group.
4. It was hypothesized that an average of the post-scores for adaptation in the experimental group would be higher significant than those in the control group.

Expected benefit

1. The expected benefit of this study was to understand the baseline of nursing students' adaptation and mental health, so the college can prepare to produce a plan to promote and to prevent the risk for mental health issues resulting from poor adaptation.
2. The researcher developed the effectiveness of the group counseling program based on the Satir Model to predict the expected benefit of this program regarding gain in the nursing students' adaptive skills and mental health well-being.
3. The researcher expected that the program could be used as an intervention to prevent the loss of professionals from public health sector and to decrease drop-out rates of nursing students from the baccalaureate nursing program due to poor adaptation and mental health issues.

Methodology

Population

172 first year nursing students studied a baccalaureate nursing program at the Naknhonratchasima Boromarajonani College of nursing in 2015.

Sample

The participants were recruited from 172 first year nursing students who studied a baccalaureate nursing program at The Naknhonratchasima Boromarajonani College of nursing in 2015. All participants were able to complete the Adaptation Assessment questionnaire and the CCAPS -62 Thai questionnaires in order to measure the scores for adaptation and mental health respectively. The inclusion criteria included; 1) adaptation score range was 1.51 to 2.50, with indicating quite low adaptive ability; 2) mental health score range were 1.51 to 2.50 and 2.51 to 3.50, with indicating having a mental health problems and normal mental health condition respectively 3) all participants enrolled in the baccalaureate nursing program who also voluntarily gave written consent to participate in the research. 16 participants who met the inclusion criteria were recruited by simple random sampling method.

Design

Each participant was randomly assigned to the experimental group or the control group. All participants in the experimental group (n=8) received the group counseling program based on the Satir Model. This intervention was conducted ten sessions, twice a week over a five-week period. Each session was approximately 60-90 minutes long. While participants in the control group (n=8) received usual counseling from advisors of the college monthly. All participants completed the pretest and posttest.

Instruments

The instruments selected for this study were following; 1) the Adaptation Assessment questionnaire was examined through 32 items. Cronbach's alpha was .86; 2) the CCAPS-62 Thai questionnaire consists of 62 items. Cronbach's alpha was 0.89; 3) the group counseling program based on the Satir Model which was developed by the researcher. The content validity of the program was approved by 3 experts who had experience for creating the Satir Model or used to use Group Counseling Program Based on the Satir Model. Item-Objective congruence Index was 1.

Statistical analysis

Descriptive statistical analyses were performed to examine the general characteristics of the participants. The t-test was carried out to examine the difference in the mean value of a normally distributed outcome of pre- and post- scores for adaptation and mental health of all participants in both groups. For verifying statistical significance, the significance level was set at a p-value $< .05$

Ethical considerations

The study will be approved by the Ethical Review for Research Involving Human Research Subjects ofBoromarajonani collage of nursing, Nakhon Ratchasima. All participants were

informed about the right to freely withdraw from the study and their identities will be kept in the strictest confidence, and then the researchers will obtain written informed consent.

Results

Demographic characteristics

172 student nurses were 164 females (95.3%) and 8 males (4.7%). 172 nursing students' age range was 15 to 18-year-old, which was accounted for 59.3% of all the nursing students. 84 nursing students (48.8%) received a monthly personal income 3,999 to 1,000 Bath (Thai). 168 nursing students (97.7%) held high school academic achievement (GPA› 3.00), while 4 participants (2.3%) held GPA from 2.99 to 2.00.

Table 1: Comparison of mean of pre- and post- scores on research variables by group (the experimental group and the control group)

Variables	**Pre-intervention**	**Post-intervention**	***Df***	***t***	***p (1-tailed)***
	$\bar{X}$ **SD.**	$\bar{X}$ **SD.**			
Adaptation					
Experiment	2.3 (0.19)	3.07 (0.12)	7	-6.39	.00*
Control	2.37 (0.13)	2.99 (0.12)	7	-4.45	.0015*
Mental health					
Experiment	2.92 (0.13)	3.37 (0.27)	7	-4.02	.0025*
Control	3.0 (0.13)	3.38 (0.27)	7	-3.1	.0085*

Comparison of the mean of pre- and post- scores for adaptation and mental health of all participants in the experimental group and the control group.

From the table 1, compared with the experimental group, there was a statistically significant increase in adaptation scores and mental health scores after completing the group counseling based on the satir model (p ‹ .05). However, compared with the control group, there was a

statistically significant increase in adaptation scores only after completing the usual intervention (p ‹ .05).

Table 2: Comparison of mean of the post- scores between the experimental group and the control group by research variables

Variables	Experiment	Control	*Df*	*t*	*p (1-tailed)*
	$\bar{X}$ (SD)	$\bar{X}$ (SD)			
Adaptation	3.07 (0.12)	2.99 (0.12)	7	.37	.36
Mental health	3.37 (0.27)	3.38 (0.27)	7	-.44	.48

Comparison of mean of the post- scores between the experimental group and the control group by research variables (adaptation and mental health)

From the table 2, the results illustrate that the mean of the post-scores for adaptation in the experimental group was higher than the control group, but the analysis of variance was not statistically significant. In contrast, the mean of the post-scores for mental health in the experimental group was lower than the control group. However, the analysis of variance was not statistically significant.

Discussion

The results of the research were related to the research hypothesis 1 that an average of the post-scores for adaptation in the experimental group was higher than the pre-scores, and the result was statistically significant. It is clear that there was a positive impact of the group counseling based on the Satir Model on improving adaptation in the nursing students. The improvement of adaptation in experimental group after completing the intervention may be explained by a previous study that the group counseling based on the Satir Model can encourage group members to explain their multiple issues so that they can express their emotions and their feelings. As this moments, other members in the group therapy can listen to recognize other members' problems, so all members can explore steps in solving the problems together. By doing this, the members in the group therapy can investigate their own ability in solving the problems as a result of learning from other members' problems. In addition, the members may realize that they are not only one who have to face the difficult situations leading an improvement of self-acceptance and others' acceptance. Based on the Satir model, people have abilities to make choices, so they can change their lives. Satir believed that mind change could be produced by positive communication while interacting with the group counseling because the group therapy can contribute positive learning which impacts "the Personal Iceberg." The personal iceberg included behavior, feelings, perceptions, expectations, coping, and longings.

Using personal iceberg has a positive impact on the participants. For example, participants in the experimental group reported that before participating in the group therapy, they couldnot handle multiple issues relating to intense academics, the college's rules and daily lives in the nursing dormitory, however, after receiving the program, they came across the problems and became to focus on what methods which can be employed to solve the problems in their daily lives. Thus, the participants were able to establish their directed goals about the completion of a nursing program within four years. It can be seen that the group therapy resulted in internal shifts such as participants' perspectives on live goals rather than external shifts such as changing in the college environment, so it can be seen that the group counseling can force a sense of self-acceptance.

From the observational data, the researcher found that the participants, who received the intervention, became more satisfied their daily lives. This is because firstly, the participants can gain more understanding about others' problems, so they felt that they were not only one who have a problem. Secondly, they suggested others about how to solve the problems that can improve their self-esteem as long as received advice from other members, so they can apply these suggestions to solve their own problems. As a result, the positive relationships would be produced after participating the group counseling, so the levels of well-being and self-esteem increased. These results are similar to the study by Pawong (2008) that there was a positive impact of the group counseling program based on Satir Model on increasing in levels of self-esteem in prisoners. This study illustrated that before receiving the intervention, the prisoners had isolated issues, insomnia, irritability, self-blame, guilt, and low self-esteem, but after receiving the intervention, the levels of self-esteem significantly increased ($p < .05$).

The results of the research were related to the research hypothesis 2 that an average of the pre-scores for mental health in the experimental group was lower than the post-scores, and the result was statistically significant. An increase in the levels of mental health after completing the group counseling could be explained by the foundation of the Satir model that people are able to make a choice to change their lives, so individual mind changed by positive communication while interacting in the group because the group therapy can contribute positive learning environment that can impact "the Personal Iceberg". The personal iceberg comprises behavior, feelings, perceptions, expectations, coping, and longings. Using personal iceberg has a positive impact on the participants. For example, all member in the group therapy can investigate their own ability in solving the problems due to learning from other members' problems, so they can establish directed goals in their lives and realize their desires. In addition, the members may realize that they are not one person who have to handle the problems leading an improvement of self-acceptance and others' acceptance. The results of this study found that seven of eight participants in the experimental group did not want to study in the nursing program, but financial problems, family expectations, and unsuccessful admission in other university caused them to study the nursing program, so they had feelings of being upset to study in the nursing program. However, after receiving the intervention, the participants reported that the group provided opportunities to express their feelings and emotions, and they compared their own problems to other members' problems that can contribute a positive learning environment, so the levels of self-esteem and perspectives on the problems relating

studying in the nursing program were improved by participating in the group. These results are in agreement with the foundation based on the Satir Model that an increase in self-esteem leading to good adaptation can contribute mental well-being. In addition, the results of this study seem to be consistent with other research which found that the effect of the group counseling program based on Satir Model on goal setting of students' lives at Rajamangala University of Technology Lanna (Asai, 2008). The findings of the study reported that the post-scores for live goals in the experimental group were significantly higher than the pre-scores ($t = -3.25$; $p<.01$). Furthermore, the post-scores for live goals in the experimental group was significantly higher than those in the control group ($t = 3.08$; $p <.01$).

The results of the research did not relate to the research hypothesis 3, as the research results illustrated that an average of the post-scores for mental health in the experimental group was lower than those in the control group, but there were not statistically significant results. Although, these results differ from the foundation based on Satir Model because Satir believed that people have abilities to make a choices to change their lives, so individual mind change can be produced by positive communication while interacting with the group A possible explanation for the results which appeared to contradict the hypothesis 3 is that the stage of change of the participants in the experimental group was in preparation stage and determination stage, so even the if the participants had the intention to change, but the effective adaptation would be produced over six months during action stage to maintain stage. Thus, the participants in the experimental group who were in preparation stage might have ineffective adaptation, so they may not have mental well-being as the post-scores for mental health were lower than those in the control group. These results corroborate the ideas of Janwanpen(2006) who studies the effect of the program on improving self-esteem in students who studied grade 9 at the opportunity expansion school, Khon Kaen Province. The findings of the study reported that the levels of self-esteem of participants did not change after receiving the program. In addition, the levels of self-esteem in the experimental group and the control group were not different. However, 1-month follow-up test found that the levels of self-esteem in the experimental group were stable at the same level, and there was a tendency to increase, but in the control group, there was a statistically significant decrease in the levels of self-esteem.

The results of the research were related to the research hypothesis 4 that an average of the post-scores for adaptation in the experimental group was higher than those in the control group. However, the result was not statistically significant. This result may be explained that good adaptation would be maintained over six months after participating the group counseling program based on the Satir Model, however, the post-scores for adaptation were gathered after completing the program immediately (10 sessions), so the post-scores for adaptation in the experimental group was higher than those in the control group. Another possible explanation for this result is that the participants were in determination stage and preparation stage, so an effective adaptation may not be produced in these stages. The stable adaptation will be established in the action stage over six months, so the participants can apply methods which they have learned in the group to solve their own problems in this stage,

Recommendations

1. The group counseling program based on Satir Model could be utilized for the same or similar population in order to improve their adaptive skills and mental health that may protect them from the risk for maladjustment during the transition to the college.
2. The group counseling program based on Satir Model would be utilized for the same or similar population in order to improve positive attitudes toward their profession that may increase the levels of students' life satisfaction during studying in the college.
3. 3-month follow-up and 6-month follow-up assessment of adaptation scores and mental health scores may be needed to examine longer-term beneficial effects after completion of the group counseling program based on Satir Model in order to understand the stability of changes in long-term period so that the program may be developed for the future study.

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The Effect of Self-Help Group Program Based on Person-Centered Care Conceptual Framework On Self-Esteem Of Nursing Students[1]

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Abstract

The purpose of this quasi-experimental study was to evaluate the result of self-help group program based on person-centered care conceptual framework on the self-esteem of nursing students. Simple random sampling technique was used to recruit 20 samples from the 172 target population, the first year nursing students. Each sample was randomly assigned to experimental or control group which was 10 persons in each group. The experimental group received the intervention named "The Self-help Group Program Based on the Person-centered care" which was developed by researchers while the control group received usual counseling program from school advisors. The intervention was conducted two sessions per week for five consecutive weeks, one to two hours for each session. The research instrument was the Self-esteem Assessment Questionnaire which was developed by Praphat Na Phikun (2008). Cronbach's alpha coefficient for this questionnaire was .92. The self-help group process which was developed by Marram was applied for being research intervention. Content validity was approved by 3 experts. The index of item-objective congruence (IOC) of the program was .93. Descriptive statistics and t-test statistics were used for data analysis.

Results showed that the average score of self-esteem in the experimental group was at good level both at before and after interventions. There was a statistically significant difference of the self-esteem average scores between before (M = 2.70, S.D = 0.11) and after (M = 3.18, S.D = 0.27) intervention in the experimental group ($p < .05$). The average scores of self-esteem between the experimental (M = 3.17, S.D = 0.29) and control groups (M = 3.03, S.D = 0.26) after intervention were not statistically significant difference ($p > .05$).

These results indicated that the self-help group program based on the person-centered care conceptual framework significantly improved self-esteem among nursing students and

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facilitated participants sharing positive feedback with peer. Therefore, this intervention could enhance the self-esteem of nursing students who are studying at this nursing school.

Keywords: self-esteem, self-help group program, person-centered nursing theory

Background

Nursing students in Thailand are educated in a 4-year baccalaureate program. A study in Thai nursing program, especially in the first year, is a turning point in the educational journey of nursing students as it marks the beginning of their professional development. The first semester of the first year seems to be the most critical period for nursing students because of many possible adjustment difficulties it can be generated. The good first-year transition encompasses independent functioning including the ability to develop internal motivation for learning, to have a good time and money management, to attend classes and keep up assignments (Clinciu, 2013). The four-year nursing program, therefore, affects many aspects of the personal development of nursing students and may also have an effect on students' self-esteem. Self-esteem is not only seen as a basic feature of mental health, but also as a protective factor that contributes to better health and positive social behavior through its role as a buffer against the impact of negative influences. It is seen to actively promote healthy functioning as reflected in life aspects such as achievements, success, satisfaction, and the ability to cope with diseases. Conversely, poor self-esteem can play a critical role in the development of an array of mental disorders and social problems, such as depression, anorexia nervosa, bulimia, anxiety, violence, substance abuse and high-risk behaviors. These conditions not only result in a high degree of personal suffering, but also impose a considerable burden on society (Mann, Hosman, Schaalma, & de Vries, 2004).

It has been suggested that the roots of building high self-esteem may lie in the educational process. During socialized in the nursing program, the student acquires a concept of self as a nurse. Having a feeling of self-confidence and self-worth is basic to developing leadership skills for baccalaureate nursing graduates (Sasat, Burnard, Edward, Naiyapatana, Hebden, Boonrod, Arayathanikul, & Wongmak, 2002). The nature of nursing involves a high degree of personal and group interaction. Nursing students have to interact with others on a daily basis. Higher self-esteem can help nursing students possess greater self-confidence and self-satisfaction, which in turn, can lead to more affirmative professional identity when they become nurses (Ross, Zeller, Srisaeng, Yimmee, Sawatphanit, & Somchid, 2006).

Applying the person-centered care conceptual framework to design the self-help group activity in this study intervention could enhance the first year nursing students' self-esteem, improve their life experiences with a peer, encourage them to be more involved in decisions about learning assignments and other school activities, and help them feel more satisfied. Although there is no one definition of person-centered care (McCance, McCormack, & Dewin, 2011; Kitson, Marshall, Bassett, & Zietz, 2013), person-centered care can be defined as a way of thinking and doing things that sees the people using health and social services as equal partners in planning, developing and monitoring care to make sure it meets their needs (Health

Innovation Network, 2016). Many studies have looked into what matters to students and how to provide person-centered care to make sure they have a good experience (Coulter & Ellins, 2006; Cronin, 2004; Coulter, Fitzpatrick, & Cornwell, 2006). Nursing students are an importance aspect of the developing health care system of Thailand and a valuable recourse for the nursing profession. It is importance to examine self-esteem among Thai nursing students because they will be part of Thai health care system shortly. An intervention which was applied the person-centered care conceptual framework to design self-help group program could possible increase self-esteem level of the first year Thai nursing students.

Aim of the study

The aims of the study were to:

1) Determine the level of self-esteem of nursing students in the experimental group between before and after intervention
2) Compare the level of self-esteem of nursing students between the experimental and control groups after intervention

Research Question and Hypothesis

Two research questions and two research hypothesizes need to be tested

Research Question 1 Does the self-help group program enhance the self-esteem of nursing students in the experimental group?

Hypothesis 1 Self-esteem of the experimental group at posttest would be higher than pretest.

Research Question 2 Does the self-help group program increase self-esteem of nursing students in the experimental group after intervention?

Hypothesis 2 Self-esteem of the experimental group after intervention would be higher than the control group.

Research Methodology

Study design

A quasi-experimental study was conducted to evaluate the levels of self-esteem of among the first year nursing students at Boromarajonani College of Nursing, Nakhonratchasima, Thailand.

Study Population

The 172 target population consisted of all ages of nursing students studying at Boromarajonani College of Nursing, Nakhonratchasima, Thailand in the academic year of 2015.

Sample

A simple random sampling and the random assignment were adopted for this study. The inclusion criteria were nursing students who were able to participate in self-help group program throughout the study period, evaluated their self-esteem levels lower than the first quartile, and voluntarily participated in this research. A total of 46 target population met the study criteria. Only 20 participants were recruited and randomly assigned to experimental and control groups, 10 persons for each group.

Research Instrument

A Self-esteem Assessment Form which was developed by Praphat Na Phikun (2008) was used to collect data. It was composed of two parts requesting demographic information from respondents and identifying the level of self-esteem of the respondents. The self-help group program based on person-centered care conceptual framework was developed by the researcher.

Validity and reliability of the study

The self-help group process which was developed by Marram (1978) was applied for being research intervention. Content validity was approved by 3 experts. The index of item-objective congruence (IOC) of the program was .93. Cronbach's alpha coefficient for the Self-esteem Assessment Form was .92.

Procedure

A quasi-experimental pretest-posttest control group design was used to evaluate the result of self-help group program based on person-centered care conceptual framework on the self-esteem of nursing students. Before the initial commencement of this program, all participants signed an informed consent agreement and completed a demographic information questionnaire. After the complete of the pretest assessment, the experimental group participated in the self-help group program that would be held two sessions per week for five consecutive weeks, one to two hours for each session. The control group received the usual program from school advisors. After completion of the program, both the experimental and the control group completed the posttest assessment.

Ethical considerations

Participation was voluntary and informed written consent was obtained from each participant prior to collecting data. A Self-esteem Assessment Form was not linked to the signed informed

consent in order to maintain anonymity. Human rights, anonymity and confidentiality were maintained throughout the study.

Data analysis

The data collected were analyzed by independent sample t-test in an effort to examine the initial difference between the experimental and control groups on the post-test meanwhile the difference between pre-and post-test in the experimental group was analyzed by dependent sample t-test. Frequency, mean, and standard deviations of the experimental group and control group were calculated.

Results

Sample characteristics

Twenty participants (100% responding rate) completed the Self-esteem Assessment Form. The demographic characteristics of the respondents are illustrated in Table 1.

Table 1 Demographic characteristics of participants (N = 20)

Characteristics	Frequency (n) /Percentage (%)					
	Experimental group		Control group		Total	
Age (years)						
19	10	100	9	90	19	95
20	-	-	1	10	1	5
Gender						
Female	9	90	10	100	19	95
Male	1	10	-	-	1	1
Average grade point						
3.00-3.49	4	40	2	20	6	30
3.50-4.00	6	60	8	80	14	70

As seen in Table 1, 95% (n = 19) of participants was aged 19 years old and 95% of participants (n = 95) was female, most of their average grade point was between 3.50-4.00

Research question 1: Does the intervention enhance the self-esteem of a participant in the experimental group? Means and standard deviations of the pretest and posttest of self-esteem are presented in Table 2.

Hypothesis testing

Hypothesis 1: Self-esteem at posttest of the experimental group would be higher than pretest.

The result of testing found that there was the statistically significant difference between pre- and post- intervention within the experimental group. The result in the control group also found that there was statistically significant difference pre-and post-test.

Table 2 Paired Sample Test within Groups between the Pre-and Post Intervention

Variable/ Group	M (SD)		Paired-*t*	df	P(1-tailed)
	Pre-test	Post-test			
	Experimental group				
Self-esteem	2.70(0.11)	3.18(0.27)	-5.042	6	.002*
	Control group				
Self-esteem	2.70(0.08)	2.99(0.23)	-3.325	8	.01*

*p<.05

Research question 2: Does the intervention increase the self-esteem of participants in the experimental group after intervention? Means and standard deviations of the pretest and posttest of self-esteem are presented in Table 3.

Hypothesis testing

Hypothesis 2: Self-esteem of the experimental group would be higher than the control group after the intervention. The result of testing found that there was the statistically significant difference between the experimental and control groups after intervention.

Table 3 Independent Sample Test between groups after intervention

Self-esteem / Group	M (SD)	t	df	p (1-tailed)
Experimental (n=7)	3.18(0.27)			
		14	2.92	.01*
Control (n=9)	2.99(0.23)			

*P < .05

Discussion of finding

The present study examined the level of self-esteem and the effect of self-help group program derived from person-centered care conceptual framework on self-esteem level of the first year nursing students studying in the first semester of 2015. Participants in the experimental group attended the self-help group program that was held two sessions per week for five consecutive weeks, one to two hours for each session, whereas participants in the control group received the usual program from school advisors. The finding indicated that the participants who participated in the experimental group demonstrated significant higher self-esteem then did

participants in the control group. At the same time, the results revealed the significant effects of this program on the dependent variables.

Exposing the experimental group to the self-help group program significantly increased their self-esteem. This may be linked to the fact that exposing the experimental group to self-help group program enables them to be aware of their doing and wants, and to plan and implement the plan. Also, self-evaluation for the implementation and the choice of more effective behaviors help them improve responsibility. The study result suggested that the focus of intervention was the effect on his/her decision-making and the responsibility for dealing with the situation in his/her educational life that would be more helpful (Banmen & Maki-Banmen, 2015).

The experimental group experience psychological support from peers and group leader. The intervention was used in this study includes observation of demonstration, role-play, behavioral practice, explanation, feedback, reinforcement, encouragement, and assignment of behavioral tasks related to group activities. In the posttest immediate after the intervention, participants who participated in the self-help group program exhibited higher self –esteem than did participants who received the usual program. Exposing the experimental group to a wide variety of group activities, such as psychological support from the other group members as well as group leader, role-play with peers and challenging their sense of shame, significantly affect their self-esteem (Botek, 2015).

Conclusion

These results indicated that the self-help group program based on person-centered care conceptual framework significantly improved self-esteem among the first year nursing students and facilitated participants sharing positive feedback with a peer. Therefore, this program could enhance the self-esteem of nursing students. The program we created here can serve as a reference for the future application in other classes of the nursing program.

Implications

The study results confirmed that nursing students who are assisted in increasing and maintaining a strong sense of self-worth via boosting their self-esteem are overall healthier in mind and body. Self-esteem is an important aspect of the adaptive processes at all stages of life. It is linked to the quality of adaption, well-being, life satisfaction, and health. Self-esteem is not related to chronological age, but to the people's quality of social integration and adaptive capacities to cope with life events. According to Rosenberg (1985), self-esteem can be high or low, and its development is part of a lifelong growth process. Self-esteem expresses an attitude of approval or disapproval towards oneself. People with high self-esteem had self-respect, considered themselves to be worth, and were proud of their achievements. On the contrary, people with low self-esteem tended to lack confidence, were self-critical, and considered themselves less worth and competent than others (Burnard, Hebden, & Edward, 2001). The

special emotional needs of the first year nursing students should therefore always be highlighted.

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Exploring Desirable Health Status and Depression among Elderly from a Rural Northeast Region of Thailand

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Abstract

This descriptive research aimed to explore desired health and depression among elderly resided in Khok Krachai Sub-district, KhonBuri District, Nakhon Ratchasima Province. Participants of this study were 316 elderly randomly selected using simple random sampling method. Instruments used in this study were personal information of participants, the desirable health assessment form and The Depression Screening Questionnaires. The desirable health assessment form including 4 topics as follow 1) physical and mental health contained questions asking in 2 areas. Physical health was measured using question asking about chronic illness and management, results in blood pressure and blood sugar. Mental health was measured using 15-item Thai Mental Health Indicators Version 2007. 2) Questions are asking whether elderly have at least 20 teeth or at least 4 pairs of tooth occlusion. 3) Collected body mass index (BMI) or abdominal circumference. 4) Questions are asking about the ability of the elderly to assist themselves and others. The depression screening questionnaires include 2 Questions (2Q) and 9 Questions (9Q) of Prasrimahaphodi Psychiatric Hospital. The reliability of Thai Mental Health Indicators Version 2007 and the Depression Screening Questionnaires using Cronbach's alpha coefficient were .74 and .92 respectively. The data were analyzed using frequencies and percentages. Results showed that 45 persons (14.24 %) from the samples met the desirable health. There were 271 persons (85.76 %) who did not meet the desirable health. The elderly with the height blood pressure were 151 persons (47.78 %); they were hypertension disease 61 persons (19.30 %) and blood pressure equal to or higher than 140/90 mmHg 90 persons (28.48 %). While the elderly with the height blood sugar level were 121 persons (38.29 %); they were the diabetes mellitus 14 persons (4.43 %) and blood sugar level more than 125 mg./dl 99 persons (31.33 %). Regarding the mental health, there were 134 persons (42.41 %) with a 'good level,' 126 persons (39.87 %) with a 'fair level,' and 56 persons (17.72 %) with a 'poor level.' The elderly with depression were 49 persons (15.51 %), there were 36 persons (11.39 %) with a 'mild level,' there were10 persons (3.16 %) with a 'moderate level,' there were 3 persons (0.95 %) with a 'severe level.' There were 137 persons (43.35 %) who did not have at least 20 teeth or at least 4 pairs of tooth occlusion. There were 99 persons (31.33 %) with exceeding standard BMI or abdominal circumference. Finally, there were 11 persons (3.48 %) who could not assist themselves or others. Results from the study were helpful in understanding the elderly health status in a rural area of Thailand and can be used to develop health promotion programs that meet their conditions and needs.

Background

In 2012, 12.63 percent of Thai population was elderlies (Office of Policy and Strategy, Ministry of Public Health, n.d.) Institute for Population and Social Research, Mahidol University had predicted that the number of Thai people who were 60 years old or above would go up to 15.30 percent while the number of those who were 65 years old or above would be 10.25 percent (n.d.) by the middle of 2014 (July 1st 2014).

According to that information, Thailand was distinctly becoming an elderly society. The result of Thai elderlies from four regions around the country study showed that most elderlies rate themselves as unhealthy. 21.7 percent were suffering from hypertension while 27.3 percent were suffering from diabetes and 13 percent from a depressive disorder. Furthermore, in the Northeastern part of Thailand, the number of elderlies who were suffering from coronary artery disease was 25.9 percent (Institute of Geriatric Medicine, 2006).

Thai National Elderly Board had been aware of this change and came up with a strategic plan for elderlies' health promotion to raise the number of awareness in health promotion so that elderlies could primarily take care of themselves. This plan will be added to the second national plan for elderlies (2002 - 2021) edited version (2009) which is related to The National Health Development Plan No.11which health care system for improving elderlies' life quality is important (Board Director of The National Health Development Plan, 2012)

In order to follow the health development plan, The Student Affairs Department and The Department of Psychiatry, Borommarajonani College of Nursing Nakhon Ratchasima had started an integrated project for meditating, volunteer and public health service for villagers in Khok Krachai Sub-district, Khon Buri District, Nakhon Ratchasima Province. This project expected to produce desirable graduated attributes to students as good performance, disciplined, understanding of humanity and highest benefits to the community. The students participated in activities as the initial treatment, provided health education and health screening including blood pressure, check blood sugar finger stick, weigh, height, and waist circumference measured, examined the ability to help themselves and others, assessed ability to perform daily life and screening for mental health. The results of the health screening found that most of the elderlies with chronic illnesses such as hypertension, high blood sugar, joint pain and depression. That were a disease which difficult to be cured, must be maintained continuously throughout life and must rely on others (National Elderly Board, 2010). The researchers have realized the importance of the issues mentioned above thus collected information on desirable health conditions and depression. This information will be the basis for an in-depth study of health status and contribute to the appropriate health promotion activities.

Research Objectives

This descriptive research aimed to explore desirable health and Depression of elderly people in Khok Krachai Sub-district, Khon Buri District, Nakhon Ratchasima Province, Thailand.

Method

Population and sample

1. The population was the elderly people who live in Khok Krachai Sub-district.
2. Samples were 316elderly people resided in 24 villages collected by Simple Random Sampling. The sample size was calculated by Yamane method from whole 1397 of the population. The confidence level was 95 percent. Characteristic of the participants were; 1) Resided in Khok Krachai Sub-district 2) Sixty years old or upper 3) Be able to communication with Thai language and 4) Pleasant to answer the questionnaires.

Instruments

The instrument used in this study were questionnaires consisting of three parts.

1. The personal information recording form including name, surname, address, phone number, gender, education, occupation, current health problems.
2. The desirable health assessment form including 4 topics follow.

2.1 Physical and mental health which contained questions asking in 2 areas

2.1.1. Physical health asking about chronic illness within one year as ischemic heart disease, cancer, cerebral thrombosis, osteoarthritis, Aids, and tuberculosis. Including asking if was screened hypertension and diabetes within six months.

2.1.2. Mental health was measured using 15-item Thai Mental Health Indicators Version 2007.The 15 items rating score questionnaires interpreted by the score level. The score 51-60 meant to more healthy than the general public (Good), score 44-50 meant to similarly (Fair) and score 43 or less meant to lower than the general public (Poor).

2.2 Questions are asking whether elderly have at least 20 teeth or at least 4 pairs of tooth occlusion.

2.3 Calculated body mass index (BMI) or abdominal circumference.

2.4 Questions asking whether ability of the elderly to assist themselves and others

3. The depression screening questionnaires include 2 Questions (2Q) and 9 Questions (9Q)conducted by of Prasrimahaphodi Psychiatric Hospital. Operate by using 2Q questionnaires to screen if positive then used 9Q to measure the level of depression. The questionnaires were rating scale which interpreted by score level as score 0-6 meant “normal range,” 7-12 meant “mild depression,” 13-18 meant “moderate depression” and 19 or higher meant “severe depression.”

Instruments Quality inspection

Instruments quality inspection by tryout with 30 elderlies similar to participants. The reliability of Thai Mental Health Indicators Version 2007 and the Depression Screening Questionnaires(2Q,9Q) using Cronbach's alpha coefficient were .74 and .92 respectively.

Result

The samples were 221 females (69.9%) and 95 males (30.1%), the mean age of 50.5 years (range 60–87 years). There were 31 elderlies (9.8%) lived alone, 64 (20.3%) lived with a spouse, 220 (69.9%) lived with families. Most of them (301 persons, 95.3%)had "Gold card" for health coverage.For occupation, 92 (29.1%) worked as farmers and 154 (48.7%) had no work.
The study found 271 elderlies (85.76%) had undesirable health as follow.

1. Physical and mental health
   1.1. One hundred and fifty one (47.78%) elderlies had hypertension problem and 90(28.48%) were first height blood pressure detected. There were forty four elderlies with hypertension (13.92%) who had blood pressure lower than 150/90 mmHg and another 17(5.38%) had 150/90 mmHg or higher as shown in Table 1.

Table 1 Numbers and percentage of elderlies with hypertension classified by level of blood pressure

Blood pressure	Numbers (persons)	Percentage
Equal or higher than140/90 mmHg (No history of Hypertension)	90	28.48
Lower than 150/90 mmHg (Hypertension with care providing)	44	13.92
Equal or higher than 150/90 mmHg (Hypertension with care providing)	17	5.38
Total	151	47.78

   1.2. One hundred and twenty one elderlies (38.29%) had hyperglycemia and 99 (31.33%) were first hyperglycemia detected. There were 8 elderlies (2.53%) with Diabetes Mellitus who had blood sugar lower than 140 mg./dl and another 14 (4.43%) had 140 mg/dl or higher as shown in Table 2.

Table 2 Numbers and percentage of elderlies with hyperglycemia classified by level of blood sugar.

Blood sugar (collected from fingertip)	Numbers (persons)	Percentage
Equal or higher than 125 mg/dl (No history of Diabetes Mellitus)	99	31.33
Lower than 140mg/dl (With Diabetes Mellitus)	8	2.53
Equal or higher than 140 mg/dl (With Diabetes Mellitus)	14	4.43
Total	121	38.29

1.3. Fifty six elderlies (17.7%) had lower level of mental health than similar people had as shown in Table 3.

Table 3 Numbers and percentage of elderlies classified by level of mental health

Level of mental health	Number (persons)	Percentage
Higher than similar/normal people(Good)	134	42.4
Equal as similar/normal people (Fair)	126	39.9
Lower than similar/normal people(Poor)	56	17.7
Total	316	100.0

2. One hundred and thirty five elderlies (42.7%) had low dental health, having less than 20 teeth and bite less four pairs.
3. Ninety nine elderlies (31.33%) had undesirable Body Mass Index or waist circumference (BMI out of range as 18.5-22.9 or circumference over 90 centimeters in males and 80 centimeters in female).
4. Eleven elderlies (3.5%) perceived that they lacked the ability to help themselves and others conventionally.

The study of depression survey found 49 elderlies (15.51%) with depression. Thirty six were mild depression, 10 (3.2%) were moderate depression, and another 3 (0.9%) were severe depression as shown in Table 4.

Table 4 Numbers and percentage of elderlies classified by level of depression

Level of depression	Number (persons)	Percentage
Mild depression (score 7-12)	36	11.39
Moderate depression (score 13-18)	10	3.16
SevereDepression (score 19 or upper)	3	0.95
Total	49	15.51

Discussion and Conclusions

The study found most of elderly had undesirable health. Two hundred and seventy one elderlies (85.76%) missed standard of health, only 45 (14.24%) reached the standard. The result consistent with evaluation result of National Elderly Plan which found only 19.3 percent of elderly who had desirable health, both results were lower than the goals of The First National Elderly Plan which was set to 20 percent (National Elderly Board, 2010)In addition, the study also found that most elderly had physical health problems including high blood pressure and high blood sugar as details following.

1. The study found 19.3 percent of elderlies with hypertension consistent with the study by Institute of Geriatric Medicine which found 18.5 percent in Northeastern Thailand (Institute of Geriatric Medicine,2006) including the results of Thai population health examination which found the prevalence of hypertension at 16.9 percent in this area (Eakpalakarn, n.d.) and found 23.6 percent in 2011 (Wirojrat et al, 2011). The survey in 2011 found 33.69% of Thai elderly population with hypertension.This study found 28.48%of elderlies were a risk to hypertension. Cause of risks increasing was degeneration of artery including fat and plaque accumulation in the blood vessel wall were thus lose elasticity that causes peripheral vascular resistance increased or due to the reduction of β2 adreno-receptor sensitivity (Phacheerat, 2004)
2. Although the elderlies with Diabetes Mellitus in the study area was 6.96% that less than 12.8% within Northeastern of Thailand Thailand (Institute of Geriatric Medicine, 2006) but found the elderlies at risk up to 31.33%. Important factors that made the elderly were at risk for diabetes were physical degenerate changing thus the beta cells of the pancreas decreased secreting of insulin, obesity, fat belly in one who not obese and lack or exercise and activities (American Diabetes Association, 2013). The results showed that 31.33 percent of elderlies had over body mass index (BMI) or waist circumference that can affect diabetes control. More than 60 percent of patients in diabetes caring system with BMI above the normal level (Rangsin and Angkasuwapala, 2012).
3. The study found 17.7 percent of elderlies with lower mental health than normal people and 15.51 percent with depression. The study of the prevalence of depression within 30 years found 17.0 to 84.8 percent prevalence of depression in rural areas (Wongphoom, Sookying

and Udomsapayakun, 2011). The findings of the Institute of Geriatric Medicine (2006) found that 10.3 percent of elderly people in the Northeast had the emotion of sadly. Thailand health survey physical examination found that people in the Northeast have the highest prevalence of depression at 3.0 percent (Eakpalakarn, n.d.)

Compared with the study in 2549, found that older adults with depression increased from 10.3 percent to 15.51 percent, factors that were associated with depression including health status and perceived severity of illness (Chunjam, Sang-on and Thaweekhun, 2011). The results of this study also found that older people with physical and mental health problems that affect depression. The old people are faced with changes in the decay of the body and organs causing reduce the physical ability.Changing the role of the leader to be a resident in the family, changing of family relationships as children not to accept, children split to their new family, loss of spouse and lot of changes were affect mental problems. They could feel lonely. While they could face reality, activities that benefit the body and mind will consistently maintain good mental health and satisfaction in life. On the other hand, in case they could not accept and adapted to the changes could cause discouraged, hopeless and depression (Chaisintop, 2014).

Suggestion

1 Should depth research to find the causes and factors that affect the physical health, mental health, controlling blood pressure and blood sugar.
2 Should study the appropriated health promotion activities which according to factors that affect physical health, mental health, blood pressure, and blood sugar controlling.

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Perceptions of the First- and Second-Year Nursing Students on Volunteer Spirit Activities in Health Care Facilities[1]

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Abstract

Background and Purpose: Enabling nursing students to work with a health care team to provide basic nursing care for patients and families, may improve their nursing skills, knowledge, and attitudes toward nursing profession. Doing so in the first two years of a four-year baccalaureate-nursing program, has more meaning because it may help them determine if they would like to continue in this profession. An aim of this research is to investigate the student's perception to a volunteer spirit for developing nursing skills project implemented by Boromarajonani Nursing College Nakhonratchasima, Thailand.

Design and sample: The descriptive research was conducted with a total of 251 freshmen and sophomore nursing students of the 2012 academic year. All students participating in the project were recruited. Study settings were health promotional, district, and provincial hospitals and a medical center. Data collection was completed in the school at the end of the volunteer spirit time.

Measure: The measurement tool was a self-report questionnaire developed by the researchers. It comprises of three parts, 1) a demographic form, 2) a 15 items Likert scale regarding the students' perceptions on the project, and 3) an open-ended question to gather recommendations and other ideas. The tool was validated by three experts in nursing education, and tried out for its reliability with 25 nursing students. The Cronbach's alpha was good at .89. Data were collected between April and May, 2013. Descriptive statistics and content analysis were employed to analyzed data.

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Results: Results show that the majority of students were female (88.84%), studying in the first year (70.52%), and had no experience volunteer spirit in a health care facility (57.77%). The average age was 19.61 years (SD = .79). The students strongly agreed that the volunteer spirit project was good, useful, and worthy to continue (M = 4.57, SD = .56). In addition, it taught them how to sacrifice and dedicate their time to work for common interest (M = 4.52, SD = 60). They perceived themselves lowest, but still agreed, in applying knowledge learned from classes to help patients and their families (M = 4.04, SD = 80). The project helped them deeply understand nursing profession and gain experience working with a health care team. According to the results, nursing instructors should design a volunteer project relevant to the nursing curriculum and students' competency. Future research should be conducted to survey students' needs before participate in a volunteer project.

Keywords: Perception, Nursing Student, Volunteer Spirit Project

Introduction

The changes in the population structure and the structure of the family, the extended family to the nuclear family. With a population of childhood, Aging and more from chronic illness are more numerous. Increased social problems such as drug use, infected with HIV and unwanted pregnancy. The new health system of Thailand aims to create a healthy society by providing communities to engage in self-care. Nursing skills consisting of nursing knowledge that will help them develop the skills to nurses, holistic nursing response to the problem of social reality (Boromarajonani Nursing College Nakhonratchasima, 2010).

Nursing is a profession that is closely related to human life whether individuals, families or communities, in both healthy and illness. Nurses must take into account the various aspects the physical, mental, emotional, social and spiritual effects of health, illness, disability and death. Nursing graduates have been graced with the knowledge embedded ball. Nursing skills an attitude of professional ethics (Somchit Hanucharuenkul, 2000). Which has many aspects such as the moral responsibility, loyalty discipline, ethics and volunteers spirit who volunteer spirit a moral society where one party wishes to rely on the collective conscience of society. Volunteer spirit serve as expressive behavior help others without expecting anything in return. The study found that students had the opportunity to participate in numerous volunteer spirit activities (Kanrawee Beonyanusit, 2011).

The volunteer spirit is an important aspect of being a good citizen of the country because individuals are volunteer spirit who are aware of their duties and responsibilities to take care of the collective wealth of the society and aware of their rights non-intrusive rights of others. The crisis of Thailand today, most people tend to struggle on their own. No matter what happens with the collective. Everyone knew but to use it to their advantage. Thailand has declared a "volunteer spirit" a national agenda since 2007 by the people of Thailand believe that volunteer spirit will create a sustainable society. So education for public health care by producing graduates who are selfless spirit, kindness, generosity and want to help others (Waraporn Wanchaitanawong, Prakaikaew Tanasuwan, 2008). Volunteer spirit projects were

set in concrete and the many volunteer spirit from many professions ages and several agencies. Thailand has a warm, humane society and a pretty good increase. This reduces burnout from hopeless issues both natural disasters, economic, social and political which are always changing. The volunteer spirit activity is increasing, causing a feeling that Thailand has a good heart, people who love Thailand. Thailand wants to help society better to have more help the social capital of no less valuable than other social capital (Wilawan Tophunya, 2011).

Boromarajonani Nursing College, Nakhonratchasima is one of the educational institutions responsible production quality nursing to society. Nursing Students will learn the steps, respectively from basic skills to more complex or difficult skill increased. College cultivates and raise awareness for students to graduate with desirable attributes and identity graduates. Interact with the community and activities that benefit the community. This is consistent with a study of the nursing experiences to visit the elderly that makes students learn welcome developing a relationship of trust together to hear the case. Students believe that the experience gained will help improve the relationship with the client. Learning to listen to others and understand the role of nursing students. (Walton & Blossom, 2013) The 2nd year Bachelor of Nursing students will learn about basic nursing courses in Nursing Concepts, Nursing Theories, Nursing Processes, The Principles and Techniques of nursing. The concept of volunteer spirit to improve their health. Student volunteers choose to practice in a hospital or health facility as a source of capital during the summer semester.

The volunteer spirit develops the skills of nursing students on-site training facilities. Students will help to provide services to patients and their relatives. This would provide trained volunteer spirit to promote the development of skilled nursing care facilities involved in the care and become familiar with the students. Help students attitude towards nursing. The nursing students to perform volunteer spirit for nursing skills. It is very important to be willing to learn both theory and practice to graduate nurses. So the research was to study “Perception of nursing students on the project volunteer spirit develop the nursing skills are students in 2012 of Bachelor first-Year and second-Year to be beneficial to the promotion of volunteer spirit and development nursing skills to students every year. It will then be taken to a research and development project for volunteer spirit for nursing skills to benefit further.

Research Objectives

To study the perception of nursing students who volunteer spirit for nursing skills

Method

Design and Participants

This research is a survey research. The population in this study are nursing student Boromarajonani Nursing College, Nakhonratchasima participating volunteer spirit for developing the nursing skills, nursing students in 2012 consisted of 237 first-year and second-year were 130, totaling 367 samples. Nursing student participating volunteer spirit develop the

nursing skills and provide research data by answering the questionnaire and send back the questionnaire of 251 people.

Procedures and Instruments

The Instruments was a questionnaire on nursing students perception to volunteer spirit for the nursing skills. The researchers have built consists of three parts: (1) Sample characteristics (2) Perception of the volunteer spirit for developing nursing skills of 15 items using a 5-point Likert scale (5= highest, 4= very much , 3= moderate, 2= low level, 1= minimum) (3) Open-ended questions about suggestions and general comments. Research validated the content validity of three members who are qualified teachers and nurses with expertise in nursing research. The internal consistency (Cronbach's alpha coefficient) of the perception of volunteer spirit for developing nursing skills 15 questionnaire for the sample was .89. The data were collected in after the end of training volunteer spirit during the month of April 2013 - May 2013, the student questionnaire and send it back to the research in the first semester of the academic year 2013. Descriptive statistics and Content analysis were used for data analysis.

Result

1. Sample characteristics

The majority of participants were female (88.84%), study at first-year (70.52%), age 20 (43.82%), and had no experience in doing volunteer spirit (57.77%) and practices volunteer spirit for health service in Nakhonratchasima province 44.22%. (see Table 1).

Table 1 Sample characteristics

Sample demographics (N = 251)		N	Percentage
Gender			
	Male	28	11.16
	Female	223	88.84
Year level			
	First year	177	70.52
	Second year	74	29.48
Age (yrs)			
	18	9	3.59
	19	108	43.03
	20	110	43.82
	21	22	8.76
	No response	2	0.80
M = 19.61 , *SD* = .79			
Practical experience volunteering			
	Had	91	36.25
	Never	145	57.77

Sample demographics (N = 251)		N	Percentage
	No response	15	5.98
Setting for volunteer activity			
	Chaiyaphum	89	35.46
	Nakhonratchasima	111	44.22
	No response	51	20.32

2. Perception on the project of nursing students volunteers spirit for nursing skills.

The research found that Nursing Student perception on the volunteer spirit nursing skills project in the overall level seen by many (M = 4.39, SD = .62), with the highest average, including three first. Activities in the program allow students to develop kindness and generosity towards fellow humans (M = 4.60, SD = .57), followed by the volunteer spirit for nursing skills is a great project. Useful and should continue (M = 4.57, SD = .56) and a project to help students recognize the sacrifices and dedication in working for the common good (M = 4.52, SD = .60) in the comments with most the average under three, including the final. The knowledge about nursing/assisted patients was increased (M = 4.23, SD = .67). Nursing Student were trained nursing skills (M = 4.19, SD = .71). The knowledge in the course of the study was utilized to assist patients and their relatives (M = 4.04, SD = .80). (see Table 2).

Table 2 Perception of nursing students to the volunteer spirit develop the nursing skills

The list of Perception		*M*	*SD*	level of agreement
1	activity in the generous help and hospitality to their fellow humans.	4.60	0.57	most.
2	This project is a good project. Useful and should continue.	4.57	0.56	most
3	activity in a project to help recognize the sacrifices and dedication in working for the common.	4.52	0.60	most
4	event makes you feel proud to practice nursing / assisted patients and relatives.	4.49	0.57	more
5	participating hospitals to help encourage a responsible rising.	4.47	0.55	more
6	Participation promotes a more disciplined.	4.46	0.57	more
7	skills to communicate with others.	4.43	0.58	more
8	activity in the project helps to look forward to returning to work after graduation, the Hometown.	4.42	0.62	more
9	Participating help patients and families better understand.	4.40	0.59	more
10	have developed the skills to get the opinions of others.	4.37	0.63	more
11	participating health staff helps foster better understanding.	4.36	0.58	more

The list of Perception		*M*	*SD*	level of agreement
12	develop the skills to work as a team with personnel Health.	4.31	0.70	more
13	to increase knowledge about the nursing / patient assistance increased.	4.23	0.67	More
14	trained skilled nursing / assisted patients increased.	4.19	0.71	More
15	have to know in the course of the study were utilized to assist patients and their relatives.	4.04	0.80	more
The overall		4.39	0.62	More

3. Comments and recommendations from the open-ended questions can be summarized review of nursing students perception to the volunteer spirit for nursing skills below;

3.1 This good

The 50 student have commented that time to make a volunteer spirit offer to take advantage of free time. Nursing students develop skills has built relationships with the facility expected to be up and running in the future. Sample Answers:

"This activity is very good. I am the first year student, which have not practiced enough to try to do volunteer spirit and it makes me have a try. This is a prerequisite to learning in the future."

"It is a great project. The preparation and the benefit to private interests as well."

"This project is a good project. And benefits for students understand the nursing profession even more. Training skills including nursing care, I would like to have this great project continued."

3.2 Should have extra time

The 22 students have commented that time to make a voluntary spirit three-day period is too short to add five days or one week so that students have more experience. Sample Answers:
"Time to perform volunteer spirit activity is too short to make the activities of providing health-promoting hospital district does every day. Each day offers a different special clinic."

"This training volunteer spirit, there is too little time to practice. The cave has been practicing for about one week will be better. Because each day to each patient's disease is not the same as Wednesday's service diabetics, Friday providing patients with Hypertension. During the three-day training gives students practical experience was not covered."

3.3 Complements skills

The 7 students have commented that before the nursing students do volunteer spirit for developers nursing skill at particular ward should be prepared to provide students with the skills of nursing knowledge. Experienced before performing volunteer spirit nursing skills allows students to be confident and be able to do volunteer spirit nursing any more. Sample Answers:

"I have been teaching practical nursing students to the first year, some activities such as dressing, wiping the patient. It may be given to the summer semester. Or may be taught more to provide students with a first-year nursing skills before going on to do volunteer spirit activity on the wards."

"I learned the basics of nursing in the first year before it will increase the knowledge and practical skills of volunteer spirit get better than this. I have not learned volunteer spirit for nursing practice makes not much."

Discussion and Conclusion

The study reviews the nursing students to develop the nursing skills. A research group from the questionnaire on a five-level scale and open-ended questions by volunteer spirit to discuss the results of the study are as follows:

1. Generous understand others, listen to the opinions of others.

The expression of volunteer spirit in the behavior generous, understand others, listen to the opinions of others. Students are seen by most. The first assessment, based on activity in the generous help and hospitality to their fellow humans (M = 4.60, SD = 0.57) were seen by many students. List assessment on item number 9 of the program helps to understand patients and their relatives better (M = 4.40, SD = 0.59) item number 10 has developed the skills to get the opinions of others (M = 4.37, SD = 0.63) and item number 11 to join the scheme to encourage health workers to better understand (M = 4.36, SD = 0.58) of the open-ended question that support for self-development. And teamwork For example:

"It is a great project In addition to working with health personnel. To instill in students the spirit of sacrifice should increase in the coming period as a volunteer spirit."

"It is a great project the preparation and the benefit to private interests as well."

The findings may be due to the nursing students are qualified to meet the needs of the health services of the Ministry of Health. The study was funded by the Agency received a quota to practice upon graduation. Most of the students are those who are ready to learn to become a nurse. According to nursing is a profession closely related to human life both in normal times and illness. Graduate nurses have been graced with the knowledge embedded ball (Somchit Hanucharuenkul, 2000). Students learn the way of life and health problems in the community. Interact with the community and activities that benefit the community. Consistent with the

study of the experiences of nursing students to visit the elderly in rural found that students have developed a relationship of trust, learn to listen to others, and understand the role of nursing students more (Walton & Blossom, 2013). The results of the research 'Effect of Psychosocial Factors to volunteer spirit behavior of Undergraduate at Srinakharinwirot University (Tidachanok Wongpitak & Chanya Leesattrupai, 2013). There is a positive correlation with the behavior volunteering at a statistically significant level. Students make their assessment as Volunteering can behave and make students enthusiastic efforts are encouraging self.

2. Increase practice.

The behavior demonstrated volunteerism in practice. Students are seen by most. The third estimate based on project activities help to recognize, the sacrifices and dedication in working for the common good (M = 4.52, SD = 0.60) were seen by many students. Listing evaluation feedback, item number 4 event in the program to help you feel proud to practice nursing/assisted patients and relatives (M = 4.49, SD = 0.57), and item number 15 has knowledge of the course comes an application to assist patients and their relatives (M = 4.04, SD = 0.80) The open-ended question is too short volunteer spirit. For example;

"It is a great project, In addition to working with health personnel. The student should increase in the coming period as a volunteer spirit."

"The term voluntary spirit compliance is too short to make the activities of providing health-promoting hospital district does every day. Each day offers a different special clinics."

"The next few should train five days, it would have wide-ranging experience."

The nature of nursing time required to sacrifice every day is different from the others. You have to work the morning shift, evening shift and night shift, so that patients get 24-hour nursing care to sacrifice adaptation to daily life. The allocation of time to interact with family members and other guests. Moreover, the students are volunteer spirit in this area of health services close to home that is conducive to practice. Because the locals are proud to patients or their relatives in the community. The opinion that the practice needs more time to volunteer spirit. This is the result of the students have seen benefits of taking the time. And the strength of their own to help clients get comfortable with health services has been increasing.

3. To be responsible and disciplined.

The expression of volunteer spirit in behavior, responsibility and discipline, are seen by many students, listing evaluation, feedback, the five participating hospitals to help encourage responsible increase (M = 4.70, SD = 0.55) Item number 6 participation helps foster a more disciplined (M = 4.46, SD. = 0.57) and item number 8 the activity helps to look forward to returning to work after graduation, the original homeland (M = 4.42, SD = 0.62) showed that the open-ended question 7 people have commented that the number of students. Before a student volunteer spirit activities for developed skilled nursing facility services. Specifically,

the patient should be prepared to provide students with the nursing skills knowledge. Experienced before performing volunteer spirit for nursing skills allows students to be confident and be able to do volunteer spirit nursing any more. For example:

"The first year nursing students, may be learning some activities such as dressing, wiping the patient. To provide students with a first-year nursing skills before going on to do volunteer spirit activity on the wards."

"I learned the basics of nursing in the first year before it will gain the knowledge and practical skills of volunteer nurses get better than this. I have not learned volunteer nursing practice makes not much."

The students who want to practice nursing skills in the higher-ability class of their own due to the needs of patients and their relatives. We have a responsibility to let the full rescue service at the same time, discipline must be followed to determine the range of services volunteer spirit.

4. To develop and teamwork

The expression of volunteer spirit in self-development and teamwork. Students are seen by many, listing evaluation feedback, item number 7 skills to communicate with others (M = 4.43, SD = 0.58). Item number 12 has developed the skills to work as a team with personnel and health (M = 4.31, SD = 0.70). The open-ended support for self-development and teamwork. For example:

"It is a great project in addition to working with health personnel. To instill in students the spirit of sacrifice should increase in the coming period as a volunteer spirit."

"It is a great project I have learned to make the work of the medical personnel. And patients receive treatment."

Research shows that students learn the nursing skills. Working as a team with nurses, and health personnel. Consistent with the study of Haruthai Ajpru (2001), which explains the public consciousness. caused by self-learning learn and share with others cause of communication, chat, exchange ideals of the individual. The adjustment to fit in society. The person will have to learn from the response to the attitude of the people.

5. Benefits to increase knowledge and experience

The expression of volunteer spirit behavior to see the benefits to increase knowledge and experience students are seen by many. According to estimates of the perception that item number 2 project is a good, useful and should be continued (M = 4.57, SD = 0.56) were seen by many students. List assessment reviews item number 13 to gain knowledge about the nursing/assisted patients increased (M = 4.23, SD = 0.67) and item number 14 trained skilled nursing/patient assistance increased (M = 4.19, SD = 0.71). The open-ended question. have 50

student commented the volunteer spirit activity is a useful free time during school to benefit. nursing skills build relationships with health services are expected to be working in the future. For example:

"It is a great project In addition to working with health personnel. To instill in students the spirit of sacrifice should increase in the coming period as a volunteer spirit "

"It is a great project The preparation and the benefit to private interests as well."

"It is a great project I have learned to make the work of the medical personnel. And patients receive treatment."

The result of students who choose a place close to home health services that facilitate the practice. Nursing experience and learned so much more in the interests of the volunteer spirit. It can be utilized in the future that teaching students to care more closely. Facilitate training of students as well and a good friend at work, students learning to work. Ensure skills training students achieve good attitude towards nursing.

Suggestions for implications

1. The development project is volunteer spirit for nursing skills to get the experience. The development of practical knowledge skills and a positive attitude towards the profession.
2. The results reflect the opinions of the nursing students to volunteer spirit for nursing skills to benefit society, such as the increase in the volunteer spirit as much as 5-7 days.

Suggestions for research

1. Research factors associated with volunteer spirit nursing skills of Bachelor of Nursing students in each grade.
2. Research comparing satisfaction with the development of volunteer spirit for nursing skills. Bachelor of Nursing students in each grade.

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Attitudes of Preceptors toward Nursing Students during Volunteer Activities

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Abstract

Volunteering to work in a health care facility is useful for nursing students to improve their knowledge and skills in health care services. Boromarajonani College of Nursing, Nakhon Ratchasima, is one of the biggest nursing colleges under the jurisdiction of Ministry of Public Health. The college has launched volunteer projects for nursing students for years, but preceptors' attitudes toward the project have not been evaluated. The purpose of this descriptive research is to examine attitudes of the preceptors toward nursing students during their volunteer work.

The sample were 334 preceptors mentoring the students in outpatient and inpatient units of health care facilities in primary, secondary, and tertiary care levels. Volunteer activity were bedside nursing care, physical examinations, interviews for patients' information, and related paperwork. Data collection was conducted between April and May 2013 by using a questionnaire consisting of three parts, a) a demographic form, b) an attitude of nurse preceptors toward volunteer activities of nursing students (10 Likert items), and c) opened-ended questions to explore general comments and suggestions. Researchers developed these questionnaires based on the graduates' institutional identities, then had it validated by three experts in nursing education, and tried out for its reliability with 25 nurse preceptors. The Cronbach's alpha was at .88. Each student chose a health care facility in which he or she will volunteer during three days of vacation. The deputy director of the school then contacted the facility, for its director or head nurse assigned a preceptor. Data were analyzed by using descriptive statistics and content analysis.

The findings revealed that the respondents were female (57.49%) and were registered nurses (45.81%). Their average age was 42.78 years (SD =9.16). The preceptors strongly agreed to the implementation of nursing student volunteer project (M = 4.60, SD = .54). They most strongly agreed that the students were polite and modest (M = 4.57, SD = .53). The lowest mean, but still agreed, is on that students appropriately applied knowledge to practices (M = 4.05, SD = .65). The preceptors suggested that the project should be longer and students in the first and second year should be trained for basic nursing care. The result suggested that nursing educators should hold volunteer projects to enable nursing students to practices nursing and

life skills. Future research should conduct at regional or national level to explored needs and expectations of nurses to volunteer activities.

Keywords: Nurse Preceptor, Nurse Identities, Volunteer Activities

Background

Needless to say, given current societal demands, volunteering is very important. Recently, volunteering projects have become an effective channel in uplifting teenagers', creating empathy, understanding and generosity. This is because volunteer projects may help teenagers better understood themselves and society as a whole. As can be seen from the social problems in recent years there has been an increase in violence within the family, community and society. Therefore, if we are unable to solve this problem society could descend into chaos. Volunteering is a conscience decision and can be expressed by caring, and helping others. A volunteer can help the public through the donation of; money, objects, time, body and intelligence, without asking for anything in return (Dussadee Chaichana, 2007). The more we're able to promote public awareness in youth the greater a sharing and caring society we'll have. Furthermore, these may help the youth not only release their energy, but also build their characteristic which is an advantage to society. By order of National Education Act B.E.2542 (1999) and Amendments (Second National Education Act .B.E. 2545 (2002) in chapter 1 section 6 said that "Education shall aim at the full development of the Thai people in all aspects: physical and mental health; intellect; knowledge; morality; integrity; and desirable way of life so as to be able to live in harmony with other people." (Office of the National Education Commission, 2006). This was the main goal to develop human resources, and all education institutes should be active in promoting this goal.

Nursing education is an important course to develop our future health providers, namely nurses, who are some of the most caring members our society produces. Through profession insight, and great knowledge, nurses can provide care to patients with professional autonomy and high social expectations. Boromarajajonani College of Nursing, Nakhon Ratchasima, provides nursing courses to produce high-quality graduate nurses who work with a high standard of knowledge and ability in nursing science, and apply other science which leads to a high standard of nursing in terms of health promotion, health prevention, nursing care and rehabilitation; Including holistic care and awareness of human rights, optimistic and good attitude, adherence to moral and nursing professional ethics. The nursing course provides experiences in nursing science though authentic learning that is the heart of nursing science which helps nursing students to have the chance to apply their theoretical knowledge into practice. Therefore, the volunteering project aims to develop student nurses in nursing skill. The activities of volunteering benefit society, and improve relationships between nurses and their patients. The purpose was not only to prepare them to work as a professional nurse, but also to build good attitudes when working in the community.

Hence, researchers were interested in studying the opinions of nursing preceptor on the volunteering activities of nursing students in the project. Advantages of the project included

volunteering, increasing public awareness in nursing students, and developing their nursing skill during all four years of their student experience.

Research objective

To examine the opinions of nursing preceptor on volunteering activities of nursing students in the volunteering project.

Research question

How the opinion of nursing preceptor on the volunteering activities of a nursing student in volunteering project to develop nursing skill.

Research method

Population and sample

The population was nursing preceptors in health care service centre in Nakhon-Ratchasima province and Chaiyapoom province. With controlled volunteering activities of nursing student of Boromarajonani College of nursing in the academic year 2012.

Sample was nursing preceptor in health care service in Nakhon- ratchasima and Chaiyapoom province who controlled volunteering activities of nursing students of Boromarajonani College of nursing in the academic year 2012, who participated in the study, and answered questionnaires. This totaled 334 participants.

Research Instruments

Questionnaires which related to nursing preceptor opinion on volunteering activities of a nursing student in volunteering project to develop nursing skill which consists 3 parts as follows:

1. General information of participants
2. The opinions of nursing preceptor on volunteering activities of nursing students in volunteering projects to develop nursing skill consisted of 9 questions, and a question regarding opinion on the project. The answers in the questionnaires had 5 levels of rating as follows:

    5 most agreed
    4 high level agreed
    3 roughly half agreed
    2 less than half agreed
    1 a minimum amount agreed

The 3rd part was open-end questions related to suggestions, and general opinion

Interpretation criterion

Average score between 4.50 – 5.00 Strongly agreed
Average score between 3.50 – 4.49 many agreed
Average score between 2.50 – 3.49 an average amount agreed
Average score between 1.50 – 2.49 less than average agreed
Average score between 1.00 – 1.49 a small amount agreed

Instrument validation

The content was validated by 3 experts to verify content; then researchers revised before trying out the content with 25 nursing preceptors. The internal consistency reliability calculated by Cronbach's Alpha Coefficient was .88

Data collection

The following data was collected between April 2013 – May 2013:

1. Sent an official letter to health care service unit and nursing preceptor regarding where to send student nurses to do volunteering work, and to ask for cooperation regarding the practical work of nursing students, and evaluating the project by questionnaires.
2. After 3 days of volunteer work nursing preceptor gave opinions by questionnaires, then sent it back by post.

Data analysis

Data was analyzed by statistic program package as follows:

1. General data was analyzed by frequency, percentage, average and standard deviation (S.D.).
2. Average and standard deviation (S.D.) conducted to examine the opinions of nursing preceptor on the volunteering activities of nursing students during the project.
3. The data of open end question was analyzed by content analysis.

Human right protection of the subjects

Researchers submitted a research proposal to research ethical committee, and asked for permission to conduct the study. After permission was approved researchers sent official letters to inform project details, detail of the study, and to inform participants, and ask them to participate in the study, as well as answer questionnaires.

Results

General information of participants

There were 334 participants in the sample, a majority were female (57.49), most of them were professional nurses 45.81%, heads of department comprised 45.51%, and average of age was 42.78 years old.

The opinion of nursing preceptor on volunteering activities of nursing students:

Table 1 The opinion of nursing preceptor to volunteering activities of nursing students (N=334)

List of opinion	$\bar{x}$	S.D.	Level of opinion
Student was polite and humble	4.57	0.53	Strongly agreed
Student was generous and a good helper	4.51	0.56	Strongly agreed
Student was devoted to public	4.45	0.55	High level agreed
Student listened to opinion of others	4.45	0.57	High level agreed
Student paid attention to the task and responsible	4.44	0.56	High level agreed
Student worked on collaboration with multi-disciplinary team	4.37	0.56	High level agreed
Student was mature and acted appropriately	4.28	0.62	High level agreed
Student actively participated in nursing service for the patients, and their relatives, to improve quality of care	4.24	0.64	High level agreed
Student applied previous knowledge in the real situation appropriately	4.05	0.65	High level agreed
Overall opinion	4.37	.58	High level agreed
This project was strong, and should be continued	4.60	.54	Strongly agreed

As the results, the nursing preceptors' opinion on the volunteering project, it was a very good project and beneficial to continue: strongly agreed (= 4.60, S.D. = .54).

The opinion of nursing preceptor on volunteering activities of nursing student overall: strong agreement (= 4.37, S.D. = .58). The three highest levels of opinions on the student were the students were polite and humble (= 4.57, S.D. = .53), generous and good helpers (= 4.51, S.D. = .56), and devoted to the public (= 4.45, S.D. = .55), listened to opinion of others (= 4.45, S.D. = .57).

The 3 lowest average of opinion i.e. students were mature and acted appropriately, (= 4.28, S.D. = .62), Student actively participated in nursing service for the patients, and their relatives, to improve quality of care (= 4.24, S.D. = .64), and applied previous knowledge in real situation appropriately (= 4.05, S.D. = .65).

Comments and Suggestion

The opinion of nursing preceptors to nursing student on volunteering activities; the results presented that the nursing students worked well, responsibly and adapted themselves, paid attention well, were good helpers and acted generously. The opinion indicated that "All students were willing to help, but freshmen should work on general work and observing for

nursing care" "students were able to adapt themselves to work quickly, and applied their previous knowledge well." "student worked well in collaboration work in the primary care unit." "This was a good project to help students learn to build relationships with nursing staff." "They had presented their interest in patient care, and tried to find the knowledge to apply during activities." "These activities were able to improve the students' knowledge, had merit and developed relationships with others". "Students showed kindness and very good work". "They paid attention to work, and their responsibility". Although all the students had shown very good work for volunteering activities, the first year students did not study basic nursing care. Therefore they should attend the course before conducting volunteer work on patients. In addition, freshmen students should be experienced with nursing basics, such as dressing, and showering for bed ridden patients. The first year students said, "If I study fundamental nursing before the volunteering work, I may do it better. Unfortunately, I didn't have the experience, and I must do general jobs."

The opinion of nursing preceptors on nursing students benefits, they said that students learned with authentic enthusiasm and wish to apply their learning further. "It was an active and creative atmosphere working with authentic situations, with patients and health organizations",

The opinion of nursing preceptors on nursing students during the volunteering project, most of them agreed with the activities and should be further included in activities. They said that "this project was very good, it was able to guide and cultivate kind behavior, and work for society". "This project was an excellent project, it was well prepared, and brining volunteering work to the public was exciting". "This project was outstanding; it encouraged students to apply their knowledge to the real situation". "This project was a really good project, and offered a chance to nursing students to learn how to become a professional nurse", "This project was brilliant and advantageous to the students, it made the student understanding more about professional nursing, and helped them to practice, and improve their nursing skill.". "This project should be continued because it helped develop students' minds to become kind, and like to help others". The overall opinion that three days time wasn't enough time for this project was widely held, and a period of five to six days recommended. Thus giving the students a better chance to earn a diversity of experience. Additionally, a per diem should be given to the students in order to offset the cost of food while volunteering. "I wish to increase the duration of time for volunteering activities because it was really beneficial to students, patients and the overall health care unit". "Duration of time should be increased up to 5-7 days". "If the time for activities was one week it will be better than this because during different days the health care unit will provide different special clinics. For example Wednesday for diabetes-clinic, Friday for Hypertension-clinic".

Discussion

According to the results presented nursing preceptor most agreed that this project was excellent, and helped to improve nursing skills, and should be continued ($\bar{x}$ = 4.60, S.D. = .54).

The participants agreed the volunteering project was advantageous and should be continued ($\bar{x}$ = 4.60, S.D. = .54). Because the project was dedicated and hardworking for society, community, environment, and others people, the operations were independent and without financial interests (Fingal Volunteer Centre, 2016) and it benefited society. The opinion of participant said that "this project was good, was able to guide student to generous behavior and help society". "It was a good project, and prepared students for public work". "It was a good project to help students apply knowledge to the real situation". "It was a good project, offered the chance for students to learn, and practice their future job". These activities not only encouraged students to work for the public in health care, but also improve students' nursing skill. Additionally, the activities also help the student develop relationship and trust with clients. The factors which effected clinical practice of students were responsibility, and learning beyond the classroom (Jackson & Ene, 2016). On the project students had work on primary care unit, Secondary care unit and tertiary care unit, and students experienced difference context to help them reach their full capability of work.

The participant very agreed on the volunteering activities ($\bar{x}$ = 4.37, S.D. = .58). Three first highest most agreed i.e. students were politely and humility ($\bar{x}$ = 4.57, S.D. = .53), generous and good helper ($\bar{x}$ = 4.51, S.D. = .56), sacrifice and devotedly to public ($\bar{x}$ = 4.45, S.D. = .55), listen to opinion of others ($\bar{x}$ = 4.45, S.D. = .57). And they also said that "student was able adjust themselves to college by short of time" "student well collaboration work for primary care unit" "student had a good relationship with nursing staffs" "Student well attention to the patient".

As can be seen from the data, learning process management of the nursing college encourages students to express their desired traits of student identity regarding good working, discipline, understanding, and empathy; and to provide benefit to the community, including evaluation of learning. There are 6 aspects of standards: moral, ethics, knowledge, intellectual, relationship and responsibility. Calculation, communication, information technology and professional skills are related to the study of the development of learning skills of a nursing student by authentic assessment pedagogy in clinical practicing. (Chong et al., 2016) Chong found that authentic study and rubric evaluation helped to develop intellectual, mind and emotional skills and critical thinking of nursing students. Moreover, Boromarajonani college of nursing encourages students to be aware of desired traits and identity, as well as, evaluating students in theoretical and practical aspects, including practice in tertiary care and primary care units and home visiting. Some of the general subjects in the first year provide student to learn on coexistence in society which conforms to study of Walton and Blossom (2013) found that when student learn to develop trust, listen to case studies, and development issues, made the students believe the experience will help to develop relationships with clients and learn to listen to others while improving nursing role.

Although, the 3 minimum average opinion it still on the very agreed i.e. students were maturity and appropriate action with the situation ($\bar{x}$ = 4.28, S.D. = .62), well participate in nursing service for the patient and their relative to improve quality of care ($\bar{x}$ = 4.24, S.D. = .64). On volunteering activities where students worked without instructor supervision made the student

learn and adapt themselves. Under supervision of nursing preceptors they provided consultation during the activities; including planning the activities for the students, and collaborative working. This may raise perception of the preceptor to participate in field practice of nursing students, to circulating practice in different areas of nursing. (Morrison & Brennaman, 2016). Furthermore, nursing student applied knowledge from volunteering activities to field practice appropriately ($\bar{x}$ = 4.05, S.D. = .65) which related to previous studies on literature review of perception of nursing students for community care, and others areas of field practice. 39 literatures of Lersel et al., (2016) found that if students obtain many activities in different areas it will help the student increase their ability to adjust themselves, and be ready for professional nursing. Some of students preferred to work in hospital with high medical technology, whereas many of them preferred to work in the community, with the idea that work in community is more challenging, diverse and independent.

Suggestion

1. Based on this study results: The opinion of nursing preceptor on volunteering activities of nursing student helped improve their knowledge, practical skill, and good attitudes.
2. As a result, improving further volunteering projects to become clearer on activities, is vastly important to their success.
3. It reflected the opinion of the nursing preceptor that volunteering activities of nursing students should raise awareness in nursing students, and encourages them to work on volunteering, which aims to be advantageous to the public, in the future.

Acknowledgement

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Perceptions of Clients to Volunteer Activities of Nursing Students[1]

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Abstract

Background and Significance: The nursing college in northeast Thailand had implemented a yearly volunteer project to enable students to experience giving nursing services, while working with other health care providers. However, clients' perception of the project and students' services have never been investigated.

Methods: This descriptive research aimed to examine clients' perception to the volunteer project and students' volunteer activities. Participants were recruited from clients receiving services from the first and second year nursing students. A total of 1,038 clients from inpatient and outpatient units participated in the study. The researchers collected data between April and May, 2013 by using a questionnaire consisting of three parts, a) demographic form, b) perceptions of clients to the volunteer project and nursing students (10 items), and c) an open-ended question to explore general comments and suggestions. The researchers developed the questionnaire, had it validated by three experts in nursing education, and tried out for its reliability with 10 clients. The Cronbach's alpha was excellent at .94. Quantitative data were analyzed by using descriptive statistics, and qualitative data were analyzed by using content analysis.

Results: Findings revealed that the majority of clients were female (48.94%), outpatients (65%), and receiving service from the freshmen (47.09%). Their average age was 44.86 years (SD = 35.52). The clients strongly agreed that the nursing student volunteer project was good, worthy, and should be continued (M = 4.6 0, SD = .57). They agreed that students were emotionally mature (M = 4.47, SD = .63) and sacrificial and dedicated their time to work for common interest (M = 4.39, SD = .65). Their response was lowest, but still agreed, in that students was patient (M = 4.02, SD = .78), and polite and modest (M = 4.08, SD = .77).

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Conclusion and Implications: The clients have positive attitude toward the project and nursing student volunteers. In addition to preparing students for nursing activities, a project manager should focus on improving their professional personalities. Future research should conduct on all stakeholders taking part in the volunteer projects.

Keywords: Clients, Health Care Facilities, Nurse Students, Volunteer Activities

Background

Desired attributes of Thai graduates were announced by the Ministry of Education through Thailand Qualifications Framework for Higher Education (TQF:HEd) in 2009. One of its main objectives is to strengthen graduates' moral and ethics where volunteer spirit is a prominent attribute. Kannika Mano (2010) studied six graduate students and found that they defined the term volunteer spirit as giving without expecting anything in return. In addition, volunteer activities helped them build relationships and grew friendships with others. They thought that they could apply experience from volunteer to live their lives by deeper understand how to live with others and appreciate each other. Volunteer spirit could be cultured through a volunteer spirit project. Kupongsak (2012) proposed that to develop the volunteer spirit is to generate positive thinking, to have moral and goodness for leading lifestyles, and to do volunteer activities that show public-minded.

Volunteer experience can affect health science students' knowledge, attitudes, or skills. Gallagher, Cooper, and Durand (2010) investigated knowledge of and attitude toward a health care team after an interdisciplinary volunteer project. Participants were a physician assistant, pharmacy, and nursing students, who provided at least four hours of services at the study sites. The researchers found that, through experience working with the health care team, students significantly gained more knowledge about that, although their attitude did not change. They were more aware of community resource and better understanding strengths and skills of other team members. A cross-sectional surveyed study in nursing students (Yonge, Rosychuk, Bailey, Lake, and Marrie (2010) had found that after their volunteer during an avain influenza pandemic, the students knew more about that and could later apply to other pandemics. They had a positive attitude toward volunteering and agreed that doing so during the pandemic was a professional responsibility.

In Thailand, a nursing college in the north had run a volunteer project to increase confidence in nursing skills (Minanon, Ninpeng, Wiwatkamonchai, & Kemathad, 2013). Participants were 39 sophomore students, five college nursing instructors, and nine nurse preceptors. The researchers employed CIPP model to frame the research tools for evaluating the project. To achieve the project goal, the researchers found that a contextual factor was a community-based learning. Input factors were practicing under friendly health care facilities and supervising closely by senior nurse preceptors whose alma mater was the same institute as the volunteer. A processing factor was an opportunity, offered by authorities in a training site to students, to choose where they were interested in practice for promoting self-learning. Finally, project product was student confidence in nursing skills.

However, many factors affecting the volunteer spirit of health care students should be concerned. Magsakorn (2013) studied 274 undergraduate medical students at a university in the north of Thailand. She found that nine factors affecting their volunteer spirit were receiving news and information from television media, the permissive parenting style, the future-orientated and self-controlled characters, having a medical teacher as a behavioral role model, self-efficacy, having parents as a role model, having a notable person as a role model, and the authoritative parenting style. These variables can predict the volunteer spirit for 63 percent.
The literature shows that many of school-run volunteer projects report outcomes in volunteer persons, not clients. Every year, faculties of Boromarajonani College of Nursing, Nakhon Ratchasima have run a volunteer project to enable students to experience giving nursing services, but clients' perception of the project and students' services have never been investigated. Therefore, the research question for this study was what is the level of perceptions among clients who given services by volunteering student nursing.

Methods

Design

The design for this study was a cross-sectional survey. During a semester break, Boromarajonani College of Nursing, Nakhon Ratchasima implements a volunteer project responsible by the researchers as a committee of the college's curriculum administration. Its ultimate goal is to enhance students' desired attributes especially professional caring characters, while students go back to their hometown. The project covered health care facilities in Nakhon Ratchasima and Chaiyaphumi provinces. The committee designed to collect data from entire student population in order to obtain a significant sample size.

Measures

The researchers developed a questionnaire consisting of three parts, a) a demographic form, b) perceptions of clients to the volunteer project and students, and c) an open-ended question to explore general comments and suggestions. Responses in part "b" were a 5-point Likert scale (e.g. "strongly disagree" to "strongly agree"). Its means was leveled as following:

A mean between 1.00 and 1.49 = strongly disagree.
A mean between 1.50 and 2.49 = disagree.
A mean between 2.50 and 3.49 = neither agree nor disagree
A mean between 3.50 and 4.49 = agree.
A mean between 4.50 and 5.00 = strongly agree.

Three experts in nursing education validated the questionnaire. Based on their feedback, the questionnaire was revised for proper word use. A pilot was initiated with 10 clients to test measurement process and the questionnaire reliability. The Cronbach's alpha was excellent at .94. The researchers collected data between April and May 2013.

Sampling

The population was clients who were taken care of by the nursing student volunteers participating in the project run. Basing upon his or her hometown, a volunteer chose each facility. The researchers and research assistants randomly selected participants by recruiting one client for a volunteer per day. Therefore, for 367 students (237 freshmen and 130 sophomores), the researchers collected data from 1,101 clients.

Analytic Strategies

After excluding respondents with missing values in the "b" part, the researchers employed frequency and percentage to analyze data about general information and descriptive statistics to analyze clients' perceptions to the volunteers and project.

Results

Among 1,101 clients, 1,083 questionnaires (98.37%) were completed. The majority of clients were female (48.94%), outpatients (65%), and having service from the freshmen (47.09%). Their average age was 44.86 years (*SD* = 35.52). The detail on general information is shown in Table 1.

Table 1: Frequency and Percentage of General Information of Clients (*N* = 1,083)

General information of Clients	Frequency	Percentage
Gender		
Male	300	27.70
Female	530	48,94
Not specified	253	23.36
Units of Services		
Outpatients	704	65
Inpatient	379	35
Given Care by		
Freshmen	510	47.09
Sophomore	332	30.66
Not specified	241	22.19

Table 2 Perceptions of Clients to the Nursing Students Volunteer and the Projects (*N* = 1,083)

No.	Items	Mean	*SD*	Level of Agreement
1	The student is showing proper emotional maturity in a certain situation.	4.47	0.63	Agree

No.	Items	Mean	*SD*	Level of Agreement
2	The student is sacrificial and dedicated his or her spare time to work for common.	4.39	0.65	Agree
3	The student can apply knowledge learned in classes to appropriately provide care	4.37	0.61	Agree
4	The student is helpful in providing nursing services for patients and relatives.	4.32	0.67	Agree
5	The student can work cooperatively with a health care team.	4.31	0.66	Agree
6	The student is caring and responsible for any assigned job.	4.29	0.67	Agree
7	The student is kind and helpful for other jobs.	4.12	0.74	Agree
8	The student is polite and modest.	4.08	0.77	Agree
9.	The student is tolerant.	4.02	0.78	Agree
	Perceptions of Clients	**4.26**	**0.69**	**Agree**
10	The overall of this project is good and helpful and should be continued.	4.60	0.57	Strongly Agree

As shown in Table 2, the clients strongly agreed, for overall, that the nursing student volunteer project was good and helpful, and should be should be continued (M = 4.60, SD = .57). They agreed to nursing student volunteer's attributes (M = 4.26, SD = .69). According to each item, they rated highest in that students were emotionally mature (M = 4.47, SD = .63) and the second was that students were sacrificial and dedicated their time to work for common (M = 4.39, SD = .65). Their response was lowest, but still agreed, in that students was tolerant (M = 4.02, SD = .78) and polite and modest (M = 4.08, SD = .77).

The open-ended questions reveal clients' opinion that they would like to see this project continue annually in the community as often as possible because it is a very good project. It will be better if the project manager can extend a few more days. One said that "This was a good project. I supported it to be continued". (A 23 years old inpatient) "I thought the project should be run every year and add a few more days" (A 50 year old outpatient) "This could be an example for future nursing students. They would gain some knowledge and transfer it to new students. I hoped they were determined to accomplish what they were doing" (A 67 years old inpatient). One reasoned that she would like students to do more volunteer activities because she wanted to have someone to talk to as a companion. Responses to open-ended questions come along with answers to Likert-scale items.

Discussion

The main objective of this study was to explore clients' perception to nursing student volunteers in the nursing school's volunteer spirit project. The students were freshmen and sophomores. The majority of clients indicated that they were taken care of by the freshmen because the numbers of volunteer freshmen (237) were almost the double of sophomores (130). Since a scope of the volunteer's role was broad, this might influence the numbers of participating clients from each department. Nurse preceptors, who supervised the volunteers, would give them assignments according to their competencies informed by the project leader. The first-year nursing students had no clinical experience, so the preceptors were more likely assign them to provide care in outpatient units. They mostly involved in non-medical skills, such as greeting patients, assisting with completing hospital documents, and offering companionship in waiting rooms. The second-nursing students experienced working in clinics for Fundamental of Nursing Practicum, so they more likely were assigned to inpatient units. As a result, the majority of clients (65%) were from outpatient units.

Lorhan, van der Westhuizen, and Gossmann (2015) discovered beneficial volunteer traits through participating with cancer patients, including having good listening skills, giving understanding and reassurance, and being helpful and resourceful. Some of these also were found in the current study. Clients agreed that the nursing students were helpful in nursing service (M = 4.32, SD = 0.67) and also kind and helpful for other jobs (M = 4.12, SD = 0.74). In addition, they were caring and responsible (M = 4.29, SD = 0.67).

Volunteering in the hospital of nursing students without or with less nursing experience is comparable to volunteers at an outpatient cancer center (Lorhan, van der Westhuizen, & Gossmann, 2015). The researchers found that the patients needed emotional, practical, physical, and informational support and the volunteers fulfilled those needs. The nursing students in our volunteer project, though they were not fluently in nursing skill, earned compliments from clients as a good companion. They provided emotional support by being with and talking to clients while waiting for a long process in the hospital.

A volunteer project can increase nursing students' competencies and promote their attributes in extent levels. For the first-year nursing student, Chaleoykitti and Bandansin (2014) had integrated academic service into teaching and learning activities of the human development course. The students attended lectures in the class, writing projects under teachers' supervision, and running the project in communities. While teachers were providing health care services for clients, students were helping with, for example, weighing, linear measure, and calculation of body mass index. In doing the process, as a part of the human development course the teachers run the project entitled "*Promoting a Healthy Community*". In checking process, teachers observed student-servicing behavior, evaluated students' presentation, discussed their activities, and completed a questionnaire measuring volunteer spirit in sex aspects. The results revealed the students strongly agree with 'like to help others' and agreed to responsibility, devotion, harmony, team work, and analytical thinking. Those qualities pertained to what the clients perceived to the students in the current study in that the student was helpful to provided nursing care services and other jobs and able to work cooperatively with a health care team.

For second-year nursing students, Minanon, et. al., (2013) found that the volunteer spirit could increase students' confidence. With support from communities, friendly health care facilities, close supervision by preceptors graduated from the same institute as the volunteer, and opportunities to choose areas of volunteer, the nursing students, gained more confidence in nursing skills. Volunteering by a student with special skills, a nurse-midwife education program was reported by Munoz and Collins (2015). They launched "The Nashville Volunteer Doula Program". Nurse-midwifery students were trained as doulas to provide support for women in labor and birth. The nurse-midwifery volunteer gained valuable experience that grew their nurse-midwifery education, while mothers got support during labor and delivery with less cost.

Conclusion and Implications

The clients have a positive attitude toward the project and nursing students. In addition to preparing students for nursing activities, a project manager should improve their professional personalities. Future research should conduct in all stakeholders taking part in volunteer projects.

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The Causal Analysis of Fu Yuanhui's Popularity in Rio Olympics Based on The Public Opinion of Sina Weibo[1]

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Abstract

With the improvement of technology, Sina Weibo has increasingly become a place to gather public opinion. This study based on the public opinion of Sina Weibo analyses the reasons for Fu Yuanhui's popularity in Rio Olympics. The author takes Weibo's comments as objects of study, taking samples of 1248. Using ROST CM6 text mining software to extract the co-occurrence frequency words and analyze the sentiment of micro-blog users' comments, the author establishes the social semantic web matrix about the micro-blogging public opinion and makes a summing up of three main reasons why Fu Yuanhui became popular. Firstly, the performance of Fu Yuanhui in the media breaks the stereotype of the traditional Chinese athletes and meets the expectations of Chinese people. Secondly, because of Fu Yuanhui's identity of national athletes, the majority of Chinese people have a good impression of her and they want to discuss how athletes should participate in media activities. Thirdly, Fu Yuanhui's social activities are very active, and these activities broaden netizens' imaginations. These conditions play a role in the micro-blogging public opinion, so Fu Yuanhui quickly became famous in the Rio Olympic Games.

Keywords: Fu Yuanhui, public opinions of Sina Weibo, social semantic web matrix

With interactivity, convenience and flexibility, Sina Weibo — a kind of micro-blog launched by Sina — quickly become widely in China since it was introduced in 2009. Up to September 30th 2015, there are more than 222 million monthly active members registered on Sina Weibo (Sina & Weibo Data Center, 2015). Sina Weibo, which represents the new media, has emerged as a meeting hall for public affairs, and it has a great impact on the public opinion.

Rio Olympic Games which began in August 2016 captured worldwide attention. The little-known female swimmer Fu Yuanhui successfully reached the final after Rio 2016 women's backstroke semi-final. In the post-match interviews, her exaggerated facial expressions made her a superstar overnight. Her comment"I've been utilizing prehistorical powers" has also become a new Internet meme. As a Chinese athlete, her performance compared with traditional athletes' has made a huge difference. This article based on microblog's public opinion analyses the reasons for Fu Yuanhui's popularity.

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Literature Review

This paper reviewed the literature on the micro-blog public opinion and the phenomenon of the popularity on the Internet.

Relevant documents about the micro-blog public opinion

At present, the literature about the micro-blog public opinion mainly discusses four aspects.

Firstly, some scholars provide analysis about the micro-blog supervision of public opinion, and they believed the micro-blog plays an important role in public opinion field (Zheng, 2012).

Secondly, they summarize the relationship between emergency and public opinion guidance. For example, the Chinese Government was unnerved by the sudden amplification of public anger over the internet following a bullet train crash in Wenzhou in which 40 people died (Wang, 2012).

Thirdly, they discuss the mode of propagation about Sina Weibo. In micro-blog, public opinion has a stable and high-density propagation network, which can achieve rapidly and directly interpersonal communication (He, 2013).

Fourthly, they talk about ethical issues in Sina Weibo. Li Mengying (2015) explains that many ethical questions in Sina Weibo can be settled under the efforts of all parties (p.24).

Above all, scholars mostly focus on social events and pay little attention to the influence of micro-blog public opinion on the person.

Relevant documents about the phenomenon of the popularity of the Internet

The literature mainly analyzes the reasons of people or things suddenly becoming popular. Xu Huiyuan (2016) explains that Papi sauce 's popularity is relevant to the creation of content (p.15). Zhang Meijing (2015) sees emoticons' popularity from a human-to-human perspective. She thinks that network interaction has the characteristics of interpersonal communication (p.48).

The reasons for becoming an Internet meme are varied, and this paper hopes to analyze the reasons of Fu Yuanhui's popularity from the micro-blog public opinion.

Methods

Using ROST CM6 text mining software, this article researches in the public opinion of Sina Weibo. ROST CM6 is a kind of data and text mining software, which is developed by Professor Shen Yang. It is a powerful free social science analysis software with statistical analysis. The research methods of this paper are as follows:

In the first place, from August 5th to August 21st 2016 (during the Rio Olympic Games), regarding "Fu Yuanhui" as a keyword, the article extracts 32 selected micro-blogs, and the cumulative number of comments about each selected micro-blog is over 100,000. Then, the writer extracts 1248 comments, and the number of support about each comment is more than 1000. Using the word segmentation function and word frequency statistics of ROST CM6, this paper extracts 63 high-frequency words (Tab. A).

By ROST CM6, the paper establishes the social semantic web matrix about the micro-blogging public opinion on Fu Yuanhui and analyses the sentiment of micro-blog users' comments.

Findings

Based on the high frequency words, this article uses the social semantic network matrix (Fig.1), analyzing the causes of Fu Yuanhui's popularity from three aspects.

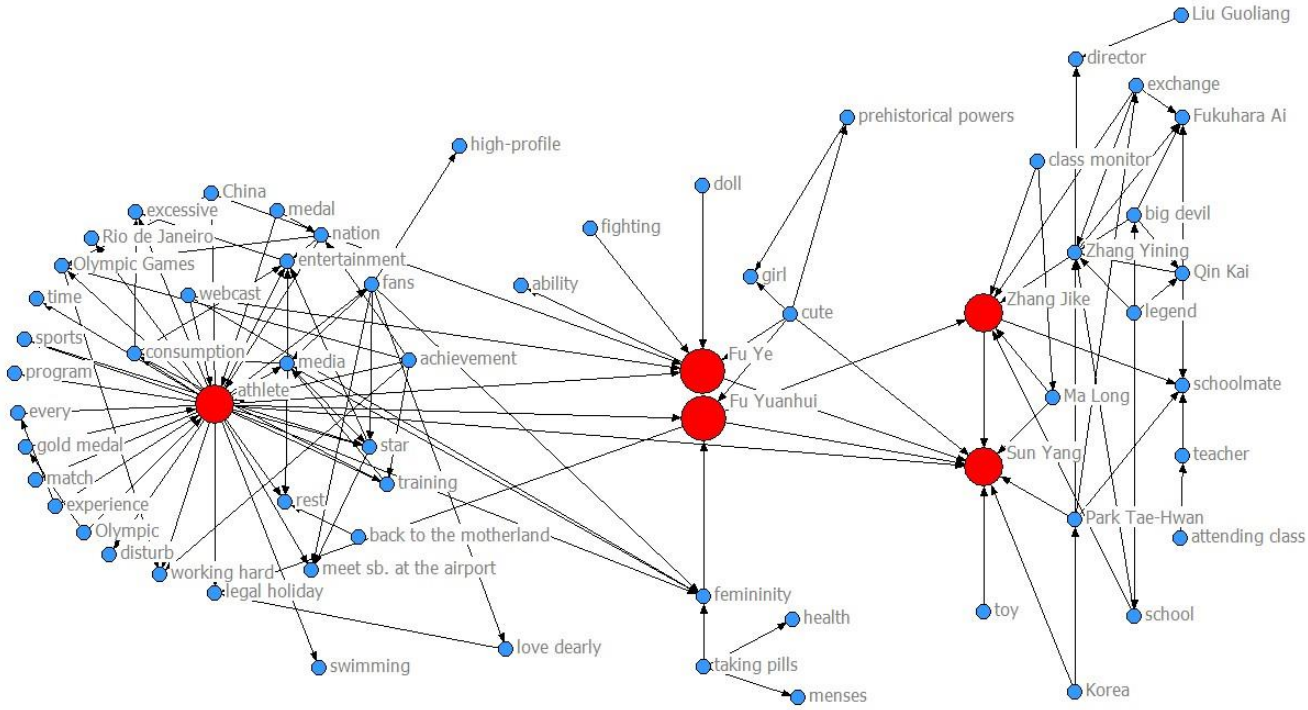


Figure1. The social semantic network matrix about Fu Yuanhui

Fu Yuanhui's personality

In the middle part of Fig.1, there are many words describing the personal characteristics around "Fu Yuanhui" and "Fu Ye (Fu Yuanhui's nickname)", like "cute ", "fighting" and "femininity". On August 14, She said that she didn't do so well in the women's 4x100 meter medley relay final because of her monthly periods. Micro-blog user was also concerned about her physical

condition and thought it was not easy to stick to the game in the physical period. This shows that micro-blog users love Fu Yuanhui who is very introverted, lively and cheerful and very different from the traditional China athletes. They are willing to talk about the topic of "Fu Yuanhui" on the Internet.

Discussing the relationship between the individual and the society, Symbolic interaction theory thinks that individuals and groups are affected by culture, and social structure exerts its effects through social interaction (West & Turner,2007). On the one hand, In the Confucian culture circle, social culture has a great limit to people. Previously, in the pre-and post-match interviews, Chinese athletes' answer sounded like reciting. They had a fixed answer routine and had to thank their country and their leaders. If they did not follow a fixed pattern to answer, the players might even be punished. In Chinese people's mind, the athletes were always serious. They trained hard but didn't like to show their true feelings in front of the media. On the other hand, people have subjective initiatives, and individuals can change the social scene. With the development of society, Chinese people began to change their ideas. More and more people want to change the traditional China athlete's image and hope to know their real. In Rio Olympic Games, Fu Yuanhui shows her true self in front of the media, bringing joy to the Internet users and meeting the needs of the Chinese people's psychology. This is one of the reasons why Fu Yuanhui became popular.

Fu Yuanhui's identity of the national athlete

On the left side of Fig.1, the keyword "athlete" is closely related to "Fu Yuanhui" and "Fu Ye". The identity of an excellent national athlete made her an instant hit. "Gold medal," "Medal," "nation" and other words becoming high-frequency words reflect that the Olympic games play an important role in improving national pride. Chinese athletes represented by Fu Yuanhui are fighting hard and their spirits inspire every Chinese person.

However, at the same time, some netizens begin to worry that excessive interference of the media will affect athletes' performance. This paper analyzed 1248 comments by the emotional analysis (Tab. 1) and found that there were 27.56% negative emotions among comments. The low-level negative emotions account for the largest proportion of negative emotions, which are mainly reflected by the "excessive," "media," "consumption." Athletes actively contacting with the media makes some people feel uncomfortable. In their views, athletes should be far away from the media. If this part of the crowd cannot change their attitude, they will choose to express their views on the public media platforms such as Sina Weibo, hoping to change the behavior of Fu Yuanhui and other athletes.There's a heated debate among people who for or against athletes participating in media activities. To a certain extent, it also promotes the heat of the topic.

Table 1. *Public sentiment analysis table*

Emotions	low levels		moderate levels		high levels		total	
	Qty	pct	Qty	pct	Qty	pct	Qty	pct
positive (0, +∞)	286	22.92	207	16.59	284	22.76	777	62.26
neutral 0							127	10.18
negative (-∞, 0)	153	12.26	103	8.25	43	3.45	344	27.56

Note. low levels of positive emotions are(0, 10], moderate levels are (10, 20], high levels are (20, +∞) ; low levels of negative emotions are[-10, 0), moderate levels are [-20, 10), high levels are (-∞, 20).

Fu Yuanhui's online social activities

On the left side of Fig.1, there are a lot of other players' names, such as "Sun Yang", "Zhang Jike" and so on. These people are all outstanding and popular star athletes. Since Fu Yuanhui herself has strong social communication skills, whether on the Internet or in real life, she's always interacting with other stars. Different stars tie together with the social networks. For instance, if a Weibo user is a fan of Sun Yang, when he discovers the interaction between Sun Yang and Fu Yuanhui, he will naturally pay attention to Fu Yuanhui. At the same time, the users themselves are creative groups, so they actively associate Fu Yuanhui with other athletes by imagination. For example, One micro-blog whose the number of comments is over 10 thousand, talking about if different Olympic stars (including Fu Yuanhui) in class, everyone would be in what position.

Conclusions and Future Study

Based on the public opinion of Sina Weibo, this paper summarizes three reasons of Fu Yuanhui's popularity in Rio Olympics. The Chinese sports delegation did not win a lot of gold medals in Rio, but the performance of Internet users has been greatly changed than before. The tolerance of public opinion to the athletes is significantly improved. The change of public opinion is on the base of the change of social mentality. In the future, researchers can discuss the subject with the change of Chinese social mentality.

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Appendix A

Table A: High Frequency Word List

SN	words	f	SN	words	f	SN	words	f
1	athlete	148	22	gold medal	25	43	experience	16
2	Fu Ye	119	23	doll	25	44	Park Tae-Hwan	16
3	Fu Yuanhui	104	24	Consumption	24	45	time	15
4	Sun Yang	89	25	working hard	23	46	ability	15
5	Zhang Jike	62	26	Olympic	23	47	big devil	15
6	cute	52	27	Olympic Games	22	48	toy	14
7	feminity	50	28	match	22	49	program	14
8	entertainment	44	29	school	22	50	Li Guoliang	14
9	achievement	44	30	medal	21	51	Korea	14
10	fans	43	31	China	21	52	class monitor	14
11	Ma Long	37	32	webcast	21	53	take pills	13
12	girl	35	33	Zhang Yining	19	54	excessive	13
13	star	34	34	Prehistorical powers	19	55	Rio de Janeiro	12
14	schoolmate	33	35	every	18	56	exchange	12
15	media	33	36	nation	18	57	disturb	12
16	legal holiday	31	37	meet sb. at the airport	17	58	health	12
17	training	30	38	Fukuhara Ai	17	59	fighting	12
18	love dearly	29	39	sports	17	60	back to the motherland	12
19	rest	28	40	legend	16	61	Qin Kai	11
20	teacher	27	41	director	16	62	high-profile	11
21	swimming	27	42	attending class	16	63	menses	11

*Note.*SN is the serial number, f refers to the frequency.

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BATTAMBANG-SIEM REAP, CAMBODIA

Factors Affecting Quality of Life in Thai Pregnancy: A Population Based Study[1]

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Abstract

Background: There are many factors that are associated with the quality of life in pregnant women. The positive factors lead to better quality of life during pregnancy.

Study purpose: This study aims to understand the relationship between self-esteem, family relationships, and quality of life in Thai pregnant women.

Method: This study was a population-based study to identify positive factors that affect the quality of life in pregnant women in the central region of Thailand. Pregnant women with low risks, a gestational age in the second and third trimester between 14-36 weeks, and a maternal age was between 14-35 years old were included at the prenatal care clinic. The exclusion criteria were pregnant with high risks during pregnancy. The period of data collection was between in March and in August 2015. The total number of sample was 611 pregnant women. The measurements included family relationship assessment that was translated and adapted to assess Thai family relationships. A measure of self-esteem was based on Rosenberg Self-Esteem Scale and Quality of life used WHOQOL - BREF (World Health Organization Quality of Life - BREF). All instruments were translated and validated into Thai version.

Results: The finding of the study showed 47.14% of pregnant women were under 20 years old, and 44.35% were between 20-34 years old. Half of the samples (50.23%) were the first time pregnancies. There was a significantly positive correlation between self-esteem and quality of life in Thai pregnant women (r=.563). There was a significantly positive correlation between family relationship and quality of life (r=.683). There was also the significance of the correlation between self-esteem and family relationship (r=. 544).

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Discussion and Conclusion: Quality of life in pregnancy was correlated with maternal self-esteem and strength of the family relationship. To promote quality of life of pregnancy, healthcare professionals should focus on positive maternal perception to continue her self-esteem and to enhance family supports regarding positive family relationships.

Keywords: Pregnancy, quality of life, self-esteem, family relationships

Background

Pregnancy period is a time of physiological changes from the pregnant women. Women have to cope with emotional and physical changes in the same time (Hass, Jackson, Fuentes-Afflick, Stewart, Dean, Brawarsky, &Escobar, 2005). Even in normal pregnancies where women experience subtle emotional and physical changes, they also carry out their pre-maternal and new maternal roles that may distract from their overall quality of life.

In this period, physical and emotional stress can affect the well-being of expected mothers. (Lima, Dotto, & Mamede, 2013). In addition to the obvious external physical changes that happen during pregnancy, the pregnant women have significantly increased self-perception. The need for supports from families and healthcare professionals is also important either during pregnancy or in the immediate postpartum period (Lima, Dotto, & Mamede, 2013). Physiological changes occurring during pregnancy are likely to contribute to declines in physical health status. While the goal of medical care during pregnancy remains aimed at increasing the likelihood of a favorable maternal and neonatal outcome, consideration should be given to how a woman's life can be affected by factors arising during pregnancy (Da Costa, Drista, Verreault, Balaa, Kudzman, &Khalife, 2010). The prenatal cares are considered a fundamental assistance to women and family to provide support in the development of the new role of mother. Although the concept of healthcare can be aimed to increase the quality of life, less is known about the positive factors during pregnancy. (Setes, Grogen, Cooper, Strobino, Powe, & Nicholsom, 2009).

The quality of Life is defined as "individual's perception of their position in life in the context of the culture and value systems in which they live and about their goals, expectations, standards, and concerns" (WHO, 1997). The WHOQoL (1994a) measurement assesses Physical health, psychological, the level of independence, social relationships, environment, and spirituality/personal beliefs. In pregnancy period, there is a need for the health care system to adopt effective health care interventions that prevent pregnancy from complication. Women's subjective perception of their quality of life is an essential measure of the quality and effectiveness of maternal and child health interventions.

Self-esteem refers to most generally to an individual's overall positive evaluation of the self. It is a dynamic concept that includes subjective perception. It begins to develop from infancy particularly gains prominence during adolescence (Liabsuetrakul, Vittayanont & Pitanupong, 2007). In women, self-esteem changes at different stages of life such as puberty, pregnancy

(Kumcagiz, 2012). Changes in self-esteem levels in pregnancy may be impacted by several factors such as the level of education, maternal age, the number of previous births (Mccola, Vale, Carmona, 2010). There was a positive and significant correlation between self-esteem and quality of life (Novato, Grossi, &Kimura, 2007).

The family relationship is important to pregnant women. It appears to influence their health-promoting behaviors during pregnancy, and the circumstances. The influence of family support on maternal behavior and health was stronger among primipara women than among women who have had a previous pregnancy (Leticia, Fernandez, Alison, & Newby, 2010). Family relationships were associated with psychological distress. However, unsupportive family relationships were associated with impair in the quality of life (Holm, Bowler, &Wamboldt, 2009).

The aims of the study were to explore the relationship between self-esteem, family relation and quality of life in Thai pregnant women. The quality of life is considered as the effect on the outcome of pregnancy in term of maternal health during pregnancy and neonatal health. The conceptual framework of the study was based on the quality of life model that explains and assesses the individual's perception in the context of their culture and value systems, and their personal goal, standard, and concerns.

Method

This study was a population-based study to identify positive factors including self-esteem and family relationship to affect the quality of life in pregnant women in the central region of Thailand. The pregnant women with low risks, gestational ages indicating the second and third trimester between 14-36 weeks were recruited at the prenatal clinics from five hospitals in the central region of Thailand. Maternal age was between 14-35 years old. The exclusion criteria were a pregnant induced high risk during pregnancy including DM, hypertension, antepartum bleeding, preterm contraction. The period of data collection was between in March and August 2015. The total number of sample was 611 pregnant women.

The measurement included family relationship assessment that was translated and adapted to assess Thai family relationship. A measure of self-esteem was based on Rosenberg Self-Esteem Scale (Gray-Little, Williams, & Hancock, 1997). Proposes a unidimensional measure with ten items aimed to globally assess the positive or negative attitude of the individual towards himself. This scale, which was developed by Rosenberg in 1965, is easy to apply and has been broadly used and internationally recognized. The present study used a version of transcultural adaptation that is considered efficient.

The quality of life used WHOQOL - BREF (World Health Organization Quality of Life - BREF). In this study, the validated version of the WHO QOL questionnaire was used (WHO QOL-BREF, 1997). It is a short version of the 100-scale instrument, comprising 26 items, and reflects the multi-dimensional nature of QOL; it also emphasizes subjective experiences rather than objective life conditions and it focuses upon the respondent's perceived QOL The WHO

QOL-BREF was developed for a wide range of cultural and clinical settings It contains four domains, namely physical health, psychological status, social relationships and environmental conditions (WHO QOL-BREF, 1997). Each question scores 1-5 in Likert-style. All instruments were translated and valid into Thai version.

Data were collected at prenatal clinics. Research Ethics permission was approved before data collection by researcher's Nursing College, as well as the hospitals in which data were collected. After the consent form had been signed, each subject who consented to participate was asked to respond and complete the questionnaire.

Data Analysis

Descriptive statistics were used to analyze the demographic data and to compute means scores and standard deviations of the family developmental tasks. Correlation analysis was employed to identify the relationship between quality of life and self-esteem, and family relationship. All data were analyzed by using SPSS 16.0 for Windows

Results

The study showed that women were aged less than 20 years of age accounted for 47.14 percent, pregnant women 20-34 years of age accounted for 44.35 percent and pregnant women 35 years of age and above accounted for 8.51 percent. Most pregnant women were working for 40.26 percent, followed by household chores, students and trade accounted for 29.14 percent, 10.47 and 7.86, respectively. Most of pregnant were the first time pregnant for 50.23 percent, followed by second, third, forth, and fifth pregnancy for 36.34, 10.65, 2.29 and 0.49, respectively. Pregnant women who have income for 10,001 to 15,000 baht per month were 30.76 percent, followed by income 5,001- to 10,000 baht per month accounted for 28.32 percent as presented in Table 1.

The finding showed self-esteem mean 3.52 (SD.=0.90), family relationship mean was 4.04 (S.D=0.92), and quality of life mean 4.01(S.D.=0.88) as shown in Table 2. There was a significantly positive correlation between self-esteem and quality of life in Thai pregnant (r=. 563). There was a significantly positive correlation between family relationship and quality of life (r=.683). There was also the significance of the correlation between self-esteem and family relationship(r=.544) as shown in Table 3.

Table 1 Demographic data

Demographic data	**n** (n=611)	**percent**
Maternal age (years)		
under 20	288	47.14
20-34	271	44.35
more than 35	52	8.51

Demographic data	**n** (n=611)	**percent**
Occupation		
Students	64	10.47
Household	178	29.14
Worker	246	40.26
Government official	11	1.80
Merchant	48	7.86
Private business	33	5.40
Staff at private company	31	5.07
Gravida (Total of pregnancy)		
First	307	50.23
second	222	36.34
third	65	10.65
forth	14	2.29
fifth	3	0.49
Income		
No individual income	173	28.32
1 - 5,000 bath/month	52	8.51
5,001- 10,000 bath/month	147	24.06
10,001 - 15,000 bath/month	188	30.76
15,001 - 20,000 bath/month	35	5.73
>20,001 bath/month	16	2.62

Table 2 Percentage, Mean and Standard Deviation of Self-esteem, Family Relationship and Quality of Life in Pregnants

Factors	**n (911)**	**mean**	**S.D.**
Self-esteem		3.52	0.90
Family relationship		4.04	0.92
Quality of life		4.01	0.88

Table 3 The Correlation Between Self-Esteem, Family Relationship, and Quality of Life in Pregnant.

Factors	Correlation (r)		
	Self-esteem	Family relationship	Quality of life
Self-esteem	1	.544**	.563**
Family relationship	.544**	1	.683**
Quality of life	.563**	.683**	1

Discussion

There was a significantly positive correlation between self-esteem and quality of life in Thai pregnant. Self-esteem is one of a women's psychological assessment that is a protective predictor in infant development. However, in this study, the self-esteem mean had a moderate score (3.52/5) in pregnant women. The self-esteem assessment was also related to physiological changes to the way women perceived their quality of life (Novato, Grossi, &Kimura, 2007). Thus, prenatal care is an important tool for maintaining the quality of life during pregnancy and for allowing a comprehensive and expanded view of pregnant women. The individual characteristics of each woman and those related to sociodemographic conditions may interfere with the development of a healthy pregnancy, thus altering their quality of life (Santos, Santos, Monteiro, Prado, &Amaral, 2015).

There was a significantly positive correlation between family relationship and quality of life. The family relationship is one of the influences of maternal perception of support during her pregnancy (Morikawa, Okada, Ando, Aleksic, Kunimoto, Nakamura, &Ozaki, 2016). Especially, Partner relationship is the most important for pregnant women before and during pregnancy. The relationship between pregnant women and her mother is also important to help the pregnant women during the postpartum period (Kanhadilok, &McGrath, 2015). The positive relationship between the pregnant women and her family is positively correlated to the perception of quality of life. Pregnant women also influence family and families also influence pregnant women. Perception of quality of life was assessed based on perception on physical health, psychological status, social relationships and environmental conditions. Thus, health care professional should provide a guideline to develop strongly family relationship to positively affect the quality of life during pregnancy (Holm, Bowler, &Wamboldt, 2009).

There was also the significance of the correlation between self-esteem and family relationship. The influence of family factors on self-esteem to individuals begins when growing as a child. The positive relationship between parent and child affects the self- competency in the child (Demo, Small, &Savin-Williams, 1987). Also, the family relationship was found to have a significant relationship with self-esteem in youths (Afolabi, 2014). Although there was no prior study explaining about family relationship and self-esteem during pregnancy, self-esteem is developed as an internal factor of individuals. In extended Thai family culture, family relationship is always the significant support to the pregnant women. The family relationship is part of the family support. Several studies found that family supports were the significant predictor of pregnant behaviors (Fernandez, &Newby, 2010, Jirijwong & Goldsworthy, 1999).

Conclusion

The quality of life in pregnant women was correlated with maternal self-esteem and also had a correlation with family relationship. For health care professionals in prenatal care clinics, to increase the quality of life of pregnancy should involve promoting the self-esteem of the mothers during pregnancy, especially, in the first time mothers. To encourage family

relationship is also important to increase the perception of quality of life in Thai pregnant women. Both self-esteem and family relationship were important to promote quality of life in pregnant women.

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Factors Affecting Quality of Life in Thai Pregnancy: A Population Based Study[1]

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Abstract

The Thai nursing curriculum aims to produce the nursing graduates with the expected learning outcomes in six domains, namely: ethics and morals, knowledge, analytical skills, interpersonal skills and responsibility, numerical, communication and information technology skills, and psychomotor skills. Conversely, research findings indicate that nursing students and new graduates have inadequate analytical skills and information technology skills. The purpose of this study was to examine effects of Project-Based Learning (PBL) approach on students' academic achievement, critical Information retrieval skills, and value of Thai Wisdom with a sense of pride on the topic of "Applying Thai Wisdom for Maternal and Newborn Care".

The one group pretest-posttest design was employed in this study. The purposive participants were 95 third year nursing students who enrolled to the Maternal and Newborn Nursing and Midwifery Course I and Maternal and Newborn Nursing and Midwifery Practicum Course I in the 2015 academic year. In these subjects, students studied using the PBL approach for the entire academic year. The project that students created composed two main parts. The students investigated the Thai wisdom to care mothers and newborn babies for the first part of the project. Then, the students applied the knowledge of Thai wisdom to care mothers and newborn during pregnancy, intrapartum, or postpartum periods. The research instruments were 1) lesson plan on the project based learning approach in topic of "Applying Thai Wisdom for Maternal and Newborn Care", 2) the critical information retrieval questionnaire, 3) the analytical skills questionnaire and numerical, communication and information technology skills questionnaire, 4) the Value of Thai Wisdom with a Sense of Pride questionnaire and 5) the achievement test questions. The instruments were validated the content validity and reliability. The internal consistency of the 2nd -the 5th tool was .88, .86, .86 and .70, respectively. The data were analyzed by using descriptive statistics, Z-test, as well as paired sample t-test to compare the results.

The research findings revealed that 1) the critical information retrieval skills scores of the student were significantly different between pretest and posttest at the 0.05 level, 2) there was significant difference between pretest and posttest of the student's level of analytical skills, as well as numerical analysis, communication and information technology skills at the 0.05 level,

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and 3) the achievement scores were significantly higher than the 60% of full score at the 0.05 level.

Keywords: Project–Based Learning (PBL), Critical Information Retrieval Skills, Academic Achievement, analytical skills

Background

Technology has dramatically changed the ways where we continue our lives and communicate with people in the 21st century. Also, technology has changed the teaching and learning process. Nursing education has been affected and influenced by technology. According to changes in the 21st century, learning skills that all people need to learn from school and life are included as followings: 1) reading, 2) writing, 3) arithmetic, 4) critical thinking and problem solving, 5) creativity and innovation, 6) cross-cultural understanding, 7) collaboration teamwork and leadership, 8) communications, information, and media literacy, 9) computing and ICT literacy, and 10) career and learning skills (Panich Wijan 2012). The educational system has a duty to train an individual who possesses skills in the 21st century and to keep up on change. Those who do not gather knowledge and information will be rapidly out-of-date (Lieaghtdar, 2005). Also, the Thai nursing curriculum aims to produce the nursing graduates with the expected learning outcomes in six domains, namely: ethics and morals, knowledge, analytical skills, interpersonal skills and responsibility, numerical, communication and information technology skills, and psychomotor skills. Conversely, research findings indicate that nursing students and new graduates have a level of analytical skills lower than the level of expectation (Chuenklin & Laowreandee, 2012) moderate computer competency (Niyomkarn, 2012), and inadequate knowledge.

As mentioned above, teachers seek effective pedagogies to promote student's learning skills in the 21st century. Also, teachers have to apply the approach to engage students in their learning and motivate the student to learn (Krajcik & Blumenfeld, 2006). When students are unengaged and get bored, they are less likely to learn (Blumenfeld et al., 1991). Project-Based Learning (PBL) is a learning approach that organizes learning around projects (Thomas, 2000). PBL "allows a student to investigate questions, propose hypotheses and explanations, discuss their ideas, challenge the ideas of others, and try out new ideas" (Krajcik & Blumenfeld, 2006; p.2). Research findings showed that students in PBL classrooms earn higher scores than students in traditional classrooms (Marx et al., 2004; Rivet & Krajcik, 2004; William & Linn, 2003 cited in Krajcik & Blumenfeld, 2006). As stated in Blumenfeld et al. (1991), PBL requires a question or problem that serves to organize and drive activities. Students formulate questions that attack their curiosity and do the research to get the answers and pursue knowledge. While teachers work as a facilitator or supervisor. PBL is a teacher-facilitated and student-driven approach to learning (Bell, 2010).

Boromarajonani College of Nursing, Phraputthabat (BCNPB) serves as a Thai higher education institute which was established and offered 2 year nursing program in 1982. Then, the bachelor degree has offered since 1989 but the 2 years program was stopped in 2003. A Thai higher

education institute is required to perform four main roles as followings: 1) teaching, 2) doing research 3) offering academic services to the community, and 4) preserving Thai traditions and culture. The internal quality assurance for higher education required integration between teaching and 3 institute missions as you can find in the component and general standard criteria as followings: 1) component 4: research, indicator 4.1, and criteria 2 states that "research or creative work procedures are integrated with teaching and learning management" (Office of the Higher Education Commission (OHEC), p.83), 2) component 5: academic services to community, indicator 4.1, and criteria 2 and 3 states that "academic services to community are integrated with teaching and learning and academic services to community are integrated with research" (OHEC, p.92), and 3) component 6: preservation of arts and culture, indicator 6.1, and criteria 2 states that" the preservation of arts and culture is integrated into teaching and, learning and student activities"(OHEC, p.96). The integration focusing on educational quality assurance notion enhances an organization-wide goal (Timsuwan & Sunsern, 2012).

In response to seek effective pedagogies to promote student's learning skills in the 21st century and to integrate the preservation of arts and culture into teaching and, learning, researchers serve as lecturers in BCNPB, we do believe that nurses who have learning skills in the 21st century and experience integration between Institute mission and teaching as well as learning management, will have strong competencies to accomplish challenge tasks. The process of teaching-learning which is provided learning would be based on teachers and students. Researchers were interested to study nurse students' academic achievement, critical information retrieval skills, analytical skills, numerical analysis, communication and information technology skills, and value of Thai Wisdom with a sense of pride on the topic of "Applying Thai Wisdom for Maternal and Newborn Care" by integrating the preservation of arts and culture is into teaching and learning management through PBL approach.

Objectives

The purpose of this study was to examine effects of PBL approach on students' academic achievement, critical Information retrieval skills, analytical skills, numerical analysis, communication and information technology skills, and value of Thai Wisdom with a sense of pride in the topic of "Applying Thai Wisdom for Maternal and Newborn Care".

Material and Methods:

The one group pretest-posttest design was employed in this study. The purposive participants were 95 third year nursing students who enrolled to the Maternal and Newborn Nursing and Midwifery Course I and Maternal and Newborn Nursing and Midwifery Practicum Course I in the 2015 academic year. Students studied using the PBL approach for the entire academic year. The project that students created composed two main parts. The students investigated the Thai wisdom to care mothers and newborn babies for the first part of the project. Then, the students applied the knowledge of Thai wisdom to care mothers and newborn during pregnancy, intrapartum, or postpartum periods.

The research instruments consisted of 5 instruments

1) Lesson plan on the PBL approach in the topic of "Applying Thai Wisdom for Maternal and Newborn Care": Lesson plan was the guideline for PBL method which was developed by researchers. Faculties who serve as project facilitators gave the suggestion the lesson plan and researchers rewrite the lesson plan after meeting and discussing with faculties
2) The critical information retrieval questionnaire: It composed of 15 items, the five -point scale, ranging from one to five. The score of each level was followed: The answers are (1) Never or Hardly Ever was1, (2) Rarely, (3) Often, and (4) Always or Nearly Always. The instrument was developed by Seubsang & Boonphadung (2013). The content validity using IOC was .66 -1.00 and reliability using Cronbach α was .834 during the time instrument was developed.

   The score of each level follows:

Level of evaluate	Score
Very high	3.51 – 4.00
High	3.01– 3.50
Quite high	2.50 –3.00
Quite low	2.50 – 3.49
Low	1.50 – 2.49
Very low	1.00 – 1.49

3) The analytical skills questionnaire and numerical analysis, communication and information technology questionnaire: The questionnaire adapted from Praboromarajchanok Institute questionnaire which evaluates analytical skills and numerical, communication and information technology skills. The analytical skills questionnaire consisted of 6 items, and the next was 5 items, a five -point scale, ranging from one to five. The score of each level was followed: The answers are (1) Never or Hardly Ever was1, (2) Rarely, (3) Sometimes, (4) Often, and (5) Always or Nearly Always
4) The Value of Thai Wisdom with a Sense of Pride questionnaire consisted of 2 items a five -point scale, ranging from one to five. The score of each level was followed: The answers are (1) Very disagree, (2) Disagree, (3) Neutral, (4) Agree, and (5) Very agree.

   The score of each level of the3rd- 4th instrument is follows:

Level of evaluate	Score
Very high	4.50 – 5.00
High	3.50 – 4.49
Moderate	2.50 – 3.49
Low	1.50 – 2.49
Very low	1.00 – 1.49

5) The achievement test questions: The test composed of 15 questions (4 multiple choices) that developed by the researchers

The instruments were validated the content validity and reliability. The internal consistency of the tool was .86 using Cronbach's Alpha coefficient. Cronbach's alpha of each part of the tool was .88, .86, .86 and .70, respectively. Overall instruments demonstrated acceptably.

Procedures

The researchers adapted the procedures of PBL using 5 five key features (Blumenfeld et al., 1991; Krajcik, et al., 1994; Krajcik, Czerniak, & Berger, 2002 cited in Krajcik & Blumenfeld, 2006)-1) Students start with a driving question, a problem to be solved. 2) Students explore the driving question. 3). Students, teachers, and community members engage in collaborative activities to find solutions to the driving question. 4) Students are scaffolding with learning technologies 5) Students create a set of tangible products that address the driving question-. The procedures in the study presented as followings:

1. The researcher introduced the study project and studied using PBL to the students. Students filled out all questionnaires before PBL started.
2. Students who participated in the study were divided into 12 groups. Each group had one teacher to be a facilitator. Teachers gave the worksheet to students. The students investigate the driving problems. The driving questions are what the problems always find when nurses take care mothers and newborn babies who have no complications during pregnancy intrapartum and postpartum. Each group selected the keywords which are their curiosity.
3. Students explored the problem by processes of problem-solving using learning technologies and submitted the problem that they want to explore in details to the teacher who worked as a facilitator. Students worked until the problem was clear by discussing with group members and teacher.
4. After clarifying the problem, students gathered the solutions to solve the problem using several resources such as books, journals, experts, the internet, and so on. The solutions integrate Thai local wisdom or Thai wisdom to the solutions to solve the problem and investigate tools to evaluate the problem after applying the solutions. The student submitted the hard copy to the teachers and got some suggestions.
5. While practiced Maternal and Newborn Nursing and Midwifery Practicum Course 1, each student had to apply the solution to solve the problem to 1 pregnant woman, at least, per each student when the student found the same problem as their driving problems. Students, teachers, and nursing staff engage in collaborative activities to solve the driving problems. Students evaluated the problems after giving the intervention.
6. Students worked as a team to collect the cases, interpret and summarize the finding after they finished Maternal and Newborn Nursing and Midwifery Practicum Course 1
7. Students presented their work, publicly accessible of the class's learning.
8. Students filled out the questionnaire and the test after finishing the PBL.

Data Collection and Data Analysis:

The data were gathered 2 times both before applying the PBL and right after the final presentation of the project. The completed questionnaire was collected. The researchers coded the questionnaire. Statistical Package for the Social Science (SPSS/PC+20.0) were utilized for data management. The data were analyzed by using descriptive statistics, Z-test, as well as paired sample t-test to compare the results.

Results

Table 1: Demographic data

Sex	**N**	**%**
Male	5	5.26
Female	91	94.74
Total	95	100.00

The demographic characteristics of the 95 nursing students in this study are presented in Table 1. The response rate of participants was 100%. Most students (94.74%) in the sample were female.

Table 2: Mean, SD, and Level among study variables on before and after the PBL process

Outcome Variables	Mean	S.D.	Level
The Value of Thai Wisdom with a Sense of Pride			
Before	2.42	.75	Low
After	4.18	.86	High
The critical information retrieval skills			
Before	2.54	.56	Quite High
After	3.27	.68	High
Analytical Skills			
Before	2.93	.51	Moderate
After	3.94	.61	High
The numerical, communication and information technology skills			
Before	3.00	.53	Moderate
After	3.81	.64	High

Table 2 shows that mean among 4 study variables are the higher score after undergone PBL process compared with the score before the PBL.

Table 3: Comparing mean and standard deviation for outcome variables on before and after the PBL process

Outcome Variables	df	d	S.D.	t	Sig
Value of Thai wisdom with a sense of pride	94	1.142	1.020	12.56	.00

Outcome Variables	df	d	S.D.	t	Sig
Critical information retrieval skills	94	.923	.775	11.61	.00
Analytical skills	94	1.01	.69	14.18	.00
Numerical, communication and information technology skills	94	.82	.67	11.86	.00

Results was shown statistically significant higher value of Thai wisdom with a sense of pride ($t=12.56$, $p < .05$), critical information retrieval skills ($t=11.61$, $p < .05$), analytical skills ($t=14.18$, $p < .05$) and numerical, communication and information technology skills ($t=11.86$, $p < .05$) after undergone PBL process compared with the score before the PBL

Table 4: Comparing mean and standard deviation of students' academic achievement on a mean of 9

Outcome Variables	df	Mean	S.D.	t	Sig
Academic achievement	94	10.79	1.44	12.15	.00

Results were shown statistically significant higher scores of academic achievement than a mean of 9 (60% of 15).

Discussion

The critical information retrieval skills scores of the students were significantly different at the 0.05 level. The numerical, communication and information technology skills scores of the students were significantly different at the 0.05 level. No study about PBL studies measures directly to outcome variables like information retrieval skills. The student got higher critical information retrieval skills scores and numerical, communication and information technology skills scores. The plausible explanation accounting for the differences may be that the assignment required the student to use technology and the internet to search the information to solve the problem. Also, the students use technology such as PowerPoint and Excel to share their knowledge and SPSS as well as Excel to analyze the data. The findings in the current study were consistent with Bell (2010) who explains that students participate in the project using the Internet and learn how to "navigate the Internet judiciously, as well as to discriminate between reliable and unreliable sources. These uses of technology provide instruction to the student by demonstrating innovative usage of various applications. These applications also help students realize appropriate ways to use technology" (p.42).

The analytical skills scores of the students were significantly different at the 0.05 level. The results from this current study were consistent with a previous study exploring learning effects of conducting projects in students with regards to morals, ethics, knowledge, and intellect. The study was conducted on 99 fourth year nursing students, the academic year 2012, of Boromarajonani College of Nursing, Nonthaburi, enrolled in the "Nursing Care of Persons with Health Problems III" (Thummakul, Thunjareanrat, & Lapjeam, 2014). The students worked as a small group (8-9 students) to complete the project. Students who are learning by using PBL had less anxiety, so students got the higher scores among to morals, ethics, knowledge, and

intellect (Keser & Karahocal cited in Thummakul et al., 2014). According to Krajcik & Blumenfeld (2006), students actively construct their knowledge by participating in a real situation when they learn by PBL. Moreover, students have a chance to use the process of inquiry which requires high order thinking skills (Guzdial, 1998 cited in Thummakul et al., 2014).

The academic achievement scores of the students were statistically significant higher scores of academic achievement than a mean of 9 (60% of 15). It means the mean scores of students' achievement higher score than a score of 60. According to Panasan and Nuangchalerm (2010), students can get the higher score after PBL because "students can build new understanding through interactions with their environment" (p.254).

The scores of the value of Thai wisdom with a sense of pride among the students were significantly different at the 0.05 level. No study about PBL studies measures directly to outcome variables like the value of Thai wisdom. The possible rationales may be considered to explain the results. First, the explanation accounting for the differences may be the learning atmospheres. Students did not learn by using only text book, but they are learning by doing the project. It may rise students' attitude. Secondly, Baş (2011) explained that they found that there was a significant difference in the attitude levels towards the English lesson between the groups, which PBL and the other group for which the instruction based on student textbooks was used. It can be said based on the findings; PBL was more effective on the development of students 'attitudes towards lesson than the instruction based on student textbooks. Thirdly, Özdemir (2006) stated that the students' attitude toward geometry increased because of joyful time that students had during the process of the project, especially making the product.

Conclusion

PBL effected students' achievement, analytical skills, numerical, communication and IT skills, and value of Thai wisdom. PBL is very active construction, so learners actively build knowledge as they explore the real world. Students deeply understand the new and current knowledge. With PBL, assessment should be authentic assessment but in this study used self-evaluation measuring. To develop tools to measure child's performance via rubrics should be the future research.

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Humanized Health Care Behavior of Undergraduate Nursing Students of Prachomklao College of Nursing, Phetchaburi Province.[1]

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Abstract

The objective of this descriptive study was to investigate humanized health care behaviors of undergraduate nursing students in Prachomklao College of Nursing, Phetchaburi Province (PCK). The subjects were 289 undergraduate student who studied in sophomore, third year, and forth year during the academic year of 2014. Data were collected by questionnaire. The instrument used in this study was undergraduate nursing student's humanized health care behaviors questionnaire which consisted of three aspects 1) service minded, 2) analytical thinking, and 3) client participation. The reliability of this questionnaire was in good level (0.88). Data were analyzed by mean, percentage, and standard deviation. The results revealed that the perception of the undergraduate students on overall humanized health care behaviors was in good level ($\overline{X}$ = 4.35 S.D. = 0.36). Focusing on aspects of humanized health care behaviors, service minded was the highest aspect which showed in very good level ($\overline{X}$ =4.56, S.D. = 0.38). Followed by client participation ($\overline{X}$ = 4.31, S.D. = 0.44) and analytical thinking ($\overline{X}$ = 4.13, S.D. = 0.42) which both were presented in good level.

Keywords: Humanized health care behavior, perception, undergraduate nursing student

Statement of the Problem

Humanized health service is considered as the multidisciplinary care that emphasizes on current health service system. The fundamental principle of humanized health care is patient centered care which focuses on communication, respect, and understanding humanitarian values (Hanucharoenkul, 2011). In addition, Wongkongkathep (2010) describes that humanized health care is required non-format but it is the providing care with heart by

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attempting to understand nature of people, family and community context. Therefore, to perform humanized health care, it is needed to recognize human science.

There is the curriculum revision of nursing education. The emphasize on nursing curriculum have been changed from concerning on subject contents and nursing competencies to be developing the undergraduate students to be able to transfer class obtained knowledge into real caring situation and understand real context in providing care to meet the need of people, family, and community. The strategic planning of Praboromarajchanok Institute Workforce Health Development (PIWHD) (2011-2015) directs the knowledge building and innovation for health system plan to be developing quality of health service for society. This strategic planning aims to create and develop undergraduate nursing student identity to be a professional care provider and respect to humanity. The PIHWD set guidelines to permit college and undergraduate nursing student identity as 1) establishing specific desire characteristic of the undergraduate students and providing competencies evaluation for graduation. And 2) transforming teaching, learning, evaluation, and curriculum that support development student identities and encourage them to be professional health care providers that give a mutual care to target people and deliver community service. To achieve characteristics of humanized healthcare among undergraduate nursing student, the PIHWD has set the identity as "provider of health care services with humanized care" by provide caring with love and compassion, identified health problem via active listening, reconsiders clients' need and focus on patient centered. Thus, the PIHWD establishes the three indicators of undergraduate nursing students' identities as 1) service minded, 2) analytical thinking, and 3) client participation (PIHWD, 2011).

Prachomklao College of Nursing, Phetchaburi Province (PCK) is the nursing college under PIHWD, Ministry of Public Health. According to the health system reform, one of the PCK's roles is to produce quality health care workforce and develop nursing profession to gain knowledge and positive attitude toward learning. In 2014, the academic affair and administration committee of PCK integrated the college identity into all subjects in nursing curriculum in order to develop the undergraduate students to attain humanized health care identity. Furthermore, the student affair of PCK also included college identity into all projects and student activities in order to develop the undergraduate students to have kindness and service minded. It can be seen that the PCK implemented both inside and outside class activities to build undergraduate nursing students identity. Therefore, the evaluation on humanized health care among undergraduate nursing students in PCK is necessary to be performed. The obtained results could be benefit in cultivating undergraduate nursing student identity and competencies in PCK to be able to apply their knowledge and skills in real life situations that meet the preference of community. Moreover, the results could be included in strategic plan to promote, monitor, and evaluate the effectiveness of the implementing teaching method.

Research objective

This study sought to investigate perception on humanized health care behavior of the undergraduate nursing students.

Research Methodology

This study was a descriptive quantitative study that aimed to investigate perception of the undergraduate students on humanized health care behavior.

Population and Samples

The population of this study was second, third, and fourth year undergraduate nursing students in the academic year of 2014 of Prachomklao College of Nursing, Phetchaburi Province (PCK).

Research Instrument

The instrument used in this study was the humanized health care behavior of nursing student questionnaire. This instrument developed based on caring behavior questionnaire of Praiwan (1997) and caring behavior questionnaire of PIHWD (2011). The questionnaire composed of 2 parts as follows:

Part 1 General information and year of study

Part 2 Perception on humanized health care behavior of undergraduate nursing students. This part was a five rating scales questionnaire. There were 15 items which divided into three aspects: 1) service minded 2) analytical thinking, and 3) client participation.

Reliability of the Instrument

After the instrument was developed, the researcher validated the instrument with three experts. Testing of instrument reliability was performed with 30 undergraduate students for Cronbach's Alpha Coefficient. The reliability was .88

Protection of Human Subject

Ethical approval was sought from the Research Ethics Committee (REC) at PCK. The informed consent form and an information sheet explaining of the research were given to all participants before collecting data.

Data Collection

Data were completely collected at the end of academic year 2014. The researcher team described the purpose of this study to the target population and explained data collection procedures to participants who willing to join in this study. All questionnaires were checked for completeness before analyzing data.

Data Analysis

The data analysis consisted of two parts as follows:

1. General information was analyzed by descriptive statistic; mean and percentage.
2. Humanized care behavior of the student was analyzed by mean, percentage, and S.D. Then the obtained results were compared to standard criteria.

Results

1. General Information

The number of undergraduate nursing students of PCK in academic year of 2014 was presented in the Table 1.

2. Humanized Health Care Behavior of the Undergraduate Students

2.1 Perception of undergraduate students toward overall humanized health care behavior

The present of overall humanized health care behavior as perceive by the undergraduate students was in good level ($\overline{X}$ = **4.35**, S.D. $\overline{X}$ = **0.36**). The highest level of humanized care behavior existed among second year students which was in good level ($\overline{X}$ =4.37, S.D. = 0.32). Followed by humanized health care behavior perception level of 4th year and 3rd year which were showed in good level ($\overline{X}$ = 4.34 S.D. = 0.46, ($\overline{X}$ = 4.35 S.D. = 0.31), respectively as demonstration in Table 2.

2.2 Aspects of humanized health care behavior of undergraduate nursing students

The results showed that the highest aspect of humanized health care behavior among the undergraduate students was service minded which presented in very good level ($\overline{X}$ =4.56, S.D.= 0.38). Followed by an aspect of client participation which was in good level ($\overline{X}$ = 4.31, S.D. = 0.44) and analytical thinking was in good level ($\overline{X}$ = 4.13, S.D. = 0.42), respectively. As presented in table 3.

2.3 Undergraduate nursing students' perception on humanized health care behavior score of service minded

The perception of undergraduate student on service minded was in very good level ($\overline{X}$ = 4.56, S.D. = 0.38). The third year and second shared the highest mean at very good level ($\overline{X}$ =4.57, S.D. = 0.34). Followed by the score of fourth year students which was in good level ($\overline{X}$ = 4.54, S.D. = 0.95). As demonstrated in Table 4.

2.4 Undergraduate nursing students' perception on humanized health care behavior score of analytical thinking

The overall perception of the undergraduate nursing students toward analytical thinking was in good level ($\overline{X}$ = 4.13, S.D. = 0.42). The highest perception on analytical thinking was found in fourth year students which was in ($\overline{X}$ =4.15, S.D = 0.45). Followed by third year and second year students which perceived analytical thinking in good level ($\overline{X}$ = 4.13, S.D. = 0.41, S.D. = 0.42), respectively. As showed in Table 5.

2.5 Undergraduate nursing students' perception on humanized health care behavior score of client participation

The overall client participation score of the undergraduate nursing students was in good level ($\overline{X}$ = 4.31, S.D. = 0.44). Second year students had the highest mean score on client participation which was in good level ($\overline{X}$ =4.37, S.D = 0.46). Followed by the third year student in good level ($\overline{X}$ = 4.28, S.D. = 0.44), then fourth year students in good level ($\overline{X}$ = 4.26, S.D. = 0.46).As presented in Table 6.

Discussion

The perception of undergraduate students on overall humanized health care behavior showed in good level ($\overline{X}$ = 4.35 S.D. = 0.36). The second year students had the highest humanized care behaviors which was in good level ($\overline{X}$ =4.37, S.D. = 0.32). Then, followed by the third year ($\overline{X}$ = 4.34 S.D. = 0.46) and fourth year students ($\overline{X}$ = 4.35 S.D. = 0.31) which were in good level, respectively. The results of this study were similarly present to the result of previous study. Khamtana (2012) investigated the Boromarajonani College of Nursing, Ratchaburi, undergraduate nursing students' perception on humanized care behaviors. This study showed the overall humanized care behavior in good level ($\overline{X}$ =4.38, SD=0.70).

The highest aspect of humanized health care behavior in this study was service mind which showed in very good level ($\overline{X}$ =4.56, S.D. = 0.38). Followed by aspect of participation ($\overline{X}$ = 4.31, S.D. = 0.44) and analytical thinking which showed in good level ($\overline{X}$ = 4.13, S.D. = 0.42), correspondingly. This result can be explained as the nature of undergraduate nursing students' humanized health care behavior were attained from curriculum management and teaching based on framework and objectives of nursing curriculum (2012). By using the knowledge sharing process between lecturer, nursing students, and clients based on authentic learning concept, the nursing subjects in this curriculum have to integrate sociology and anthropology literacy of professional meaning and client meaning into the core content of each subject. This implement allows undergraduate nursing student to understand humanity and provide health care services based on client's need. At the same time, the development of humanized health care benefits to the clients by increasing their skills in resolving their problems and build their strong sense of self- resilience (PCK, 2012).

Additionally, the student affair of PCK also pushed the application of simulated family system into one of the college annual project "Baan San Rak" to promote humanized health care service as college identity. "Baan San Rak" project aims to develop relationship within family and support analytical thinking under holistic perspective (Chutharasok, 2012). It can be addressed that learning and teaching process based on real social and community context leading to proper application of theory on taking care of target people. The integration of family-like relationships between colleges and local communities could achieve the desirable well-being of the community, leading to participatory learning while taking care of target people. Moreover, the application of "simulated family system" and humanistic learning process enhances the improvement of undergraduate nursing student identity on humanized health care.

For the aspects of humanized care behavior that perceived by undergraduate students, both of the participation of client ($\overline{X}$ = 4.31, S.D. = 0.44) and analytical thinking ($\overline{X}$ = 4.13, S.D. = 0.42) were in good level. This results agreed with the study of Khamtana et. al (2009) on the study of the effectiveness of integration of humanized care behavior program into preparation of nursing students for practical on Nursing Care of Persons with Health Problems I. Khamtana and team (2009) indicated that most of the subjects in their study need to develop analytical thinking for applying nursing science to provide proper care for patients in real life. They also revealed that the cause of lacking analytical thinking came from teaching process which some nursing subjects were not set align with the nursing curriculum. Thus, the students might lack of continuingly training. In transferring obtained knowledge from class to provide suitable care for patients' context, the students need to have truly understanding on patients' health problem and their needs. Moreover, the students had to be able to link the health problem and real social context. Analytical thinking skill was necessary in transferring theory into practical care in real situation in order to gain best benefit for caring patients and family.

Recommendation

1. Further qualitative study on humanized health care behavior of undergraduate students from variety of perception such as nursing instructor, client, and employer is needed for development of nursing curriculum.
2. Application of humanistic learning and teaching in all nursing subjects is necessary for understanding real condition of clients, community, and social context. In addition, undergraduate nursing student competency on applying and transferring nursing tenet and caring process is also needed to be developed in order to provide proper humanized care to target people.
3. The management of contemplative education as curriculum support activity should be integrated into the simulated family system in order to promote undergraduate students to attain desirable competencies such as self-understanding and understanding on humanity.

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Table 1

Number and percentage of the undergraduate students in each class (N=289)

Years	Number of subjects	Percentage
4th year	92	31.83
3rd year	118	40.83
2nd year	79	27.34
Total	289	100

Table 2

Mean, standard deviation, and perception of undergraduate students toward overall humanized health care behavior

Years	Humanized health care behavior		
	X	SD	Level
4th year	4.34	0.46	Good
3rd year	4.34	0.31	Good
2nd year	4.37	0.32	Good
Total	4.35	0.36	Good

Table 3

Mean, standard deviation, and aspects of humanized health care behavior of undergraduate students

Aspects	Humanized health care behavior		
	X	SD	Level
Service minded	4.56	0.38	Very good
Analytical thinking	4.13	0.42	Good
Client participation	4.31	0.44	Good
Total	4.35	0.36	Good

Table 4
Mean, standard deviation, and humanized health care behavior score of service

Years	Humanized health care behavior score of service minded		
	X	SD	Level
4th year	4.54	0.95	Very good
3rd year	4.57	0.34	Very good
2nd year	4.57	0.34	Very good
Total	4.56	0.38	Very good

Table 5
Mean, standard deviation, and humanized health care behavior score of analytical thinking

Year	Humanized health care behavior score of analytical thinking		
	X	SD	Level
4th year	4.15	0.45	Good
3rd year	4.13	0.41	Good
2nd year	4.13	0.42	Good
Total	4.13	0.42	Good

Table 6
Mean, standard deviation, and humanized health care behavior score of client participation

Year	Humanized health care behavior score of client participation		
	X	SD	Level
4th year	4.26	0.46	Good
3rd year	4.28	0.44	Good
2nd year	4.37	0.46	Good
Total	4.31	0.44	Good

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Outcome of Research-based Learning Instruction for Nursing Care of Persons with Mental Health Problems Course[1]

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Abstract

This study aimed at determining outcome of research-based learning instruction for Nursing Care of Persons with Mental Health Problems course performed by undergraduate students in Nursing Science Program. The study employed an action research practice conducted at Boromarajonani Nursing College in Ratchaburi. The samples were 98 students enrolling in the course in the second semester of 2014 academic year. An achievement test for assessing the academic knowledge in the course was used for data collection. Content analysis and descriptive statistics was used for outcome analysis. The findings showed that the students learning with the research-based instruction had higher learning achievement on the course than those learned with the normal instruction.

Keyword: Research-based learning, Nursing Care of Persons with Mental Health Problems Course

Background and Rationale

Currently, learning and instruction are focused on learning outcome performed by the learners who are taught to gain both academic knowledge and self-development. The pedagogical approach emphasizes the practice of learner-centered instruction that allows and encourages the learners to perform at best. The very well-known instructional method that employs the learner-centered approach is the research-based instruction that allows participation and practice created by the learners in specifying problems, discussing for problem-solving process and solution. While the instructor plays facilitating and consulting role, the learners learn through researching and practicing exercises in conducting research that has a certain design and procedure. This learning and instruction are said to be truly the desired instructional practice in the new educational reform which emphasizes the learner-centered practice (Office of National Education Commission, 2001 p.3).

The research-based learning is centered on a process of problem-solving and creating new knowledge on a certain topic or problem identified by the students who play the role of a researcher. This approach encourages learners to search for new knowledge and test their individual and dependent learning ability to find a new answer to certain questions. It is a tool of self-directed learning and problem-solving based on learner's interest and learning ability. The principle of the learner-centered approach is therefore based on the individual learner's

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potential. The research process consists of a serried of practice starting from identifying the problem, hypothesis setting, collecting data, analyzing the data, and concluding result.

This instructional and learning method is similar to the 'problem-based learning' which change the learning practice in four principles. First, it is shifted from 'learning by listening and give right answers' to 'asking questions to find the right answer by his/herself.' Second, the learning goal is changed from 'memorizing, doing and using' to 'thinking, searching and acquiring.' Third, the instruction practice of lecturing is changed to be the practice of consulting. And fourth, the instructor changes his/her role from 'directing learners to do' to 'facilitating learners to do on their own and by themselves.'

The research-based instruction can be conducted in four different practices; firstly using the research practice as the instructional method, secondly learners participate or assist in the instructor's research conduct, thirdly learners study and review their instructor's or leading researchers' researches in their field of study, and fourthly using research findings in instruction of the course (Wallapa Tephasadin Na Ayuddhaya, 2013).

Doing research is an activity of acquiring new knowledge. Using the research-based practice as a learning tool is to draw upon two things, one is to allow learners find new knowledge by themselves and another is to be active learners. The research-based instruction employs the principle of learning proposed by the constructivism's theory which posits that learning is a process of construction knowledge inside individual learners by relating visualized experience to their past experiences that they have. Similarly, experience learning takes the student out of the detached role of vicarious learner and plunges her into the role of participant observer, performer, or even teacher. Like the idea of 'active learning,' knowledge or learning process received by learners is more valuable and sustainable than what they gain from passive learning. Active learning encourages the learner to be a knowledge searcher who tries to find a new way of improving things, solving problems, and being an independent thinker, and leading him/herself and others. These are desirable characteristics of new learners (Pannee Bancharahattakit, 2012).

Nursing mental health and psychiatry is the science of caring persons who have socially mental complexity. It is a type of chronic diseases that is difficult and needs time for nursing (McBride & Austin, 1996). Therefore, it is a very delicate, complex and difficult practice in nursing this type of patient. It needs a lot of knowledge and understanding, skill, experience, and dedication to deal with them. It is said to be extremely difficult for a nurse to learn and take care of the psychiatry patients, which require long-term nursing, especially for those new and inexperienced nurses. This difficulty and complexity of nursing results in feelings of unclear, frustrated, confused, burdened and exhausted (Wood, 2005).

Nevertheless, effective nursing needs to rely on knowledge drawn from systematic study and findings because utilizing research findings to apply for developing a process of clinical nursing treatment is the widely acceptable practice in recent days which acknowledge

modernized healing that conform with situation and needs concerning with the disease, which is complex and rapidly changed (Siri-on Sindhu and Raenu Pukboonmi, 2001).

Preparing readiness for professional nurses to have the competency for the recent caring situation and be able to respond to societal needs in caring mental health and complicated psychiatry patients must begin with the development of nursing education. Nursing education must shift its paradigm in education pedagogy that emphasizes instruction and learning methods, especially learning that is centered on learners who are encouraged and facilitated to be active in searching for new ways and knowledge form the world through modernized data-based system rather than being a passive learner who takes lecture in the classroom only. This new learning and instruction paradigm in nursing college is conformed to the educational vision and philosophy that determines to produce truly leading graduates in public health care in all dimensions (Office of Nursing Science, Wlailuk University, 2006).

From the mentioned background and rationale above, the researchers considered the importance in instructional and learning practice in our nursing college. In the past, we encountered different problems and obstacles in educating nursing students to be able to be active learners who can improve themselves based on their individual ability and potential and the instructors can improve their classroom atmosphere and emphasize over the content of specific courses in the undergraduate study, which is lately tended to fever active learning and research-based instruction. Therefore, it is time to prove how much this instructional approach could make our junior-year students improve in learning the course of Nursing Care of Persons with Mental Health Problems by using the research-based learning and instruction.

Research purpose

This study aimed at determining learning outcome performed by the junior-year nursing students taking the course of Nursing Care of Persons with Mental Health Problems.

Hypothesis

The students learning with the research-based instruction for the course of Nursing Care of Persons with Mental Health Problems have higher learning achievement than the students learning the normal instruction.

Terms and definition

1. Research-based learning refers to the learning process in the course of Nursing Care of Persons with Mental Health Problems. The learning practice comprises researching for new knowledge through reviewing research findings concerned with the content of the course in different perspectives assigned by the instructor. Then, each student or group of students presents the findings, application, and making discussion related to the course content in the classroom.

2. Knowledge of nursing care of persons with mental health problems refers to level of knowledge, understanding and application made by the students concerning with the model of nursing care of persons with mental health problems; such as autistic, drug re-addicted, eating disorder, and a side-effect of mental medicine taking.

Limitation

1. The samples were the population of this study that included 98 students studying in the third year of Bromarajonani Nursing College in Ratchaburi. They were taking the course of Nursing Care of Persons with Health Problems in the second semester of 2014 academic year. All students were assigned to the experimental group.
2. The independent variable was the research-based instruction and the dependent variable was the learning achievement performed by the students in both student groups.

Research instrument

1. The achievement test constructed by the researcher was used for data collection. The test comprised of 77 test items that assess academic knowledge gained from learning the course of Nursing Care of Persons with Mental Health Problems. The test was reviewed and passed consideration of two reviewers assigned by the collage academic committee.
2. Learning and instructional activities in this research-based instruction were inspected by the experts to make improvement and suitability for use as the instructional lesson plans.

The guideline of instructional practice was based on the procedure of research conduct given by Paitoon Sinlarat (2012) and Tisana Khammanee (2012). The method used for this study was the practice of documental research the required the students to review findings from the research reports on the certain assigned topics over the nursing care of persons with mental health problems. The students were also required to present their findings, make discussion, and propose application from the findings.

Research method

This study employed an action research method for determining the outcome of using the research-based approach to learning and instruction for the course of nursing care of persons with mental health problems. The research was conducted in the second semester of 2014 academic year at Boromrajonnani Nursing College in Ratchaburi. The participants included 98 undergraduate students who were assigned to the experimental group which was assigned to do research-based learning activities as following:

Week 1: The students were explained and provided with information concerning the learning and instructional model. The samples in the experimental group were divided into 20 small sub-groups that were randomly assigned to a single research topic related to the different

nursing cares of persons with mental health problems. Each sub-group must do researching over the related research findings previously reported in thesis and journal articles inside and outside the college. Before doing the field research, the instructor demonstrated how to do the document research form library and online resources. How to report the research finding was also explained and provided with format and guideline that importantly included criteria and evaluation rubric.

Week 2-3: Each sub-group was required to present a list of research titles and abstracts that were collected after classes in order to screen for qualified or good and updated selections. The screening was made by the instructor who also provided reading the research reports for their data collection.

Week 4-6: The students in sub-groups were required to report their progress of the researching, as well as reporting problems found. On-going advising was provided for those who were in need; such as help to understand research reports and language translation from English to Thai, the problem in preparing the presentation, discussion, and application proposal. From observation, all sub-group of students had done a very good job on researching to assigned topic at a satisfied level.

Week 7-8: The students in each sub-group presented the knowledge found from doing the document research on their assigned topic. They were also required to make a discussion related to the research topic and propose an application related to the findings by creating a nursing care model for persons with mental health problems.

At the last week of the semester, the academic achievement test with 77 items was given to the students in both experimental and controlled groups.

Data analysis

The scores from the achievement test provided by the students taking the course of nursing care of persons with mental health problems were graded based on the criteria as following:

80 – 100 %	=	A
75 – 79 %	=	B+
70 – 74 %	=	B
65 – 69 %	=	C+
60 – 64 %	=	C

Research outcome

The achievement scores performed by the 98 students learning with the research-based instruction in the course of Nursing Care of Persons with Mental Health Problems in the second semester of 2014 academic year could be graded into 3 with A, 19 with B+, 25 with B, 38 with C+ and 13 with C.

Grade	Number of students	Percentage
A	3	3.06
B+	19	19.39
B	25	25.51
C+	38	38.77
C	13	13.26

The comparison of the achievement scores performed by the 97 students learning with the research-based instruction in the course of Nursing Care of Persons with Mental Health Problems in the first semester of 2014 academic year could be graded into none with A, 6 with B+, 19 with B, 40 with C+ and 33 with C.

Grade	Number of students	Percentage
A	0	0.00
B+	6	6.12
B	19	19.39
C+	40	40.82
C	33	33.67

Discussion

From the research outcome above, it can be discussed that the students who learned with the research-based instruction had knowledge of nursing care of persons with mental health problems higher than that of the students in the first semester who learned with normal instructional method, which was determined by the different numbers of students who got grade A, B+, B, C+, and C respectively. The better learning outcome with the research-based learning and instruction in this course might be resulted by giving the practice of active learning and providing an opportunity for the students to learn about what they were interested in. In addition, assigning discussion activity to share what they had found from the research could widen their understanding and perspectives in providing nursing care for the persons with mental health problems in a variety of patterns and models, which made them gain better insight into various types of care. This result is conformed to the research-based instruction (Paitoon Silarat, 2012). Therefore, learner-centered and active learning practice support the research-based instruction and learning. It is appropriate to be applied to any course of study in the changing society nowadays. Learning through in-class lecture solely is not sufficient today. Thus, the research-based instruction and learning can encourage students to learn actively and gain better, deeper and wider understanding than the traditional instruction. Last but not least, the students who learned from researching research findings and discussion can apply the knowledge gained form study into practice and work in the nursing care of persons with mental health problems in hospitals.

The problem found in learning with the research-based practice was that the students had limited competence in English, especially in reading the academic journal and research report

articles; therefore they could not include the related research findings written in English. They did research from research reports and an academic or medical journal written in Thai.

Recommendation

1. From the research finding of this action study, the research-based instructional activities can assist learning to gain more knowledge in the course; therefore this approach should be widely used in other courses in the nursing college.
2. The students who cannot read research reports and articles effectively should receive more practice in information searching and learn more about reading research reports.
3. The students must be improved with English skills, especially reading, in order to be able to read text written in English more effectively. If they had better English reading skills, they would be happier with research-based learning.

For further research conduct, it is recommended that another learning behaviors or variables and skills of students should be observed when using the research-based instruction for learning. Also, this learning and instruction approach should be applied to improve other skills and knowledge in various fields for students.

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Adaptation of Persons with Mobility and Physical Disability in One Rural Area of Thailand[1]

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Abstract

Many persons with mobility and physical disability would like to live independently. However, they may have difficulties in living in rural areas. The adaptation was one of key success factors helping people with mobility and physical disability to manage their living. The study purposed to examine to what extent of adaptation among persons with mobility and physical disability in one rural area of Thailand. The participants were 60 persons with mobility and physical disability living in Nong Kob Sub-district, Banpong, Ratchaburi. The researchers collected that data by using questionnaires with 60 participants and conducted one focus group with ten of them. The instrument used in the study was the adaptation questionnaires developed by Kanchana Lertawontam (2013). The questionnaires were composed of four domains of adaptation: physical, self-image, roles, and interpersonal dependencies. Furthermore, the researchers used guides of focus groups in asking the questions. The findings showed that the mean score of adaptation rated the participants were at the level of adjusting oneself ($\bar{x}$=3.39, SD=1.398). The qualitative data revealed firstly that the participants were motivated to have body exercise and training for moving. Three main reasons for doing exercise were living independent, decreasing burdens of families, and getting rid disability. Secondly, the participants responded that body image influenced on self-image. Almost all participants raised the issue of confidence as a difficulty in living. They would like to feel more confident. Their lack of confidence was caused by feeling shame and fear of being refused. Thirdly, role adaptation issues found from the study were changing roles to be receivers, not helpers and from being active to passive. Finally, almost all felt that they became dependent particularly in moving. The social support, such as funding or assistant technology did not reach them. The researchers recommended that social supports and welfare should be distributed to those in the rural area equally. The knowledge gained from the study and be applied in health education regarding providing care to people with special needs, policy making in support those to live independently, and improving care providing and supporting to focus on needs.

Keywords: mobility, physical disability, adaptation, rural area

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Backgrounds

At present, there is more than a billion people in the world today experience disability (WHO, 2014). The number of people with physical and mobility disability in Thailand has increased for decades (NEP, 2014). There was 2.3 percent of Thai people experienced disabilities (NEP, 2014; Mahidol University, 2014). People with physical and mobility disability are persons who have functional limitations. The disability is not something that a person has but, instead, something that occurs outside of the person (WHO, 2014). Many persons with mobility and physical disability would like to live independently. However, they may have difficulties in living in rural areas. The adaptation was one of key success factors helping people with mobility and physical disability to manage their living.

Methodology

Objectives

The study purposed to examine to what extent of adaptation among persons with mobility and physical disability in one rural area of Thailand.

Participants

The participants were 60 persons with mobility and physical disability living in Nong Kob Sub-district, Banpong, Ratchaburi. The researchers collected that data by using questionnaires with 60 participants and conducted one focus group with ten of them.

Tools

The instrument used in the study was the adaptation questionnaires developed by Kanchana Lertawontam (2013). The questionnaires were composed of four domains of adaptation: physical, self-image, roles, and interpersonal dependences. Furthermore, the researchers used guides of focus groups in asking the questions.

Results

The findings showed that the mean score of adaptation rated the participants were in the level of adjusting oneself ($\bar{x}$=3.42, SD=.75) as showed in Table 1.

Table 1: Mean scores, standard deviation, and levels of adaptation behaviors

Adaptation behaviors	**mean $(\overline{x})$**	**Standard deviation (SD.)**	**Level of adaptation**
Physical adaptation	3.55	.74	being adjust
Self-image adaptation	3.25	.99	being adjust
Role adaptation	3.25	.67	being adjust
Interpersonal adaptation	3.66	.62	being adjust
total	3.42	.75	being adjust

The qualitative data revealed firstly that the participants were motivated to have body exercise and training for moving. Three main reasons for doing exercise were living independent, decreasing burdens of families, and getting rid of disability.

A 47-year-old woman explained that,
"I wanted to go outside and work by myself. I had groups. They can help me when I need information, such as contact persons in the trade fair. Therefore I had to make my body fit and firm (laughed)"

A 55-year-old man, bedridden accounted that,
"I tried to do exercise daily because I am considerate that my wife cannot lift up my body. I wanted to move as much as I can do."

Another woman who was doing exercise by pulling elastic band said that,
"I hoped that my arms and fingers would function again. I was educated that doing exercise everyday can help."

Secondly, the participants responded that body image influenced on self-image. Almost all participants raised the issue of confidence as a difficulty in living. They would like to feel more confident.

A young woman said that,
"The society will never provide services equally. The disabled person like me felt not confident to live and work with other people, not family."

Their lack of confidence was caused by feeling shame and fear of being refused.
"Well, we feared of discrimination and exclusion. I understood that some of us looked bad and were not welcomed by some people."

Thirdly, role adaptation issues found from the study were changing roles to be receivers, not helpers and from being active to passive.
"The big change was becoming passive that waited for being supported by others. Even thought I did not want help, some people tried to help me."

Finally, almost all felt that they became dependent particularly in moving. The social support, such as funding or assistant technology did not reach them.
"My dream was to have the new leg. This one hurt me, so I had to take off and used it when necessary."

Discussions

The study found that the participants rated adaptation at the being adjust the level. This can be explained that physical disability made persons to have limitations both self-image and body function. Also, adaptation ability depended on thoughts of persons (Roy, 2012). Five categories were extracted – self-trust, problem-reducing actions, change of values, social trust and minimization. These categories clustered around two broader bipolar constructs – acknowledgment of reality vs. creation of hope and trust in oneself vs. trust in others (Persson, & Rydén, 2006). The current study found that the persons with disabilities had some difficulties in being with others in social. This can be caused by many reasons. A study focused on why the disable people lose friends. This study reported that the main reasons given for losing friends were: loss of shared activities, reduced energy levels, physical disability, aphasia, unhelpful responses of others, environmental barriers, and changing social desires. The subset of participants who experienced the most extensive loss of friends were those who described a sense that they were 'closing in' on themselves leading to a withdrawal from social contact and a new preference for meeting only close friends and family (Hilari & others, 2010). The study found that the adaptation level rated by the participant was in the level of adjusting. This may be because they received not enough support. A study conducted in Taiwan found that support from family members and formal organizations as well as emotional support from families, friends and formal organizations was significantly associated with better psychological well-being among the elderly in Taiwan (Chao, 2012). The study found that the social support, such as funding or assistant technology did not reach them. Similarly, the information found from another study. The researchers reported that the university students in the U.S.A. had dissatisfaction in free-access services of the university and receiving supports from the university because sometimes these services were limited (Schiro-Geist & Kundu, 2009).

Recommendations

The researchers recommended that social supports and welfare should be distributed to those in the rural area equally.

Implementations

The knowledge gained from the study and be applied in health education regarding providing care to people with special needs, policy making in support those to live independently, and improving care providing and supporting to focus on needs.

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Research on the Public Opinion Guidance of Network Media in the Relationship between Doctors and Patients-- Based on the Analysis of the Content of Sina News and Phoenix News[1]

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Abstract

In recent years in China, medical disputes, medical injury incidents of violence continue to occur, the contradiction between doctors and patients seems to be an irreconcilable state. Mass media as a monitoring environment and guide the public opinion of the tool, whether in such an event to actively take up their responsibilities. In this paper, based on the issue of doctor-patient relationship, Select samples from Sina and Phoenix from 2015.5.1 to 2016.5.1 for a whole year of relevant news to carry out an isometric sampling. A total of 314 valid samples were obtained. To examine the similarities and differences in the content and presentation of the network media in the doctor-patient relationship, and then analyze how to conduct public opinion guidance.

Keywords: Doctor-patient relationship, Network media, Sina and Phoenix, Content Analysis, Public Opinion guide

Research Background

The medical historian Henry sigerist once said that every action always involves two kinds of medical doctors and patients, medical parties: nothing more than the relationship between the two groups.[1] Nowadays, we can use media in any field; the doctor-patient relationship is no longer a simple relationship between the doctor and the patient, possible media also played a role in this. As a complete website development of network media, the public opinion influence should not be underestimated. The same is true for the doctor-patient relationship. Based on this thinking, the following research questions are put forward:

1. At present, China's network media coverage of the contents of the doctor-patient relationship?
2. Different network media reports on the relationship between doctors and patients to guide whether there is a difference?
3. Different network media reports on the relationship between doctors and patients are different?

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Research Methods

The content analysis method is adopted in this paper. The feasibility of monitoring and operation based on the content of the PR value, Sina and Phoenix finally selected two sites as the research object. The period of the sample selection is 2016.5.1 - 2015.5.1. In the two sites in the "doctor-patient relationship" as the key words to carry out the search in the station related news reports, to "article" as the unit, search results for Sina 895, Phoenix 909. According to the time order, all the news on each site to the equally spaced sampling, each of the four pieces of a piece, eliminating duplicate news. Finally, Sina extract 141, Phoenix 173, a total of 314 valid samples. According to the framework theory made category as follows: the theme of reports, the report attributes, the position of interest, the type of report, the length of the report, the way of reporting, the source of the news, whether there is a conclusion, the credibility of the report, comments.

Research Findings and Discussion

1. The Similarities and Differences between Sina and Phoenix in the Doctor-patient Relationship Related Issues on the News

In order to more intuitive research Sina network, Phoenix Network in the doctor-patient relationship between the news content of the specific aspects of the presentation, the difference in the content of the report. In this study, the frequency statistics, chi-square test and T test were carried out on a total of 314 samples were collected from two sites.

Descriptive Statistics and Chi-Square Test Results of Sina and Phoenix Website

	Sina		Phoenix		X^2
	Frequency	Percentage	Frequency	Percentage	
Report topic					30.264***
Communication between doctors and patients	66	46.80%	37	21.40%	
Medical technology	12	8.50%	22	12.70%	
Medical service	18	12.80%	24	13.90%	
Medical policy	16	11.30%	22	12.70%	
Medical expense	4	2.80%	10	5.80%	
Health care reform	11	7.80%	18	10.40%	
Medical information	1	0.70%	15	8.70%	
Other	13	9.20%	25	14.50%	
Report attribute					11.039**
Positive	80	56.70%	67	38.70%	
Negative	26	18.40%	37	21.40%	
Neutral	35	24.80%	69	39.90%	

Interest position					9.598**
Medical staff	49	34.80%	38	22.00%	
Patient	10	7.10%	27	15.60%	
Neutral	82	58.20%	108	62.40%	
Report type					3.844
News	70	49.60%	71	41.00%	
Communications	43	30.50%	52	30.10%	
Comments	28	19.90%	50	28.90%	
Video	0	0.00%	0	0.00%	
Report way					12.693***
Text	106	75.20%	96	55.50%	
Picture	35	24.80%	76	43.90%	
Video	0	0.00%	1	0.60%	
Report conclusion					0.42
Yes	48	34.00%	65	37.80%	
No	93	66.00%	107	62.20%	
Sample number	141		173		

*P<.05 **P<.01 ***P<.001

Chi-square test results show that, on the issue of the relationship between doctors and patients, Sina and Phoenix in the reported themes ($x2=30.264$, $P<0.001$), the report attributes ($x2=11.049$, $P<.01$), interest positions ($x2=9.598$, $P<.01$), reported the ways ($x2=12.693$, $P<.001$) there are significant differences. On reported topics, as the first major traditional business portal, sina is more interpersonal communication and service between doctors and patients, Phoenix's report is more balanced, and pay more attention to health care reform, policy and technical aspects of information. On report attributes, as a product of the pure Internet, Sina in the network environment, relatively free and relaxed conditions, the news reports have a more clear attitude and position; as in the traditional media based on, Phoenix shows the principle of professionalism stronger. On interests position, although there are obvious differences in the tendency of medical staff or the tendency of patients, the overall view more is to maintain an objective and neutral position, rather than standing in the interests of one side of the position of one of the parties to speak. On the way of reporting, Sina is more pursue news quickly, form in short text, Phoenix has always been good at with the depth, is conducive to the image with a more user-friendly form, revealing nature of events. In addition, there are no significant differences between the two sites in the reporting types ($x2=3.844$, $p>.05$) and whether there is a report ($x2=0.42$, $p>.05$).

2. Analysis of the Influence of the Sina Network and the Phoenix Network Public Opinion Guidance

The Number of Words and Comments on Sina and Phoenix Articles

	Sample number	Mean value	F
Sina	141	1586.262	4.264
Phoenix	173	2018.197	5.167

*P<.05 **P<.01 ***P<.001

Sina and Phoenix relate to news content which mainly covers doctor-patient communication, medical technology, medical services, health policy, medical expenses, medical reform, medical information. The t-test shows that there is no significant difference in the number of words reported by the two websites regarding the relationship between doctors and patients (T=-2.372, P>0.05). At the same time, Sina network and Phoenix News plate are set to comment on the function, n the Sina network of 142 samples, a total of 43 reviews, with an average of 1923 reviews of each news, in 173 samples of Phoenix in a comment on news articles with 25 comments, the average amount of each story is 71. We can see that, on the one hand, the two news comments on some useless, although there is such an interaction with users, allows users to express their views, but in fact did not play its role; On the other hand, in the limited review, an event in Sina for the reported single comment amount can reach tens of thousands, but most of the comments in news reports phoenix.com single volume of only hundreds, which may explain why in some events Sina can cause the formation of public opinion, public opinion field.

Combs and Shaw in 1972 proposed the agenda setting theory points out that the mass media often cannot decide people specific views of an event or opinions but can provide information and arrange the related issues about effectively concern certain facts and opinions, and they talk about issues in the order, the news media to the public is their agenda. [2] The emphasis of mass media on things and opinions is proportional to the degree of attention of the audience. For the issue of the doctor-patient relationship, in addition to the audience to contact medical personnel in real life, form their cognition, relevant information and more from the mass media, the Internet-based information explosion era, as more information from the network. The news website is undoubtedly one of the powerful representatives of the dissemination of information. Doctor-patient relationship issues under the news reports, a year, a total of 895 Sina search out, the average day 2.45, a total of 909 Phoenix, an average of 2.49 a day. The doctor-patient relationship is the issue of news reports in Sina is more focused on the doctor-patient communication, reported incidents of violence hurt doctors, medical disputes, the doctor-patient conflicts, news websites in their unique way to drawing the attention of the audience. This is why in recent years, we have always been around the doctor-patient disputes, violence, medical and other incidents of information; it seems that more and acuter contradictions between doctors and patients. Admittedly, the doctor-patient relationship in China is not in a state of harmony, people to such events have paid more attention to, but in the process intensification of contradictions, network media is also a part of the important role? From two sites of doctor-patient relationship issues news interest standpoint, although the overall two sites in the interests of the position, more objective is to maintain a neutral position, rather than standing in the interests of a party position for one party to speak, meticulous, Sina reported

interests tendency of medical staff many patients have less tendency; ifeng.com this is true, it is standing on the position of the news reports in the interests of patients was significantly higher than sina. News website in the subtle in their own unique framework in the corresponding public opinion guide.

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Influence of Social Trust on Trust in Government New Media[1]

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Abstract

The trust of citizens in government new media platforms is an important indicator for examining the efficiency of the E-government, at the same time, it is critical to the construction of government new media platforms and the understanding of public opinion. The study aims to understand the relationship between social trust (including interpersonal trust and political trust) and trust in the government new media platforms, and demographic factors, use of government new media, and government satisfaction were also included as the controlled variables. A total of 2467 participants were included in the survey, and their mean age was 21.39 (SD = 2.51). Among them, 42.6% were males. Results showed that after controlling for the effect of demographic variables, government new media use, and government satisfaction, there is still the significant influence of interpersonal trust ($\beta = .15$, $p < .001$) and political trust ($\beta = .38$, $p < .001$) on the trust in government new media platforms. Factors related to trust in different government new media platforms were compared. Implications of the findings were also discussed.

Keywords: government new media, social trust, interpersonal trust, political trust, government satisfaction

Introduction

The burgeoning of information technology and network construction, as well as the penetration of Internet into people's daily life, has facilitated the information release and communication with the citizens of the government. Countries from all over the world have paid attention to the construction of government new media platforms. Government new media platforms are operated by the government for the purpose of information and announcement release and interacting with the citizens. In China, the government new media platforms mainly include government official websites, government official microblog account, government official Wechat account, and government official accounts on other new media platforms. Government new media is an important composite of e-government. The informatization of the government can be dated back to the 1950s when computers were used in the government departments for the first time, and since the 1980s to 1990s, the e-government construction had been widely developed (Qiu, You, & Huang, 2005). Since the year of 2009, the General Services

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Administration of the United States had signed several agreements with some new media platforms, including Flickr, Youtube, Vimeo, and Blip.tv, in response to President Obama's advocacy of improving citizens' political participation and obtaining more information about public opinion from the new media platforms. A large amount of new media users has made the voice of the government spreading more widely and rapidly, and the interaction between the government and citizens more convenient (Edler, 2009). The United Kingdom government made the "Government's online planning" in 1994 which is a mark for the start of the e-government development. The UK-Online protocol was further introduced in the September of 2000. At the same time, the government provided the citizens and industries with electronic services for the purpose of establishing the public-oriented government. The implantation of e-government aimed to improve the working efficiency of the government and better satisfy the needs of the public. In South Korea, the government started to construct the "Network-Based Information Systems" since 2002 and have made some progress in the e-government programs, including the national electronic procurement, local governmental informatization, national system of education information, and so on (Qiu et al., 2005). The e-government in China has witnessed the slow development phase in the 1980s and the rapid improvement phase in the 1990s, and a comparatively complete e-government system has been established. So far, the Chinese e-government has entered its deeper and higher-level development (Mao & Zou, 2004). The development and utilization of the government official microblog and Wechat platforms with interactive features have greatly increased the attention of the public, scholars, and other related parties.

According to the statistics, the activity of Chinese government new media platforms has also increased in the recent years. By the end of November 2014, the number of verified central government microblog accounts had reached 219, the verified microblog accounts of the provincial and lower-level government agencies had exceeded 194,000. At the same time, the total number of government Official Wechat accounts was 17,217 (Duan, 2014). In China, the government new media platforms are playing a key role between the government and the public, which have built a platform to facilitate the communication between the two sides (Bi, 2013). From the citizens' perspective, the rights of opinion expression and political participation have been widely expanded by government new media platforms. Besides, government new media platforms also facilitate the public contribution to the social governance (Shi, 2013), by allowing the public to express their views and interact with the government. From the perspective of the government, government new media platforms are the most direct and effective way for the government to learn about the public opinion and deal with the livelihood issues; meanwhile, they are also important for the direct transmission of messages from the government to the public, which avoids the misinterpretation of other mass media (Luo, 2013). In order to give full play to the bridging role of the new government media platforms, it is meaningful to enhance the trust of the audiences.

While the new media develop promptly, the public trust in the government new media platforms is facing enormous challenges. Firstly, the Internet contains massive information which is growing explosively, making it difficult to judge the authenticity of the content and the credibility of the source, and control the rumor spreading, which largely threatens the

government's discourse on the new media. Besides, when rumors appear, the government's action of refuting a rumor would easily be overlooked by the audience or even attacked by third parties. Secondly, the public trust in government new media platforms will greatly impact the governments' capability in dealing with the public incidents in the new media age. Nowadays, many public incidents were triggered in the cyberspace, and traditional crisis response and crisis management strategies are not able to be adapted to the new media environment. Therefore, the government new media platforms play a key role in the intervening on the public incidents, relieving the pressure of the public opinion, and easing the radical speech. Thirdly, experts are also concerned about the privacy issues related to the government new media platforms. As the ability of information collection, storage, and dissemination by the government new media platforms grows, personal privacy is facing unprecedentedly threatens. Some government official websites collect personal data without obtaining the consent of the users, which is an invasion of the users' privacy and causes trust crisis of the public in the government new media platforms (Qiao, 2012). In sum, studying the public trust in the government new media platforms as well as analyzing the factors that affect the trust of the audiences is meaningful for the government to enhance their work on the credibility construction of the government new media, which will, in turn, facilitate the collection of public opinion and social governance.

Literature Review

Trust in Different Media Platforms

Since the government new media platform is a special type of media, studies on its public trust should be built on the basis of media trust. Studies on media trust should date back to the 1970s. Media trust was defined as the credibility of the information, or more specifically, audience's trust in the media agency (Burgoon, 1984; Greenberg, 1974; O'Keefe, 2002; Shaw, 1973). The core question of media trust is media credibility, and it is not dependent on the properties of the message primarily, but more on the audience's evaluation of the media itself.

The emergence and development of new media had further brought scholars' concern about media trust to a higher level (Flanagin & Metzger, 2000; 2007; Johnson & Kaye, 2004). Flanagin and Metzger（2007）argued that the new media trust problem lies in the information gathering without professional gatekeepers, for instance, a large amount of integrated information with advertisements appear on the websites, which is suffering from low credibility.

Researchers had conducted comparative studies between traditional media trust and new media trust. However, there are no consistent findings. Some of the study results showed that new media trust is lower than traditional media trust (Ye, 2000; Luo, 2002). While some researchers argued that there is no significant difference between traditional media trust and new media trust. For example, Flanagin and Metzger (2000) found that there is no significant difference in the credibility of television, radio, magazines, and new media. Still, some other study results showed that new media trust is higher than traditional media trust. Johnson and Kaye (1998)

inspected the discrepancy between Internet media trust and traditional media trust through a survey among the Internet users who are interested in politics. They found that participants' trust in new media is comparatively higher than that in traditional media, although the trust in both types of media is at the "somewhat credible" level.

So far, there is a lack of empirical studies focusing on the credibility of or public trust in the government new media in particular.

Relationship between Social Trust and Trust in Government New Media

Since the trust in government new media platforms based on empirical research is relatively limited, it is still unclear whether the public trust in government new media is associated with the social trust system (e.g., interpersonal trust, political trust), or it is an independent trust system from the social trust. Existing studies on general media trust indicate that it depends on the trust in other agencies, to some extent, such as interpersonal trust and political trust.

Interpersonal trust is the confidence a person has in relying on another person or group (Xue & Zhai, 2009). Studies suggest that the trust in online entities is related to individuals' interpersonal trust. Gunther (1992) argued that one's tendency of believing in other people or not can be seen as an indicator of that individual's trust in media. It was found that media trust is positively associated with interpersonal trust (Qiao & Li, in press). According to the report on interpersonal trust released by the Public Opinion Research Laboratory of Shanghai Jiao Tong University of China, microblog users tend to place more trust in the information shared by their friends or relatives, which also indicates that the information sources based on interpersonal relationships earns more trust by the microblog users (Chen, Qiao, & Zhang, 2014).

Political trust is the trust given by members of the society to the political system. In the perspective of political science theory, the political trust may be further defined as the recognition and support of the members of the government, the political system, and the political communities (Dong, 2010). According to the latest report on social trust in China (Wan, Liu, Pan & Fu, in press), it was found that government officials are among the least trustworthy groups compared to other occupational groups such as taxi drivers, doctors, and lawyers. Specifically, the trust in local government is comparatively lower than that in the central government. Existing studies on the influence of political trust on the trust in the government new media platforms are relatively limited, but the findings consistently indicate a positive link between them. It was also found that there is a positive link between the trust in government agencies and media trust (Qiao & Li, in press). In the Johnson (2004) study, results suggest that audiences' political trust has a significant influence on their media trust. Jiang, Zhong, and Ji (2010) also argued that the trust in government agencies is one of the factors influencing the trust in the e-government (Jiang, Zhong, & Ji, 2010). Based on the above literature, it is hypothesized that:

H1: There is a positive correlation between interpersonal trust and trust in government new media platforms;

H2: There is a positive correlation between political trust and trust in government new media platforms.

Other Factors Related to the Trust in Government New Media

Other factors besides social trust that may influence one's media trust had also been explored by the researchers. In the traditional media era, Westley and Severin (1964) studied how demographic characteristics of the audience affect their media trust. It was found that age, gender, educational level, and family income significantly influence one's media trust. It is consistent with Greenberg's study (1966) which also found that gender, age, and education level are correlated with media trust. In new media studies, the latest report on media trust in China showed that males, younger, and highly educated individuals tend to place more trust in new media (Qiao & Li, in press). However, there is a lack of direct support for the relationship between demographic variables and trust in the government new media. Based on the existing findings in general media trust, it is hypothesized that:

H3: Demographic variables, including gender, age, and education level, influence the trust in government new media platforms.

Media use is one of the most important predictors for media trust. Studies consistently showed that there is a positive correlation between media use and media trust, that is to say, the more often an individual use a certain type of media, the more reliable the individual tend to feel about that type of media. For instance, in the Luo Wen-hui and Chen Shimin (1993) study in Taiwan, it was found that newspaper use is a significant predictor for the trust in newspapers, and the usage of television news is also a significant predictor for the trust in television news. Similar results were also found by other researchers (Westley &Severin,1964; Carter & Greenberg,1965; Cobbey,1980). The empirical study on government new media also showed that users' motivation and willingness to participate in the government new media is one of the major factors that predicts the public trust in the e-government (Hou, Feng, He, Guo & Qin, 2013). Reversely, it was also argued that it is the use of a certain medium that raises the believability of that medium, and it applies to all types of media (Greenberg, 1966). Studies on the use of government new media platforms are consistent with the former argument. In the Zhao and Benyoucef (2014) study, it was found that the use of e-government platforms is a significant predictor of the trust the users placed on them. In other words, the more frequently an individual uses the e-government platform, the more trust the users will place on it (Zhao & Benyonuce, 2014). Based on the above findings, it is hypothesized that:

H4: There is a positive correlation between the use of the government new media and the trust in government new media platforms

Government satisfaction refers to the public evaluation on government administrative capability, public services, and other aspects. Government new media platform is the "spokesman" of government agencies in the cyberspace. It was found that individuals who trust in the central media and local media tended to be more satisfied with the public services (Qiao and Li, in press). Therefore, it is hypothesized that:

H5: There is a positive correlation between satisfaction with central government and the trust in government new media platforms;

H6: There is a positive correlation between satisfaction with local government and the trust in government new media platforms.

Current Study

Over decades, it was consistently found that citizen's interpersonal trust and trust in government are declining seriously (Norris, 2000; Orren, 1997), which leading a cynicism ideology in the contemporary society. Moreover, it is widely believed that younger generations have lower levels of social trust than their elders. Studies showed that the generation born before 1955 had higher levels of interpersonal trust than the cohorts born later (Cappella, 2001). What was worse, young people's trust of others are decreasing faster than their parents, and this was evidenced by a report showing that high school students had steeper declines in social trust from 1976 to 1994 than adults did (Rahn & Transue, 1998). These findings imply that the entire social system is suffering from a more serious trust crisis among the younger generation.

In the new media era, the social media, websites, Twitter, etc., have deeply penetrated to the lives of the younger generation, which brings about novel channels to facilitate the communication between government agents and the young people. In many countries, websites and other new media platforms had become the primary means by which parliaments achieve the aspired level of transparency and accountability and also provide legitimation of the political system. Besides, numbers of parliaments in Europe, such as the British Houses of Parliament and the Brazilian Parliament, have dedicated websites aimed at younger audience or schools, by providing a wide range of services, resources, and interactive possibilities (Griffith, Leston-Bandeira, 2012).

Given that the younger generation is standing on a fragile trust system in the society, but at the same time, they are more dependent on and addictive to the new media platforms. It will be meaningful to examine whether the social trust, controlling other factors, will facilitate the trust in government new media among younger audiences. Hence, the current study will aim at young users of the government new media platforms, that is, the college students, and explore the relationship between social trust and trust in government new media.

Method

Procedures

A survey study was conducted by the Social Survey Center of Shanghai Jiao Tong University in Shanghai, China. College students from 13 universities in Shanghai (including all 4 tier-one universities, all 5 tier-two universities, and 4 tier-three universities) were randomly sampled to participate in the survey, with 200 participants from each university. Participants were invited to fill in a questionnaire after a debriefing session. The questionnaire consists of six sections. The first section is a brief introduction to the aim and use of the survey, the second section is the social trust, the third section measures the use of government new media, the fourth section measures government satisfaction, the fifth section measure the trust in government new media, and the last section were questions about their personal information. The survey takes about 15 minutes to complete.

Participants

A total of 2467 valid questionnaires were collected. The mean age of the participants was 21.39 (SD = 2.51). Female accounts for 57.4% of all respondents; undergraduate students account for 81.3%; the Han population accounts for 94.7%.

Measures

Demographic variables

Demographic variables include gender (0 = male, 1 = female), age, and education levels (1 = undergraduate, 2 = postgraduate, 3 = PhD student).

Social trust

Social trust measures interpersonal trust and political trust on a 5-point Likert scale (1 = "totally distrust"; 5 = "totally trust"). Interpersonal trust evaluates trust in friends, family, experts and scholars, celebrities, netizens, and so on. The Cronbach's alpha is .67 for this five-item scale. Political trust evaluates trust in government agencies, including central government, local government, the National People's Congress, the People's Procuratorate, the courts, the public security departments, etc. The Cronbach's alpha is .94 for this seven-item scale.

Use of government new media

It measures the use frequency of government official websites and government official social media (e.g., microblogs) on a 4-point Likert scale (1="not use at all"; 4 ="very often").

Government satisfaction

It measures citizens' satisfaction with the central government and satisfaction with the local government, ranging from 1 to 10, respectively.

Trust in government new media

It measures participant's trust in the government new media platforms. It includes official websites of the central and local governments, government news websites which refer to China's important central news-oriented websites (e.g., People.com.cn and Xinhuanet.com), and government official microblogs on a 5-point Likert scale (1 = "totally distrust"; 5 = "totally trust"). The Cronbach's alpha is .71 for this three-item scale.

Results

Trust in Government New Media Platforms

Regarding participants' trust in government official websites, 44.20% chose "neutral", 28.00% chose "somewhat trust", while "totally trust" and "totally distrust" accounted for 4.10% and 3.8% respectively. In terms of trust in the government news websites, 38.60% of the respondents said that they somewhat trust in it, which accounted for the largest proportion; another 38.10% of the respondents chose "neutral". Regarding trust in the government official microblogs, the respondents who chose "somewhat trust" took the largest proportion (36.80%), and 33.80% of the respondents chose "neutral."

The result showed that the average trust in the government official websites of the respondents was 3.20 (SD = 0.86), the average trust in the government news websites was 3.41 (SD = 0.87), and the average trust in the government official microblogs was 3.30 (SD = 0.88), which are all above the "neutral" level. This suggests that participants tend to trust in the government official websites, government news websites, and government official microblogs.

Factors Influencing the Trust in Government New Media Platforms

Correlational Analysis

Correlational analysis among the trust in government new media and other factors are shown in Table 1. Trust in the government new media was positively correlated to Gender ($r = .12$, $p < .001$) and negatively correlated to age and education ($r = -.08$, $p < .01$; $r = -.07$, $p < .01$). Use of government new media was correlated to the trust in government new media ($r = .20$, $p < .001$). Satisfaction with central government and local government were positively correlated with the trust in the government new media ($r = .46$, $p < .001$; $r = .44$, $p < .001$). There is a positively correlation between trust in the government new media and interpersonal and political trust ($r = .27$, $p < .001$; $r = .53$, $p < .001$).

Hierarchical Regression on General Trust in Government New Media

A hierarchical regression analysis was conducted to examine the factors that influence the trust in government new media, with a special emphasis given on the link between social trust (including interpersonal trust and political trust) and trust in the government new media platforms. In the first block of the model, demographic variables were entered, that is, gender,

age, education. In the second block, use of government new media and satisfaction with the government were entered. In the last block, social trust variables were entered.

Results (see Table 2) showed that among the demographic variables, gender had an impact on the trust degree of government new media platforms ($\beta = .11$, $p < .001$); females placed more trust on the government social media than males. Education level was negatively correlated to trust in government social media ($\beta = -.07$, $p < .05$), participants with higher education placed less trust in government social media. Age had no significant impact on the trust in the government new media. The model obtained $R^2 = .02$, $F = 10.73$, $p < .001$. Hypothesis 3 was partially supported.

After controlling for the effect of the demographic variables, it was found that the use of government new media was correlated to the trust in the government new media platforms ($\beta = .16$, $p < .001$). This indicates that the frequency of access to the government new media platforms could somehow predict users' trust degree in government new media platforms. H4 was partially supported. Satisfaction with central and local government ($\beta = .34$, $p < .001$; $\beta = .19$, $p < .001$) also have a significant and positive effect on the trust in government new media platforms. Participants who are more satisfied with the central and local government will place more trust in the government new media. The R^2 for the second model was 0.29 ($F = 112.15$, $p < .001$). Hypothesis 5 and Hypothesis 6 were supported.

Social trust was found affected their trust degree of government new media platforms after controlling for the demographic variables, government new media use, and government satisfaction. Results showed that both interpersonal trust ($\beta = .15$, $p < .001$) and political trust ($\beta = .38$, $p < .001$) were significantly and positively correlated to the trust degree of government new media, that is to say, individuals with higher interpersonal trust and political trust may also have a higher trust degree in the government new media platforms ($R^2 = .43$, $F = 157.55$, $p < .001$). Hypothesis 1 and Hypothesis 2 were supported.

Comparisons among Different Government New Media

Since there are slight differences in the nature of government official websites, news websites, and microblogs, it will be meaningful to compare the differences in the factors related to the trust in these three government new media. Hierarchical regressions with the same predictors were conducted on the trust in government official websites, news websites, and microblogs, respectively (Table 2). Comparisons showed that factors related to trust in different government new media were nuanced. Firstly, education level only negatively influence the trust in official websites ($\beta = -.07$, $p < .05$), but not the news websites ($\beta = -.05$, $p > .05$) and official microblogs ($\beta = -.04$, $p > .05$). In the second block, it was found that the use of government new media positively influenced the trust in official websites ($\beta = .22$, $p < .001$) and news websites ($\beta = .15$, $p < .001$), but not the official microblogs ($\beta = .00$, $p > .05$). A probing analysis was run by splitting the use of government new media into use of government websites and government social media, and result indicate that the former was negatively related to trust in official microblog ($\beta = -.10$, $p < .01$) while the latter was positively related to trust in official microblog

($\beta = .14$, $p < .001$). In the block of social trust, it showed that interpersonal trust had a positive influence on the trust in government news websites ($\beta = .05$, $p < .05$) and official microblogs ($\beta = .20$, $p < .001$), but not the trust in government official websites ($\beta = .03$, $p > .05$).

Results imply that participants with higher education tended to trust less in the government official websites, but it is not the case in their trust in news websites and official microblogs. Besides, heavier users of government new media tended to trust more in the official websites and news websites, but not for the official microblogs. In particular, use of governmental websites may play a negative role in trust in official microblogs. Lastly, unlike the news websites and official microblogs, trust in official websites was not predicted by the interpersonal trust.

Discussion

This study shed light on the government new media, which is a brand new field and very limited studies have been done on it. Through a large-scale survey, the study found that the public trust in the government new media is slightly more positively than the "neutral" attitude, that is to say, there is a tendency to trust the government new media platforms. However, the result is not satisfying enough; there is still a big room to improve in the trustworthiness of government new media so as to establish a better image of the government and deeply implement the service-oriented government scheme in China.

It was found that the trust in the government new media platforms may be influenced by the demographic factors, use of government new media platforms, government satisfaction, and social trust to different degrees. In specific, females and lower educated participants were found to trust the government new media more. Those who have more government new media consumption and higher government satisfaction may also place more trust in the government new media. Most importantly, interpersonal and political trust were important predictors to trust in government new media, that is to say, the social trust system is a key factor that may influence the public confidence to the government new media.

Specifically, comparisons were made across the trust in three various government new media platforms, that is, government official websites, government new websites, and government official microblogs. The results revealed that there is nuance across the three types of government new media regarding their predictors. Firstly, it is interesting to found that more frequently use of government new media does not necessarily predict more trust in official microblogs. This may be due to the difference in the nature of websites and microblogs, the later is social media that is updated more frequently and the content is incomplete due to the character limits. For distinguishing the "use and trust" correlation for websites and social media, we conducted a probing analysis and found that use of government social media increases trust in official microblogs while the use of government websites decreases the trust in official microblogs. These two groups of participants balanced out in their trust in official microblogs. It also implies that regular website users tended to distrust microblogs, even though the account is managed by government departments. Lastly, interpersonal trust predicts news

website and official microblog trust, but not official website trust. Because interpersonal trust emphasizes the human elements, similarly, compared to the official websites, the news websites and official microblogs contain more human elements. In particular, we could know the author information of each news report on the news websites and also the publishers of each microblog messages, we may also check and interact with other readers/users.

Most importantly, the findings answered the research question that whether the trust in government new media is associated with the social trust system or it is a dependent system. Generally speaking, it was found that participants who trust other people more and trust the government agencies more are more likely to trust in the government new media. These findings indicated that the public trust in the government new media platforms is largely related to the public trust to other social agencies, for instance, trust in other social members and trust in politics, which suggests that the government new media platforms is part of the social trust system. Compared to interpersonal trust, political trust has more stable and robust effects in predicting trust in government new media, while interpersonal trust has a stronger effect in predicting trust in government new media with more human factors, that is, news websites and social media. The finding of the link between interpersonal trust and trust in the government new media contribute to the existing studies on the link between interpersonal trust and traditional and new media trust by providing insights into the government new media in particular, which is still a gap in existing studies. The positive link between political trust and trust in the government new media found in the current study was in line with previous studies on the e-government trust (Hou, et al., 2013; Rui & Song, 2015). Political trust is largely determined by the performance of the government departments and agencies. Therefore, it is critical to maintaining the image of the government officials and the service quality of the government workers. In the recent years, the Chinese government has put great efforts in the anti-corruption work and service-oriented government construction so as to build the public trust and maintain a good image of the government. This may cause an increased public trust in the government agencies in the long run, which will, in turn, boost the public trust in the government new media platforms. Besides the construction of the government image and credibility, the entire credibility of different social roles also needs to be improved in order to increase citizens' interpersonal trust as well as the trust in the government new media.

Implications

The findings first indicated that it is important to improve the penetration rate of the government new media platforms. The government agents may first need to strengthen the interactive features, improve the attractiveness in content, ensure the usability and accessibility, and reduce the complexity of the interface of the new media platforms, so as to expand their influence and attract more users.

An unexpected by meaningful finding was that the government social media was not facilitated by the use of government new media, and the use of government websites even reduced the trust in official microblogs. More effort should be put in enhancing the accountability, transparency, and openness of the government social media platforms, such as the government

official microblogs and Wechat. Government social media facilitates more public engagement and makes the communication between the citizens and government agencies easier. The younger generation is an important composite of the government social media users, therefore, to deepen the impact of government social media, it is crucial to endow the government social media with more vigorous and popular network elements. Besides, linking up the government social media with the government websites may improve the trust among the website-preferred users.

In general, government new media platforms require specialized and professional construction. On the one hand, it plays the role of official "spokesman," but on the other hand, it is still a medium in nature. First of all, both authenticity and reliability of the information released by the media are important factors that affect the public trust in that type of media. The operation of government new media platforms should also follow the requirements on the media of journalistic professionalism, that is, serve the public interest, report the facts, judge the authenticity of facts through scientific rationality, and subject to the highest authority, the fact. In summary, it is necessary to ensure the authenticity regarding the content, the communication channels (independent on other powers), and the information sources. Secondly, a survey among European parliament members revealed that familiarity to the technologies and legislative process on the government new media is among the top challenges since most have not yet been able to use the new media platforms in a successful manner or incorporate them effectively into their work (Griffith & Leston-Bandeira, 2012). Government new media users from the government end, need to receive training in terms of professional journalism mindset and technological skills, with more stringent requirements and criteria than the non-governmental and traditional media practitioners. Their digital literacy should be improved in terms of capability of collecting and integrating the key information from the vast amount of confounding information, identifying true and false information in the virtual world, determining whether the information is suitable for online publishing, and being equipped with high political literacy. Considering the citizens' end, government new media should be made easier for citizens to use and grasp the working process. Thirdly, in the case of occurrence of public events, the advantage of government new media should be fully utilized, and the public confusion and suspicion should be resolved promptly. The construction of government new media platforms should guarantee the legitimate expression of the citizens, respect and encourage the users to express their appropriate interests and demands, and build communication channels for the interaction between the government and the public.

Limitations and Future Study

This current study has a few limitations. Firstly, convenient samples in Shanghai were collected which is a relatively young group of participants with the mean age of 21 to 22 years old. Therefore, it may not represent the views of all Chinese citizens. According to the theory of social stratification, the sample in the current study mainly consists of college students (especially undergraduate students), which belong to the same group, so that it is inappropriate to generalize the results to other age groups. Secondly, this study explored factors affecting the public trust in the government new media platforms by questionnaires surveys. Answers to the

questionnaires may not reflect the actually attitude or behaviors of the participants, for instance, the measured use of government new media is based on their evaluation but not the actual use. Besides, the cross-sectional nature of this study makes it inappropriate to make conclusions about causal relationships between the hypothesized independent variables and dependent variable. Specifically, it is assumed that demographic variables, media use, government satisfaction as well as social trust are the independent variables while the trust in the government new media platforms is the dependent variable, but the opposite direction could also be the case. It is also unlikely to explore the developmental trend of the trust in government new media platforms over time with the collected cross-sectional data.

According to the aforementioned limitation of research, there are two prospective studies for the future. The first one is regarding the expansion of research subjects. In specific, participants from different regions, in different levels of social economic status, and with different educational background should be covered in the sample. The second improvement may be made regarding the research design. It will be meaningful to carry out longitudinal studies to help understand the change in the trend of the trust in government new media over time, especially given that the new policies and schemes on government management are being made in China in recent years. Longitudinal studies may be a good examination of the effect of the new policies.

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Self-Care Behavior and Quality of Life Among Patients with Chronic Disease in The Community[1]

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Abstract

The purpose of this research is to study the self-care behavior and quality of life among patients with chronic disease in the community. The samples are 160 patients with chronic disease living in the Sanamchai sub-district, Suphanburi, collected by interviewing. The instruments consist of 1) personnel data questionnaire, 2) the self-care behavior and quality of life questionnaire. Data were analyzed as a percentage, average, and standard deviation. As a result, the samples are separated into two gender groups which are 64.4% of female and 35.6% of male, found, the most of them are 65 and older as 43.1%, and unemployed 35.6%, the secondary is 33.1% employed. Most of the patients with chronic disease who live with their spouse and descendants are 91.1%, and the chronic diseases are hypertension, diabetes, cardiovascular, cancer, etc. The patients with chronic disease who live in the good level of self-care community (=2.45, SD=0.583) and have very good level of life-quality (=3.45, SD=0.379), are so the supporting data for health promoting a plan to the patients with chronic disease who continuously care themselves. The priority of promoting exercise, thus, should be focused more.

Keywords: chronic diseases, quality of life, self-care

Introduction

Chronic disease is the world and national levels of a health problem of Thailand. The chronic disease conditions are the first importance and more critical in the 21th century, especially in developing countries. As the World Health Organization (WHO)'s report, found, the cause of death and disability, the people who have chronic diseases which are cancers, heart disease, diabetes and hypertension, likely increase every year. With WHO data that found hypertension is the worldwide health problem and cause of death in each year which reaches 8 million of worldwide adult people and nearly 1.5 million live in Southeast Asia. In addition, WHO worldwide statistic report of 2012 found 1 in 10 of an adult has diabetes, by approximate 1.26 million people worldwide and 4 of 5 are Asian.

Causes of chronic diseases are heredity, environment, lifestyle factors and risk behavior, for instance, smoking, drinking alcohol, having unsuitable die and lack of exercise, which can prevent. In addition, most of the patients who are cured in the hospital have the chronic diseases

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such as heart disease, diabetes and cancers. The elder people have more risk to accumulate chronic disease increasingly because of physical change and risk factors. Moreover, the diseases which become chronic conditions are increasing survivors of cancers, accidental-paralyzed teenagers who get the long life from rehabilitation and continuous care, KCD patients who have got longer life from renal therapy or kidney transplant. Chronic conditions occur long lasting, the survival and the death are going along. There are plenty of types and methods. The beginnings are different, able to be immediately or gradually. There are relapse diseases or remission with no any symptoms in a long-term, well-being and able to controlled, that depends on the balances between the practice following therapy plans and life-quality maintenance, the effects of chronic diseases. For life-quality and long-lasting life, the involving factors are diseases particularly in chronic disease patients who stay back with their family and community.

The care of chronic patients has to emphasize self-care behavior which related to their diseases, such as changing some behavior is effective to controlling hypertension. Hypertension controlling are consisted of (1) controlled diet – take more vegetables and fruits than the others and restricted fat food, less than 100 mg a day or 6 grams taken, body mass index controlled during 18.5 – 23, reduce drinking alcohol and smoking (2) do the exercise which is proper to age and continuous such as, at least 30 minutes aerobic dance. In addition, doing exercise should be continuous. (3) Stress Management (Thai Hypertension Society, 2012), moreover, self-care behavior when relapse is important to the chronic patients such as, regularly taking medicine, go to see the doctor following the appointment, observation own irregular disorder or getting the health information for planning and promoting be practiced for affecting the patients get good life quality. Therefore, supporting the chronic patients is important to the nurses, who are planning to care and to support health to these patients, understand genuinely the patients' self-care behavior for the right data of supporting care and make the good life quality to the patients sustainably.

Purposes of the Study

1. To study the self-care behavior of the patients with chronic disease in the community.
2. To study quality of life among the patients with chronic disease in the community.

Methodology

This research is descriptive cross-sectional correlational design; the samples are 160 chronic patients who live with the family in Sanamchai sub-district, Muang district, Suphanburi. Purposive samplings were used in this study in compliance with the following inclusion criteria:

1. Be patients who get continuous care including diabetes, hypertension, kidney disease, heart disease, etc.
2. Ability to speak and understand the Thai language. No listening and speaking disorder.
3. Allow accompanying giving the information.

Research Instrument

The instrument of this research, developed by a researcher within from literature review and related study, approved and corrected by the experts and improvised to comprehend the objectives. Structured questionnaires were used for the interviews which consisted of 3 parts which are:

Part1 - Personal information consists of gender, age, marital status, education, occupation, and income.

Part 2- The questionnaire of self-care behavior of the chronic patients 35 items with 3 levels of the rating scale.

Part 3-The questionnaire of life quality of the chronic patients 26 items with 5 levels of the rating scale.

Validity and reliability

The questionnaire of life-quality of patients and the questionnaire of chronic patient's self-care behavior are approved the content validity by 3 experts. After verifying and giving some suggestions, the researcher has improved following the suggestion and finding the content validity index.

Reliability – the questionnaire of life quality of chronic patients and the questionnaire of chronic patient's self-care, which are pass the content validity and improved, taken to reliability before applying, by bringing to trial in the other 30 chronic patients whom have the same characteristics as the samples, after that calculating to find the questionnaires' reliability by using Cronbach's Alpha Coefficient and the acceptable value is more than 0.8 (Polit&Hungler, 1997)

Protection of Human Subjects

The participants are protected their right for giving the information by being clarified the objective and resolutions for participating the research, including response the real information and not identifying the name on the questionnaires. These data are used for the research only and presented as an overview so the respondents can allow or deny participating in this research. Throughout participating to the research, the participants can withdraw from the research all the time and the withdrawal decision has no any effect on the samples.

Data Analysis by using the computer program

1. Personal identification data - analyzed by frequency distribution, percentage, and average

2. The patient's self-care behavior and quality of life – analyzed by average and standard deviation

Results

As the results, with 160 patients with chronic disease study are separate to female 64.4% and Male 35.6% and most of them are older than 65 years old as 43.1% and unemployed 35.6% followed by the employee as 33.1%. Most of the chronic patients who live with their spouse and descendants are 91.1% and the chronic diseases are hypertension, diabetes, cardiovascular, cancer, etc.

Table 1 average, standard deviation and the levels of self-care behaviors of the patients with chronic disease who live in the community. (n=160)

Self-care behaviors	$\bar{x}$	SD	The levels of behavior
1. You wash your hands before meal	2.46	0.55	Good
2. You brush your teeth after meal	2.31	0.49	Good
3. You take a bath twice a day	2.64	0.49	Good
4. You have full of 3 meals	2.92	0.27	Good
5. You eat a variety of fully five groups daily	2.51	0.50	Good
6. You choose lot of fiber diet	2.68	0.47	Good
7. You eat vegetables and fruits that benefit health	2.78	0.46	Good
8. You eat sweet fruits such as lychee, longan, durian, mangosteen	2.12	0.47	Fair
9. You eat too salty food.	2.19	0.72	Fair
10. You eat too sweet food.	2.18	0.58	Fair
11. You eat too sweet food.	2.29	0.58	Good
12. You eat fat food such as coconut curries and any fried foods.	2.18	0.46	Fair
13. You eat protein from fish.	2.66	0.51	Good
14. You take dietary supplement such as Calcium.	1.84	0.69	Fair
15. You drink milk every day.	2.07	0.62	Fair
16. You avoid air pollution.	2.36	0.62	Good
17. You often have constipation.	2.15	0.68	Fair
18. You defecate every day.	2.88	0.36	Good
19. Your house is clean and tidy for accident protection.	2.67	0.55	Good

Self-care behaviors	$\bar{x}$	SD	The levels of behavior
20. You do exercise twice or three times a week, 20-30 minutes time.	1.61	0.74	Fair
21. You can do most of the activity that organized by community and gets along well with the community members.	1.91	0.57	Fair
22. You take the physical check at least once a year.	2.95	0.27	Good
23. You observe body disorder.	2.78	0.43	Good
24. You don't go to see the doctor when you have a little illness.	2.16	0.52	Fair
25. You have got the information for recent health care such as reading, watching TV, listening to the radio.	2.81	0.45	Good
26. When you are sick, you let it heal.	2.48	0.68	Good
27. When you are sick, you go to see the doctor at the hospital/ sub-district health promoting hospital/clinic	2.97	0.18	Good
28. When you're sick, you take medicine following the doctor's prescribed.	2.97	0.21	Good
29. When you're sick, you're cured by traditional Thai therapy only.	2.71	0.66	Good
30. You apply herb decoction for healing.	2.74	0.62	Good
31. When you're sick, you like to eat too flavor food such as too sweet, too salty, too spicy.	2.61	0.69	Good
32. When you're sick, you eat a light meal that easily digestible and reduce the high-fat foods.	2.71	0.55	Good
33. When you're sick, you wipe yourself to decrease temperature.	2.12	0.74	Fair
34.When you're sick, you take rest so much.	2.45	0.55	Good
35. You can relax of stress from disease by listening to sermon.	1.78	0.74	Fair
Overall	2.45	0.53	Good

The study found the patients with chronic disease who live in the community and have a good level of self-care behavior ($\bar{x}$=2.45, SD=0.53), by the highest average scale behavior is self-care behavior which is When they get sick, they go to see the doctor at the hospital/ sub-district health promoting hospital/clinic. When they're sick, they take medicine following the doctor's prescribed is the good level of self-care behavior ($\bar{x}$=2.97, SD=0.18, 0.27) followed by physical check once a year ($\bar{x}$=2.92, SD=0.27)

Throughout the less average scale questions are consisted of ability to do some community's activities and getting along community's member well which in the fair level ($\bar{x}$=1.91,

SD=0.565); the behavior that taking some diet supplementary such as Calcium is in fair level ($\bar{x}$=1.84, SD=0.687); and, the minimum average point is doing exercise twice or three times a week and 20-30 minutes a time is in the fair level ($\bar{x}$=1.61, SD=0.736).

Table 2 Average, standard deviation, and quality of life levels among the patients with chronic disease who live at the community (n=160)

Message	$\bar{x}$	**SD**	**The levels of quality of life**
1. You're satisfied with your recent health.	3.08	0.87	Fair
2. Body pain such as a headache, stomachache, fibromyalgia, is not allowed you do what you want to	3.49	0.79	Good
3. You have enough energy for daily activities (Both of work and daily life).	3.39	0.84	Fair
4. How much do you satisfy your sleep?	3.36	0.81	Fair
5. You feel complacent to your life(for examples: happy, peaceful,hopeful)	3.88	0.67	Good
6. You can concentrate on your work.	3.77	0.86	Good
7. You feel self-complacent.	4.07	0.91	Good
8. Can you accept your appearances?	4.22	0.61	Very Good
9. You feel bad, for instance, lonely, sad, disconsolate, hopeless, worried.	4.24	0.81	Very Good
10. How much do you feel you can do anything in a day?	3.54	0.74	Good
11. How much do you need to be treated for work or live in each day?	1.93	1.05	Very Low
12. You satisfy your ability to work as you did.	3.59	0.77	Good
13. You satisfy fellowship or getting along the others well as you did.	3.56	0.67	Good
14. You satisfy help from your friends.	3.19	0.71	Fair
15. Do you feel stable and safe in each day?	3.40	0.75	Fair
16. You satisfy your recent house.	4.16	0.73	Good
17. You have enough money for your expense.	2.91	0.53	Fair
18. You're satisfied to go to the public health services as you need.	4.19	0.83	Good
19. You can get daily necessary news.	3.39	0.76	Fair
20. You have a chance to relax.	3.11	0.76	Fair
21. The environment is good for your health.	3.68	0.76	Good
22. You're good to travel.	3.26	1.18	Fair
23. You know your life is meaningful.	4.35	0.67	Very Good
24. You're good to travel by yourself.	3.06	1.23	Fair
25.Sex satisfaction	1.59	0.72	Very Low
26. What is the level of your life-quality?	3.41	0.69	Good
Overall	3.45	0.38	Very Good

From the results of data analysis table has found the quality of life of chronic patients in the community, by the overview is the very good level ($\bar{x}$=3.45,SD=0.379); by the maximum average scale is quality of life in feeling of how much meaningful they feel, that is at the very good level ($\bar{x}$=4.35, SD=0.665);followed by how often do they feel bad, for examples, lonely, sad, disconsolate, hopeless, worried, which in very good level($\bar{x}$=4.24, SD=0.811); the very good level of accept their own appearances quality of life ($\bar{x}$=4.22, SD= 0.611); and the last has been found 2 very fair level of chronic patient's life-quality which are need to be treated for abilities to work and live in each day ($\bar{x}$=1.93, SD=1.053) and feeling good in sex ($\bar{x}$=1.59, SD=0.722) too.

Discussion and Suggestion

This research is Cross-sectional-Descriptive research for studying the self-care behavior and quality of life of the patients with chronic disease at the community. As a result, there has been found:

1. According to the study, the chronic patients in the community have a high level of self-care behavior ($\bar{x}$=2.45, SD=0.53) related to Choowattanapakorn & Suriyawong (2011) and Khamloyfah (2011) which study the elder people who have diabetes, have a very good behavior. Most of them are the elder people who have 65 and older and reach to 41.1% of which the group of patients interest in their health. And following to Kanglee (2014) found that age is related to controlling patient's glycemic statistically significant and the patients who older than 60 couldn't control their glycemic (HbA1C≥7) more than the younger than 60 years old patients who have diabetes type II, which relate to the maximum average score behavior that is self-care behavior when getting sick, they go to see the doctor at the hospital/sub-district health promoting hospital/clinic and high level of self-care behavior in taking medicine following doctor's prescribed ($\bar{x}$=2.97, SD=0.18, 0.27) is the highest score. And the chronic patients who live in the target community have the chronic diseases which are hypertension, diabetes, cardiovascular, and cancer, are long-term treatment and affect these patients got the information and experienced self-care as a long-term.

Throughout low level of behavior in exercise twice or three times a week, 20-30 minutes time ($\bar{x}$=1.61, SD=0.736) is related to Akarawathin (2011) that studied diabetic's health behavior had found that the unimproved diabetics often neglect health care and lack of invariable exercise. And Auntrakoon & Somboontanon (2012) found that hypertension patients have no exercise behavior for 96.3%. Due to the group of samples in the study are elderly, when getting older there are physical limits, The body deterioration that unable to move actively, there is physical deterioration which is exercise obstacle such as arthralgia, sore knee, backache or slower movement.

2. Life-Quality of chronic patient in the community, according to the study found that the overall life-quality of chronic people is in very good level ($\bar{x}$=3.45, SD=0.379) is related to Kosanthea (2011) which found the chronic patient's life-quality who is served also has a good level of life-quality by there were different sex and income factors affect different life-quality. And Watthanan (2555) studied life-quality of heart failure patients in the community and found a good level of life quality. Likewise, the maximum average score is life-quality in how much meaningful life is. Which is a very good level ($\bar{x}$=4.35, SD=0.665).

There are 2 sides of low levels of life-quality that are how much do they need to be treated for able to work and live in each day?, which in the very low level because most of the samples are the elderly who are older than 65 as 43.1% and unemployed 35.6%. There are increasing age affect the chronic patients' career and cause this life-quality is lower than the others. In addition, a low level of life-quality is sex satisfaction which in the very low level too.

Suggestions

1. Because of the samples are chronic patients and have a high level of self-care behavior. When considering on each side, the exercise behavior has a higher score than the others. So, if the patients are supported for better self-care behavior, it should emphasize the proper exercise to the disease.
2. Diabetes is a chronic disease that the elderly must have in long-term, so it's important to promote their health, follow their self-care behavior for continuous care.
3. Most of the chronic patients in this study live with their family and need to spend long period for health caring. Monitoring and supporting right self-care behavior are needed so the family should participate to care patient's health.

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An Empirical Study of Factors Influencing Trust in Government in College Students[1]

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Abstract

Trust in government is the key to maintain social stability and promote the efficiency of government in power. Clarifying the factors influencing trust in government can help the government develop targeted strategies to enhance public trust. In China, the media is not only the main tool to spread government-related information but also the major image builder of government. This paper takes college students in Shanghai as the main object, based on media use behavior, used the questionnaire method to research the trust in government in college students through two dimensions including average daily using time of media and information access dependency. The results show that college students' education, age, average daily using time of the broadcast, the attention to official websites and microblogs of the local government significantly affect the degree of trust in government in college students. Thus, the researchers put forward some suggestions to promote trust in government. On the one hand, the government should strengthen the construction of new media platforms of local-government from three aspects: staff allocation, interaction among different new media platforms and interaction between traditional media and new media, On the other hand, the government should take government-experts proactive policy discourse coalition in the public events.

Keywords*:* Media use, trust in government, information access dependency, strategies

Introduction

Trust in government is an important prerequisite to maintain social stability and promote economic development. In recent years, many surveys showed that public trust in government has decreased. Promoting trust in government has become an urgent national need at all levels of government. In China, media is the main image builders of our government and an important communicator of public policy. In particular, the birth of the network make the amount of information exponentially increase, and media construction become the main dependent that public understanding the real world. So, the research of the relationship between the media and the trust in government has practical significance for government communicating with the public through media, shaping governments' image and enhancing public trust. College

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students are the backbone of nation-building, and this group's evaluation of trust in government largely determine the future of our governments' mass base. In view of this, the research takes college students as the main object, examine the relationship between media use and trust in government, and the researchers hope to provide references for the government to use the media platforms to enhance public trust.

Literature review

Trust in government is an important part of the political trust and it's the key prerequisite for maintaining social stability. Trust in government is a two-way interaction between citizens and government, involving specific relationship among citizens, government systems and public value, and it is the trust of political system, government agencies, government decision-making and government officials of the public based on their perception of rational, practical perception, psychological expectations, and emotional factors (Liu Junxian, 2009). Basically speaking, trust in government including four dimensions: trust in agencies, trust in officers, trust in public policies and trust in the institution. During previous researches, some scholars placed all dimensions of trust in government in a variable and researched the whole trust in government; but some scholars believe that we should study every dimension of trust in government respectively, which is the main point of our research, and this paper mainly explore the factors influencing trust in government agencies, which mainly including trust in central government and trust in local government.

With the advent of mass media, the public construction of the world mainly depends on the media. In the 1960s, Gerbner proposed "Cultivation Theory", which proposed that the content of television violence strengthen the degree of public awareness of the environmental hazards (Guo Qingguang, 2011). In the 1990s, Newman summarized the characteristics of the methodology of media constructing reality from the perspective of the relationship between reality and media. Although he stressed that the reader (viewer or listener) is a positive actor and emphasized the interaction of the public and the media, he still believed that public constructing reality through media during the interactive process (Jiang Genyuan, 2013). In the society with a higher degree of information explosion that formed by the Internet, public awareness of society is more dependent on a variety of media, especially in the process of public cognition of government. Due to the special nature of media in our country, the image of our government is constructed by media in most cases and most public cognition of government activities and policies are also derived from the media. According to the definition of trust in government, public cognition is the premise of evaluation of trust in government, and therefore media construction has a greater impact on public trust in government.

In respect of factors that affect trust in government, demographic factors are considered important variables among many researches, including gender, age, education, income, geography and other factors. But the results of researches based on different races, nationalities, regions are different and even contradict, which is related to values, cultures of target groups. As for the relationship between gender and trust in government, some researchers believe that female trust in government is less than male because women are experiencing more unfair

treatment in society than men, however, other researchers show that there is no significant correlation between gender and trust in government. In the age level, studies have proved that older people are more trusting than younger people. The older have experienced a series of government changes and they tend to think that government's capability has improved, and therefore they tend to trust in government (Putnam, 1995; Uslaner, 1998). Research on African Americans conducted by Maruice Mangum also confirmed a positive correlation between age and trust in government (Maruice Mangum, 2011). But some researches of our country showed opposite results. In respect of education, results of research conducted by Putman showed that among white Americans, the higher the level of education, the higher the evaluation of trust in government. But this view has been refuted by Maruice Mangum. Maruice Mangum's research of African-Americans showed that the higher the education of African Americans, the higher the awareness of the problems in the government, so evaluation of trust in government was relatively low. Based on the researches above, researchers proposed hypothesis as follows,

H1: Gender, age, education (educational levels) were significantly affect college students' trust in government.

By researching literature on the relationship between trust in government and media use, we found that perspective in this research field changed from media content to media use. In the initial study on the media and trust in government, Kimberly Gross etc. focused on the impact of television content on the political trust and they mainly researched the relationship between positive and negative information and political trust. The results showed that negative news form a public negative perception of government (Kimberly Gross etc., 2004). Miller and other scholars from the angle of newspaper content, the results showed that readers who have read contents with more negative messages would have less trust than those who have read contents with less negative massages, while those who read newspapers that were critical in their content were less trusting than those who read newspapers that were not so critical.(Miller,1979). And then the perspective have gradually shifted to the media use. At first, the scholars mainly studied the effect of traditional media on trust in government; the findings indicated that audience who were more likely to depend on the television would have a less trust in government than those who depend on the other media (Miller, 1976). In recent years, the network has been widely used; the research perspective gradually shifted to the comparative study of the impact of traditional media use and the Internet use on trust in government. Some researches showed that Internet use has a negative impact on trust in government. According to literature, researchers proposed hypotheses:

H2: The using time of television, newspapers, radio, magazines are positively correlated with trust in government;

H3: The using time of the Internet is negatively correlated with trust in government;

At the level of media use, Media-system Dependency theory has made scholars paid attention to the dependency of access to information. Media-system Dependency theory was originally proposed by Melvin • DeFleur and Ball-Rokeach in 1976. This theory is similar to the Uses

and Gratifications theory, and the former said that the audience depending on media information to meet their needs and achieve their goals(Gong Xinqiong,2011). Scholars usually investigate channel from which public obtain information to measure their media-system dependency. When a medium meets the needs of the audience, the audience will increase the probability of obtaining information from this medium. Scholars believe that different media bring different satisfaction(Wang Huaichun,2009), and the audience's dependency on media platforms is decided by dual factors: message provided by media and the audience's needs. The amount of research of the relationship between media dependency and trust in government is less. Among them, the research of the effect of media dependency on social trust, political trust, interpersonal trust conducted by Yao Junxi,etc. has provided support for our research. We will explore the relationship between media dependency and trust in government in depth. The study put forward a hypothesis as follows:

H4: The attention to governments' official media platform show a significant positive correlation with trust in government.

Method

Research operations and research samples

This study used the questionnaire survey method and take college students in Shanghai as the main respondent. The questionnaire was designed, distributed, recovered by Social Survey Center in Shanghai Jiao Tong University. During the process of designing questionnaire, the research team consulted extensive literature and the questionnaire reviewed by experts to ensure scientificity and validity of the questionnaire. Questionnaires were issued to 13 universities in Shanghai, each university was randomly distributed 200 copies. At last, 2,467 valid questionnaires were recovered, the effective rate was 94.9%.

Among respondents, male ratio was 42.6%, the proportion of female was 57.4%; in the age distribution, 16-17 years old account for 0.7 percent of respondents, 18-22 years old account for 69.6 percent of respondents, and the proportion of 23-25 years old respondents is 19.2%, respondents who aged over 25 accounts for 9.9%; in the distribution of education levels, undergraduate accounts for largest proportion, up to 77.8 percent, postgraduate accounts for 16.3 percent, and Ph.D. students account for 1.5 percent; in the ethnic distribution, the proportion of Han nationality students is 94.7 %%, minority students account for 5.3 percent.

Variable description

In this study, researchers set the media use as an independent variable and the college students' degree of trust in government was set as a dependent variable.

Independent variables:

Media usage behavior, including daily use time of newspaper, television, radio, magazine and Internet.

Information access dependency, including college students' attention to local government official websites, microblog and micro-channel (the measurement ranges from 1 "never concerned" to 4"often concerned").

Dependent variable: college students' evaluation of trust in government. Trust in government mainly include evaluation of trust in local government and trust in central government (the measurement ranges from 1"very distrust" to 5"very trust"), then calculate the average of two kinds of degree of trust.

Status of Students' trust in government and media use

1. The status of college students' media use

The Internet is the most commonly used media among college students. Most of the students interviewed use the Internet for 1-5 hours everyday, in which 20.4 percent of students use the Internet for 2-3 hours, followed by 3-4 hours, accounting for 19.3%.The time of newspaper, television, radio, magazine daily use are relatively shorter, the use time of media above are mainly concentrated in 0.5-1 hour. 46.6 percent of students use newspaper in 0.5-1 hour, 34.2 percent of students use television in 0.5-1 hour, 41.7 percent of students use the radio in 0.5-1 hour, 47.6 percent of students use magazine in 0.5-1 hour.

2. Information access dependency

This part is mainly measuring students' attention to official new media platforms. The results show that college students are relatively less pay attention to official new media platforms. The mean of attention to local government official website is 1.74, and the mean of attention to local government official microblog and wechat is 1.71 and 1.56.

3. College students' trust in government

We measure college students' trust in government mainly include trust in central government and trust in local government, and from "very distrust" to "very trusted" to be assigned 1-5 respectively. The result shows that the mean of the degree of trust in the central government(3.66) was higher than the degree of trust in local government (3.14).We calculate the average of the two degrees of trust and take it as the dependent variable of "trust in government ". Chi-square test result shows that college students' trust in government is higher than the average(3). College students' appraisal of trust in government is closely related to the Chinese government's enhanced ability to deal with public events in recent years. Government not only release information timely, but also use government network platforms to communicate with the public. Government build a good image in this process and enhance the credibility of the government

Factors influencing college students' trust in government

In order to investigate the overall impact of media use on trust in government, this part used hierarchical regression analysis. The researchers placed demographic variables in the first layer, including age, gender and education; placed average daily using time of newspaper, radio, television, magazine, Internet in the second layer; placed the information access dependency in the third layer, including college students' attention to the local government official websites, microblog and micro-channel. The results of regression analysis show that college students' age, education background, average daily using time of broadcasting, attention rate to official websites and microblog of local government have an effect on trust in government.

(1) Among them, college students' age ($\beta = -0.063$, sig <0.05), education ($\beta= -0.070$, sig <0.05) are negatively correlated with trust in government, students with a doctoral degree have the minimum mean of trust in government. Students who have higher education level

(2) Average daily using time of broadcasting and trust in the government of college students show a significant positive correlation ($\beta= 0.073$, sig <0.01), the longer of broadcast daily use, the higher the degree of trust in government. Researchers believe that this result is highly related to the massages that media spread, and also related to the needs of media use. On the one hand, messages of broadcasting are relatively positive. On the other hand, the majority of students use radio to entertain themselves, and they usually listen to some entertainments. On this occasion, students who use radio can receive positive messages, so their degree of trust in government is relatively high.

(3) College students who obtain information from the official media of local government, such as those who pay higher attention rate to official websites ($\beta= 0.125$, sig <0.001) and microblogs ($\beta= 0.070$, sig <0.05) have a higher degree of trust in government. But the attention rate to the official micro-channel of local government has no effect on trust in government. Messages of official websites and microblogs are spread by government and they are used to build a favorable image of government. If college students pay more attention to these messages, they will gain more cognition of government, and then they will be more trust in government. At present, the use of official of micro-channel is relatively less, so attention to this platform has no effect on trust in government.

Table 1 The regression analysis of influencing factors of trust in government of college students

Model		Coefficients		Standardized Coefficients		
		B	Std.Error	β	t	Sig.
1	(Constant)	3.727	.200		18.664	.000
	Age	-.018	.010	-.049	-1.723	.085
	Education background	-.146	.058	-.071	-2.521	.012
	Gender	.071	.040	.039	1.771	.077
2	(Constant)	3.681	.202		18.194	.000
	Age	-.017	.010	-.046	-1.629	.103
	Education background	-.149	.058	-.073	-2.577	.010
	Gender	.069	.040	.038	1.725	.085
	Newspaper	.049	.037	.036	1.326	.185
	Broadcasting	.084	.030	.073	2.781	.005
	Television	-.026	.023	-.028	-1.119	.263
	Magazine	.000	.025	.000	.006	.995
	The Internet	-.005	.009	-.013	-.597	.551
3	(Constant)	3.451	.199		17.320	.000
	Age	-.023	.010	-.063	-2.269	.023
	Education background	-.143	.057	-.070	-2.520	.012
	Gender	.061	.039	.034	1.565	.118
	Newspaper	.017	.036	.013	.482	.630
	Broadcasting	.071	.030	.061	2.388	.017
	Television	-.035	.023	-.038	-1.534	.125
	Magazine	-.029	.025	-.029	-1.160	.246
	The Internet	-.007	.009	-.017	-.765	.445
	Official website of local government	.127	.034	.125	3.772	.000
	Official microblgs of local government	.073	.037	.070	1.988	.047
	Official micro-channel of local government	.052	.040	.046	1.295	.196

a. Dependent variable: Trust in government

Conclusions

The results of the research show that among the demographic variables, age and education of respondents significantly affect college students' trust in government. In the using time of media variables, the results show that the using time of broadcasting has a positive correlation with the trust in government, and the using time of other media have no effect on trust in

government. In the information access dependency level, students' attention rate to official media platforms have a significant effect on trust in government, the higher attention to the official websites and microblogs of the local government, the higher degree of trust in government. Official media were operated by government agencies, and usually deliver positive messages, and therefore the higher attention on the official media platforms, the more positive information obtained, and the degree of trust in government is relatively higher. Meanwhile, when public events occur, students obtaining information from government departments and experts have a higher degree of trust in government.

Based on the findings, the researchers proposed to enhance trust in government from the perspective of media.

At first, the government should build a professional team to operate official new media platforms (including official websites, microblog, micro-channel)according to their respective advantages. The results show that college students' attention to local official new media platforms is positively related to trust in government. Official new media platforms are important to build the image of government and they are of great benefit to communicate with the public. Timeliness of official micro-channel is the highest of the three platforms, so it shall be responsible for important information release; collection of audience feedback in official microblog is the most convenient, so government can use data-mining and other methods to collect public opinion in microblogs; higher credibility and comprehensive contents are advantages of official websites, so government can make full use of it to release massages systematically. Operators of official new media platforms should allocate information resources efficiently.

Second, the government should establish linkage mechanism between official new media platforms and traditional media to help government improve credibility. Traditional media credibility is higher than the new media. The government should take advantage of traditional media to organize news conference to release messages. At the same time, the government should construct the multiple channels of information distribution system that made up of traditional media and new media. Multiple channels of information distribution system can help public form complete cognition of government. Most scholars thought that complete cognition is the essential premise of trust in government. So government should use multiple channels to release messages and construct a favorable image.

Last but not least, the government should pay attention to the words of experts, and build the discourse strategy of Government-Experts interaction in public events. The credibility of the expert discourse can help the government to enhance trust to some extent, especially in the face of public events with professional information, expert discourse can establish public correct cognition and positive attitude. Therefore, the government should enhance the proportion of expert discourse. And during the construction of Government-Experts interaction discourse strategy, each part should take "defend the common sense" as a precondition.

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Study on the Relationship Among Media Use, Social Justice, And Political Trust in China[1]

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Abstract

China is in a critical period of social transformation. People's perception on social justice and political trust are facing unprecedented challenges. Mass media is the main way for the audience to access social information, and the cultivation theory states that mass media will have a direct or indirect impact on people's information cognition, emotion, and behavior. This study explores the relations among three variables: media use, perception of social justice, and political trust. The study is based on a national telephone survey of 1080residents in 36 major cities of china. Results shows that (1) television use is positively associated with social justice perception and political trust, while newspaper use is not related to social justice perception and political trust;(2) internet use is linked to social justice perception and political trust negatively; (3) social justice perception mediates the relationship between media use and political trust. This study also supports the two opposite theoretical concepts regarding the relationship between media use and political trust, that is, media malaise and media mobilization.

Keywords: media effects, media use, social justice, political trust

Introduction

Nearly half a century, most countries in the world have experienced a decline in the level of political trust, which leads scholars started to investigate the determinants of trust in political institutions to shed light on the reasons behind the fall in their legitimacy. (Avery, 2009; Cappella &Jamieson, 1997; Newton, 1999; Norris, 2000, 2011) have shown that the news media play a role in political trust. The literature on the symbolic power of media over political trust is abundant in the West. However, we should realize the apparent disparities in social, political, and media systems between China and Western democracies. Indeed, the unique political reality in China holds potentials for extension and revision of existing theories.

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The reform and opening up has brought great economic achievements to China, but social development is lagging behind, social inequality, polarization of the rich and the poor, the widening gap between urban and rural areas are becoming more and more serious (Gustafsson, Li, &Sicular, 2008; Whyte, 2010), these problems pose a challenge to the social transformation of China. The increasingly serious social injustice is bound to harm the unity and cooperation among the various groups, cause or aggravate a series of other social problems, resulting in social anxiety and even social unrest. In the transformation of society, the perception of social justice directly determines the public's recognition of economic and political legitimacy (Wegener, 2000), which constitutes the main source of political trust (Levi & Stoker, 2000; Jost & Kay, 2010). Lipset and Schneider（1983）pointed out that the social origin of the crisis of political trust is mainly derived from the social differentiation and the deterioration of social injustice. In recent years, the frequent occurrence of group affairs in China, many participants have put up vent resentment, the extreme emotion of revenge society, which formed behavioral symptoms of the perception of social injustice. On the other hand, internet public opinion presents the phenomenon of identity confrontation of signifying and polarization, such as the discussion of identity labeled for " rich second-generation " and" poor second- generation ", which can be characterized as verbal symptoms of the perception of social injustice. Therefore, it is important to investigate the causes of the perception of social injustice in China, and it is of great significance to promoting the harmonious society. In fact, the decrease in the perception of social justice has been accompanied by a concomitant decrease in political trust. The question of “how much do the media matter” naturally becomes a theoretically valid question for scholars and government in China.

This study examines the role of media in incubating the perception of social justice and political trust in China. Utilizing data from a national survey that included 36 primary cities in China and considering the differences between Chinese and Western democracies in social, political and media systems. We put forward the following questions. First, how is the cultivation effect of media on the perception of social justice? Second, is there a significant positive correlation between media use and political trust? Third, will the perception of social justice mediate the influence media use exerts on political trust?

Literature review

Media use and Political Trust

Many scholars of the news media argue that greater exposure to political news leads to greater mistrust in government. Robinson (1976) was the first person to explore the relationship between negative news media and the rise of the political cynicism, and popularized the term “*wide malaise*” in reference to television’s ability to instigate political cynicism. He argued that the negativity and conflict found in television news, especially television coverage of elections, undermine public confidence in government. Thereafter, less news, greater journalistic interpretation, and a greater focus on negative character flaws of multiple forms of media have all been cited as potential explanations for the decline in public trust in government, researchers put this phenomenon termed “media malaise” (Kenneth,1999; Carpini,2004). The

“media malaise” hypothesis proposes that political cynicism is a function of the media’s discursive manipulations. These include the focus on “game” aspects of election campaign coverage (Patterson, 1993), the horse-race reporting style (Robinson &Sheehan, 1983),the news draws heavily on the content of negative campaign ads (Jamieson 1992; Johnston et al. 2004), and journalists’ impulsive to interpret (Barnhurst & Mutz, 1997).

Although the majority of scholars supports “media malaise” thesis, this hypothesis has been tested in the following research, and some scholars have come up with the opposite conclusion, which is known as “media mobilization” theory. It is a positive effect (Norris, 1999), which maintains that the mass media and the rising level of education will help to shape the "informed" society, enhance public interest in politics, improve the ability of political cognition, and eventually mobilize them to participate in public affairs. This theory emphasizes mass media act as a mechanism of "virtuous circle" in the public life, which will lead to a higher political trust(SHAH， 1999). Norris (2000) proposed that there exists "virtuous cycle" among media exposure, political interest, political knowledge and political involvement and asserted that media exposure leads to greater trust in government and civic engagement. According to this view, those who are most politically interested, engaged, and trusting will pay the most attention to political news and therefore learn more about government and politics. This greater knowledge then leads to greater trust and engagement, producing a virtuous circle that enhances democracy. Those who are not politically engaged will, for the most part, tune out political news. If the disengaged are exposed to some political news, they are not likely to afford it much attention because they mistrust the media and news content, thus minimizing the media’s potential influence (Norris 2000b).

All of the above research is carried out under the social background of western where press freedom. Nevertheless, media has its characteristics in China where media content is closely controlled (e.g., He, 2008). Television and newspapers often in accordance with Social and public interests to choose and provide information, set the agenda framework, describe the government image, act as a "public opinion" gatekeepers and play the role of political propaganda and education in the process of communication. Newspapers and television have been served as the authoritative mainstream media, largely representing the official discourse and ideology, mainly playing the propaganda function of "mouthpiece", and faithfully propagandize policies and guidelines of the party and the government, diffuse socialist core values. China Central Television and other official authority of the media have been committed to the spread of the mainstream ideology and culture, political values. However, the media environment of the internet is different from television and newspaper; the Internet has gradually become an important channel for political information dissemination, interaction, expression and participation. Network information has the characteristics of freedom, mass, interaction, which help to break the closure of the political communication system, reduce the transmission level, and improve transparency (Pan, 2011). In addition, the network information dissemination has the characteristic of anonymity, often makes the negative information too much exposure. For example, on the reports of official corruption, resource allocation, excessive-priced housing, pension vacancy, forced relocation, the widening gap between the rich and poor have aroused some people's tendency of hating officers and the rich, and has

spread in the society. "Global Internet Project" (WIP) by comparing the data, found that a majority of respondents in other countries do not believe that “the use of the Internet will make people have more right to speak ", only China is an exception, more than 60% of the respondents agreed with the statement in China (Guo, 2004). This shows that China's media system has two public opinion fields, and shape different pseudo-environments. Guided by previous research, we formulate the following hypothesis:

H1a: Newspaper and television use are positively related to political trust in China.

H1b: Internet use is negatively related to political trust in China

The perception of social justice as a mediator

The perception of social justice is the sense of the individual to the distributive justice or procedural justice. There has been a lot of research on the issue of fairness, and a robust conclusion is that the perception of justice can promote the effective cooperation of individuals, thus achieving a higher quality of social coordination (Tyler, 2012). Even for the psychopath, the stronger perception of procedural justice can also bring more cooperation and less resistance (Watson & Angell, 2013). Public's perception of social justice is a sensitive indicator to reflect social justice value. By regulating the government's decision-making process, strengthening the information communication between the government and the public to enhance the perception of social justice, thus enhance public's trust in government and improve the enthusiasm and initiative in participating in public affairs and other undertakings, which will effectively promote the development of productivity and the construction of a harmonious society(Li,2006).Zhu& Xu (2016) showed that the Chinese public has a higher perception of justice in the college entrance examination system, compulsory education, public medical service system, pension and other aspects of social security, this shows that Chinese government's distribution system and outcomes in these areas are more equitable. At the same time, the perception of the injustice of income distribution and urban-rural gap also reflects the situation of growing gap between rich and poor, corruption among officials, and the urban-rural dual structure in China.

The relationship between the perception of social justice and trust has always been the focus of researchers (Greenberg & Colquitt, 2005). The research of fairness heuristic theory (Lind,2001) shows that the perception of procedural justice can affect the public's trust level in authority, that is to say, the authority trust is the result variable of procedural justice(De Cremer,2004). Putnam (1995) pointed out that trust is difficult to establish in a hierarchical society. Seligman (1997) has also found that in a hierarchical culture, trust cannot be rooted. There is a close relationship between trust and social justice, Hetherington (2005) put forward the "equality hypothesis" in his works, that is, social and economic equality can effectively enhance the trust of residents in the government, and thus enhance the level of political participation of residents. Sheng (2013) also found that if the government furnishes a variety of opportunity for the people to upward mobility through reform and bring about the hope of a better life, thus will enhance the perception of government trust of the residents. If law-

enforcing departments can limit the bias and injustice phenomenon and procedural legal norms are fair, thus can enhance the resident's government trust (Cohen, 1997).Lee & Glasure (2002) also found that Koreans' perceptions of equitable distribution of wealth could significantly affect their political attitudes. Tyler (1990) pointed out that if people think that the government's law enforcement is fair, they will have more confidence in the government and more likely to comply with laws and regulations, if the government's law enforcement is injustice, cronyism, unable to formulate policies to improve opportunity equality and strengthen social mobility, it will lead to resident's distrust of public officials and government departments, and then increasing social inequality. Government officials' corruption is most concerned for people, and corruption is considered to be the most direct factor affecting the government's trust (Wedeman, 2004).The fair condition of economic status and social wealth distribution is an important indicator to evaluate the government performance, individuals' economic benefit and income level will affect people's evaluation of the government performance and the judgment of financial capacity and political ability (Hetherington,1998).

With the transformation of Chinese society, the ecological environment of Chinese media is undergoing drastic changes. The influence of the media on people's thoughts and behaviors is growing, especially since the rise of the Internet in China. The Internet is becoming an important platform for Internet users to understand public affairs, communicate and express their political views, and take political actions. The emergence of new media broke traditional media's monopolization and control for political information, and the negative political news constantly being exposed on the network. Many news website especially unofficial website, forum, and personal weblog often use the negative information to present the framework of political issues, such as official corruption, wealth polarization, income distribution problem, education and employment problem, and other social hot topics. Internet users have been affected by the interpretative and commentary reporting for a long time, the perception of social justice is getting lower and lower, and they have more skepticism about the government. The events of media report have posed a great challenge to China's social transformation, these events not only caused public's contempt for public officials, but also a complaint about the unequal mechanism created by the economic elites and political elites. The public's hostility to “rich second-generation” and “official second-generation” is a mirror of the inequality of opportunity in the process of social development and the big gap between the wealthy and poor, it is also a reflection of the widening gap between the central populations and the marginal groups, thus all indicate the lower perception of social justice. This makes the social conflicts gathering, which even causes group incidents, and has seriously threatened the stability of our country's politics and society. The above arguments lead to the following hypotheses and research questions:

H2a：Newspaper and television use are positively related to the perception of social justice in China.

H2b: Internet use is negatively related to the perception of social justice in China.

H2c: The perception of social justice is positively related to political trust in China.

Research Question 1: Does the perception of social justice mediate the relationship between media use and political trust?

Method

Data

Data for this study came from a national survey that included 36 primary cities in China (see Appendix A) .The work conducted and supervised by the Social Survey Center at Shanghai Jiao Tong University from November to December 2014. A total of 1080 interviews were completed with respondents contacted by land lines and mobile phones using the CATI (Computer Assisted Telephone Interviewing) system and RDD (Random Digit Dialing) sampling. The margin of error for the full sample is within 3%. Each interview lasted an average of 18 min. The response rate for the survey was 36.7% (AAPOR RR3). The descriptive statistics of our sample demographics are as following. (1) Gender: The sample comprised 50.7% males and 49.3% females. (2) Age: 9.0% were below 20 years old, 20.7% were between 20 and 29 years old, 30.8% were between 30 and 44 years, 24.1% were between 45 and 59 years old, 15.4% were over 60 years old. (3) Education: 8.7% had no more than an elementary education, 14.5% had a junior high education, 27.8% had senior high or technical secondary school degrees, 15.9% had junior college degrees, 28.5% had bachelor's degrees,4.7% had master's degrees or above. Thus, the sample was younger, better educated and was proportionally balanced between male and female.

Measurement

Control variables

Four demographic variables were included as controls: gender, age, education, and personal monthly income. Gender was a dichotomy (male=1; female=0), (2) Age is an ordinal variable with six categories ranging from ‘‘below 20 years old” to ‘‘above 60 years old”, with corresponding values from 1 to 5. (3) Education was a 6-point ordinal variable spanning from ‘‘elementary education or less” to ‘‘master's degree or above”. (4) personal monthly income was measured by a 12-point ordinal variable ranging from ‘‘No income” to ‘‘Ten thousand Yuan or more”.

Media use

The survey asked a generic question about respondents' daily contact with newspapers, television and internet, measured by an ordinal variable with 10 categories ranging from ‘‘0.5–1 h” to ‘‘more than 8 h”, correspondingly valued from 1 to 9.

Social justice perception

Social justice perception is the feeling of the individual on the distributive or procedural justice. Respondents were requested to answer the recognition for the following questions ‘‘The current social system is fair” and ‘‘People are usually fair and just” on a 5-point scale (1= strongly disagree; 5= strongly agree). We demonstrated that the internal consistency of the ‘‘Social justice perception” was good (Cronbach’s alpha = 0.757). Then, we calculated the average value of the two items as Social justice perception score (M=2.96, SD=1.11).

Political trust

Political trust was measured by six items: people’s trust in central government, local government, judicial institutions, judge, police and government official. Each item was assessed by a 5-point Likert scale where 1 stands for ‘‘strongly distrust” and 5 for ‘‘strongly trust”. Results showed that central government obtained high levels of trust (M=3.87, SD=0.95), people's trust in government official is relatively low (M=2.82, SD=0.99). Respondents exhibited the same levels of trust between the local government (M=3.18, SD=0.99) and judicial institutions (M=3.19, SD=1.07), the judge (M=3.25, SD=1.03) and police (M=3.27, SD=1.01). We demonstrated that the internal consistency of the ‘‘Political trust” was pretty good (Cronbach’s alpha = 0.864). The average of the six items formed a measure of political trust (M=3.24, SD=0.78).

Result

Descriptive statistics

Before making the formal hypothesis test, we conducted correlation analysis to examine the relationship among control variables, independent variables and dependent variables. We found mixed results. First, Social justice perception was not related to gender（r=-0.047, P>0.05）, age had a positive correlation with Social justice perception（r=0.228, P<0.01）. However, education, and personal monthly income were negatively related to Social Justice perception（r=-0.109, P<0.01 ; r=-0.107, P<0.01）, the higher people's education and income level, the lower Social justice perception. Second, political trust was not related to either education or age, but was negatively related to gender and income (r=-0.117, P<0.01; r=-0.205, P<0.01), the higher people's income level, the lower political trust. Third, newspaper use was positively associated with political trust (r=0.103, P<0.01), but not related to Social justice perception. Television use was positively connected to Social justice perception and political trust (r=0.192, P<0.01; r=0.124, P<0.01). Internet use was negatively related to Social justice perception and political trust(r=-0.249, P<0.01; r=-0.114 , P<0.01). Social justice perception was connected to political trust. People with higher Social justice perception were more likely to trust the government.

Table 1 Descriptive statistics results between the variables

	1	2	3	4	5	6	7	8	9
1	1								
2	0.005	1							
3	-0.055	-0.312**	1						
4	0.225**	0.106**	0.189**	1					
5	-0.008	0.160**	0.031	-0.004	1				
6	-0.029	0.347**	-0.226**	-0.070*	0.233**	1			
7	0.024	-0.463**	0.410**	0.136**	-0.127**	-0.216**	1		
8	-0.047	0.228**	-0.109**	-0.107**	0.037	0.192**	-0.249**	1	
9	-0.117**	0.000	0.027	-0.205**	0.103**	0.124**	-0.114**	0.523**	1
M	—	—	—	—	1.58	2.68	3.96	2.96	3.24
SD	—	—	—	—	0.70	1.78	2.74	1.11	0.78

Note: I: All entries are standardized regression coefficients
*p< 0.05, **p< 0.01, ***p<0.001.
II:1 represents “gender”;2 “age”;3 “education”;4 “personal monthly income”;5 “newspaper use time”;6 “Television use time”;7 “Internet use time”;8 “Social justice perception”;9 “political trust”.
III:— represents “not applicable”.

Hypothesis testing

Multivariate regressions including mediation analyses were the main statistical tools employed. Our specific modeling process followed three steps. First, political trust was linked to media use, controlling for demographics. Second, Social justice perception was linked to media use, controlling for demographics. Third, Social justice perception additionally entered the equation predicting political trust. In particular, the indirect relationship between media use and political trust via Social justice perception was explored with sobel test.

H1a predicts that newspaper use and television use are positively related to political trust.H1b predicts that internet use was linked to political trust negatively. Model 1 in Table2 shows that controlling for demographics, television use, in general, was positively associated with political trust (β=0.114; P<0.01), newspaper use was not related to political trust at all(β=0.071; P>0.05).Internet use was linked to political trust negatively(β=-0.110; P<0.01). In light of these findings, H1a was partially supported, H1b received full empirical support.

H2a stated that newspaper and television use are positively related to Social justice Perception. Model 2 in Table 2 shows that controlling for demographics, television use in general was positively associated with Social justice Perception (β=0.140; P<0.001), newspaper use was not related to Social justice Perception(β=-0.044; P>0.05), Internet use was linked to Social justice Perception negatively(β=-0.173; P<0.001). Therefore, H2a was partially supported, H2b was supported.

H2c positively connected Social justice Perception and political trust. Data from model 3 in Table 2 yielded significant evidence in support of this hypothesis. People with higher Social justice perception were more likely to have a higher degree of political trust (β=0.518; P<0.001). H2c received full empirical support.

RQ1 raise a question: Does Social justice Perception mediate the relationship between media use and political trust? Data from model 3 in Table 2 displayed that when Social justice Perception entered the equation, the significant relationship between media use (television use, internet use) and political trust disappeared. Results from Sobel tests confirmed the mediation effect to be significant (Sobel t=5.88, p<0.001; Sobel t=-10.27, p<0.001).

Table 2 media use, the perception of social justice, and political trust

	Political trust	the perception of social justice	Political trust
	Model 1(Beta)	Model 2(Beta)	Model 3(Beta)
Block 1			
Gender	-0.058	-0.021	-0.04
Age	-0.045	0.137***	-0.130**
Education	0.121**	0.051	0.082*
Income	-0.183***	-0.097**	-0.131***
Block 2			
Newspaper use	0.071	-0.044	0.083*
Television use	0.114**	0.140***	0.056
Internet use	-0.110**	-0.173***	-0.046

perception of social justice	—	—	0.518***
R^2	0.085	0.106	0.331
F	9.472***	15.517***	43.051***

Note: All entries are standardized regression coefficients
*p< 0.05, **p< 0.01, ***p<0.001.

Conclusions and discussions

This study focuses on the relationships among three variables: media use, the perception of social justice, and political trust. The results showed that newspaper use is not related to social justice perception and political trust. Television viewing would accelerate social justice perception and political trust. In other words, regular exposure to mainstream propagandist media content appears capable of engendering the intended indoctrination effect. Nonetheless, internet use negatively contributes to social justice perception and political trust. In general, different media outlets indeed have differential impacts on social justice perception and political trust. Taken together, our theoretical contribution is twofold. First, in the process of examining the direct connection between news use and political trust, our model provides empirical support for the theory of "media malaise" and "media mobilization" on the basis of different media types. Second, in the study of exploration the indirect effects of media use on political trust. We tested the role of social justice perception as a mediator swaying the bivariate relationship between media use and political trust.

In addition, previous studies have found that economic development is an important factor in the maintenance of political trust (Wang, 2005). This study found that individual's monthly income negatively affects social justice perception and political trust. In other words, the more social and economic resources that people have, the lower political trust level and social justice perception are. The negative relationship between personal monthly income and political trust provides some empirical support for “critical citizens”. The “critical citizens” thesis argues that in the long run, high levels of economic development tend to give rise to value changes that result in distrust of government as well as other hierarchical institutions. They often have a kind of criticism and suspicion vision to the government, affecting the ideas and behavior of other citizens through media propaganda (Norris, 2000a). Currently, Chinese citizens' political trust largely depends on economic performance. But socioeconomic development, in the long run, tends to give rise to a public that will more and more question its performance-based legitimacy. The rise of critical citizens is likely to arrive in China, challenging the State to manage both economic development and public demands for more democratic government institutions (Wang, 2005).The current degree of socioeconomic development in China has prompted public demands for more political rights, social justice and civil liberty. This seems to suggest us that people's overall level of political trust may have decline trend as China gradually into the "middle-income country" and public's rising disposable income.

Obviously, the research on cultivation effect of media in China should recognize the full complexity of and variance in today’s Chinese media ecology and the sophisticated

mechanisms with which the Party materializes its sermons. In China, the traditional media management system is different from western countries, although marketization has been reshaping Chinese media, this does not mean that the government will abandon the supervision to the media. Traditional media's ownership is still monopolized by the state, the senior managers are still appointed by the government, commercial media 's activity space has been further expanded, but the scope of the activities are still controlled by the government. Traditional media must meet the needs of the government's propaganda, and at the same time, they have to seek survival and development towards to market, thus forming a kind of "propaganda + market" mode, which is different from the communication system of western liberalism. Newspapers, television and other traditional media are responsible for the important role of "gatekeeper" of public opinion. The role of "gatekeeper" of traditional media is to release the controlled information to the audience, this information must faithfully propagandize guidelines of the party state and diffuse socialist core values. The most important function of newspaper and TV is to serve the country's political requirements and play the role of "mouthpiece", these media are regarded as the extension of government institutions in the field of social propaganda and ideology. The government has shaped a good image through controlling the spread of negative information with personal scheduling, media registration system, censorship and discipline illegal workers in the system.

Under the centralization of China, the central government implements centralized control for news, all the news which have political significance and political qualitative almost through censorship, spread by the central media after unified caliber, local media can or must reprint this kind of news.Because the central government has almost monopolized the two kinds of pipelines that can export political image, that is, political symbol and the news dissemination, this making central government has the friendly and beneficial image, however, the local government has the obligation of button up and "scapegoat", thus forming a political trust pattern of " Central strong local weak "(Ye & Peng,2010).The news media have some independent space since reform and opening up, but this kind of " press freedom " is considered as a kind of "negative freedom", which is brought about by commercialization, marketization and industrialization, this kind of freedom can only be implemented in the non- political sphere. The Chinese government is charged to shape, manipulate, and restrict public opinion by controlling media (Tang, 2008). Ideology is regarded as an important source of political trust in China. Chinese government can shape its legitimacy by ideology (Heike, 2013), gain authority through patriotism education and economic performance (Roskin, 2009), and obtain public recognition by constantly claiming that only under the leadership of the government, can we achieve economic growth, social stability and national independence (Laliberté& Lanteigne,2008). The perception of social justice as a category of ideology, not only affected by media propaganda effect, it also plays an important role in political trust and social stability. Since the rise of Internet in China, it has become a platform for people to express their opinions. In recent years, many people repose network to obtain the truth of matters, expressing their demands and dissatisfactions through Internet, questioning the authenticity and fairness of government behavior because of information disclosure is not in time and transmission block, which led to a substantial decline in government credibility directly. The openness of Internet communication makes the spread of monopoly to be broken; internet users can not only obtain

first-hand news information directly, but also according to the first hand material to take the initiative to release news, interpret and review news report, trigger activities of transmission. Network communication has the characteristic of decentralization, ordinary citizens have equal discourse power to government and news institutions, internet users can discuss political issues and social events in forums, blogs, microblog and mobile internet platform frequently, various remonstrative and inflammatory information emerges in endlessly, criticism and distrust of the government occupy a large proportion of internet users' opinion on public affairs, an increasing number of "internet public opinion events" bring about social attention, public opinion expressed online has become an important factor affecting Chinese society. The characteristic of lack regulation makes the network become a chaotic space for public opinion communication. Chaotic and unordered political communication on the Internet bring about blight for public's political socialization and perception of social justice, leading to political trust based on the perception of social justice cannot be effectively generated in the network society.

In the open platform of internet, portal websites as profitable organizations attract public attention with negative information mostly to take the initiative in the fierce competition, particularly on social justice, official corruption, and other political scandals which can arouse public concern, and this immoderately negative news reports will reduce public's perception of social justice and political trust naturally. In China, network anti-corruption as the main form of supervision by public opinions to damage the image of the party and the government. In addition, the Internet also provides a way to contact with different voices with the mainstream ideology, many Internet users through a proxy server or circumventing firewalls to break through information boundaries and access to cross-border multivariate information. Despite numerous and continuous attempts by the Chinese government to contain and minimize the “harm” of the web, the Internet has always managed to quickly reinvent itself and register triumphant comebacks (e.g., Shen, Wang, Guo, & Guo, 2009). Zhou (2008) pointed out that contact with "mainstream media" often makes the public share a consistent ideology, "alternative media" has the significance of enlightenment and liberation, eliminating their political trust. Kaid (2003) found that voters who are suspicious of government or political figures will use the internet to seek alternative political information, the use of alternative political information further reduces the voters' trust for the candidates.

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Health Status and Uses of Online Health Information of the Foreign Workers in Thailand[1]

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Abstract

The cross national survey aimed to investigate self-reported health status and uses of online health information of the foreign workers in Thailand. Questionnaire was used to collect data from 981 foreign workers in Thailand. The samples comprised of foreign workers from three nationalities who were drawn using multistage random sampling. Data from 464 of Cambodians, 409 of Myanmar and 108 of Laos workers were analyzed using frequency distribution, percentage, mean and standard deviation. It was found that

1. The majority of the sample were male (59.5%), finished elementary school (50.7%), married (54.3%), living in a rented house (87.9%), working in a manufacturer (60.3%),age 25 years or lower (83.8%) with average age of 30.88 years, and earned a monthly income between 10,001-20,000 Thai Baht (with average income of 9,554.65 THB), respectively

2.Health status.

2.1 Health care expenditure. The majority of the sample use their own expenditure to support their health care (47.9%) followed by using the health insurance for foreign workers fund of the Thai Government (44.2%).

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2.2 Choice of caring method. When getting sick the majority of the sample visit doctor at private clinic (36.8%) followed by buying medicine from drug store (34.5%) and going to see doctor at hospital (28.7%), respectively.

2.3 Self-report health status. Most of them were healthy as 96.1% did not have chronic diseases.

2.4 Self–assessment of holistic health status. The samples had overall average mean score of self –assessment of health at high level (mean=7.54, SD=1.645). In comparison of the different health dimensions it was found that the dimension on adhering to and abiding by the moral principles or religion (of your choice had the highest average mean score at high level (mean=7.71, SD=1.574) followed by the dimension on peaceful and safe neighborhood they are residing in now (mean=7.56, SD=7.61, SD=1.607) and the dimension that had the least average mean score on thinking that they have the opportunities to study and learn in life (mean=7.25, SD=1.814).

3. Uses of Internet for health information

3.1 Time used for internet. It was found that majority of the sample did not use the internet (68.3%), 16.7% used internet between 1-2 hours a day.

3.2 The content about health that the samples search for. It was found that the sample had the average mean score on the search for law regulations related to health conditions (mean =3.54, SD=0.818) followed by the content on patient organizations (mean =3.50, S.D=0.852) and the least average mean score on the diseases (mean=3.30, SD=0.965) which all of these were at the high level, respectively.

3.3 Information and health literacy. It was found that majority of the sample reported similar level of their health literacy and health literacy which were at somewhat confident level, 43.9% and 43.1%, respectively

Keywords: Heath status, Health care expenditure, Health-related internet use, Information literacy, Health literacy, Cambodian foreign workers, Myanmar foreign workers, Laos foreign workers.

Introduction

Present, Foreign workers are widely accepted and vital Thailand's labor market. The impact of foreign workers is the public health system, including health problems, even if workers have a health check and a health card. Some foreign workers are difficult to access the health care systemmay adversely affect health. However, access to health care system with the integration of ICT by self-learning support to protect and promote their health.

The Internet is useful and important in our daily life, is not just in working life. Internet makes convergence of the traditional and new possible media. Internet was used in supporting health education,and used internet to help facilitate learning experiences, exchange of information and idea. In business, internet and social media were used intensively for business data collection, dissemination and communication tool in health as well. Furthermore, Information and Communications Technology (ICT) is a key influence in improving quality, equity, and reducing cost in a healthcare system. The pervasiveness of the Internet and the continued evolution of devices that employ Web-based technologies make obtaining, processing, and understanding health information. Internet about health care is very a trendy activity in 21st century. Every day more people who have health problems and also concern with their health access online to find out ways to protect, rescue from the problems despite various problems with the quality of information or inefficiencies in assessing it (Risk &Petersen, 2002)

This study could shed lights self-reported health status and uses of online health information of the foreign workers in Thailand. The results could be useful for healthcare providers to actively and appropriately address online social media use and Health literacy issues for foreign workers.

Research methods

A. Participants

Participants were 981 foreign workers who came from three Thailand's neighboring countries, Cambodia, Myanmar, and Laos. These workers were working in Thailand during the months of August and September, 2016. The samples were drawn using accidental sampling method from the northern region (Chiangmai), central region (Saraburi and Pathumthani) and the southern region (Phuket) of Thailand.

B. Instrument and Measurement

1. Instrument

Questionnaire was used to collect data in this study. It comprised of 3 sections of questions. Section I collected data on samples' profile; gender, education, marital status, residential type, occupation, age, and income. Section II was designed to collect data on samples' health status which comprised of questions concerning health care expenditure, caring method when getting sick, chronic diseases, and self-assessment of health status. Section III collected data on uses of online health information.

2. Measurement

2.1 Health status

This variable comprised of 4 elements of health status of the sample. The following questions were asked to identify the sample health care expenditure (1), the way to care for their sickness (2), their chronic diseases (3), and self-assessment of ten different dimensions of health status (4), respectively.

- How do you support your health care expenditure?Samples had 3 options; (1) Self-support, (2) Use Health Insurance for foreign workers (Thai government project), and (3) Gold Card (Government) respectively.

- How do you care for yourself when getting sick?Samples had 3 options: (1) buy medicine from drug store, (2) visit doctor at private clinic, and (3) go to see doctor at the hospital, respectively.

- Do you have chronic diseases which force you to see doctor regularly?Samples had s2 options; yes and no. If they have some chronic diseases they needed to identify the diseases which were (1) Hypertension, (2) Diabetes, (3) Heart disease, and (4) High Cholesterol, respectively.

- Self assessment of holistic health status. Samples were asked to evaluate ten different dimension of their healthiness using semantic differential scale from 1 (the least) to 10 (the most). Ten dimensions of health covered physical health, psychological health and life satisfaction, appropriateness of help behavior, religiousness, opportunity of study and learn in life, sufficiency and stability of basic need, relationship in family, community bonding, peaceful and safe of neighborhood, and media exposure, respectively. The level of self-assessment on health status was categorized into 5 groups ranging from the following; lowest (1.00-2.80), low moderate 2.81-4.60, moderate (4.61-6.40), high (6.41-8.20) and highest (8.21-10.00) and high (2.67-4.00), with Cronbach's alpha reliability at.$\alpha = 0.963$.

2.2 Uses of online health information

2.2.1 Frequency of time use to search for health information from the internet. Samples were asking to evaluate their average time a day which they used to locate health information from the internet. Four options included (1) don't use, (2) less than one hour, (3) 1-2 hour, and (4) more than 2 hours.

2.2.2 Health-related Internet use. This variable intended to measure the content of health information searched from the internet by asking the sample to response to the question: Have you ever searched for information on the following contents? Sample has 4 options to answer: regularly, occasionally, rarely and never. The level of content searched was categorized into 3 groups: low (1.00-1.33), moderate (1.34-2.66), and high (2.67-4.00). The reliability of this measurement was calculated at $\alpha = 0.931$.

2.2.3 Information and health literacy. Samples were asked to answer two questions which evaluate their information literacy and health literacy, respectively.

1) Overall, how confident are you that you could get advice or information about health or medical topics if you needed it?

2) Overall, how confident are you about your ability to take good care of your health?

Samples had 5 options corresponding to their level of confident to choose from; (1) Not at all confident, (2) Not very confident, (3) Somewhat confident, (4) Very confident, and (5) Completely confident.

C. Data Analysis

The data were analyzed using frequency distribution, percentages, mean and standard deviation. The data presentation was divided into 3 sections, Section I Samples' profile, Section II Health Status of the Samples and Section II Uses of online health information.

Results

Section 1 Sample's profile

The majority of the sample were male (59.5%), finished elementary school (50.7%), married (54.3%), living in a rented house (87.9%), working in a manufacturer (60.3%),age 25 years or lower (83.8%) with average age of 30.88 years, and earned a monthly income between 10,001-20,000 THB (with average income of 9,554.65 THB), respectively.

For workers fromCambodia, it was found that majority of the sample were male (32.4%), finished elementary school (32.1%), married (27.6%), living in a rented house (44.4%), working in a manufacturer (33.2%), age 25 years or lower (41.1%), and earned a monthly income between 10,001-20,000 THB (19.9%), respectively.

For workers from Myanmar, it was found that majority of the sample were male (21.8%), finished elementary school (14.4%), married (22.1%), living in a rented house (32.9%), working in a service industry (restaurants, hotel, etc. (10.1%), age 25 years or lower (34.7%), and earned a monthly income between 10,001-20,000 THB (20.8%), respectively.

For workers from Laos, it was found that majority of the sample were female (5.7%), finished elementary school (4.2%), single (5.4%), living in a rented house (10.6%), working in trading business (4.7%), age 25 years or lower (8.1%), and earned a monthly income between 10,001-20,000 THB (5.8%), respectively.

Details were shown in Table 1.

Table 1 Demographic Characteristic of the Samples

Demographic characteristics	**Cambodia**	**Myanmar**	**Laos**	**Total**

	(n=464)		(n=409)		(n=108)		(n=981)	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Gender								
Male	318	32.4	214	21.8	52	5.3	584	59.5
Female	146	14.9	195	19.9	56	5.7	397	40.5
Education								
Never go to school	76	7.7	107	10.9	32	3.3	215	21.9
Elementary	315	32.1	141	14.4	41	4.2	497	50.7
Junior high school	48	4.9	106	10.8	18	1.8	172	17.5
Senior high school	18	1.8	47	4.8	15	1.5	80	8.2
Bachelor degree or higher	7	0.7	8	0.8	2	0.2	17	1.7
Marital status								
Single	184	18.8	174	17.7	53	5.4	411	41.9
Married	271	27.6	217	22.1	45	4.6	533	54.3
Widow	4	0.4	11	1.1	5	0.5	20	2.0
Divorce/separate	5	0.5	7	0.7	5	0.5	17	1.7
Residential type								
Own house	17	1.8	90	9.8	5	0.5	112	12.1
Rent a house	409	44.4	303	32.9	98	10.6	810	87.9
Occupation								
Worker in manufacturer	326	33.2	223	22.7	43	4.4	592	60.3
Worker in trading business	62	6.3	87	8.9	46	4.7	195	19.9
Worker in service industry (restaurants, hotel, etc.)	76	7.7	99	10.1	19	1.9	194	19.8
Age (year)*								
≤25	403	41.1	340	34.7	79	8.1	822	83.8
26-35	47	4.8	66	6.7	26	2.7	139	14.2
36-45	9	0.9	1	0.1	2	0.2	12	1.2
46-55	0	0.0	1	0.1	1	0.1	2	0.2
56-65	2	0.2	0	0.0	0	0.0	2	0.2
>65	3	0.3	1	0.1	0	0.0	4	0.4
Income**								
Less than10000bath	170	17.3	121	12.3	18	1.8	309	31.5
10001-20000bath	176	17.9	204	20.8	57	5.8	437	44.5
20001-30000bath	87	8.9	66	6.7	31	3.2	184	18.8
30001-40000bath	28	2.9	17	1.7	2	0.2	47	4.8
40001and more	3	0.3	1	0.1	0	0.0	4	0.4

* Age: min= 17, max=89,000, mean=9554.65, SD=5776.525
** Income: min =2,000, max=69, mean 30.88, SD=7.863

Section 2 Health Status of the Samples

2.1 Health care expenditure.

The majority of the sample use their own expenditure to support their health care (47.9%) followed by using the health insurance for foreign workers fund of the Thai Government (44.2%). Comparison of samples from different countries revealed that majority of the Cambodian workers relied on health insurance provided by Thai Government (32.7%) whereas the majority of workers from Myanmar (26.0%) and Laos (8.2%) used their self-support funding.

2.2 Choice of caring method.

When getting sick the majority of the sample visit doctor at private clinic (36.8%) followed by buying medicine from drug store (34.5%) and going to see doctor at hospital (28.7%), respectively. Comparison of samples from different countries revealed that majority of the Cambodian workers visit doctor at private clinic (28.7%) whereas the majority of workers from Myanmar (19.4%) and from Laos (4.8%) bought medicine from drug store.

2.3 Self-report health status. Most of them were healthy as 96.1% did not have chronic diseases. Among those who have chronic diseases most of the Laos workers infected from hypertension (59.3%).

Details were shown in Table 2.

Table 2 Health Care Status of the Samples

Health Status	**Cambodia** (n=464)		**Myanmar** (n=409)		**Laos** (n=108)		**Total** (n=981)	
	n	%	n	%	n	%	n	%
How do you support your health care expenditure?								
(1) Self-support	134	13.7	254	26.0	80	8.2	468	47.9
(2) Use Health Insurance for foreign workers (Thai government project)	317	32.4	94	9.6	21	2.1	432	44.2
(3) Gold Card (Government)	12	1.2	60	6.1	6	0.6	78	8.0
How do you care for yourself when get sick?								
(1) Buy medicine from drug store	101	10.3	189	19.4	47	4.8	337	34.5
(2) Visit doctor at private clinic	280	28.7	56	5.7	23	2.4	359	36.8

(3) Go to see doctor at the hospital	82	8.4	160	16.4	38	3.9	280	28.7
Do you have chronic diseases which force you to see doctor regularly?								
(1) None	458	46.7	379	38.6	106	10.8	943	96.1
(2) Yes (please indicate the disease, can choose more than one)	6	0.6	30	3.1	2	0.2	38	3.9
(2.1) Hypertension	1	3.7	16	59.3	0	0.0	17	63.0
(2.2) Diabetes	1	3.7	1	3.7	1	3.7	3	11.1
(2.3) Heart disease	0	0.0	2	7.4	0	0.0	2	7.4
(2.4) High Cholesterol	0	0.0	4	14.8	1	3.7	5	18.5

2.4 Self–assessment of holistic health status.

The samples had overall average mean score of self –assessment of health at high level (mean=7.54, SD=1.645). In comparison of the different health dimensions it was found that the dimension on adhering to and abiding by the moral principles or religion (of your choice had the highest average mean score at high level (mean=7.71, SD=1.574) followed by the dimension on peaceful and safe neighborhood they are residing in now (mean=7.56, SD=7.61, SD=1.607) and the dimension that had the least average mean score on thinking that they have the opportunities to study and learn in life (mean=7.25, SD=1.814).

Among the Cambodian workers, result revealed different pattern of their holistic health status. The sample from Cambodia had overall average mean score of self –assessment of health at high level (mean=7.84, SD=1.497). In comparison of the different health dimensions it was found that the dimension on physical health had highest average mean score at high level (mean=7.99, SD=1.603) followed by the dimension on psychological health and life satisfaction (mean=7.95, SD=1.567). The dimension that had the least average mean score on thinking that they have the opportunities to study and learn in life (mean=7.65, SD=1.567).

Among the workers from Myanmar, result revealed similar pattern of the overall samples on their holistic health status. In comparison of the different health dimensions it was found that the dimension on adhering to and abiding by the moral principles or religion (of your choice had the highest average mean score at high level (mean=7.61, SD=1.706) followed by the dimension on peaceful and safe neighborhood they are residing in now (mean=7.56,, SD=1.787) and the dimension that had the least average mean score on thinking that they have the opportunities to study and learn in life (mean=6.92, SD=1.283).

Among the workers from Laos, result revealed slightly different pattern of the overall samples on their holistic health status. The sample from Laos had overall average mean score of self –assessment of holistic health at high level (mean=7.03, SD=1.280). In comparison of the different holistic health dimensions it was found that the adhering to and abiding by the moral principles or religion (of your choice had the highest average mean score at high level (mean=7.27, SD=1.457), followed bythe dimension on peaceful and safe neighborhood they are residing in now (mean=7.18,, SD=1.259), the dimension that had the least average mean score on thinking that they have the opportunities to study and learn in life (mean=6.79, SD=1.283).

Details were shown in Table 3.

Table 3 Self-assessment of the Samples' Holistic Health Status

Health perspectives	**Cambodia** (n=464)			**Myanmar** (n=409)			**Laos** (n=108)			**Total** (n=981)		
	Mean	SD	Level	Mean	SD	Level	Mean	SD	Level	Mean	SD	Level
1. In general, how do you rate your physical health?	7.99	1.603	high	7.39	1.834	high	7.07	1.243	high	7.64	1.703	high
2. In general, how do you rate your psychological health and satisfaction of your life?	7.95	1.531	high	7.29	1.742	high	7.00	1.127	high	7.57	1.626	high
3. In general, do you think how appropriate is your health behavior, in which level?	7.92	1.463	high	7.36	1.788	high	7.01	1.336	high	7.59	1.627	high
4. In general, how do you adhere to and abide by the moral principles or religion (of your choice), in which level?	7.89	1.449	high	7.61	1.706	high	7.27	1.457	high	7.71	1.574	high
5. In general, do you think you have the opportunity to study and learn in life, in which level?	7.65	1.567	high	6.92	2.082	high	6.79	1.283	high	7.25	1.814	high
6. In general, how do you evaluate sufficiency and stability of your basic need, in what level?	7.77	1.383	high	7.31	1.746	high	6.91	1.212	high	7.48	1.555	high
7. In general, how do you think your family is full of love and warm in which level?	7.85	1.415	high	7.47	1.645	high	7.01	1.301	high	7.60	1.527	high
8. In general, how strong do you think of the community you are residing in now, in which level?	7.72	1.608	high	7.33	1.803	high	7.18	1.259	high	7.50	1.672	high

9. In general, how peaceful and safe neighborhood do you think you are residing in now, in which level?	7.90	1.438	high	7.56	1.787	high	7.07	1.386	high	7.67	1.607	high
10. In general, how do you think you have opportunity to expose to appropriate media, in which level?	7.78	1.518	high	7.15	2.004	high	7.01	1.196	high	7.44	1.740	high
Total	7.84	1.497	high	7.34	1.814	high	7.03	1.280	high	7.54	1.645	high

Measurement: Average mean score 1.00-2.80= Lowest, 2.81-4.60 = Low, 4.61-6.40 = moderate, 6.41-8.20 =high, 8.21-10.00 = highest

Section 3 Uses of internet for health information

3.1 Time Use to Search for Health Information from the Internet

The result revealed that majority of the sample (6 8.3%) did not use internet on caring for personal health, disease cure, medication, nursing care, medication, etc. from the Internet. Among those who used internet to look for health information, 16.7% used internet for 1-2 hour a day and 14.1% used less than an hour a day, respectively.

Among the sample from different countries, workers from Cambodia used internet less than workers from Myanmar and Laos. Among those who used the internet, the workers from higher percentage of the Myanmar's workers reported using the internet 1-2 hour a day (11.8%). The percentage of the Cambodian workers who used the internet was low, 3.4% used less than an hour and 1.9% used 1-2 hour a day, respectively.

Details were shown in Table 4.

Table 4 Average of time in using the internet to search for health information

Frequency	**Cambodia** (n=53)		**Myanmar** (n=212)		**Laos** (n=46)		**Total** (n=411)	
	n	%	n	%	n	%	n	%
0) don't use	411	41.9	197	20.1	62	6.3	670	68.3
1) Less than one hour.	33	3.4	88	9.0	17	1.7	138	14.1
2) 1-2 hour	19	1.9	116	11.8	29	3.0	164	16.7
3) more than 2 hours	1	0.1	8	0.8	0	0.0	9	0.9

3.2 Health-related Internet use.

It was found that overall the samples had average mean score of health-related internet use at high level in all kind of content. It should be noted that the similar kind of content were searched for. Overall and comparison of workers from different countries reported the same highest average mean score on searching for law and regulations related to health conditions (mean of all group =3.54, SD=0.818, Cambodia: mean=3.90, SD=0.342, Myanmar: mean=3.13, SD=1.033, and Laos: mean=3.50, SD=0.604, respectively). As for the second highest mean score of content searched, it was found that workers from Cambodia (mean=3.89, SD=0.368) and from Myanmar (mean=3.07, SD=1.052) similarly searched for information about patient organization whereas workers from Laos searched for information on care provider (mean=3.47, SD=0.662).

Details were shown in Table 5.

Table 5 Mean and Standard Deviation of Content Searched from the Internet

:Have you ever searched for information on the following contents?	**Cambodia** (n=464)			**Myanmar** (n=409)			**Laos** (n=108)			**Total** (n=981)		
	Mean	SD	Level	Mean	SD	Level	Mean	SD	Level	Mean	SD	Level
1. Diseases	3.74	0.601	High	2.83	1.093	High	3.22	0.857	High	3.30	0.965	High
2. Healthy lifestyle	3.81	0.441	high	2.79	0.941	high	3.32	0.695	high	3.33	0.861	high
3. Medication	3.81	0.444	high	2.85	1.004	high	3.45	0.689	high	3.37	0.879	high
4. Treatments	3.83	0.450	high	2.84	1.004	high	3.40	0.669	high	3.37	0.884	high
5. Care providers	3.85	0.435	high	2.92	1.047	high	3.47	0.662	high	3.42	0.887	high
6. Patient organizations	3.89	0.368	high	3.07	1.052	high	3.44	0.687	high	3.50	0.852	high
7. Law regulations related to health conditions	3.90	0.342	high	3.13	1.033	high	3.50	0.604	high	3.54	0.818	high
8. Peer-support forums	3.88	0.394	high	2.93	1.103	high	3.43	0.739	high	3.44	0.917	high

Measurement: low use (mean=1.00-1.33), moderate use (mean=1.34-2.66), and high use (mean = 2.67-4.00).

3.3 Information and Health Literacy

3.3.1 Information literacy.

It was found that majority of the samples reported having information literacy at somewhat confident level (431 or 43.9%) followed by very confident (243 or 24.8%) and the least number 63 or 6.4% reported not at that at all confident which signify that that they had no information literacy.

Among the Cambodia samples, similar pattern of information literacy was found. Majority of them had information literacy at somewhat confident level (247 or 25.4%), followed by very confident level (70 or 7.1%) and 1 or 0.1% completely confident, respectively.

Among the Myanmarsamples, different pattern of information literacy was found. Majority of them had information literacy at very confident level (154 or 15.7%) followed by somewhat confident level (129 or 13.1%), and 6 or 0.6% not at all confident, respectively.

Among the Laos samples, similar pattern of information literacy with the Cambodia group was found. Majority of them had information literacy at somewhat confident level (53 or 5.4%), followed by not very confident level (30 or 3.1%) and 1or 0.1% completely confident, respectively.

3.3.2 Health literacy.

It was found that majority of the samples reported having health literacy at somewhat confident level (423 or 43.1%) followed by very confident (264 or 26.9%) and the least number 56 or 5.7% reported not at that at all confident which signify that that they had no health literacy.

Among the Cambodia samples, similar pattern of information literacy was found. Majority of them had information literacy at somewhat confident level (267 or 25.1%), followed by not very confident level (94 or 9.6%) and 3 or 0.3% completely confident, respectively.

Among the Myanmar samples, different pattern of information literacy was found. Majority of them had information literacy at very confident level (166 or 16.9%) followed by somewhat confident level (133 or 13.6%), and 7 or 0.7% not at all confident, respectively.

Among the Laos samples, similar pattern of information literacy with the Cambodia group was found. Majority of them had information literacy at somewhat confident level (44 or 4.5%), followed by not very confident level (34 or 3.5%) and 4or 0.4% reported completely confident and not at all confident, respectively.

Details were shown in Table 6.

Table 6 Confident on Information Literacy and Health Literacy of the Sample

Level of Confident	**Cambodia** (n=464)		**Myanmar** (n=409)		**Laos** (n=108)		**Total** (n=981)	
	n	%	n	%	n	%	n	%
Information Literacy Overall, how confident are you that you could get advice or information about health or medical topics if you needed it?								
Not at all confident	52	5.3	6	0.6	5	0.5	63	6.4%
Not very confident	92	9.4	29	3.0	30	3.1	151	15.4
Somewhat confident	249	25.4	129	13.1	53	5.4	431	43.9
Very confident	70	7.1	154	15.7	19	1.9	243	24.8
Completely confident	1	0.1	91	9.3	1	0.1	93	9.5
Health Literacy Overall, how confident are you about your ability to take good care of your health?								
Not at all confident	45	4.6	7	0.7	4	0.4	56	5.7
Not very confident	94	9.6	23	2.3	34	3.5	151	15.4
Somewhat confident	246	25.1	133	13.6	44	4.5	423	43.1
Very confident	76	7.7	166	16.9	22	2.2	264	26.9
Completely confident	3	0.3	80	8.2	4	0.4	87	8.9

Discussion and suggestions

Data analysis yield interesting finding on self-reported health status and uses of online health information of the foreign workers in Thailand as follow.

Health care access

The majority of the samples used their own expenditure to support their health care (47.9%) followed by using the health insurance for foreign workers fund of the Thai Government (44.2%). Comparison of samples from different countries revealed that majority of the Cambodian workers relied on health insurance provided by Thai Government (32.7%) whereas the majority of workers from Myanmar (26.0%) and Laos (8.2%) used their self-support funding. Therefore, the foreign workers had rights to access health care using health insurance scheme (Sanruen&Kitreerawutiwong, 2015). However, the study found that when those got sick they visited doctor at private clinic (36.8%) followed by buying medicine from drug store (34.5%) and going to see doctor at hospital (28.7%). Comparison of samples from different countries revealed that majority of the Cambodian workers visit doctor at private clinic (28.7%) whereas the majority of workers from Myanmar (19.4%) and from Laos (4.8%) bought medicine from drug store. This can be explained that those immigrants working in Thailand did not have enough information about health insurance (Office of National Health Committee, 2012). Therefore, they were more likely visit the doctor in the private clinics and pharmacy stores when being ill (Yimyam, 2012).

Health status

Most participants (96.1%)rated their healthstatus as being healthy and did not have chronic diseases. Among Lao workerswith chronic diseases most of them had hypertension (59.3%).The samples had overall average mean score of self –assessment of health at high level (mean=7.54, SD=1.645). In comparison of the different health dimensions it was found that the dimension on adhering to and abiding by the moral principles or religion (of your choice had the highest average mean score at high level (mean=7.71, SD=1.574) followed by the dimension on peaceful and safe neighborhood they are residing in now (mean=7.56, SD=7.61, SD=1.607). This reflected characteristics of collectivism emphasizing in values of group rather than personal. Culture of Thailand and neighbourhood were similar. Social behaviours were determined friends, families, or groups. That the samples in the current study had bond with religion, peaceful surrounding, and safe neighbourhood was congruent with collectivism (Triandis,1988). Additionally, the samples thought that they have the opportunities to study and learn in life (mean=7.25, SD=1.814). The positive attitude to learn new things can motivate those to pay attention in health and choose activity e.g., seeking best suit care to promote health status.

Using health information online

About time used for seeking health information from the Internet, the result revealed that majority of the sample (6 8.3%) did not use internet on caring for personal health, disease cure, medication, nursing care, medication, etc. from the Internet.When compared to another study, a 2012 survey of the United States, found that 72 percent of U.S. adults used internet to find out health-related information (Pew Research Internet Project, 2013). There were many reasons why people did not use the internet-based in health care. For example, lacked of internet connection, did not have pre-requisite skills for technology, wanted to see therapist, needed regular times of access, had to have more discipline for extra needs, and concerned with information security (Ferwerda, 2013). In addition, among those who used internet to look for health information, 16.7% used internet for 1-2 hour a day and 14.1% used less than an hour a day. The Cambodian workers used internet less than an hour (3.4%) less than workers from Myanmar and Laos did about 1-2 hour a day (11.8%). However, one study conducted in the United States found that Americans searched information regarding health about three times a month (Evers, 2006). That the samples used internet for health search more frequently may relate to the variety of devices internet accessible they had.

Topic of health-related internet using

The study found that overall the samples had average mean score of health-related internet use at high level in all kind of content. It should be noted that the similar kind of content were searched for. Overall and comparison of workers from different countries reported the same highest average mean score on searching for law and regulations related to health conditions (mean of all group =3.54, SD=0.818, Cambodia: mean=3.90, SD=0.342, Myanmar: mean=3.13, SD=1.033, and Laos: mean=3.50, SD=0.604, respectively). As for the second highest mean score of content searched, it was found that workers from Cambodia (mean=3.89, SD=0.368) and from Myanmar (mean=3.07, SD=1.052) similarly searched for information about patient organization whereas workers from Laos searched for information on care provider (mean=3.47, SD=0.662). This can be explained that some participants were digital natives, people who grew up in the digital world or had birthdates in 1980 and after (Herring, 2008; Pensky, 2001; Repique, 2013). Those may be familiar with using communication technology-based for seeking health care information and services they wanted to know.

Information and health literacy

E-Health comprised health information and services e.g., health education and prevention, information about disease and illness, treatment options, social support, and health care organizations(afshari, 2013).Firstly, the study found that majority of the samples felt confident inhealth information at somewhat confident level (431 or 43.9%) followed by very confident level (243 or 24.8%). When considering in each nationality, the study showed that Cambodian, Myanmar, and Laos workers rated confidence in health information at somewhat confident level (247 (25.4%), 129 (13.1%), and 53 (5.4%), respectively) and very confident level (70 (7.1%), 154 (15.7%), and 30 (3.1%), respectively. One worker (0.1%) from each Cambodia and Laos responded that they felt completely confident in health information, but six Myanmar workers (0.6%) were not confident in it.Similarly, Austrian participants in the study conducted byHaluza and others (2016) perceived reliability of online health information as moderate and good levels.When considering in barriers of confidence in sharing personal data via internet, people may hesitate to give personal data to any health service internet-based (Whiddett, 2006; O'Connor, 2016).Secondly, health literacy was mentioned in the survey as confidence in health services. The study found that majority of the samples reported having confidence in health literacy at somewhat confident level (423 or 43.1%) followed by very confident (264 or 26.9%) and the least number of workers(56 or 5.7%) reported not confident at all.Cambodianand Laos samples rated confidence in health literacy at somewhat confident level (267 (25.1%) and44 (4.5%)), followed by not very confident level (94 (9.6%) and34 (3.5%)), and completely confident (3 (0.3%) and 4 (0.4%)). Among the Myanmar samples, majority of them had confidence in health literacy at very confident level (166 or 16.9%) followed by somewhat confident level (133 or 13.6%). It can be said that Myanmar workers had more confidence in health literacy than others. This can be explained that Myanmar workers are the largest group of immigrants in Thailand. They had their ethnic group living in the communities. They may be advised by friends or neighbours to access health care website with trusts.Nevertheless, the study revealed less confidence in eHealth services. This is because there are some barriers influencing eHealth literacy regarding health services.O'Connor and others (2016) found that the lack of quality of digital health interventions (DHIs) influenced on clients' confidence, whereas, people having positive DHIs experiences would have more confidence (O'Connor and others, 2016). Moreover, some intervention provided through the internet needed computer skills of the users and professional skills and suitable interaction of health care provider in using the programmes(MacLure, Steward, & Starch, 2014). Furthermore, motivation or interest in health of those workers while working and living in Thailand may focused in law related to selection of health care services and health insurance rather than health promotion and intervention (Office of National Health Committee, 2012). .

Suggestions

The knowledge gained from the study can be utilized in policy making, health care practice, and health education. The policy makers should have strategies in distribute health care services to immigrant workers using communication technology e.g., mobile telephone, website, and applications to prevent communicated disease in worker communities. The health care providers should aware of language used in transfer knowledge into practice among the immigrant workers. The health educators should adapt health curriculum to have aspect of cross culture care delivering.

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Opinions on Participation in the Empowering Program for Perceived Power and Stroke Prevention Behavior among Elderly with Chronic Illness[1]

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Abstract

The empowerment is a process that encourages individuals to have health conscious and awareness that enables them to care for their health and protect from illnesses. This research aimed to the opinion of the elderly with chronic diseases toward the Empowerment Program and their stroke prevention behavior. Data from a questionnaire administered to 20 elderlies in Ban Huai Kamin, Nong Khae District, Saraburi Province after six months of participation. Percentage, mean and standard deviation. were used to describe the data. T-test analysis was also used to compare the average mean score of perceived empowerment and stroke prevention behavior during and after six months of participation in the program. The results revealed that the sample had a good opinion towards the Program high level at high (M = 45.25, SD = 3.79). T-test comparison of perceived empowerment during and after six months of participation yielded no statistical different at a significant level ($t = 1.03$, $p < .05$). However, it was found that the average mean score of the stroke prevention behavior after 6 months was higher than that of the during participation at significance level ($t = 2.76$, $p < .05$). This study indicated that the Empowerment Program was effective and can promote a better stroke prevention behavior. The elderly was satisfied with the Empowerment Program as it was easy to understand, not complicate practicing steps and willing to participate in this program in the future.

Introduction

Stroke in the elderly is a disease requiring medical attention with nursing and public health services. Whether domestically in Thailand or overseas, there are global reports indicated that stroke is the second most frequently encountered cause of death in populations aged over 60 years. The impact reduces the ability of the elderly to perform various tasks. Furthermore, 1 in 3 people with stroke (approximately 50%) is likely to become severely disabled until they are unable to help themselves. Consequently, stroke patients need to depend on other people in performing the activities of daily living (ADL). The rate of disability among stroke patients is high at 78 percent when compared with younger stroke patients (48%).

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The elderly are likely to have at least one chronic disease or more. Ad as age increases, the rate of chronic disease also rises. In other words, 87 percent of the elderly have one or more chronic diseases. The chronic diseases found in the elderly are diabetes mellitus, hypertension and high blood-cholesterol. These chronic diseases constitute the risk factors for stroke. Old age is a period when people undergo changes involving physical, mental and social degeneration. This degeneration results in health problems that negatively affect the happiness and quality of life of the elderly. And if the elderly do not receive good care, they will be at risk for stroke leading to disabilities, weakened legs and arms, paralysis/paresis. Therefore, stroke prevention is an interesting issue of great importance.

According to Gibson's concept, empowerment concurs with the World Health Organization's (WHO) health promotion and self-care concepts which state that promoting health and self-care by providing knowledge and using the empowerment process can enable people to set or manage their health. Studies have employed empowerment concepts to support self-management in empowerment for the personal health of people with chronic disease. Thus, people can increase their perceived power and ability to make decisions in selecting practice as they improve their ability for self-care with greater efficiency, lower health care costs and reduced health care service use.

A study about the opinions of elderly people with the chronic disease about an empowerment program and its effects on perceived power and stroke prevention behavior would be of benefit toward the development of an empowerment program, which would, in turn, contribute to the more efficient care of elderly people with chronic disease.

Research Methods

1. Participants

Participants were 20 elderly in Ban Huai Kamin, Nong Khae District, Saraburi Province after six months of participation. The samples were drawn using purposive sampling method
B. Instrument and Measurement

2. Instrument

The present study was based on a descriptive research design aimed at studying the opinions of the elderly with the chronic disease about participation in an empowerment program and its effects on perceived power and stroke prevention behavior in elderly people with chronic disease. The sample group was composed of 20 elderly people with chronic disease who participated in an empowerment program in Huay Khamin, Nong Khae, Saraburi, Thailand. The subjects were 60 years of age and up who had at least one of the following chronic diseases: diabetes mellitus, hypertension, high blood-cholesterol and heart disease. There were no limitations in terms of gender, racial, religious, occupational, level of education or marital status. Dementia was assessed by a TEMSE score of > 23 points.

3. Measurement
   3.1. The researcher collected data in August 2016 at six months after the researcher had completed the empowerment program.
   3.2. The researcher drafted a letter requesting permission for data collection from the head of the unit. Next, the researcher met with the sample group in order to explain the objectives, research methodology, confidentiality of personal information, collective presentation of the research findings and the rights of the sample group to decide whether or not to participate in the study with no impact on the services they would receive. The members of the sample group who were willing to provide data signed informed consent forms for participation in the research. Next, the research assistant distributed questionnaires in a process that took approximately 15-20 minutes. In completing the questionnaires, the names of the respondents were not specified. The researcher had separate baskets available for the respondents to return the informed consent forms for participation in the study and the questionnaires.
   3.3. Once the data collection was complete, the researcher checked the questionnaires for completeness and accuracy before submitting the data to analysis.

The research instrumentation was composed of the following:

1. The following instruments were used in data collection:
   1.1. Record on the following personal information: age, gender, the level of education, marital status, occupation, monthly family income, income sufficiency, main health caregiver, chronic diseases and treatment entitlements.
   1.2. The researcher modified the perceived empowerment measurement scale for the elderly with chronic disease the researcher that was developed by the study of Methinee Jantiya (2004). The scale was composed of the following four aspects: 1) A sense of control over chronic disease and management of risk factors affecting increased diseased severity (6 items); 2) A sense of self-satisfaction about self-care and treatment for the existing chronic disease (5 items); 3) A sense of personal development in behavior aimed at preventing complications from the patients' existing chronic diseases (6 items); 4) A sense of having goals and meaning in life in self-care and daily routines (7 items). The aforementioned scale was composed of a total of 24 items. The scores obtained from the scale ranged between 24 and 120 points in which high scores meant a high level of perceived empowerment.
   1.3. The researcher obtained the stroke prevention behavior assessment form from the stroke risk behavior assessment scale for reducing the risks for the stroke of Viryakarn Saenghuachang (2013). The assessment scale was composed of the following five aspects: 1) monitoring for warning signs (6 items); 2) dietary intake (8 items); exercise (3 items); 4) stress management (3 items) and 5) medication adherence/ examinations by appointment (3 items). The aforementioned measurement scale contained a total of 23 items with a scoring range of 23-92 points in which a high score meant a high level of behavioral practice aimed at reducing stroke risks.
   1.4. The researcher modified the questionnaire on the opinions of the elderly with chronic disease concerning participation in an empowerment program from the instrument of Sirpan Inta (2003) and Sakkasem Jeekratok, (2007) as well as the literature review.

The questionnaire covered the opinions about each step of the activities as follows: 1) Discovery of the actual situation to raise awareness about the problem and ability to engage in health behavior; 2) reflective thinking with discretion; 3) decision to engage in suitable activities; and 4) efficiently maintaining practice of five items and satisfaction about participation in the empowerment program.

The quality of the instruments was checked to determine validity, reliability and efficiency in using the instruments by the following steps:

1. In checking for content validity, the researcher submitted every part of the content to the following three qualified professionals with expertise for consideration of the suitability of the content, its accurate coverage and language usage: a nurse specializing in the care of stroke patients at Saraburi Hospital; 2) a nursing instructor specializing in empowerment from Boromarajonani College of Nursing Saraburi; and 3) a nursing instructor specializing in geriatric nursing from Boromarajonani College of Nursing Saraburi.
   After the examination of the qualified professionals, the researcher examined the instruments for content validity by determining the Content Validity Index (CVI) for the perceived empowerment measurement scale in chronic disease patients. The CVI obtained for the aforementioned scale was .87, and the CVI for the stroke prevention behavior assessment was .92.
2. In determining the reliability of the health-promoting behavior assessment form, the researcher submitted the instrument to trial implementation in 30 elderly people with chronic disease at Saraburi Hospital who had the same characteristics as the sample group. The scores obtained by the questionnaire were then analyzed for reliability by determining Cronbach's Alpha Coefficient. The perceived empowerment measurement scale in persons with chronic disease obtained a reliability value of .80, and the stroke prevention behavior assessment form had a reliability value of .79

Data Analysis

The researcher submitted the data obtained to analysis with a computer program as follows:
1. The frequency and percentage of the sample group's personal information and the opinions of the elderly with the chronic disease about participation in the empowerment program were analyzed by using frequency, mean and percentage.
2. The mean scores for perceived empowerment and stroke prevention behavior were compared before participation in the empowerment program and at 6 months after participation by t-test.

Results

Section 1 Sample's profile

Personal Information: Most of the sample group was found to be composed of females aged 60-70 yrs. Furthermore, the most frequently encountered level of education was at the primary

level. Most of the subjects were married and unemployed with sufficient income. The main caregivers were children/grandchildren/nieces/nephews. The subjects had the following chronic diseases: hypertension, diabetes mellitus and high blood-cholesterol. Most of the subjects used universal health coverage cards (gold cards) for treatment entitlements as shown in Table 1.

Table 1: Personal information for the elderly with chronic disease.

Personal Information	Sample Group	
	No.	%
Gender		
Male	7	35.0
Female	13	65.0
Age		
60-70 yrs.	15	75.0
71-80 yrs.	4	20.0
80 yrs. & up	1	5.0
Level of Education		
Primary	14	70.0
Secondary	5	25.0
Tertiary (Degree)	-	-
Uneducated	1	5.0
Marital Status		
Single	1	5.0
Married	11	55.0
Divorced Or Separated	3	15.0
Widowed	5	25.0
Occupation		
Unemployed	7	35.0
Farmer	5	25.0
Freelance	3	15.0
Pensioned Civil Servant	2	10.0
Housewife	1	5.0
Merchant	2	10.0
Monthly Family Income		
Under 2,000 baht	6	30.0
2,001-4,000 baht	7	35.0
4,001-6,000 baht	4	20.0
6,001-8,000 baht	1	5.0
8,001-10,000 baht	-	-
10,001 baht & up	2	10.0
Income Sufficiency		
Sufficient	16	80.0

Personal Information	Sample Group	
	No.	%
Insufficient	4	20.0
Main Caregiver		
No Caregiver or Lives Alone	3	15.0
Child/Grandchild/Niece/Nephew	11	55.0
Sibling/Other Relative	6	30.0
Employee	-	-
Chronic Disease		
Hypertension	18	90.0
Diabetes Mellitus	10	50.0
Heart Disease	3	15.0
High Blood-Cholesterol	11	55.0
Prostate	1	5.0
Treatment Entitlements		
Civil Servant/State Enterprise	4	20.0
Universal Health Coverage (Gold Card)	16	80.0
Disabled Person Entitlements	-	-

Section 11

Comparison of scores for perceived empowerment and stroke prevention behavior at 6 months after receiving the empowerment program

The results of the comparison of scores on perceived empowerment were found to be no different at 6 months after having participated in the program with statistical significance ($t = 1.03$, $p < .05$). When perceived empowerment scores were compared regarding individual aspects, 4 aspects were found to have high scores (100%). The scores immediately following participation in the program and at 6 months after participation were no different as shown in Table 2.

The results of the comparison in stroke prevention behavior were found to be higher at 6 months after participation in the program than the same scores immediately after the program had ended with statistical significance ($t = 2.76$, $p < .05$). The sample group had high scores for stroke prevention behavior (100%). When stroke prevention behavior was categorized by individual aspects, the scores on monitoring for warning signs, dietary intake, stress management and medication adherence/examinations by appointment were found to be higher with statistical significance ($p < .05$). The mean score for monitoring for warning signs was high (80%), while the mean score for dietary intake was also high (100%). Stress management was high (100%); medication adherence/ examinations by appointment were high (100%) and exercise was no different with statistical significance ($p < .05$). The mean score for exercise was moderate at .85 as shown in Table 2.

Table 2: Perceived empowerment and stroke prevention behavior at 6 months after participation in the empowerment program.

	Scoring Range	Program End		6 months after Program Participation		df	t	p-value
		M	SD	M	SD			
Perceived Empowerment								
- A sense of control over chronic disease and management of risk factors affecting increased diseased severity	6-30	23.85	4.12	25.50	2.66	19	1.29	.21
- A sense of self-satisfaction about self-care and treatment for the existing chronic disease.	5-25	22.95	2.45	23.30	2.27	19	.41	.68
- A sense of personal development in behavior aimed at preventing complications from the patients' existing chronic diseases	6-30	23.45	2.18	25.20	2.46	19	2.15	.04
- A sense of having goals & meaning in life in self-care and daily routines.	7-35	31.80	3.39	31.40	3.21	19	.31	.75
Total	24-120	102.05	7.87	105.40	8.76	19	1.03	.31

	Scoring Range	Program End		6 months after Program Participation		df	t	p-value
		M	SD	M	SD			
Stroke Prevention Behavior								
- Monitor for Warning Signs	6-24	20.75	4.16	22.80	2.46	19	2.21	.03
- Dietary Intake	8-32	26.75	2.12	27.80	2.12	19	1.71	.10
- Exercise	3-12	8.45		8.55		19	.14	.88
- Stress Management	3-12	9.10	2.70	10.70	1.09	19	3.42	.00
- Medication Adherence/ Examinations by Appointment	3-12	12.00	1.91 .00	12.00	.47 .00	19	-	-
Total	23-92	77.05	7.61	81.85	3.78	19	2.76	.01

$p < .05$

The opinions of the elderly with the chronic disease about participation in the empowerment program.

At 6 months after participating in the empowerment program, the elderly were found to hold the opinion that the empowerment program was easy to understand with procedures that were neither difficult nor complicated. The scores were within a high range (M = 21.50, SD = 2.35) at 100 percent. Furthermore, the elderly were highly satisfied with participation in the empowerment program (M = 23.75, SD = 2.22) at 100 percent as shown in Table 3.

Table 3: The opinions of the elderly with chronic disease about participation in the empowerment program.

	6 Months after Participation in Program			
	Scoring Range	**M**	**SD**	**Level of Opinion**
The empowerment program is easy to understand; the procedures are neither difficult nor complicated.	5-25	21.50	2.35	good
Satisfaction about participation in empowerment program.	5-25	23.75	2.22	good
Total	10-50	45.25	3.79	good

Discussion And Suggestions

The present study was about the opinions of the elderly with the chronic disease about participation in an empowerment program. According to the findings, the elderly held the opinion that the empowerment program was easy to understand with procedures that were neither difficult nor complicated. Thus, the elderly subjects had high scores for satisfaction in the empowerment program. Based on the interviews, the elderly were found to enjoy the program, commenting that they were happy in have participated and that the activities were fun. The elderly also believed that the activities were of benefit for their personal health. Thus, they indicated that they would continue with the activities. In addition, the elderly made the following suggestions: activities should be held periodically on a regular monthly basis, the activities should take approximately 1-2 hours and there should be opportunities for all of the elderly people in the community to participate.

Moreover, the findings at 6 months after participation in the empowerment program indicated that the elderly in this group continued with stroke prevention behavior as a whole and in terms of individual activities with higher, statistically significant scores. Although the perceived empowerment scores were no different, once these scores were categorized by individual aspects or activities, the scores were high for all four categories. It is obvious, therefore, that applying for empowerment program in the elderly with chronic disease motivated this group of patients to search, discover and accept the real situation facing them. They exercised reflective thinking with discretion about that situation, made their decisions about selecting proper self-care methods and efficiently maintained practice [9]. Moreover, empowerment remains a process for helping the elderly with chronic disease in controlling various behaviors with impact on health and quality of life. Thus, the elderly are empowered with happiness and awareness about their self-capacity. The empowerment program is a process that promotes and builds the ability of the elderly with chronic disease by drawing upon their existing abilities for use in care and building self-efficacy that is continual and sustainable. In addition, the empowerment program develops the self-efficacy of the elderly with chronic disease in controlling various factors with impact on health, opting to use resources and the performance of various activities aimed at maintaining good physical and mental health. The program not only involves prevention of illness, but also focuses on promoting wellness. It is evidence.

Therefore, that empowerment is a social process that shows expressions of personal promotion, acceptance, and development of self-efficacy in solving problems, using resources as necessary in people's lives in order to build self-confidence and feelings of empowerment to control personal lifestyles. The finding above concurs with studies on the effects of empowerment for families in caring for the elderly with essential hypertension and the effects of the empowerment program on the care-giving behavior and perceived empowerment of caregivers of chronic obstructive pulmonary disease patients.

Conclusion

Based on the findings of the present research, it can be concluded that the elderly hold the opinion that the empowerment program is easy to understand with procedures that are neither difficult nor complicated. Furthermore, the elderly were satisfied with their participation in the empowerment program. Moreover, they feel the program can augment perceived empowerment and stroke prevention behavior among the elderly with chronic disease. The program was also able to promote the elderly with chronic disease in practicing stroke prevention behaviors and properly promoting good health or wellness on a regular basis leading to good quality of life and social happiness. When the elderly with chronic disease continually practice health promotion behavior on a regular basis by drawing from their existing abilities or self-efficacy, they can practice self-care and promote health. They can also enhance personal ability to make decisions in controlling their lifestyles with independence. Thus, the elderly can make decisions about opting to use resources in order to perform various activities in maintaining both physical and mental wellness with continuity and sustainability. The fact that the elderly with chronic disease are aware of self-care with a personal belief in self-efficacy gives the elderly a sense of participation in self-care with satisfaction or positive modifications in health behavior. Thus, the elderly can control complications and manage symptoms, which gives them both happiness and improved conditions.

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Health Literacy in Patients with Cerebrovascular Disease, Hypertension, and Chronic Obstructive Pulmonary Disease

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Abstract

The purpose of the study was to survey levels of health literacy and compare the levels of health literacy between patients with cerebrovascular disease (CVD), hypertension (HT), and chronic obstructive pulmonary disease (COPD)

The survey was conducted in 161 Thai patients with non-communicable diseases (NCDs). Of the 161 patients with NCDs, the patients included of 27 patients with CVD, 107 patients with HT, and 27 patients with COPD who were treated at the outpatient clinics of a general hospital, Thailand.

Data collection was based on the ABCDE (Alcohol, Baccy, Coping, Diet, and Exercise) Thai Health Literacy Scale for Thai Adults. The HL constructed three levels of health literacy: poor, moderate or fair, and very good. The data were analyzed using descriptive statistics.

The results showed that the overall health literacy of the participants was at the moderate level for 80.70 percent. The health outcomes were at the fair level for 72.70 percent. However, the findings of this study indicate the need for the health gradient approaches in health literacy which represents an important challenge for health policies and practices across health professionals in Thailand.

Keyword: Health literacy, Patient of NCDs, scale health literacy, Cerebrovascular Disease and Heart Disease, Hypertension, Chronic obstructive pulmonary disease

Background

The United Nations has determined that NCDs is an agenda to the governments of various countries and has to accelerate the actions. Non-communicable diseases: NCDs like cardiovascular disease, cancer, diabetes, chronic respiratory disease, and injury are responsible for more than 75 % of death worldwide. The characteristic of NCDs is multiple risks factors, complex caused, long latency period, non-communicable, prolong caused of illness and disability[1] The World Health Organization: WHO pushing motion International for supporting preparation of strategic guidelines for prevention and controlling NCDs in globally[2].

Nearly three-quarters of NCDs deaths 28 million in low and middle-income countries around the world. The four main types of NCDs are cardiovascular diseases like heart attacks and stroke, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma), cancer and diabetes. These diseases are motivated by forces that include rapid unplanned urbanization, aging, and the unhealthy lifestyles. For example, unhealthy lifestyles like sedentary lifestyles, smoking, and unhealthy diets may demonstrate in individuals as increased blood glucose, raised blood pressure, elevated blood lipids, overweight and obesity. These intermediate risk factors which can lead to cardiovascular disease, a NCD are developed in children, adults and the elderly. In 2012, Thai people with NCDs were around 16.2 % [3].

Health literacy means "people's knowledge, motivation and competences to access, understand, appraise and apply health information in order to make judgments and take decisions in everyday life concerning healthcare to maintain or improve the quality of life during the life course" [4]. Health literacy is an important determinant of individual and public health and is seen as a core element of patient-centered care [5] . The increasing people with NCDs, the impact of low health literacy in people is extensive. The most advantages of NCDs care involves patients frequently accessing the healthcare system and actively self-managing their health condition[6]

Objective

1. To assess the level of health literacy, and health outcomes among patients with cerebrovascular disease (CVD), patients with hypertension and patient with chronic obstructive pulmonary disease admitted to Out Patient Department in a general hospital, Thailand.

2.To assess the perceived of health outcomes among patients with cerebrovascular disease (CVD), patients with hypertension and patient with chronic obstructive pulmonary disease admitted to Out Patient Department in a general hospital, Thailand.

Method

A cross-sectional study in one group of patients in a certain period of this research study about the health literacy and health outcomes level.

Sample

The sample was 161 patients with hypertension, patients with cerebrovascular disease (CVD(and patients with chronic obstructive pulmonary diseases. Three of four was patients with hypertension. All of them were treated at the outpatient department at a general hospital, Thailand in September – November 2015

Instruments

1. Personal information includes gender, age, marital status, education, occupation, income and diseases.

2. The ABCDE Adult Thai Health Literacy Scale was used for measuring the three levels of health literacy score: poor, moderate, and very good. The components of health literacy were shown as Table 1

Ethical consideration

Data collection procedure was design to cover all aspect of protection of the right of human subjects. This study project was approved by the Board of Research Ethics Boromarajonani College of Nursing.Saraburi No-3-005/2015. Researcher informed the purposes of the study and participations requirement. All eligible samples were informed and consent.

Table 1 Elements, Level, and component of health literacy focus on the health practice related to alcohol consumption (A) , smoking or baccy(B), coping(C) , diet practice (D) and exercise (E)

Element	Level	Component
1.Cognitive Skills	L1: Basic Level	Needed health knowledge and understanding
	L2: Critical Level	Accessing with information and service
		Media and information literacy
		Making appropriate health decision to good health practice
2.Social Skills	L3: Interaction Level	Communicating with added professionals
		Managing their health condition
3.Health Outcomes	Healthy Maintain	Self-care and maintain health
		Participating in social health activity

Results

Table 2 Demographic data

	Personal data	Frequency (n=161)	Percent
Gender	Male	59	36.6
	Female	102	63.4
Age	35-60	53	33.5
	61-81	108	66.5
Disease	CVD	27	18.5
	COPD	27	18.5
	HT	101	63

For the demographic data, results showed that 63.4% of sample were female, and 66.5 % of sample aged more than 60 year-olds.

Table 3 The level of health literacy among patients with CVD , patients with hypertension: HT and patients with chronic obstructive pulmonary disease:COPD

Indicator	CVD		HT		COPD		Total	
	mean	S.D.	mean	S.D.	mean	S.D.	mean	S.D.
1. Knowledge and understanding of health right.	6.48	1.84	6.60	1.81	5.85	1.83	0.65	0.18
2. Access information and health services.	10.00	3.73	9.20	2.74	8.74	3.39	1.85	0.54
3. Communication for expertise in health.	11.74	1.89	11.57	3.40	10.29	2.28	11.42	3.47
4. Management health conditions.	10.25	3.89	9.19	4.70	8.62	4.08	9.09	4.53
5. Media literacy and information.	9.11	4.38	9.13	4.50	6.92	4.19	9.66	4.93
6. Decision practice properly.	14.48	4.10	14.94	3.47	15.2	3.06	14.17	3.91
7. Participation social health.	8.51	5.16	8.68	4.75	7.00	5.06	8.37	4.88
8. Maintaining self health care	19.11	5.25	16.65	7.85	17.4	4.65	8.37	4.88

From Table 3, the results showed that the knowledge and understanding of health regarding the decision to choose the correct operating, score are at 14.17,S. D =3.91 and with the lowest score in the subject knowledge and understanding of the health suite. In a sample of hypertension patients are the average of the score as high as 6.60, S.D. =1.84 regarding access to health services and information are correct. In a sample of CVD patients have the highest average scores equal to 10.00, S.D. = 3.73 in communications to health expertise in a patient with CVD.

Table 4 The level of health literacy

Elements	Level of health literacy	CVD		Hypertension.		COPD		sum	
		No.	%	No.	%	No.	%	No.	%
Basic level Elements 1 and 2 (a total score of 30 points)	Low	9	33.3	39	36.4	17	63.0	65	40.37
	Medium	16	59.3	65	60.70	9	33.3	90	55.90
	High	2	7.4	3	2.80	1	3.7	6	3.73
Level of interaction Elements 3 and 4 (including the full 44 points)	Low	14	51.9	59	55.1	17	63.0	90	55.90
	Medium	13	48.1	44	41.1	10	37.0	57	35.40
	High	0	0	4	3.70	0	0	4	2.48
Level of critical thinking Elements 5 and 6 (Total 40 points)	Low	7	25.9	24	22.4	17	63.0	48	29.81
	Medium	17	63.0	67	62.6	10	37.0	94	58.39
	High	3	11.1	16	15.0	0	0	19	11.80

According to classification criteria found in the sample of 161 people most knowledgeable in the basic level. Mostly sample has intellectual skills at a moderate level (55.90 percent). Knowledgeable interaction levels, mainly those who have social skills in communication, the interaction between individuals at low level around 55.90 percent. The sample has intellectual s level, thinking judgment or criticized moderate 58.39 percent.

A mostly person have intellectual skills at a moderate level, 59.3 percent to 60.7, respectively. The chronic obstructive pulmonary disease group have skills in intelligence at low level, around 63.0 percent. Mostly samples have communication skills at a low level or 51.9 percent and 63.0, 55.1, respectively.

In the level of judgment, samples which were patients with CVD and patients with high blood pressure have intellectual skills, the judgment or criticized are at a moderate level (63.0 and 62.6 respectively). The patients with chronic obstructive pulmonary disease, most of them have the intellectual skill level in thinking judgment or critique at low level (63.0 percent)

Discussion

The majority of sample had moderate level of the health literacy score (8 Dimension). Two lowest scores were the ability to communicate for good health dimension and actively managed health care condition dimension. Only 1.8 percentage of sample

perceived that they had good health. Third of fourth perceived their health conditions at a moderate level. Around one fourth of sample perceived that they had poor health. The findings showed that the patients with NCDs who were samples of this study need to promote health literacy for improving they help conditions.

As the majority of the sample were patients with Hypertension disease, the results of the study show that they have poor health. Moderate level of health literacy is not good for them. Hypertension is the bad sign of health conditions in adults and older peoples, and may associate with the progress to the crisis stage such as cerebrovascular accident or stroke, and congestive heart failure.

Recommendation

The results of the study show that the NCDs patients need the offensive strategy to response their demand for improving their health literacy urgently.

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Study of Health Literacy of Patients with Diabetes Mellitus, Cancer, and Obesity[1]

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Thanyarak Jaikhor

Abstract

This research aims to survey and compare the health literacy levels of patients with diabetes mellitus (DM), cancer, and obesity. A survey method was used to collect data from patients with Diabetes Mellitus (DM), Cancer, and Obesity.

The study was conducted between September and November 2015. Patients with three subgroups of non-communicable diseases (NCDs) were recruited at outpatient clinics in a general hospital located in the central part of Thailand.

Data collection was based on the ABCDE (Alcohol, Baccy, Coping, Diet, and Exercise) Thai Health Literacy (HL) Scale for Thai Adults. The HL constructed three levels of health literacy: poor, moderate or fair, and very good. The data were analyzed using descriptive statistics.

Results showed that all patient subgroups had overall health literacy at the moderate level (48.2%). When comparing a subgroup to the overall group, patients with cancer had social skills at the very good level (61.3%). The result also showed that patients with DM had cognitive skills at the poor level (52.3%). The results of the current study showed that most of the patients have differences in health literacy and therefore need more explanation form medical and nursing staff in order to understand and use the health information making the best decision about their health.

Keywords: Health literacy, diabetes mellitus, cancer, obesity, Thailand

Introduction

Non-Communicable Diseases (NCDs) or chronic diseases are included with diabetes mellitus (DM), heart disease, stroke, Emphysema, cancers, hypertension and obesity (SunthornTrinandwan:2012). Recently, NCDs is a public health problem which can be affected to the total health expenditure from the government.

The WHO reported that 63% death in 2008 caused by the chronic diseases including heart disease, cancers, respiratory diseases and DM. In 2009, Thai people died from chronic diseases at 73% which the economic injury level could lose up to 2 billion baht/year. Nowadays, the

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trend of NCDs is increasing while the age of patients is decreased. Moreover, in the next ten years, this trend will be 17% increasing (PatsriSrisuwan:2014) due to their unappropriated behavior (KrisadaRuangareerat: 2014).

WHO defined the "health literacy" as cognitive and social skills which determine the motivation and ability of individuals to access, understand and use information for promoting and maintain their good health(WHO:2009) .In Thailand, health literacy means an ability to access, understand and use the health information(Thira Woratanarat:2015).

For the meaning above, this cognitive and social skills can be motivated in individuals to be able to access, understand and use the information for maintaining their good health. However, many factors such as the low ability of self-management, nationality, knowledge and un-effective of health care procedures are a limitation for health literacy. Thus, the promotion in NCDs patients of Thailand is very important (WHO :2009)

On the other hand, the self-management in their health may result of the increasing trend of chronic disease patients. Therefore, this study aims to compare the difference of health literacy in out-patients of Saraburi Hospital which have DM, cancers and obesity.

Objective

To study and compare the health literacy levels of out-patient with diabetes mellitus (DM), cancer and obesity in Saraburi Hospital

Conceptual Framework

The conceptual framework for this research from the literature review The synthesis and the development of indicators on health knowledge of Thailand, people aged above15 years by Ungsinun Intarakamhang (2014) with 8dimensions. Is the knowledge and understanding of health right. Access to information and health care services Communication more expertise in health. The management condition of their health. Media literacy and information. The decision practice properly. The participation social health. Constant care and health.

Define Variables

Health knowledge is the knowledge and understanding of health, that is correct. Access to information and health care services Communication more expertise in health. The management condition of their health. Media literacy and information. The decision practice properly. The participation social health. Constant care and health. By using the measurement Synthesis and Development of ABCDE-Health Literacy Scale of Thai Adults.
(UngsinunIntarakamhang:2014)

Literature Review

Noncommunicable diseases (NCDs), known as chronic diseases, are not passed from person to person. They are of long duration and slow progression. The 4 main types are diabetes mellitus diseases, cancer, Obesity. (http://www.who.int/mediacentre/factsheets/fs355/en/)

Patients with NCDs have to learn about how to take care themselves. Health literacy an essential characteristic for them. Health Literacy has been defined as the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health. (http://www.who.int/healthpromotion/conferences/7gchp/track2/en/)

Related Research

Health Literacy and Functional Health Status Among Older Adults(Michael S. Wolf, Ph.D., MPH; Julie A. Gazmararian, Ph.D., MPH; David W. Baker, MD, MPH,) There are established in the United States. Said in the midst of the elderly with poor health housing Knowledge is not enough to have associated with physical health and mental health care less.
During the last ten years, having knowledge of health in low level is important and has the effect of on human health, which is the relationship between education and health. Having the knowledge of health is limited. Be linked to problems in diagnosis. An understanding of medical advice and skills to manage health care.

*Health Literacy Among Medicare Enrollees in a Managed Care Organization (Julie A. Gazmararian, MPH, PhD; David W. Baker, MD, MPH; Mark V. Williams, MD; Ruth M. Parker, MD; Tracy L. Scott, MA; Diane C. Green, MPH, PhD; S. Nicole Fehrenbach, MPP; JunlingRen; Jeffrey P. Koplan, MD, MPH)*Says seniors who joined the Administration may not have the skills to conduct adequate health care. Low health knowledge may make the elderly patients could not understand the message of health and ability to take care of their health problems.

In a 1993 survey by the national adult knowledge (NALS) reports that 44% of adults aged 65 years or more, the minimum reading level (level 1) means they are unable to read. Understand that they need to be fully functional in society, but because the test used in the NALS is not health-related entries, but it is clear that many elderly people could not read enough on health care, measuring the health knowledge of the working of the.Patients in public hospitals found that 8 1 % of English-speaking patients aged 6 0 years or more of health knowledge is insufficient. These patients can not be read correctly, such as another prescription education low-income residential community of adults aged 60-94 years, found that the average level of reading skills, grade 5.

Recent research has examined the effects of your patient's knowledge, skills, health care, and their health. Education has many documents such as health advice and medical education brochures are usually written at a level exceeding patient reading skills. Patients with low health literacy and chronic disease such as diabetes, asthma, high blood pressure, or have little knowledge. The cause of disease and treatment was less accurate because of self-management

skills; there are fewer patients. These factors may explain why patients with low health knowledge. Are more likely to be hospitalized than those with health knowledge enough. While many patients are not only knowledgeable about the shame he doesn't want to let others know fault of their own. Abashed, there are significant and are reluctant to disclose their reading problems to health care professionals.

Previous research about the knowledge of health working with patients about the problem of poverty, but the ability of the aged patients with reading problems that they face in health care. The limited health knowledge that is both physical disability and chronic diseases common in the elderly that will increase the problems and obstacles faced by elderly patients that they try to get involved in their health care. This is a particular problem, as people who receive medical treatment enrolled in managed care, preparation, thus adapting to the new health care system.

*Inadequate Functional Health Literacy in Spanish as a Barrier to Cervical Cancer Screening Among Immigrant Latinas in New York City (Samantha Garbers, MPAcorresponding author and Mary Ann Chiasson, DrPH)*More than half the population, says that we will have trouble interpreting the writing with the medical material, even in Spain. When the attempt to develop go-to women who have not been selected in the projects and service providers needs to recognize that women most in need of information about screening may tend not to be able to read medical literature written for them, regardless of the language or understanding of the level of simplicity of health documents. Programs and strategies to be taken to increase the prevalence and screening to reduce the gaps in the screening of normally specified for Latinas with health knowledge level are low.

*Addressing the "other" health literacy competencies--knowledge, dispositions, and oral/aural communication: development of TALKDOC, an intervention assessment tool.(Helitzer D1, Hollis C, Sanders M, Roybal S.)*Said that most of the knowledge in health assessment skills, including reading, writing. The calculation and interpretation of graphs, tables. Diagrams and charts Some people assess their understanding of the health system and the health care or skilled enough to have health needs. However, to achieve a well-rounded health functions, capabilities. "Receive, process and understand basic health information and services needed. Appropriate health decisions, "the knowledge of other health should be assessed knowledge and attitudes about health issues that affect them. Or the ability and interest to participate in their care. In patients with the care of their ability to listen, ask questions and make sure the people understand. That is important to make the right decisions and act on instructions as written skills related to educational attainment. Therefore, it is difficult to change in health education can stay healthy. The importance of knowledge such as knowledge, attitude and communication skills. As a result, these structures can be assessed as a quality tool in health education. The authors describe the development process and the results of the test tool. The target to be assessed HPV infection and can educate health cervical cancer TALKDOC including checking with health knowledge

From the literature review revealed that a well-rounded health affects their self-care. in all patients, the disease is. And knowledge of health is low, resulting in patients having to take care of themselves low down.

Methods

Research Instruments

This cross-sectional descriptive research was studied in out-patients who have DM, cancers and obesity of Saraburi Hospital from September – November 2015.The criteria of health literacy such as needed health knowledge and understanding, accessing information and services, communicating with added professionals,managing their health conditions,getting media and literacy information, making appropriate health decision to good practice, participating in social health activity and self-care and maintain health were included in this study as showed in below table.

Issues	Levels of literacy	Criteria
1.Cognitive Skills	L1: Basic Level	1. Needed health knowledge and Understanding
		2.Accessing with information and services
	L3: Critical Level	5.Getting media and literacy information
		6.Making appropriate health decision to good practice
2.Social Skills	L2: Interaction Level	3.Communicating with added professionals
		4.Managing their health conditions
3.Healthy Outcomes	Healthy Maintaining	7. Participating in social health activity
		8. Self-care and maintain health

Sample and setting

The population of this study is DM patients, cancer patients and obesity patients who are an out-patients of Saraburi Hospital. The sample size was calculated by the formula W.G. Cochran

This research used purposive sampling by the researcher's consideration to select a sample which representative the population. 112 out-patient samples in this study are 63 DM patients, 31 cancer patients and 16 obesity patients of Saraburi Hospital.

Ethical consideration

Researchers considered to the respect for autonomy thus the information including the objective, procedures, and duration of this study were explained to the patient samples. All results are considered as a confidential data. Moreover, patients can make their decision and sign the informed consent when they decided to participate in this study.

1. Data collection tools include

1.1 Questionnaires included information on sex, age, marital status, occupation, income, educational level, the disease has been diagnosed for the first time. A disease that is the information on their health. And the sources of information to knowledge about the disease.

1.2 Assessment measure knowledge of Thai health age 15 years in promoting food, exercise, emotional, abstain from alcohol and smoking. Of the uniform distribution in function fields (2557) type of assessment is the message about knowledge of health in people 8 were 51 number is Knowledge and understanding of the correct number of 10 health questions. The access to information and services were 5 polite questions. Communication more expertise in health 6 items. The management condition of their health. The 5 article on media literacy and information 5 item number in decision making discrimination. The 5 questions. The participation social health of 5 items and the self-health care finance of 10 item response characteristics is a section 3 level. Is a basic level, the 1 2 skills and intellectual level. The 3 4 interaction and social skills in communication, the interaction between individuals. And the level of critical thinking, and the 5 6 is critical thinking skills

The table shows the benchmark rating classification knowledge based health literacy (Health literacy) 3 levels.

Elements	Total score	Results
Cognitive Skills (Dimension 1 and230 points)	0-14.9 points or <50% of the full score	Low level of cognitive skill
	15-23.9 points or ≥ 50–<80% of the full score	Moderate level of cognitive skill
	24 -30 points or ≥ 80% of the full score	High level of cognitive skill
Social Skills (Dimension 3 and444 Points)	0-14.9 pointsor<50% of the full score	Low interaction level of social skill
	22-35.1 points or ≥ 50–<80% of the full score	Moderate interaction level of social skill
	35.2 -44 points or ≥ 80% of the full score	High interaction level of social skill
Healthy Outcomes (Dimension 5 and640 Points)	5- 19.9 points or<50% of the full score	Low critical level of cognitive skill
	20-31.9 points or≥ 50–<80% of the full score	Moderate critical level of cognitive skill
	32 -40 points or≥80% of the full score	High critical level of cognitive skill

To check the quality of the tools

From the measure of health knowledge (UngsinunIntarakamhang:2014) check the quality tools linear content with health professionals. Agricultural, medical and behavioral metrics, and a

measure that tried to rewrite risk groups aged 15 years or more chronic diseases in 4 regions, 500 people to verify the quality of the linear survey element analysis tools. To questions that have an index value less .3 with questions and the tools to keep up with actual samples, 13 provinces, the number of 4,500 people, results extraction and verification of measuring instruments elements found that health professionals have the knowledge and the confidence is at an acceptable level. Therefore the power classification and index measuring the composition of health knowledge classification list, text table.

Title	**Number of questions**	**Full score**	**Classification(r)**	**Cronbach's Alpha**	**Index measures**
1. Health knowledge and Understanding	10Message	10	432 - 0.765	0.611 (ค่า KR – 20)	0.390 - 0.670
2. Accessing with information and services	5Message	20	0.625 - 0.725	0.861	0.724 – 0.841
3. Communicating for added professionals	6Message	24	0.554 - 0.847	0.912	0.735 – 0.847
4. Managing their health conditions	5Message	20	0.689 - 0.752	0.887	0.710 – 0.791
5. Getting media and literacy information	5Message	20	0.554 - 0.710	0.834	0.389 – 0.771
6. Making appropriate health decision to good practice	5Message	20	0.215 - 0.476	0.674	0.675 - 0.820
7. Participating in social health activity	5Message	20	0.596 - 0.798	0.870	0.677 – 0.861
8. Self-care and maintain health	10Message	40	0.151 - 0.523	0.710	0.326 – 0.607

Results

1.The individual information of samples

Table 1 General information group of the patient group samples for each disease.

Characte-ristic	Value of the variable	Diabetes Mellitus (n=65)		Cancers (n=31)		Obesity (n=16)		Total (n=112)	
		n	%	n	%	n	%	n	%
Gender	Male	16	24.6	5	16.1	5	31.3	26	23.2
	Female	49	75.4	26	83.9	11	68.8	86	76.8
Age	<35years								
	36–45years	**Mean**=		**Mean** =58.65		**Mean** =38.88		**Mean** = 58.65	
	46–55years	65.00		**SD** = 11.34		**SD** = 14.16		**SD** = 11.34	
	56– 65years	**SD** = 10.32							
	66– 75years								
	76– 85years	10	15.3	2	6.4	0	0.0		
	>85years	1	1.5	0	0.0	0	0.0		
Education	Not educated	7	10.8	2	6.5	0	0.0	9	8.0
	Early Primary	6	9.2	2	6.4	0	0.0	8	7.1
	LatePrimary	37	56.9	17	54.8	5	31.3	59	52.7
	Junior high school	5	7.7	3	9.7	2	12.5	10	8.9
	High School	4	6.2	4	12.9	3	18.8	11	9.8
	Bachelor's degree	6	9.2	2	6.5	6	37.5	14	12.5
	master's degree	0	0.0	1	3.2	0	0.0	1	0.9
	Doctoral degree	0	0.0	0	0.0	0	0.0	0	0
Marital status	Single	3	4.6	3	9.7	6	37.5	12	10.7
	Marriage	48	73.8	24	77.4	8	50.0	80	71.4
	Divorce	5	7.7	1	3.2	1	6.3	7	6.3
	Widowed	9	13.8	3	9.7	1	6.3	13	11.6
	Other	0	0.0	0	0.0	0	0.0	0	0
Career	Government service	4	6.2	2	6.5	0	0.0	6	5.4
	Enterprises	1	1.5	1	3.2	1	12.5	4	3.6
	Trading	7	10.8	4	12.9	5	31.3	16	14.3
	farmers	7	10.8	9	29.0	2	12.5	18	16.1
	Fisheries	0	0.0	0	0.0	0	0.0	0	0
	Other	46	70.8	15	48.4	7	43.8	68	60.7
Income per month	Lower or equal to5, 000 baht per month	**Mean**=5693 **SD** = 10055		**Mean**=11223 **SD**= 19893		**Mean**= 8250 **SD**= 15674		**Mean**= 7589 **SD**= 14294	
	5, 001Baht-10,000Baht per month								

	10, 001Baht-15,000Baht per month								
	15, 001Baht-20,000Baht per month								
	20,001Baht per month								
A chronic disease/									
The disease was diagnosed for the first time.	Diabetes Mellitus	65	100.0	0	0.0	0	0.0	65	58.0
	Cerebrovascu-lar disease	0	0.0	0	0.0	0	0.0	0	0.0
	Chronic obstructive pulmonary disease	0	0.0	0	0.0	0	0.0	0	0.0
	Cancers	0	0.0	31	100.0	16	100.0	31	27.7
	Hypertension	0	0.0	0	0.0	0	0.0	0	0.0
	Obesity	0	0.0	0	0.0	0	0.0	16	14.3
Combined disease	Diabetes Mellitus	0	0.0	4	12.9	1	6.3	5	4.5
	Cerebrovascu-lar disease	8	12.3	0	0.0	0	0.0	8	7.1
	Chronic obstructive pulmonary disease	0	0.0	0	0.0	0	0.0	0	0.0
	Cancers	3	4.6	0	0.0	0	0.0	3	2.7
	Hypertension	43	66.2	6	19.4	1	12.5	51	45.5
	Obesity	0	0.0	0	0.0	0	0.0	0	0.0
	Other	12	18.5	3	9.7	0.0	0.0	15	13.4
Health information sources									
Health informa-tion sources	Books	13	20.0	10	32.3	2	12.5	25	22.3
	Magazine	3	4.6	0	0.0	2	12.5	5	4.5
	journal	2	3.1	2	6.5	0	0.0	4	3.6
	Newspapers	12	18.5	9	29.0	1	6.3	22	19.6

	Flyer	7	10.8	1	3.2	0	0.0	8	7.1
	Poster	5	7.7	1	3.2	1	6.3	7	6.3
	Brochure	23	35.4	6	19.4	7	43.8	36	32.1
Media technolo-gy	Video	12	18.5	4	12.9	0	0.0	16	14.3
	Image	0	0.0	0	0.0	0	0.0	0	0
	SMS messages	0	0.0	0	0.0	0	0.0	0	0
	Radio	12	18.5	6	19.4	1	6.3	19	17.0
	Television	36	55.4	20	64.5	17	62.5	66	58.9
	Voice	9	13.8	1	3.2	1	6.3	11	9.8
	LINE	2	3.1	2	6.5	6	37.5	10	8.9
	Facebook	3	4.6	1	3.2	8	50.0	12	10.7
	Twitter	0	0.0	0	0.0	0	0.0	0	0
	Instargram	0	0.0	0	0.0	0	๐.๐	0	0
	You tube	1	1.5	1	3.2	2	12.5	4	3.6
	Other	1	1.5	1	3.2	0	0.0	2	1.8
Person	Family members	23	35.4	15	48.4	5	31.3	43	38.4
	People in the community	5	7.7	4	12.9	2	12.5	11	9.8
	physicians	54	83.1	23	74.2	12	75.0	98	79.5
	Nurses	51	78.5	21	67.7	7	43.8	79	70.5
	Pharmacists	1	1.5	1	3.2	0	0.0	2	1.8
	Medical techniques	0	0.0	0	0.0	0	0.0	0	0
	Dentists	0	0.0	0	0.0	2	12.5	2	1.8
	Public health officials	19	29.2	9	29.0	5	31.3	33	29.5
Activities and processes	Training knowledge	35	53.8	15	48.4	4	25.0	54	48.2
	Exhibition health	10	15.4	5	16.1	5	31.3	20	17.9
	Songs about health	0	0.0	1	3.2	0	0.0	1	0.9
	Other	1	1.5	2	6.5	1	6.3	4	3.6

The samples in this study are 112 out-patients in Saraburi hospital who have diagnosed as a DM, cancers and obesity.The classification was defined by sex, age, education levels, marital status, occupation, monthly incomes, other diseases after main diagnosis and the place of receiving health service.

The data showed that the most of 3 sample groups are female (76.8%) which have average age at 60 year-old. The marital status showed 71.4% married and education levels showed

52.7%educated from primary school. The average monthly income is 7,589 Baht. Additionally, the most of them received the health data from television (58.9%) and acquired the health service from doctor (79.5%).

2. The health literacy in each criterion of 3 sample groups

Table 2 Mean and Standard deviation (SD) of each part of health literacy in 3 sample groups (N= 112)

Criteria	Diabetes Mellitus		Cancers		Obesity		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1. Health knowledge and Understanding	5.78	1.40	6.32	1.66	6.19	1.80	6.19	1.54
2. Accessing with information and services	8.74	6.34	10.77	4.55	13.89	3.52	13.89	5.81
3. Communicating for added professionals	11.66	5.58	13.29	5.24	10.75	5.04	10.75	5.44
4. Managing their health conditions	10.97	4.78	13.26	4.36	12.38	3.96	12.38	4.64
5. Getting media and literacy information	10.89	6.23	13.32	5.19	15.94	4.34	15.94	5.96
6. Making appropriate health decision to good practice	14.74	2.37	15.97	2.70	15.81	2.59	15.81	2.54
7. Participating in social health activity	8.20	6.96	8.19	5.59	9.63	8.07	9.63	6.74
8. Self-care and maintain health	16.83	5.62	18.39	4.24	17.75	6.2	17.75	5.60

From Table 2, the three highest ranking of health literacy in 3 sample groups are self-care and maintain health, getting media and literacy information andmaking appropriate health decision to good practiceat 17.75, 15.94 and 15.81, respectively. In order to each disease, three highest ranking of DM group are self-care and maintain health, making appropriate health decision to good practice and communicating for added professionals at16. 83,14. 74and 11. 66, respectively. In cancer group, the highest score is self-care and maintain health at 18.39 followed by making appropriate health decision to good practice (15.97) and getting media and literacy information (13.32).Moreover, the obesity group showed highest score in self-care and maintain health at 17.75 followed by getting media and literacy information (15.94) and

making appropriate health decision to good practice (15.81).On the opposite way, the three lowest criteria in DM group are health knowledge and understanding, participating in social health activityand accessing with information and services at5.78, 8.20and 8.74, respectively. The three lowest ranking in cancer group are health knowledge and understanding, participating in social health activityand accessing with information and services at 6.32, 8.19and 10.77, respectively. In addition, obesity group showed the lowest score in health knowledge and understanding (6. 19), participating in social health activity(9. 63) andcommunicating for added professionals (10.75).

Table 3 Theamount and percentage of health literacy levels in 3 sample groups

Health literacy levels	Scores	Interpretations	Diabetes Mellitus		Cancers		Obesity		Total (N=112)	
			N	%	N	%	N	%	N	%
Basical level	Poor	Low level of cognitive skill	34	52.3	9	29.0	2	12.5	45	40.2
	Fair	Moderate level of cognitive skill	25	38.5	19	61.3	10	62.5	54	48.2
	Good	High level of cognitive skill	6	9.2	3	9.7	4	25	13	11.6
Interaction level	Poor	Low interaction level of social skill	13	20.0	2	6.5	2	12.5	17	15.2
	Fair	Moderate interaction level of social skill	18	27.7	10	32.2	7	43.8	35	31.3
	Good	High interaction level of social skill	34	52.3	19	61.3	7	43.7	60	53.5
Critical level	Poor	Low critical level of cognitive skill	4	6.2	0	0	0	0	4	3.6
	Fair	Moderate critical level of cognitive skill	17	26.1	8	25.8	1	6.3	26	23.2
	Good	High critical level of cognitive skill	44	67.7	23	74.2	15	93.7	82	73.2
	Poor	Low level of health outcomes	11	16.9	3	9.7	1	6.3	15	13.4

Healthy outcomes	Fair	Moderate level of health outcomes	19	29.3	7	22.6	4	25	30	26.8
	Good	High level of health outcomes	35	53.8	21	67.7	11	68.7	67	59.8

48.2% of 3 sample groups showed the moderate basic level of cognition skill whereas the social skill in interaction represented in high level(53.5%). Moreover, the critical of cognition skill showed high level with 73.2% of patients. Similarly, the healthy outcomes in this samples represented 59.8%of high level. We also classified the health literacy according to the disease. First, most DM patients have basic skill in low level (52.3%) while the interaction, critical skill and healthy outcomes are in high level with 52.3%, 67.7% and 53.8%, respectively. Second, in cancer group, 61.3% showed the moderate level in the basic skill whereas the interaction, critical and healthy outcomes in this group represented high level with 61.3%, 74.2% and 67.7%, respectively.Finally, obesity patients have moderate levels in basic health literacy (62.5%) and interaction (43.8%) whereas showed a high level of the critical skill (93.8%) and healthy outcomes (68.7%).

Discussion

This descriptive research can be discussed into main two points as:

1. 1.From this study results, 46.1% of chronic disease samples have a high level for health literacy followed by moderate level (34.3%) and low level (19.6%).Moreover, most of them (59.8%) showed good score in healthy outcomes followed by a fair score (26.8%) and poor score (13.4%). Interestingly, this study reported that the health literacy is positive correlated to the healthy outcome which associated to the previous study (Michael S. Wolf, Julie A. Gazmararian& David W. Baker: 2005)In addition, low level of health literacy could be affected by individual health and led to limitations on a diagnosis, understanding in health advice and skill of health-care.
2. The health literacy assessment of each disease in 112 patients showed that DM patient group have low average scores in 6 criteria are 1) health knowledge and understanding (5.78), 2)Accessing with information and services (8.74), 3) Managing their health conditions (10.97),4)Getting media and literacy information (10.89),5)Making appropriate health decision to good practice (14.74)and 6)Self-care and maintain health (16.83). This results may be caused by the most patients in this group are an elder(46%). Moreover, this finding is associated with the study ofLassetter JH inHealth literacy and obesity among native Hawaiian and Pacific Islanders in the United States who reported the low level of health literacy was correlated with the age.

Cancer patients have the lowest average in participating in social health activity (8.19)because of the treatment. Radiotherapy and chemotherapy result to low immunity and weak thus patients avoided participating in their society. Similar to the previous study,(ThanidaHomchin, AmpapornNamvongpromand Nam-oyPakdevong(2012.) who reported that chemotherapy has many side effects. The complication of bone marrow functions leading to infections which are the major problem of cancer patients. Therefore, the appropriated health-cares are the way to reduce complications and infections.On the other hand, the high average scores of the health literacy were shown in 5 criteria as followed: 1) health knowledge and understanding(6.32), 2) Communicating with added professionals (13.29), 3) Managing their health conditions (13.26), 4) Making appropriate health decision to good practice (15.97) and 5) Self-care and maintain

health (18.39). According to the knowledge of cancer which cannot be cured, patients will always maintain and get the information for their good conditions.Relating to previous research, the health belief is a positive way correlation to self-care behaviors. They suggested that the patient would be had a good self-care, cooperate to medical cares and avoid risks risks were severity and aggressive to their life(ThanyapornPothavorn, 2006).

In obesity group, the lowest average score is communicating for added professionals(8.19). However, the three highest average scores are accessing information and services(13.89), getting media and literacy information(15.94) and participating in social health activity (9.63), respectively. This result could be caused by the most of the obesity group are less than 35-year-old and graduated at the bachelor level. Hence, the skill to access the technology showed higher than other sample groups. This finding related toLassetter JH inHealth literacy and obesity among native Hawaiian and Pacific Islanders in the United States study who suggested that the higher level of education can be had a high level of health literacy.

Conclusion

112 out-patients including diabetes mellitus, cancers and obesity patients from Saraburi Hospital showed that 46.1% has a high level, 34.3% has a moderate level and 19.6% low level of health literacy.Moreover, the healthy outcomes of this patient samples represented in a good level at 59.8%, the fair level at 26.8% and poor level at 13.4%.

Problems and Obstacles

1. the storage interval is not consistent with the patient's access to the service.
2. the storage of patient information will be stored in users aged 35 years or older, but in obese patients information collected is less than the age of 35 years.
3. the sample of obese is automated storage not only with the population set.

Suggestions

From this study have suggestions to make next time is to research.

1. There should be a study of what factors are correlated with education on health knowledge of patients with the disease group. Diabetes, cancer, and obesity
2. There should be a comparative study between the samples up to at least 2 groups, so there is a difference of education on health knowledge of patients with the disease group. Diabetes, cancer, and obesity
3. There should be an instruction in the morning to a convenient storage retention, particularly in patients with diabetes mellitus and cancer, etc.

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E0%B9%88%E0%B8%A1%E0%B9%82%E0%B8%A3%E0%B8%84%20NCDs%20%

E2%80%9C%E0%B8%A0%E0%B8%B1%E0%B8%A2%E0%B9%80%E0%B8%87%E0%

B8%B5%E0%B8%A2%E0%B8%9A%E2%80%9D%20%E0%B8%84%E0%B8%A3%E0%

B9%88%E0%B8%B2%E0%B8%8A%E0%B8%B5%E0%B8%A7%E0%B8%B4%E0%B8%

95%E0%B8%84%E0%B8%99%E0%B9%84%E0%B8%97%E0%B8%A2%2073%20%E0
%B8%95%E0%B9%88%E0%B8%AD%E0%B8%9B%E0%B8%B5%20.html.

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Customers' Behavior Toward Shopping Online in Battambang City[1]

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Abstract

Customers' behavior toward shopping online in Battamabang City was studied by using gender groups, age groups, occupation and income variables to compare with product categories, quality, price, and convenience factors. The study objects were discovering customers' perception, influence buying factor, and risk taking. The sample size was defined through the purposive sampling method and snowball sampling method was mutually preferred to be used for getting more reliable information. The result shows that the main reason that pushes them to be satisfied in online shopping is to save time, and it is more convenient to gather all related information of any product they need. But those customers claimed that it is not very safe to pay for online shopping while some other still thought that they would receive the wrong products due to being dishonest of the sellers, and sometimes the specification information of the products shown on their website is completely different from the delivered one. The finding of this study mainly shares some amount of useful business ideas and information for those who are working so hard on their online business and it identifies the expected risks from the customers in shopping online in these current days as well.

Keywords: Behavior, Customers, Online products, Convenient, Quality, Price

Introduction

Fraud-free electronic shopping was promoted as early as 1995 in the UK, followed 2 years later by the introduction of secured electronic transaction (SET) systems into Europe and Singapore (Liao and Cheung, 2001). Online shopping behavior (also called online buying behavior and Internet shopping/buying behavior) refers to the process of purchasing products or services via the Internet (Liang and Lai 2000). In the typical online shopping process, when potential consumers recognize a need for some merchandise or service, they go to the Internet and search for need-related information. However, rather than searching actively, at times potential consumers are attracted by information about products or services associated with the felt need. They then evaluate alternatives and choose the one that best fits their criteria for meeting the felt need. Finally, a transaction is conducted and post-sales services provided (Na and Ping, 2002).

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Electronic commerce has become one of the essential characteristics in the Internet era. According to UCLA Center for Communication Policy (2001), online shopping has become the third most popular than Internet activity, immediately the following e-mail using/instant messaging and web browsing. The number of people who access online shopping is increasing every year (Hoffman and Novak,1996). Online shopping allows consumers to buy faster, more alternatives and can order products and services with the comparative lowest price (Cuneyt & Gautam, 2004). The case, Burns, and Dick (2001) showed that internet knowledge, income, and education level are especially powerful predictors of internet purchases.

This study focuses on the customers' attitude toward shopping products online, and it covers for important objectives such as; to well understand of customers' statuses in online shopping, to dig out the customers' perspectives in purchasing online, to find out the causes that lead them to choose this new way of purchasing products, and lastly is to analyze the facing risks that could occurs in this new purchasing service.

Methodology

The study focused on people who live in Battambang city. The sample size of sixty (60) customers who have either ever or never purchased products online was defined through the purposive sampling method, and this method was also used to define the location of the study, and to divide the customers into the above two groups. To get more reliable information from the customers for this study, the snowball sampling method was mutually preferred to be used. The information was collected from questionnaires that interviewed sample. These questionnaires asked about customers' perception, influence buying factor, and risk taking. Furthermore, data analytic method was used in both Microsoft Excel and SPSS program.

Results and Discussion

The result of this study showed that 61.50 percent are male who buy online products because most of them often accessed on the internet and love finding out more information than female. In contrast, there is 59 percent female who never buy online shopping products; the reason is they do not trust on business.

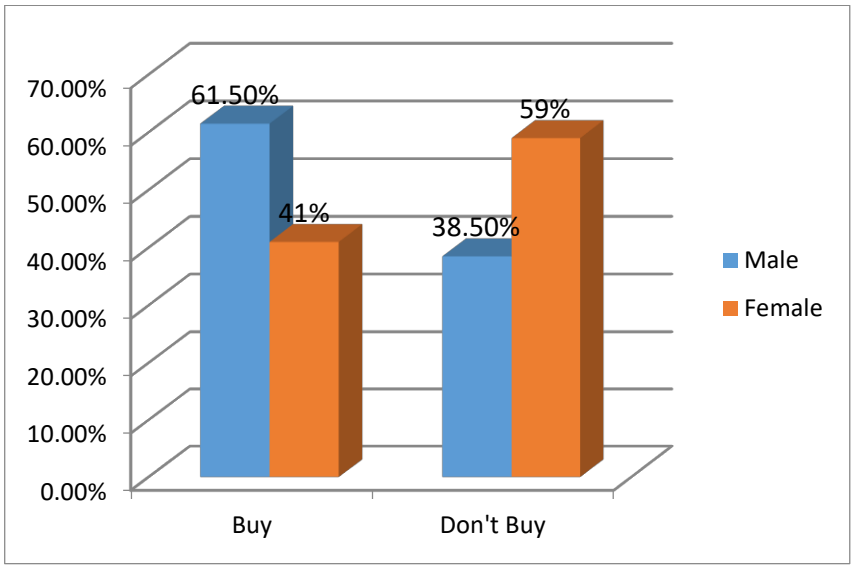


Figure 1: Correlation between sex and buying behavior

Online shopping provides many good benefits, 96.70 percent showed that buying online is faster than buy the products at the market. Moreover, 80 percent find out that it is more convenient in both searching and comparing the products just only go through the internet.

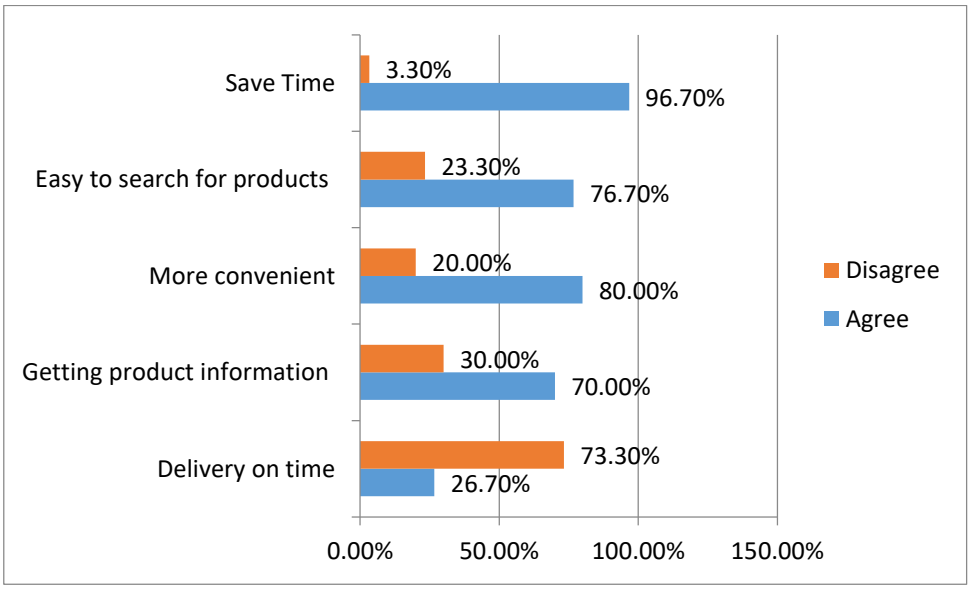


Figure 2: Online shopping benefits

This result shows that different sexes buy difference products, 60 percent of female buy books because many books are more available in online rather than book shops and market. However, most of the books that they need are not available in Cambodia but they are available in other countries. So that online book shop is the biggest book center for them. In contrast, there was

75 percent of male shops online for other products such: DVD game and computer program etc.

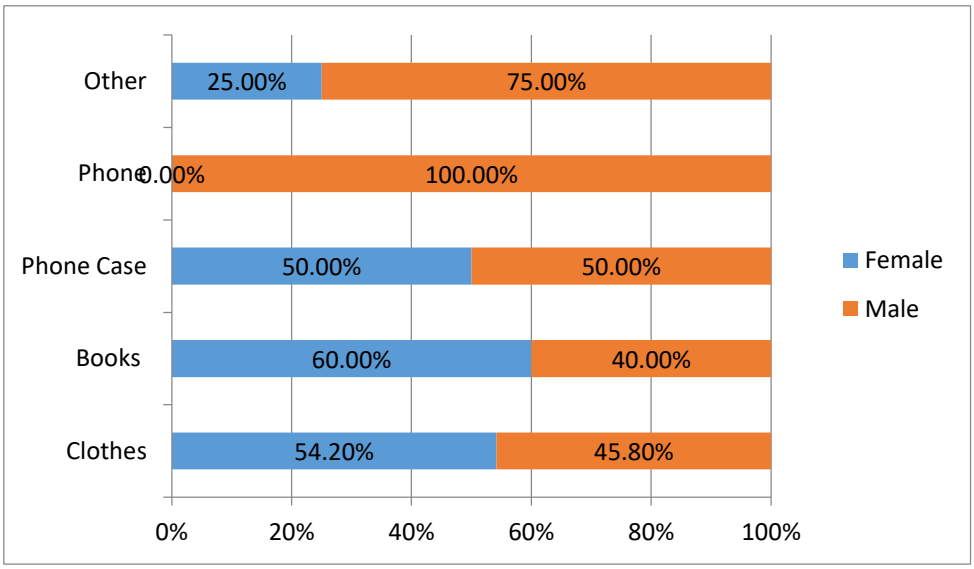


Figure 3: Correlation between sex and type of products

Although many benefits are given from online shopping, there are some reasons that because people do not want to buy products from the online shop. According to this result show that 83 percent does not trust on deposit money before getting the products there are some online shop do not delivery their goods to customers after got the deposit money from them while 63 percent still thought that they would receive the wrong products due to being dishonest of the sellers, and sometimes the specification information of the products shown on their website is completely different from the delivered one.

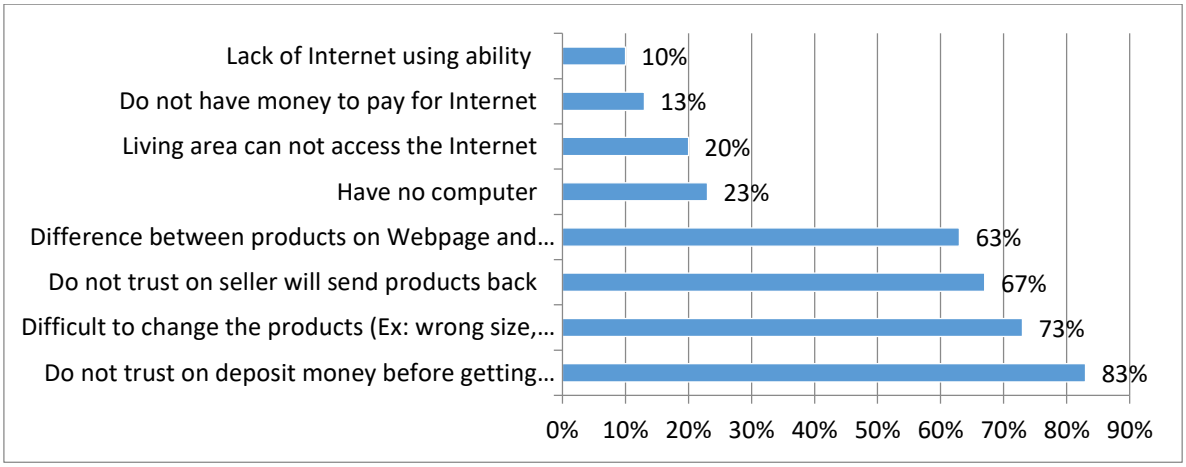


Figure 4: Reasons that people do not want to buy online products

Conclusions

Research finding and discussion above found that different sex has different buying behavior and different type of products. Figure 1 showed that 61.50 percent are male who buy online products because most of them often accessed on the internet and love finding out more information than female. Figure 3 find out that 60 percent of female buy books because many books are more available in online rather than book shops and market. However, most of the books that they need aren't available in Cambodia but they are available in other countries. So that online book shop is the biggest book center for them. In contrast, there was 75 percent of male shops online for other products such: DVD game and computer program etc. The main reasons that push them to be satisfied in online shopping are to save time, and it is more convenient to gather all related information of any product they need. Figure 2 showed that 96.70 percent though that buying online is faster than buy the products at the market. Moreover, 80 percent find out that it is more convenient in both searching and comparing the products just only go through the internet. Beside these advantages, there are some disadvantages from buying online products. Figure 4 point out that 83 percent does not trust on deposit money before getting the products there are some online shop do not delivery their goods to customers after got the deposit money from them while 63 percent still thought that they would receive the wrong products due to being dishonest of the sellers, and sometimes the specification information of the products shown on their website is completely different from the delivered one. According to these points both old and new online business owner should give more confidence to their customers by giving exact information of products and do not cheat the customers.

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The experience and the opinion of the role of Chamob, Cambodian Traditional Birth Attendant[1]

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Abstract

Birth delivery in Cambodian is a risky experience for both mother and her child. The word " Chalong Taun lay " shows the difficulty of this process by comparing it to how people are traveling through the ocean. Chamob or a Traditional Birth Attendance (TBA) is a person who carries the delivery in the community and has been doing so for centuries.

This Phenomenology qualitative research sought to study the experience and the opinion to the roles of Cambodian Traditional Birth Attendance.There were 6 Chamob women volunteer to participate , lived in Sam Rong and Cong Kul district in Udonmaichai Province, Cambodia. Participants Data was obtained by the process of interviews. The participant's experience were recorded on to an audiotape.The audiotape was transcribed and analyzed by Colaizzi 's method.

The experiences of Chamob were divided into 3 stages, before deliver period ,delivery period and postpartum period. Before delivery was assess the shape of the womb ,the quicken and general appearance of mother. During child birth at of 7 months, the head of fetus must move inside otherwise a technique called " Pra well " (get head to a straight position), in contrast to the previous position. Delivery period was divided into 2 steps: step 1 a ceremony was organized which involves paying respect a ceremony was organised which involves paying respect to the spirit of landlord, step 2 "Put Ta Se Ma " using 3 colors of tread to surround area of delivery in which to prevent the evil spirits such as Cha rab,Ta mob , Abb and Pri kalapleng.Postpatum period, let the mother stay on heat charcoal for 3- 7 days which " Kru tanum " will prepare traditional medicine. Chamob gave to mother similar to mother self-care such as to eat boil rice with dry fish and salt, be aware " Toast" (which cannot eat because the food was allergic), not let any people visit, let only lie down (absolute bed rest).At the end of fire stop, they set a ceremony call "Tales chenkran" "Srai krasai " "Phitee prakag bon cha mob". The fee of delivery about 20,000 – 30,000 real (200 –300 baht) . The Chamob feel proud of their occupation because it provied service to the people and the angle want them to be, so no need to ask for money and no lie .They still want to help the pregnant women such as to observe the wrong signs, home visit, to give advice and help to refer.

[1] Financial support for this research is provided by Praboromarajchanpk Institute For Health workforce Department, Ministry of Public Health, THAILAND

Keywords*: Cambodian Traditional Birth Attendance*

Background of the study

Birth, old-age, pain and death are the cycle of life of living things as the Lord Buddha said. To stay alive and healthy is the foremost wish of everyone. Healthy citizens help the country move forward rapidly. One of the health indicators of the citizens is the maternal and child health. In developing countries, high infant mortality rates occur which could be the things that the government and public health organizations need to prevent and solve.

As for Cambodia, it is found that Cambodia is one of the countries in Southeast Asia which encounters infant mortality rates. (AbonZahr and Warlaw, 2003) It is estimated that the rates are 4.37 per 100,000 live births. Maternal rates of 18 per cent of causes of death of Cambodian women aged between 15 – 49 years and death rates from complications during pregnancy and labor are rated at 0.02 per cent.

In Cambodian community, it is found that 28 per cent of pregnant women delivered by trained personnel (National Institute of Statistics, Directorate General or Health Cambodia, 2001) which comprises midwives, 5 per cent of doctors in rural areas and 12 per cent in urban areas. There are two types of midwives: namely primary midwives who have been trained for 9 months and secondary midwives (2-year curriculum).

As for Chamob (in Thai Mor Tam Yae, Chamob or traditional birth attendant in English: TBA), Chamob is a person in local medical team of Cambodia who help healing patients in local areas in Cambodia with various abilities such as (Bussabong Wisetpollachai, 2015):

Kru Khmer or local doctors with ability to use black magic and herbs.
Kru Parsom Thamum or local doctor who has the ability to use herbal medicine.
Kru Baramey or local doctor whose body is used by angel as mediator to treat humankind.
Kru Chamob or traditional midwives who are help women in simple childbirth.

In the 18th century, the introduction of Western Medicine (Bussabong Wisetpollachai, 2015) made changes in health service, but it was stopped in long periods from 1965 till 1975 during political turbulence in Cambodia. The revolution by the Khmer Rouge on 17 April 1975 disrupted all development in the country.

At present, administrative development in various sectors in Cambodia has been performed, including child delivery which should be done by midwife or physician. Chamob has been trained to learn more about child delivery. A study has found that Chamob has a limitation in decreasing maternal death, but has played a significant role in infant survival rate. (Sack, Emma, etc., 2013) The study on the ethnology of Hunt (Hunt et al, 2002) indicates that although there is someone has been trained to assist in childbirth, but the pregnant woman still needs Chamob to help during being pregnant. From the said reason and the observation, it has

been found out that a lot of would-be mothers of Cambodian nationality went to receive health care from the hospitals close to the Thailand-Cambodia border. When they are back home, they need to get proper advice. Traditional Thai birth attendants are nowadays getting less and the knowledge has not been passed down from generation to generation.

The researcher, therefore, is interested in conducting phenomenology study on experiences of Chamob, Cambodian traditional birth attendants, viewpoints on self-roles for mother and child health care in Chongkal District, Udon Meechai Province, Cambodia which is close to Chong Chom District, Surin Province. The outcomes of the research will be for studies on knowledge and development roles of Chamob, Cambodian birth attendants, to lead to the result " Mother survives, baby safes" concept and in accordance with the main objectives of ASEAN Community (AC) which are promoting understanding among countries and socio-cultural development, well-being (ASEAN Socio-Cultural Community – ASCC) to create mutual knowledge between Thailand and Cambodia.

Research Questions

This phenomenology study has raised the following research questions:

1. What processes are there for being Chamob, traditional birth attendants in Cambodian culture?
2. How Chamob, traditional birth attendants in Cambodian culture experience in mother and child care?
3. How Chamob, traditional birth attendants in Cambodian culture think about their roles in mother and child care nowadays?

Objectives of the research

1. To study processes of being Chamob, traditional birth attendants in Cambodian culture.
2. To study experiences in mother and child care of Chamob, traditional birth attendants in Cambodian culture.
3. To let Chamob, traditional birth attendants in Cambodian culture reflect their viewpoints on their roles in present mother and child care.

Definitions

Chamob (Traditional Birth Attendant: TBA) in this study means the ones who use to be /or works as birth attendants, have experienced in assisting in childbirth, living in Chongkal District, Udon Meechai Province, Cambodia.

Expected benefits

This study will bring about the understanding of processes leading to being Chamob, traditional Cambodian birth attendants, learning experiences in mother and child care from Chamob and

listening to their viewpoints to their roles in mother and child care. All of this is to promote the principle of the existence of ASEAN.

Methodology

This study is a Phenomenology qualitative research sought to study the experience and the opinion to the roles of Cambodian Traditional Birth Attendance.There were 6 Chamob women volunteer to participate, lived in Sam Rong and Chong Kal district in Udonmaichai Province, Cambodia. The instrument of this qualitative research the first is researcher prepare knowledge by review data base from CINALH , Pub Med ,Thai list by use key words such as Traditional Birth Attendance in Cambodia ,Mother and Child Health in Cambodia and Health seeking behavior then went to meeting in the topic "Techniques to write the qualitative research". The second is the interview form which has 2 parts,about the background of the case and opened questionaries about the experience and the opinion of the role of them.Checking the content validity by 3 specialists and try out with 3 Chamob who have the same quality as.The questionaries were review by the college ethics committee and gave the participants informed consent before taking part in a study. Data was obtained by the process of interviews. The participant's experience were recorded on to an audiotape.The audiotape was transcribed and analyzed by Colaizzi 's method. Time to collect data between October 2015 to March 2016.A technique to credibility data takes time to the participants 45-60 minutes,using triangulation and transferability method.

Results

The informants were 6 Cambodian women who have lived at Sam Rong and Chong Kal district, Udonmaichai Province, Cambodia. The oldest age is 72 years old and the youngest age is 52 years old. The highest experience of delivery is 30 years and the lowest experience is 25 years . 2 of them has studied at the primary level ,4 of them noneducated but they can read and write some. 2 of them are widows.Their incomes are from rice field ,not regulate. The service rate of Chamob between 200-300 bth. up to the clients.

To be Chamob from observe the delivery or they dream about the order from angle and co-incidence the time of khmer rouge regime make them lack of health personals and medical equipment so they must use as they have. "when I was a child I used to see home delivery. When the khmer rouge regime evacuates people to another place , in my group has pregnant women. In the night time I dream that angle tell me to help them so next month when she delivery, I help her to give a baby." W 57 yrs.

The experiences of Chamob were divided into 3 stages, before deliver period ,delivery period and postpartum period.Before the delivery period assessed the shape of the womb ,the quicken and general appearance of the mother. During child birth at of 7 months, the head of fetus must move inside otherwise a technique called " Pra well " (get head to a straight position), in contrast to the previous position. Delivery period was divided into 2 steps: step 1 a ceremony was organised which involves paying respect to the spirit of landlord, step 2 "Put Ta Se Ma "

using 3 colors of tread to surround area of delivery in which to prevent the evil spirits such as Cha rab,Ta mob , Abb and Pri kalapleng.Postpatum period. “When the woman will give birth let reun –pua mean push the womb and the placenta will delivery next. I use a new razor to cut the umbilical cord then use white thread to tie the cord. Use Technique “BA” mean circle the womb to delivery placenta .” W 52 yrs.

Let the mother stay on heat charcoal for 3- 7 days which “ Kru tanum ” will prepare the traditional medicine. Chamob gave to mother similar to mother self-care such as to eat boil rice with dry fish and salt, be a ware “ Toas” (which cannot eat because the food was allergic), not let any people visit, let only lie down (absolute bed rest).At the end of fire stop, they set a ceremony call “Tales chenkran”(to finish stay on heat charcoal) “Srai krasai ” (a ceremony about cut the cord ,give things to respect Chamob such as one basket of rice ,some dish, Betel nut, incense stick and candles) “Phitee prakag bon cha mob” (Thank you and respect ceremony). The fee of delivery about 20,000 – 30,000 real (200 –300 baht) . Chamob feel proud of their occupation because it provide service to the people and the angle wants them to be, so no need to ask for money and no lie.They still want to help the pregnant women such as to observe the wrong signs, home visit, to give advice and help to refer. “I am proud of myself to help people. I have not met the hard problem in the delivery.Mother and child save by me. I am not asking for the wage, it up to the clients. I always visit them until they were in good health so they did not forget me. I still want to take role about health education for the pregnancy women . If the government allow to continue my work I still want to do.”

Discussion

Traditional birth attendants(TBA) are middle-aged to elderly women the same as Y W A M (2008)reported that TBA was typically middle-aged to elderly women who learned with their own mother how to deliver babies .Keo Mony reported that they learned from a relative or another TBA. Some taught themselves, and others learned their procession under PolPot regime.

The believe of supernatural to prevent from the bad evils and the control of body between the balance of hot and cold make the way of caring pregnancy women.

Keo Mony reported that Cambodians believe that the woman 's body becomes cold after giving birth. They take steps to heat up the body and prevent further cooling or deterioration .Keeping the body covered from head to toe is important. The rosting started immediately for heading up the body and believed to prevent illnesses after the postpartum period.The word “ Tos” may be similar to postpartum depression, but describe as more physical and can be life-long problems. The postpartum rituals are done to prevent “ Tos”

To delivery risk for contact blood and fluid ,using the clean instruments lead infections and some method that can harm the clients. To give knowledge and encourage them to know about how danger it is , will make them awareness. Anaqisawa, Satoko(2004) reported the risk causes of the mother is refer too late.It told what happen before to make too late to refer. From

interview Chamob still want to help the career of caring mother and child health. Hoban , Elizabeth(2002) reported that not only give knowledge ,we must review another role such as health promoters, educator , referral agents and information gathered. Feliciano, Shelby (2013) reported that we should listen , some of them still have importance role in referring ,some policy will not success if do not think about the real causes in the community.

Conclusion

The experiences of Chamob were divided into 3 stages, before deliver period ,delivery period and postpartum period.Before delivery was assessed the shape of the womb ,the quicken and general appearance of mother. A technique called " Pra well " (get head to a straight position)may use at the age of pregnancy mouths. Delivery period was divided into 2 steps: step 1 a ceremony was organised which involves paying respect a ceremony to the spirit of landlord, step 2 "Put Ta Se Ma " using 3 colors of tread to surround area of delivery in which to prevent the evil spirits such as Cha rab,Ta mob , Abb and Pri kalapleng.Postpatum period , The rosting take 3- 7 days which " Kru tanum " will prepare traditional medicine . Chamob gave to mother similar to mother self care such as to eat boil rice with dry fish and salt, be aware " Toas" (which cannot eat because the food was allergic), not let any people to visit, let only lie down (absolute bed rest).At the end of the rosting, they set a ceremony call "Talee chenkran" "Srai krasai " "Phitee prakag bon cha mob". The fee of delivery about 20,000 – 30,000 real (200 –300 baht) . The Chamob feel proud of their occupation because it provied service to the people and the angle want them to be, so no need to ask for money and no lie .Chamob care the clients in physical , emotional and spiritual dimention. They still want to help the pregnant women such as to observe the wrong signs, home visit, to give advice and help to refer.

Suggestion to research apply

For futher research using R and D research to develop collaborate function between Chamob and the health personals by using community – base approach.

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Competencies Nurse Practitioners Working in Primary Health Care Units[1]

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Abstract

The research is to study competencies nurse practitioners working in primary health care units. The samples are 104 nurse practitioners in Suphanburi. The instruments consist of personnel data questionnaire and the questionnaire of competencies nurse practitioners working in primary health care units, analyzed by frequencies, percentages, averages and standard deviations. As a result, most of the samples are women, the average age is 40.65 years old (SD=6.5), working years after bachelor graduation average is 10.99 years (SD=6.5) and the experiences of working in primary health care units average are 1-5 years (39.5%). The level of competencies nurse practitioners working units average is good (67.31%) and found that the perspective of competencies nurse practitioners working units is at a good level ($\overline{X}$ =3.94, SD=0.36). The highest average score competency is the competency of specific skills in clinical nursing in the patients with health problem, which in very good level ($\overline{X}$ =4.06, SD=0.43) and followed by the ability of nursing specific diseases with complex health problem, as in the good level ($\overline{X}$ =4.00, SD=0.36); and the lowest score is the ability of nursing quality improvement for specific diseases by using evidence ($\overline{X}$ =3.71, SD=0.52). The study results are the important data to develop competencies nurse practitioners working in primary health care units to use the evidence for working and improving the quality of management.

Keywords: Competencies, Nurse Practitioners, Primary health care units.

Introduction

The primary health care is the first of health service system. It is important, thus, to accelerate system improvements to be effective and have service quality. To make the quality service in primary unit, partly depends on faculties and abilities of health personnel who practice in that primary unit. It's necessary to, Therefore; improve the personnel with knowledge and ability for conditional assessments and people's requirements extensively in every dimension.

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Thailand Nursing Council has determined the competency of nurses, the high level nurses are needed the competency to response the requirements of services, be able to assess health, screen patients, health support and prophylactic, chronic patients care, immunity, health recovery and help in accidental cases, including first aid and medicate the patients following the terminus of nurse practitioner and related laws effectively for the belief and faith of the people who are serviced. The importance to developing nurses who work in primary health care unit for knowledge and ability of nursing practice in health support, preventing and controlling diseases as well as first aid. Especially producing nurse, can response the practice in primary service unit which is essential and close to the people that have the major role of primary health care, medicate when getting sick, including support health in person, family and community.

Aptitude is the ability in practice or duty which related the specific situations, to achieve by using abilities of knowledge, practice and personality. National Organization of Nurse Practitioner Faculties (NONPF, 2011) has determined 9 competencies: Scientific foundation competencies, Leadership competencies, Quality competencies, Practice inquiry competencies, Technology and information literacy competencies, Policy competencies, Health delivery system competencies, Ethics competencies, and Independence practice competencies. In Thailand, Thailand Nursing Council (2013) has determined one more competency nurse specific in community nursing, which added from common competencies of the nurse who got the certificate. A nurse practitioner consists of 5 competencies which are 1. Competency of nursing the patients with complex physical and mental problems/chronic diseases, with end stage, and the cripples with complex health problems in the community. 2. Competency of developing the quality of nursing the patients with physical and mental health problems / chronic conditions and cripples with complex health problems in the community by using Evidence- Based Practice. 3. Competency of arranging health information of patients with physical and mental health problems /chronic diseases and cripples in the community. 4. Competency of specific abilities of the nursing clinic in patients with physical and mental health problems/ chronic diseases and cripples in the community. 5. Competency of initial treatment that can treat the common diseases and give immunity following the regulation of ministry of health 2002 and the conditions of the profession of nursing and midwifery 2007 and must pass the training which Thailand Nurse Council has determined. The developing nurses must have the required competency as the aim that focuses on health personnel development. Especially, the nurses who work in primary health care unit. Participating in nurse practitioner training (initial treatment) , therefore, is a way to improve re competency of nursing personnel to get some of professional knowledge and abilities, good attitude and conscious mind to work in primary unit, continuously learning, understanding the patients in thinking and behavior with related to lifestyle social and cultural roles, which lead to people's capacity development in self-care health and also able to improve the service right to people's requirement and able to involve health service system which has been change and most benefit to the recipient and the recipients trust the service. In consequence of the researcher who wants to study Competencies Nurse Practitioners Working in Primary Health Care Units for planning to improve competencies nurse who works in primary unit, to support sustainable health care system development.

Purposes of the Study

Competencies nurse practitioners are working in primary health care units.

Methodology

Method samples of nurse practitioners working in primary units and 104 for this research, by determining the required samples following:

1. The nurse who pass the nurse practitioner training (initial treatment)
2. Working in the primary units more than 6 months.

Allowing to participate the research. This research is descriptive research to study the competencies nurse practitioners working in primary health care units in Suphanburi area.

The samples are determined by opening power analysis table as P value = .05; power of test = 0.8; effect size is medium = 0.3. There were 85. In order to increase the power, the sample size was increased by 20 percent. Hence, the final sample consisted of 104 subjects.

Research Instrument

Research Tools consist of 2 parts following:

Part I, Personal Information: Gender, Age, Education Level, The working duration in primary unit and performance.

Part II, Competencies Nurse Practitioner the questionnaire of competencies nurse practitioners working in primary units has 37 items, 5 levels of scale. The questionnaire consists of 4 aspects which are: Knowledge and ability in nursing the patients with complex health problem 13 items. Abilities of quality improvement in nursing the patients with specific diseases by using the empirical evidence 5 items. Abilities of health information duly arranging of the patients with specific diseases 7 items.Special ability in clinic nursing of specific patients effectively 12 items.

Validity and reliability

Due to the selected tools in this research is the questionnaire of competencies nurse practitioners working in primary unit and the questionnaire of working in the primary units more than 6 months then approved by the 3 professionals are the professors in competencies nurse practitioners and then applied to nursing practitioners and coefficient alpha values were 0.98 and 0.96 respectively.

Protection of Human Subjects

This research has been approved by the Ethics Committee on Human Research of Boromrajonani College of Nursing, Suphanburi, Praboromrajchanok Institute for Health Workforce Development, Ministry of Health. Using describing and explaining to the samples about the objective, the process of researching procedures, asking for collaboration in the research and explaining the samples right protection that whole data must be secret and used for the research only. The result is presented in the overview and the sample can deny collaborating during the process before ending and that has no any effect about the benefit that the samples will be given in further.

Collecting data with the questionnaire is done by the samples following these steps:

1. Described the objective and data collected procedure including asking for collaboration in research.
2. The researcher brought the documents from Boromrajonani College of Nursing to related primary units.
3. The researcher sent the questionnaire to the nurse practitioners in primary units and asked for collaboration.
4. Analyzed all data following statistic method and converted then.

Data Analysis

1. Analyze the personal data by using statistic descriptive percentage, average and standard deviation.
2. Analyze the score of competencies nurse practitioners by calculating the average and the standard deviation in total and each aspect.
3. Analyze the score of satisfaction in practice by calculating the average and the standard deviation in total and each aspect.

Results

Most of them are female (89.4%), 29-56 years old, the average age is 40.65 years old (SD=6.5), and the most of them are 30-40 (53%). The most of the education level is Bachelor degree (88.5%). The working place, found that most of the nurse practitioners have worked in primary units (48.1%), following by moving from the hospitals (46.2%), and the least is moving from Provincial Health Office and District Health Office.

For the working experiences after graduation in Bachelor level, as the average is 10.99 years(SD=4.95) , maximum is in 6-10 years (39.42%) and 11-15 years respectively, and the least is >25 years (0.96%) and the working in primary units experience as average is 10.44 years (SD=8.15), found that the most of the samples are in 1-5 years(39.5%) and secondary is 6-10 years (20.19%), the minimum is >30 years (0.96%). The job description of nurse practitioners was given are initial treatment 50.69%, Scope of Nursing Practice Nurse Practitioner who was assigned to the work consists of the initial treatment 50.69 %,

management 11.81% and supporting 2.08%.looking after the chronic patients and follow-up by visiting 35.42%.

The levels of Competencies Nurse Practitioners Working in Primary Health Care Units are good (67.31%), the secondary is very good (30.77%) and at least is fair(1.92%), which shown in Table 1.

Table1 Frequency and Percentage of Nurse Practitioners Differentiate by the Levels of competencies in working

Level of Competency	Frequency	Percentage
Unable to work	0	0
Fair	2	1.92
Good	70	67.31
Very good	32	30.77

Table 2 Mean, Standard Deviation and the levels of competencies nurse practitioners working in the primary unit.

Competency	$\overline{X}$	SD	The level of competency
All aspects	3.94	.36	good
1st competency Knowledge and ability in nursing the patients with complex health problems	4.00	.36	good
2nd Competency Abilities of quality improvement in nursing the patients with specific diseases by using the empirical evidence.	3.71	.52	good
3rd Competency Abilities of health information duly arranging of the patients with specific diseases.	3.77	.48	good
4th Competency Special ability in clinic nursing of specific patients effectively	4.06	.43	very good

The levels of competencies nurse practitioners working in primary health care units, in overview is good ($\overline{X}$ =3.94,SD=0.36) and separated in each aspects, has been found, Special ability in clinic nursing of specific patients effectively has got the highest score and very good level ($\overline{X}$ =4.06,SD=0.43) followed by Knowledge and ability in nursing the patients with complex health problems as good level ($\overline{X}$ =4.00,SD=0.36) and the minimum is Abilities of quality improvement in nursing the patients with specific diseases by using the empirical evidence ($\overline{X}$ =3.77, SD=0.48) (Table 2).

Competencies nurse practitioners working in primary health care units separated the competency special ability in clinic nursing of specific patients effectively, found the topic which got the highest average score is considering to transfer the patients as very good level ($\bar{x}$=4.17, SD=0.52); followed by able to assess the chronic patient, the elder, and the cripples who need to continuously care in the community was very good level ($\bar{x}$=4.12, SD=.52); and the minimum score can plan the salutary activities to all ages ($\bar{x}$=3.92, SD=0.59) as good level.

Competency of abilities of quality improvement in nursing the patients with specific diseases by using the empirical evidence, found that, the highest average score is improving the initial treatment based on modern information as a good level ($\bar{x}$=3.9, SD=0.51), secondary is using the empirical evidence for developing the quality of providing primary medical care ($\bar{x}$=3.77, SD=0.59) as in a good level. And the minimum score is following-up, collecting the research results or empirical evidence continuously ($\bar{x}$=3.54, SD=0.7) as a good level.

Table 3 Mean, Standard deviation and the levels of satisfaction in the practice of nurse practitioners working in primary units.

Satisfaction in practice	$\bar{X}$	SD	the level of satisfaction
Overview	3.81	.48	high
Supporting information	3.94	.47	high
Supporting help	4.01	.64	most
Supporting resources	3.47	.59	high
Supporting progress of performance	3.79	.57	high

As a result, found, the level of satisfaction in the practice of nurse practitioners working in primary units, generality is satisfied in practice as well (58.42%) followed by most satisfied level is 36.63 % and in medium level is 4.95%. The level of satisfaction in overview point is well ($\bar{X}$=3.81, SD=0.48) and then separated in each aspect found that the satisfaction in supporting help is the most satisfied ($\bar{X}$ =4.01, SD=0.64), followed with supporting information ($\bar{X}$ =3.94, SD=0.47) is much satisfied, and the least satisfied is supporting resources ($\bar{X}$=3.47, SD=0.59) as in a high level.

Discussion

Competencies Nurse Practitioners Working in Primary Health Care Units

The study found the self-assessment of nurse practitioners working in primary units, Suphanburi, the major duty of nurse practitioners working in primary units is initial treatment calculated as 50.69%, most of them has good level in competency as 67.31%; followed by competency in very good level is 30.77%; and competency of performance in overview is a good level ($\bar{x}$=3.94, SD=0.36) involving to Wiboonchai (2014) found competency nurse

practitioners who done the nurse practitioner training (initial treatment) has a high level of competencies nurse practitioners too.

As separated in each aspect, found, competencies of special ability in clinic nursing of specific patients effectively have got the highest score. As a results show that nurse practitioners working in primary health care unit has a good competencies in nursing performance and giving primary care to the patients at a very good level which related to the study of Boonthong, Atthaseree and Sirikul (2007) studied the therapeutic effects of nurse practitioners found more than a half of the recipients (57%) were healed and 43% were recovered gradually and request the nurse practitioners because they can pay attention to the patients. As same as the study of Janprasert (2012) which study the quality of nurse practitioner's performance, found the process of nurse practitioners can apply knowledge and abilities serving as system and unity, communicate and apply health information with more complexity compliance with service results that the most of the recipients were well to most satisfied in the service.

The minimum level of competency is abilities of health information duly arranging of the patients with specific diseases ($\overline{X}$=3.71, SD=0.52) which found following-up and collecting the data or empirical evidence in initial treatment continuously ($\overline{x}$=3.54, SD=0.7) in a good level. In order that the effect of nurse working in the primary unit's performance is to prevent about unserious and uncomplicated cases and care the chronic patient who is given the standard guideline from the Hospital, Ministry of Health. Compliance with the study of Janprasert (2012), found nurse practitioner working indicated substance and recording quality was in low level. And the study of Sornkasetrin, Samphavamana and Suwannarat (2010) found most of the nurse's duties were still too much service. For academic aspect was few that affect to the nurse working in the primary unit lack of academic knowledge development, new research to improve performance with quality.

Suggestions

1. To develop the competencies nurse practitioners working in primary health care units is very important in developing health service system for the people can be given health service properly. Especially the improvement of competencies nurse practitioners working in primary health care units which are the duty must be practiced.
2. Ought to pay attention in competencies nurse practitioners working in primary health care units' development, as abilities of quality improvement in nursing the patients with specific diseases by using the empirical evidence of nurse practitioners working in primary health care units.

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Data mining Techniques to Analytical approach to diagnosis for dengue patients[1]

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Abstract

This study aimed to investigate the technique of Data mining in the diagnosis of dengue hemorrhagic fever patients by stage of the disease. The system development in the form of Web Applications by using App Server 2.5.8, PHP language, MySQL database, and PhpmyAdmin 2.9.2 database management system. Writing and editing program command was based on Adobe Dreamweaver CS3 program. The developed system was evaluated by 3 experts. The sample group in this study consisted of 35 nurses and nursing students passing the study and practice of the diagnosis of dengue, Boromratchonnee Nursing College, Nakhon Ratchasrima province.
A set of rating scale questionnaires was used for data collection and analyzed by using the SPSS for Windows. Mean and standard deviation was analyzed. Findings showed that an average mean score of the efficiency of the developed system was at 4.37 (S.D. = 0.61). This implied that its efficiency was found at a high level and could be used effectively.

Keywords: Data mining Techniques, Diagnosis, Dengue patients

Significance of the Problem

The current world society is in the information age and information technology using is rapid progressive. It plays important roles in daily life activities resulting in the development of convenience facilities as basic livelihood factors. In addition, technology helps the construction of quality housing and standards of the product is and services to be responsive to needs of man. Also, technology makes communication convenient making the rapid flow of information through the internet, for instance. Thus, there is the occurrence of social networks which people can contact one another through the computer screen. It can be said that information becomes to be an important key leading to power and stability of the country and knowledge (Lebkhrut and Ninsuk, 2010: p.1).

The management system also adopts information technology in various tasks such as patient registration, networking of medicinal data, exchange of patient data, and distant counseling by the doctor. In fact, information technology can help the doctor be able to see the face of patients

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or their appearance. It can send documentary data or photographs to the doctor for consideration. Not only can this, but teaching/learning also be done through the video conference system. Technology is adopted in daily life activities for increased efficiency and effectiveness such as in education, business, analysis, data filing, etc. All of these are necessities for all organizations and people in general. Likewise, public health service agencies need technology to assist them in the effective provision of healing data and disease diagnosis. Also, there is the application of Synergistic Neural Network as part of many works found in the Invention Intellect subject to data sorting of heart disease patients. It helps diagnose complicated data of heart disease patients and the limitation of some sample data. It was found that the Synergistic Neural Network used for the improvement of the efficiency in data sorting can make the selection of results of the highest value finding be correct most (Lawanyanon and Ninratsirikul, 2001: 179-190).

Since the current epidemic used to happen in the past causes a new strain of deadly disease particularly on dengue. According to Nakhon Ratchasrima Public Health Office (2010), it was found that there were 486 dengue patients found in the 32 districts of the province and 1 was dead. From 1 January to 25 May, 2010, Muang District of Ratchasrima province was found to have dengue patients most, followed by Si Khiew, Pakthogchai, and Dan Khunthod districts, respectively.

Medical treatment of dengue patients is a task needed to have the diagnosis of the disease before doing it. Hence, it will lessen the time if information system is employed in the diagnosis of each stage of the disease. Also, it will make the decision-making in planning on patient healing be more effective. Data mining can sort data, set data forms, and determine forms of data presentation. This is beneficial to the diagnosis of dengue based on stages of the disease. Besides, obtained data can be used for medical treatment of dengue patients in the future.

At present, the system of data support in the decision-making has an influence on data collection. This big database usually comprises a billion bites which are difficult to find in time by using the Database Management System: DBMS. Interesting data of users can be found easily which is very beneficial to needed data retrieval in a big database. Then, obtained data will be compared and viewed the tendency before returning it to make a decision effectively and rapidly. Therefore, the researcher is interested in the application of Data mining technique to the management of information data for the diagnosis of the disease based on its stage.

Objectives of the Study

Specifically, this study aimed to:

1) Develop an information system by using Data mining technique for a diagnosis of dengue disease based on its stage;
2) Be a guideline for developing an information system for the disease diagnosis; and
3) Examine and assess the efficiency of the developed system.

Conceptual Framework of the Study

The researcher had conducted steps of the development of an information system by using Data mining technique. It aimed to diagnose dengue disease and analyze a guideline for the medical treatment of dengue patients based on the disease stage. This was dependent on the concept of a process of the System Development Life Cycle of Robinson (1998). This began with the determination of needs for information; information design and analysis by Data mining technique; development of the information system; the information system model was tried out; the preparation of perfect systems; and assessment/improvement to be ready for using.

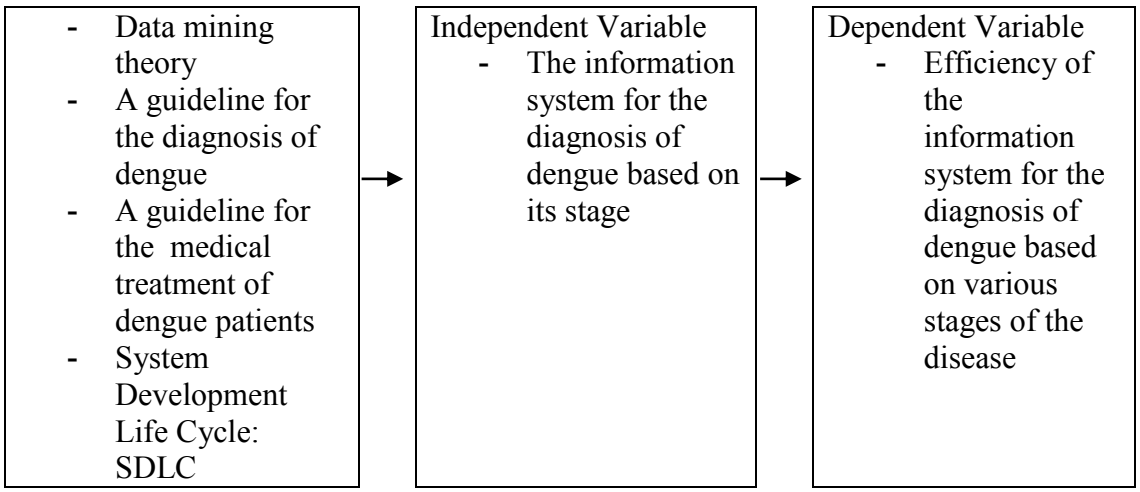


Figure 1. Conceptual framework of the study

Research Methodology

Population and Sample Group

The sample group in this study consisted of 35 nurses and nursing students passing learning and practice on dengue diagnosis at Boromratchonnee Nursing College, Nakhon Ratchasrima province.

Research Instrument

1.1 A tool used for developing a system in the form of Web Application prepared by AppServ 2.5.8 (open source) working with PHP language and MySQL database.

1.2 A set of questionnaires for the assessment of an efficiency of the computer program. The construction of the assessment form was based on the assessment form on an efficiency of the information system of the Information Technology Division, King Mongkut's Institute of technology North Bangkok (Dechathet, 2006: pp.48-55). Question items were selected, adapted, and corrected to be consistent with the

Data Collection

The researcher brought the assessment form to the experts for assessment individually. Prior to data collection, the researcher had installed the information system by using Data mining technique for dengue diagnosis based on the stage of the disease at the server which could call for the operational system through internet. After that, the researcher distributed a manual together with the demonstration on a system using to the experts through Web browser called Internet Explorer Version Eight. The experts were allowed to use the system and gave suggestions for improvement about an efficiency in various aspects: 1) Function Requirement Test, 2) Function Test, 3) Usability Test, and 4) Security Test. Later on, the researcher improved the system for completeness based on suggestions from the experts. Then, the researcher distributed three assessment forms to the 3 experts for assessment. Results of the assessment were analyzed for finding the value of efficiency of the system and found to be at a high level. After that, the researcher collected data from the sample group based on random sampling. They were given a manual together with demonstration individually. After that, they were given a chance to use the system before distributing the assessment form (35 copies) and all of it (100%) were returned to the researcher

Results of the Study

Conclusions of result of the system assessment by the 3 experts

The result of the system assessment about the information system by using Data mining technique for a diagnosis of dengue based on its stage was found at a high level ($\bar{x}$ = 4.35, S.D.= 0.43). This implied that an efficiency of the developed information system was good.
Conclusions of result of the system assessment by the sample group

It was found that an efficiency of the developed information system was at a high level ($\bar{x}$ = 4.37, S.D.= 0.61). This implied that an efficiency of the developed information system was good.

Discussions

According to the data analyses and conclusions of results of the study, the following were discussions by the researchers:

Regarding the capability in operation of the information system by suing Data mining technique for a diagnosis of dengue based on the stage of the disease and regarding the following:
1) capability in operation based on needs of the user; 2) appropriateness of the right inspection for using; 3) appropriateness of data adding to the system; 4) appropriateness of data retrieval of dengue patients; 5) appropriateness of patient background inquiry; 6) appropriateness of an

analysis of results of inspection thorough LAB; 7) appropriateness of medical treatment method informing; and 8) appropriateness of report presentation, as a whole, it was found at a high level ($\bar{x}$ = 4.35, S.D.= 0.60). This implied that the developed information system had a good efficiency regarding the capability in operation based on needs of the user.

Function of the program in terms of an efficiency of the information system by using Data mining technique for a diagnosis of dengue based on its stage and in terms of the following: 1) correctness of the right inspection to use the system; 2) correctness of data adding or deletion; 3) correctness of patient data presentation; 4) correctness of patient data inspection and correction; 5) correctness of patient background inquiry; 6) correctness of an analysis of results of the inspection through LAB; and 7) correctness of informing method on medical treatment. As a whole, it was found at a high level ($\bar{x}$ =4.42, S.D.= 0.60). This implied that an efficiency of the developed system had a good efficiency on the basis of program function.

Information system using in terms of the following: 1) convenience in information System using; 2) correctness and completeness of results; 3) clarification of messages presented on the screen; 4) color using of alphabets and enumerated pictures; 5) positioning on the screen; 6) an amount of data presented on each page; 7) appropriateness of the position of data filling space; 8) wording on the screen which are easy to understand; 9) appropriateness of suggestions about the system using; 10) appropriateness of the program. As a whole, it was found at a high level ($\bar{x}$ = 4.30, S.D.= 0.63). This implied that an efficiency of the developed system had a good efficiency on the basis of the system using.

Safety of the developed information system in terms of the following: 1) determination of the user's name and password; 2) access to personal data; and 3) appropriateness of the security system. As a whole, it was found at a high level ($\bar{x}$ =4.41, S.D.= 0.59). This implied that the developed information system had a good efficiency on the basis of safety.

Results of the efficiency assessment of the developed information system as discussed by the researcher can be applied t the diagnosis of dengue under the effective decision-making which is dependent on various basic factors related t the occurrence of the disease. Besides, it can be responsive to needs of the user. Importantly, this study is successful and can achieve the goals.

Suggestions

1. General suggestions

According to results of the study, as a whole, it was found that the developed information system was at a high level. However, some parts of it were complicated in using, making inconvenience for the user in terms of the following:

1.1 The data filling form of results of ht inspection on the LAB should be reduced in terms of some data due to too much necessity in the diagnosis and convenience in the system using.

1.2 Regarding the development of the information system and improvement of weaknesses the developed information system should be disseminated to health agencies which will be beneficial to patient screening very much.

1.3 Basic data of the information system should have data reference sources to add trustworthiness of the data.

1.4 Patient data retrieval should add the name and surname of patients for convenient information system using.

1.5 It should add the plan on medical treatment in details

2. Suggestions for further researches

2.1 It should have an investigation on the application of decision tree technique to the development of the system of other diseases diagnoses such as 2009 a cold with fever and malaria.

2.2 It should have the investigation on the application of decision tree technique and the screening of dengue from the cold with fever and other fevers as well as the diversity of patient screening.

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Productivity and Socioeconomic Development in Cambodia

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Abstract

Cambodian economy has enjoyed a robust growth over the past decade, except in 2009 during which growth rate turned to negative. The average annual real gross domestic product (GDP) growth rate from 1994 to 2010 was approximately 7.7 percent while it is -1.8 percent in 2009. This paper examines the factors that can affect labor productivity and total factor productivity for Cambodian economy over the period of high growth. For labor productivity, we find that share of export in GDP and share of FDI in GDP are the two main factors that have significant positive impact on labor productivity growth. If export/GDP increases by 1% then labor productivity can grow approximately 16%. Similarly, when FDI/GDP increased by 1%, labor productivity will grow between 5% and 8%. GDP per capita, population, life expectancy, and budget surplus/GDP also have significant positive effects on labor productivity growth. The stock of human capital for which we use average schooling year as a proxy and expenditure on health seem to have positive effects on labor productivity growth, although the result is not statistically significant. For TFP growth, in our regression analysis, we find that stock of human capital, FDI/GDP, and Health Expenditure/GDP have positive impacts on TFP growth rate. We also find that government budget surplus can significantly affect TFP growth. When budget surplus/GDP increases by 1%, TFP can increase by 1.2%. We conclude that although the average annual real Gross Domestic Product (GDP) growth rate from 1994 to 2010 was very high compared to other countries in the region, the high growth rate was largely driven by capital and labor accumulation. The contribution of total factor productivity, which is important for long-run sustainable growth, is still low. In our regression analysis, we find that share of export in GDP and share of FDI in GDP are the two main factors that have significant positive impact on labor productivity growth. Furthermore, we also find that stock of human capital, FDI/GDP, and Health Expenditure/GDP have positive impacts on TFP growth rate. Government budget surplus can also significantly affect TFP growth.

References

Introduction

Cambodian economy has enjoyed a robust growth over the past decade, except in 2009 during which growth rate turned to negative. The average annual real gross domestic product (GDP) growth rate from 1994 to 2010 was approximately 7.7 percent while it is -1.8 percent in 2009. After the global economic crisis that hard hit Cambodia economy in 2009, particularly export sector, tourism and construction, the economy has recovered with strong momentum. In 2010, the growth rate was 5.9 percent and was predicted to be 7 percent by the government in 2011. In 2011, the export industry was expected to grow by 14 percent, the service sector could grow by 4.9 percent, and agriculture was expected to expand by 1.4 percent. However, the influence

of economic growth on rural poverty is limited by landlessness, reduced accesses to common property resources and low stock of productivity-enhancing infrastructure.

According to poverty assessment 2006, the poverty rate was reduced from 47 percent to 30.1 percent between 1993/4 and 2007. About 91 percent of the poor are in rural areas and a substantial number of them have no access to land for cultivation. The poor have virtually no access to modern energy sources and water and sanitation. Many studies have emphasized the importance of agriculture development and poverty. According to World Development Report 2008, for the poorest people, GDP growth originating in agriculture is about four times more effective in reducing poverty than GDP growth originating outside the sector[1]. However, in Cambodia, there is underinvestment in the sector, especially in agribusiness which accounted for about only 4 percent of GDP in the recent year despite agribusiness is very important to move up the value chain into processing activities to absorb more abundant labor from rural areas with more than 80 percent of the total population.

Since the first general election in 1993, Cambodian economy has increasingly integrated with the world economy. Cambodia became a member of WTO in 2004 and a member of ASEAN in 1999. Asean Free Trade Area (AFTA), which was supposed to be realized in 2015, give Cambodia more challenge to compete in the world of more competitive and free markets. Raising productivity is crucial for Cambodian economy to survive in the new globalized environment. Productivity has played a major role in modern economic growth. Productivity is one of the main factors of income differences across countries

Productivity Dynamics of the 50 years in Cambodia

So far research on productivity in Cambodia has beenrare. Some researches were about productivity in the garment sector and in agriculture sector, which are two main sectors which supported Cambodian economic growth over the past decade

The Data

The net inflow of foreign direct investment as a percentage of GDP (100*FDI/GDP), GDP per capita at constant price 2000 (GDPPERCAPITA), are taken from World Bank databank. Education attainment is from BL by interpolation every 5 years (EDU). Labor productivity growth (labor) is calculated as the annual change in GDP/labor force, using data from World Bank databank.Import/GDP (IM/GDP), Export/GDP (EX/GDP), population (POPULATION), life expectancy (LIFEEXPECTANCY)are taken from World Bank databank.

[1] Press Release No:2008/080/DEC:World Bank Calls for Renewed Emphasis on Agriculture for Development, for World Development Report 2008

Public health expenditure as a percentage of GDP (100*HEALTH/GDP), public spending on education as a percentage of GDP (100*EDUEX/GDP), budget surplus as a percentage of GDP (100*BUDGETSURPLUS/GDP) are from ADB's country table.

Labor Productivity growth and TFP growth

The following methods are used to compute the growth accounting. Since data on capital stock is not available, we assume that the capital stock is equivalent to the gross fixed capital formation (I) divided by the long run growth rate of GDPplus depreciation rate of capital stock (δ). The depreciation rate is assumed to be 13.5 percent. Then capital stock at time t can be calculated as $K_t = I_t/(g + \delta)$ (Easterly and Levine 2001). The annual average growth rate of real GDP is about 7.7 percent over 1994-2010 periods. Assuming that production function is constant return to scale and takes the form of Coob Douglas with fixed capital share α=0.3, then we can calculate the growth rate of TFP as TFP = ΔY/Y- (1-α)ΔL/L-α ΔK/K .

Table 1:Growth Accounting result for Cambodian economy 1994-2009 (capital share = 0.3)

Period	GDP Growth	Capital Growth	Labor Growth	TFP Growth	Share contributed by		
					TFP	Capital	Labor
1994-1995	7.80%	23.86%	2.08%	-0.84%	-10.80%	92.10%	18.70%
1996-2000	7.30%	12.37%	4.11%	0.75%	10.20%	50.50%	39.20%
2001-2005	9.40%	12.21%	3.24%	3.44%	36.70%	39.10%	24.20%
2006-2009	6.50%	13.27%	2.41%	0.78%	12.20%	61.70%	26.10%
1994-2009	7.80%	1.81%	0.41%	0.18%	17.90%	53.70%	28.30%

Growth accounting shows that Cambodian economic growth over the 1994-2009 period was largely driven by factor accumulation. Capital and labor accumulations contributed about 82 percent to growth while productivity contributed only about 18 percent over the period. Of the annual average GDP growth rate of 7.8 percent for 1994-2009 periods, 4.2 percent is attributed to increasing in capital stock, 2.2 percent to increase in employment, and 1.4 percent to increase in total factor productivity (TFP). In other words, 53.7 percent of the growth rate is due to increase in capital stock, 28.3 percent of employment, and only 17.9 percent to productivity improvement(Table1). TFP growth rate highly fluctuated over the 1994-2002 period. It reached nearly 8 percent in 1994, but decreased to -10 percent in 2005. However, the growth rate seemed to be stable over the 2003-2008 period, which is around 5 percent (Figure 1).

The large increase in the contribution of labor to TFP, particularly from 1996 to 2000, may result from the increasing movement of women workers from low productive agriculture sector to more productive garment sector during the initial development stage of the garment sector in the country. Garments came first in the 1990s (1994), as foreign investors were attracted to available export quotas. The sector makeup about 80 percent of total exports and represents nearly 15 percent of GDP. By 2000 the industry employed more than 100,000 workers, by 2005 about 250,000 workers. It now employs more than 350,000. The overwhelming majority of

garment workers, more than 90 percent, are women. And most of them are from rural, low productive rural areas.

The contribution of TFP is not far different from some countries in East Asia over the period 1966-1990, during which contribution of TFP for Taiwan and South Korea are 20 percent and 12 percent respectively. The contribution is much lower than OECD countries over the same 1966-1990 period (Easterly and Levine 2001).

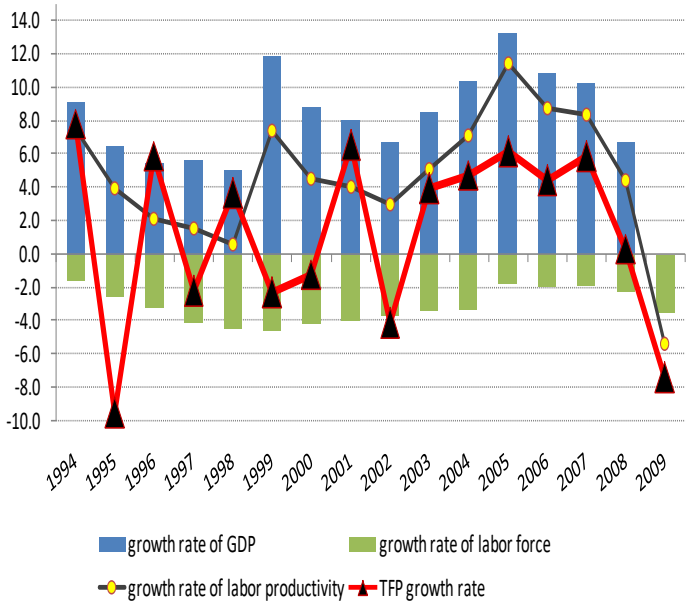


Figure 1: TFP Growth Rate and Labor Productivity Growth Rate

Over 1994-2009 period, with remarkable GDP growth and moderate labor force growth, which were 7.8 percent and 3.2 percent, respectively; the annual growth rate of labor productivity was on average 4.6 percent.

From 1994 to 1998, the growth rate was decelerating due to continued decrease in the growth rate of GDP and continued increase in the growth rate of the labor force in the economy (Figure 1). But labor productivity growth jumped from 0.6 percent in 1998 to 7.4 percent in 1999 due to the remarkable GDP growth in 1999. From 1999 to 2002, labor productivity growth continued to decrease again, mainly resulting from the large decrease in the GDP growth rate coupled with the slight decrease in labor force growth rate. Labor productivity growth continued to increase again over 2002-2005 periods because of the decrease in labor force growth and the large increase in GDP growth, which reached its peak of 13.3 percent in 2005. But from 2005 to 2009, labor productivity growth was decelerating as GDP growth was slowing down while labor force growth was moderate.

Factors and Government Policies Influencing Productivity Changes

Labor productivity

The first model to estimate the factors can affect labor productivity growth is obtained by regressing labor productivity growth (labor) upon variables in Table 2. The share of export in GDP and share of FDI in GDP are two main factors that have significant positive impacts on labor productivity growth. If export/GDP increases by 1% then labor productivity can grow approximately 16 percent in Model1. Similarly, when FDI/GDP increased by 1%, labor productivity will grow between 5 percent and 8 percent as indicated in Model1 to Model6 in Table 2. GDP per capita, Population, life expectancy and budget surplus/GDP also significantly have positive effects on labor productivity. The stock of human capital for which we use average schooling year as a proxy and expenditure on health seem to have positive effects on labor productivity, although the result is not statistically significant.

Table 2: Factors affecting Growth Rate of Labor Productivity

	Model1	Model2	Model3	Model4	Model5	Model6
	Coef	Coef	Coef	Coef	Coef	Coef
Const.	2.55 (1.51)	2.73 (1.42)	-40.10* (-2.16)	-577.49** (-2.84)	-259.03* (-2.06)	5.66** (3.12)
Dln(EDU)	176.34 (0.76)	151.29 (0.57)	297.43 (1.51)	327.04 (1.81)	312.74 (1.50)	99.40 (0.54)
Dln(100*EX/GDP)	16.35* (1.91)	12.51 (0.69)	23.97** (3.08)	24.81*** (3.52)	25.93** (3.00)	9.86 (1.36)
Dln(100*FDI/GDP)	5.59* (2.11)	5.09 (1.47)	7.32** (3.18)	8.13*** (3.75)	7.80** (3.12)	5.36** (2.56)
Dln(100*HEALTH/GDP)	3.70 (0.67)	3.63 (0.62)	3.75 (0.83)	3.52 (0.86)	4.51 (0.95)	2.31 (0.53)
Dln(100*EDUEX/GDP)	-6.14 (-0.61)	-7.37 (-0.63)	-3.47 (-0.42)	-3.41 (-0.45)	-4.15 (-0.48)	-2.54 (-0.31)
Dln(100*IM/GDP)		6.68 (0.25)				
ln(GDPPERCAPITA)			7.12* (2.31)			
ln(POPULATION)				35.38** (-2.84)		
ln(LIFEEXPECTANCY)					63.93* (2.08)	
100*BUDGETSURPLUS/GDP						0.95** (2.53)
Number of obs	15.00	15.00	15.00	15.00	15.00	15.00
F-statistics	1.35	1.01	2.54	3.37	2.26	2.86
Prob> F	0.33	0.48	0.11	0.06	0.14	0.09
R-squared	0.43	0.43	0.66	0.72	0.63	0.68
Adj R-squared	0.11	0.01	0.40	0.50	0.35	0.44

Note: *, **, *** denote significant at the 10%, 5%, 1% levels respectively.Dependent variable is Growth Rate of Labor Productivity

[Description of variables]

- EDU :Total schooling interpolated (unit: schooling year)
- EX/GDP :Export/GDP
- FDI/GDP :Foreign Direct Investment/ GDP
- HEALTH/GDP :Health Expenditure/GDP
- EDUEX/GDP :Education Expenditure/GDP
- IM/GDP :Import/GDP
- GDPPERCAPITA :GDP per Capita (Unit: USDollar)
- POPULATION :Total Population(Unit: person)
- LIFEEXPECTANCY :Life Expectancy (Unit: year)
- BUDGETSURPLUS/GDP :(Government Revenue – Government Expenditure)/GDP
- D(x) :difference $x_t - x_{t-1}$
- ln(x) :natural logarithm of x

TFP growth

According to the result of our regression analysis in Table 3, stock of human capital, FDI/GDP, and Health Expenditure/GDP have positive impacts on TFP growth rate. We also find that government budget surplus can significantly affect TFP growth. When budget surplus/GDP increases by 1 %, TFP can be increased by 1.2 percent.

Table 3: Factors affecting TFP Growth

	Model1	Model2	Model3	Model4	Model5	Model6
	Coef.	Coef.	Coef.	Coef.	Coef.	Coef.
Const	0.786 (0.36)	0.35 (0.14)	-14.01 (-0.46)	-347.32 (-0.98)	-51.72 (-0.26)	4.82* (2.04)
Dln(EDU)	200.1 (0.66)	261.26 (0.77)	242.09 (0.74)	290.53 (0.92)	227.47 (0.68)	100.19 (0.41)
Dln(100*EX/GDP)	-6.347 (-0.57)	3.04 (0.13)	-3.70 (-0.29)	-1.27 (-0.1)	-4.42 (-0.32)	-14.78 (-1.56)
Dln(100*FDI/GDP)	2.517 (0.73)	3.74 (0.84)	3.12 (0.82)	4.04 (1.07)	2.96 (0.74)	2.22 (0.81)
Dln(100*HEALTH/GDP)	5.74 (0.8)	5.91 (0.79)	5.76 (0.77)	5.64 (0.78)	5.90 (0.78)	3.94 (0.69)
Dln(100*EDUEX/GDP)	-19.64 (-1.5)	-16.63 (-1.1)	-18.71 (-1.36)	-18.00 (-1.36)	-19.24 (-1.38)	-14.96 (-1.42)
Dln(100*IM/GDP)		-16.30 (-0.47)				
ln(GDPPERCAPITA)			2.47 (0.48)			
ln(POPULATION)				21.23 (0.98)		

ln(LIFEEXPECTANCY)					12.83 (0.26)	
100*BUDGETSURPLUS/GDP						1.23* (2.52)
Number of obs	15.00	15.00	15.00	15.00	15.00	15.00
F-statistics	1.32	1.04	1.04	1.25	1.00	2.81
Prob> F	0.34	0.47	0.46	0.37	0.49	0.09
R-squared	0.42	0.44	0.44	0.48	0.43	0.68
Adj R-squared	0.10	0.02	0.02	0.10	0.00	0.44

Note: *, **, *** denote significant at the 10%, 5%, 1% levels respectively.Dependent variable is Growth Rate of TFP

Government Policies and Productivity

Cambodian economy was a planned economy in the 1980s. But like many other countries, Cambodia has transformed her economy from a planned economy to a market-oriented one as outlined in Cambodian constitution. A series of important development strategic documents have been published and implemented by the government. The most important strategic documents include the Rectangular Strategy, the Cambodian Millennium Development Goals (CMDG) 2003, the Socio-Economic Development Plan (SEDP-II) 2001-2005, the National Poverty Reduction Strategy (NPRS) 2003-2005, and Cambodia's National Strategic development plan 2006-2010, which has been recently updated to 2009-2013 (NSDP). While the overall aim of NSDP is to reduce poverty and implement the government's government's rectangular strategy, some productivity improvement strategies in some sectors of the economy have been outlined in NSDP. National Strategy for Agriculture and Water (SAW) 2006-2010 has a primary goal of " enhancing ***agriculture productivity*** and diversification and improving water resources development and management."

Promotion of private sector as the main engine of economic growth has been the cornerstone of RGC's economic policy from inception and is reiterated in the Rectangular Strategy. The Cambodia Investment Board (CIB) of the Council for the Development of Cambodia (CDC) acts as the focal point to attract and clear private investments in Cambodia. In Chapter 5 of the Law on Investment of Cambodia promulgated in 1994 and Chapter 5 of the Law on Amendment to the Law on Investment, the government provides incentives, which include the exemption, in whole or in part, of duties and taxes, to Qualified Investment Projects (QIP) to encourage investment in the country. To attract FDI, special economic zone scheme, which was introduced in the country in 2005, have been developed. The law on the special economic zone was drafted and now is under the examination of the government. The number of licensed SEZs is 21 but of which 6 have been actively developed. (The Phnom Penh Post)

Conclusion

Cambodian economy has enjoyed a robust growth over the past decade, except in 2009 during which growth rate turned to negative. The average annual real gross domestic product (GDP)

growth rate from 1994 to 2010 was approximately 7.7 percent while it is -1.8 percent in 2009. This paper examines the factors that can affect labor productivity and total factor productivity for Cambodian economy over the period of high growth. For labor productivity, we find that share of export in GDP and share of FDI in GDP are the two main factors that have significant positive impact on labor productivity growth. If export/GDP increases by 1% then labor productivity can grow approximately 16%. Similarly, when FDI/GDP increased by 1%, labor productivity will grow between 5% and 8%. GDP per capita, population, life expectancy, and budget surplus/GDP also have significant positive effects on labor productivity growth. The stock of human capital for which we use average schooling year as a proxy and expenditure on health seem to have positive effects on labor productivity growth, although the result is not statistically significant. For TFP growth, in our regression analysis, we find that stock of human capital, FDI/GDP, and Health Expenditure/GDP have positive impacts on TFP growth rate. We also find that government budget surplus can significantly affect TFP growth. When budget surplus/GDP increases by 1%, TFP can increase by 1.2%. We conclude that although the average annual real Gross Domestic Product (GDP) growth rate from 1994 to 2010 was very high compared to other countries in the region, the high growth rate was largely driven by capital and labor accumulation. The contribution of total factor productivity, which is important for long-run sustainable growth, is still low. In our regression analysis, we find that share of export in GDP and share of FDI in GDP are the two main factors that have significant positive impact on labor productivity growth. Furthermore, we also find that stock of human capital, FDI/GDP, and Health Expenditure/GDP have positive impacts on TFP growth rate. Government budget surplus can also significantly affect TFP growth. Export, FDI, and human capital should be extensively promoted to raise productivity in Cambodian economy.

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Health-Related Internet Use, Health Information Literacy and E-health Literacy Among the Students in Nursing Colleges Under Jurisdiction of The Praboromarajchanok Institute (PBRI) Who Had and Did Not Have Practicum Experiences[1]

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Abstract

The study aimed to compare self-reported health-related internet use, self-reported health information literacy and eHealth literacy of the nursing students with different practicum experiences. An online questionnaire was used to collect data from 3347 nursing students enrolling in the Nursing Colleges under the jurisdiction of the Praboromarajchanok Institute, Ministry of Public Health. Frequency distribution, percentage, mean and standard deviation, were used to describe the data, and Welch tests and Dunnett T3 were used to comparing the differences of health information literacy and eHealth literacy among the nursing students who had and didn't have practicum experiences. It was found that:

1) The samples had a moderate level of health-related Internet use. Those who had practicum experiences had a high level of use of the internet to search for information about diseases and treatment at a high level (mean=3.62, SD=0.555, and mean=3.58, SD=0.605), respectively. Respondents without practicum experiences had a lower level of health-related Internet use.
2) The samples had a moderate level of health information literacy, among the sub-literacies; the all group of the samples had a high level of health literacy. Those with practicum experiences in the patients' ward and the community had a highest mean score (mean=3.52, SD=0.76).

[1] This research collaboration project of the Nursing Colleges in the Central Region 2 Network was funded by the Boromarajonani College of Nursing Saraburi.

3) All group of the samples had a high level of eHealth literacy except the respondents who had experiences in patients' ward, and the community had eHealth literacy at the highest level (mean=4.27, SD=0.50).
4) It was found that the samples which had different practicum experiences had statistical different mean scores on health information literacy and eHealth literacy at significance level $p<.05$.

Keywords: Health-related internet use. Health Information Literacy, eHealth literacy, Thai nursing students,

Introduction

Fasting development of technology link people together and information are closer to people. This linkage provided a lot of information. This left a person with the question of what information was appropriate or useful to a person, in particular, the nurse student who learn to take care of sick person. Their knowledge needed to be appropriated for their unique patient sickness. As nurse colleges were a responsibility to facilitate their nurse students, it is the nurse teacher to aware of the channel of social media track of outside knowledge.

Nursing students had internet literacy at the medium level and majority of them had not enough skills for information judgment for information used in nursing career (Stellefson et al., 2015). In Thailand, nurse student from Nursing Colleges under the jurisdiction of the Praboromarajchanok Institute, Ministry of Public Health, one of a nursing college found that the nurse students had computer and technology and communication skills at a good level (Turner et al, 2015). While the social media was access to nurse student such as face book, this social media would lead to personal information shared and misled of information. There was limited study among this group of nurse students. This group, in the future, would take care of the patient in the community all over Thailand. Thus, it is important to find the basic of internet literacy in order to use information to prepare these future nurses at the level of college to facilitate the benefit use of internet and avoid any disadvantages.

Research Objectives

The research aimed to:

1) Determine the level of self-reported health-related Internet use of the students in the nursing colleges under the jurisdiction of the Praboromarajchanok Institute (PBRI).
2) Determine the level of self-reported health information literacy of the students in the nursing colleges under the jurisdiction of the Praboromarajchanok Institute (PBRI).
3) Determine the level of self-reported eHealth literacy of the students in the nursing colleges under jurisdiction of the Praboromarajchanok Institute (PBRI)
4) Compare the differences in levels of health-related Internet use, health information literacy, and eHealth literacy among the nursing students who had and did not have practicum experiences.

Related Literature and Research Framework

Nursing students had internet literacy at the medium level and majority of them had not enough skills for information judgment for information used in nursing career (Stellefson et al., 2015). In Thailand, nurse student from Nursing Colleges under the jurisdiction of the

Praboromarajchanok Institute, Ministry of Public Health, one of a nursing college found that the nurse students had computer and technology and communication skills at a good level (Turner et al., 2015). While the social media was access to nurse student such as Facebook, this social media shared information in term of extension with trusting to friends who might not know. Moreover, some information was open to the public. The nurse students would need to wisely select the information for feasible to the client. To create effective learning, basic information was essential to provide support to such nurse student, led to personal information shared and misled of information. Nonetheless, there was limited study among this group of nurse students. This group, in the future, would take care of the patient in the community all over Thailand. It is important to find the basic of internet literacy in order to use information to prepare these future nurses at the level of college to facilitate the benefit use of internet and avoid any disadvantages. The health profession itself must know the information technologies as they were with the patients who also in the same era of information technology and can easily search for knowledge by just click, and in order to find feasible knowledge and updated new technology and innovation of health equipment and research (Soothiboriban, Techataweewan, & Prapinpongsakorn, 2011). Moreover, internet skill was essential to support the student to learn in 21 Century, which shared heavily with people outside their colleges, or even outside their countries. Among the group of nurse students of Praboromarajchanok Institute, Ministry of Public Health, they use Facebook, line, intranet, and television for relax, recreation, revised their lessons, report written, and did homework for 1-2 hours per day and most of them connect the internet through mobile phone (Kheokao et al., 2015). Some related factors to ehealth literacy were a level of education, internet skill, the perception of internet useful and the recognition of internet (Tubaishat and Habiballah, 2016). The information of nurse student would provide the pave way to updated current situation for nursing college of Praboromarajchanok Institute.

Methodology

Population and Samples

The population in this study comprised of 8870 nursing students who enrolled in the nursing colleges under the jurisdiction of the Praboromarajchanok Institute in the academic year 2015 (Praboromarajanok, 2015). The sample size calculation based on Taro Yamane'stable (Yamane 1973) with reliability 99% and error ±3%, yield minimum required sample size of 2247. However, since there was more student volunteer than the calculate sample size, which was 3347 samples during April to May 2015.

The population in this study comprised of nursing students who enrolled in the nursing colleges under jurisdiction of the Praboromarajchanok Institute in the academic year 2015

Measurement

An online questionnaire was used to collect data on personal data, health information literacy and eHealth literacy of the samples. The measurements included:

1) The level of health-related Internet use.

This variable was to measure the content of health information searched from the internet by asking the respondent to response to the question: Have you ever searched for information on the following contents? Respondent has 4 options to answer: regularly, occasionally, rarely

and never. The level of content searched was categorized into 3 groups: low (1.00-1.33), moderate (1.34-2.66), and high (2.67-4.00), with Cronbach's alpha reliability at.855.

2) Level of Health information literacy.

This variable measured the health information evaluative skill of the respondents. The Health Information National Trends Survey (Chew 2015) was modified to determine 5 elements of this literacy which comprised of 1) basic literacy, 2) science literacy, 3) media literacy, 4) information literacy and 5) health literacy.

The basic literacy, the science literacy and the media literacy scales had 4 response's options, scored on a 4-point scale ranging from strongly agree, agree, disagree and strongly disagree. The score was categorized into 5 levels: lowest (LL-1.00-1.60), low (L-1.61-2.20), moderate (M-2.21-2.80)' high (H-2.81-3.40), and highest (HH-3,41-4.00).

The Information literacy and Health literacy scales used a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The score was categorized into 5 levels: Lowest (1.00-1.80), low (1.81-2.60), moderated (2.61-3.40), high (3.41-4.20), highest (4.21-5.00).

3) Level of eHealth Literacy.

In this study, this literacy was measured using the eHealth Literacy Scale (eHEALS) which was developed by Norman & Skinner (2006) to determine students' combined knowledge, confidence, and perceived skills finding, evaluating, and applying electronic health information to health problems.

The measure consisted of 8-items scored on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The English version of an instrument was translated and back in order to validate the test item.

Data Collection and Analysis

The online questionnaire was used to collect data from nursing students. The researchers asked for collaboration from the nursing colleges to inform the students in their school to voluntarily answer the questionnaire online. The total number of 3,347 students answered the questionnaire. All questionnaires were used in this analysis. Frequency distribution, percentage, mean, and standard deviation were used to describe the data. Cross tabulation, T-test, One-way ANOVA, and Post Hoc Test were used to determine differences in the level of health-related Internet use, level of health information literacy, and levels of eHealth literacy among the students with different practicum experiences. The respondents were group into 4 groups, those who have experience in both the patient ward and in the community. The results were present in table with an explanation.

Ethic Consideration

This paper was applied through an ethic committee of research at Boromarajonani College of nursing, Saraburi. The IRB number was EC 1-002/2559.

Results

Respondents' Profile

The nursing student was studying at bachelor of nursing program. Majority of the samples which were 3,126 (93.4%) female of respondents, 1,020 (30.45%) were studied in the first year, 814 (24.3%), aged at 19 years old, 2,344 (70.0%) student had practicum experiences in patients' ward and 2,426 (72.5%) had practicum experiences in the community.

Level of health-related Internet use

This variable was a focus to measure the content of health information searched from the internet by asking the respondent to response to the question: Have you ever searched for information on the following contents? Respondent has 4 options to answer: regularly, occasionally, rarely and never. The level of content searched was categorized into 3 groups: low (1.00-1.33), moderate (1.34-2.66), and high (2.67-4.00), with Cronbach's alpha reliability at.855.

There were 8 main topics which can divide into two big groups: information related to their nursing career and peer support. The information related to nursing career were: 1. Diseases, 2. A healthy lifestyle, 3. Medication, 4. Treatments, 5. Care providers, 6. Patient organizations, 7. Law regulations related to health conditions. The Peer-support forums were any social media that they use to connect to friends both within and outside colleges.

The samples had a moderate level of health-related Internet use. Those who had practicum experiences had a high level of use of the internet to search for information about diseases and treatment at a high level (mean=3.62, SD=0.555 and mean=3.58, SD=0.605), respectively. Respondents without practicum experiences had a lower level of health-related Internet use.

Details were in Table 1.

Table 1 Level of health-related Internet use of the samples with different practicum experiences according to types of content

Types of health content searched	Had practicum experiences in patient ward and community(n=2177)			Had practicum experiences in patient ward only (n=167)			Had practicum experiences in community only (n=249)			No practicum experiences (n=754)			Total (n=3347)		
	X	SD	Level	X	SD	Level	X	SD	Level	X	SD	level	x	SD	‘level
1. Diseases	3.62	0.555	H	3.44	0.607	H	3.15	0.661	M	3.02	0.644	M	3.44	0.641	H
2. Healthy lifestyle	3.26	0.625	M	3.13	0.613	M	3.18	0.629	M	3.01	0.665	M	3.19	0.642	M
3. Medication	3.55	0.605	H	3.37	0.690	M	3.06	0.696	M	2.86	0.721	M	3.35	0.709	M
4. Treatments	3.58	0.582	H	3.43	0.635	H	3.15	0.677	M	2.99	0.683	M	3.41	0.665	H
5. Care providers	3.28	0.659	M	3.14	0.693	M	2.96	0.698	M	2.71	0.705	M	3.12	0.713	M
6. Patient organizations	2.85	0.785	M	2.65	0.851	M	2.53	0.773	L	2.26	0.761	L	2.68	0.820	M
7. Law regulations related to health conditions	2.93	0.735	M	2.80	0.746	M	2.59	0.762	L	2.34	0.770	L	2.77	0.786	M
8. Peer-support forums	2.91	0.857	M	2.79	0.863	M	2.75	0.891	M	2.50	0.853	L	2.80	0.874	M
Total	3.25	0.437	M	3.09	0.486	M	2.92	0.499	M	2.71	0.489	M	3.09	0.508	M

*Lowest (LL)=1.00-1.80, Low (L)= 1.81-2.60, Moderate (M)= 2.61-3.40, High (H)=3.41-4.20, Highest (HH) = 4.20-5.00

Level of Health Information Literacy

This variable measured the health information evaluative skill of the respondents. The Health Information National Trends Survey (Chew 2015) was modified to determine 5 elements of this literacy which comprised of 1) basic literacy, 2) science literacy, 3) media literacy, 4) information literacy and 5) health literacy.

The basic literacy, the science literacy and the media literacy scales had 4 response's options, scored on a 4-point scale ranging from strongly agree, agree, disagree and strongly disagree. The score was categorized into 5 levels: lowest (LL-1.00-1.60), low (L-1.61-2.20), moderate (M-2.21-2.80)' high (H-2.81-3.40), and highest (HH-3,41-4.00).

The Information Literacy and Health literacy scales used a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The score was categorized into 5 levels: Lowest (1.00-1.80), low (1.81-2.60), moderated (2.61-3.40), high (3.41-4.20), highest (4.21-5.00).

The samples had a moderate level of health information literacy, among the sub-literacies; the all group of the samples had a high level of health literacy. Those with practicum experiences in the patients' ward and the community had the highest mean score (mean=3.52, SD=0.76) as shown in table 2.

Table 2 Level of Health information literacy of the samples with different practicum experiences

Health information literacy	Had practicum experiences in patient ward and community(n=2177)			Had practicum experiences in patient ward only(n=167)			Had practicum experiences in community only (n=249)			No practicum experiences (n=754)			Total (n=3347)		
	X	**SD**	**Level**	**X**	**SD**	**Level**	**X**	**SD**	**Level**	**X**	**SD**	**Level**	**X**	**SD**	**Level**
Basic literacy*	2.78	0.58	M	2.88	0.54	H	2.77	0.51	M	2.70	0.46	M	2.77	0.55	M
1) You felt frustrated during your search for the information.	2.87	0.66	H	3.00	0.62	H	2.87	0.59	H	2.77	0.53	M	2.86	0.63	H
2) The information you found was hard to understand.	2.67	0.72	M	2.79	0.70	M	2.63	0.64	M	2.57	0.61	M	2.65	0.69	M
Science literacy. *	2.80	0.70	M	2.86	0.60	H	2.80	0.66	M	2.75	0.62	M	2.79	0.68	M
Media Literacy*	2.63	0.72	M	2.64	0.72	M	2.72	0.67	M	2.79	0.61	M	2.68	0.70	M
1) Newspapers or magazines	2.70	0.85	M	2.71	0.79	M	2.80	0.78	M	2.87	0.72	H	2.74	0.82	M
2) Radio	2.53	0.76	M	2.54	0.76	M	2.59	0.74	M	2.67	0.67	M	2.57	0.74	M
3) Television	2.68	0.83	M	2.67	0.85	M	2.76	0.79	M	2.83	0.75	H	2.72	0.82	M
Information literacy**	3.28	0.66	M	3.17	0.64	M	3.24	0.64	M	3.25	0.58	M	3.27	0.64	M
Health literacy.**	3.52	0.76	H	3.44	0.77	H	3.41	0.73	H	3.42	0.67	H	3.48	0.74	H

* Basic literacy, Science literacy and media literacy scales: lowest (LL-1.00-1.60), low (L-1.61-2.20), moderate (M-2.21-2.80)'high (H-2. 81-3.40), and highest (HH-3,41-4.00)

**Information literacy and Health literacy scales: Lowest (1.00-1.80), low (1.81-2.60) moderated (2.61-3.40)high (3.41-4.20)highest(4.21-5.00)

Level of eHealth literacy

All group of the samples had a high level of eHealth literacy except the respondents who had experiences in patients' ward and community had eHealth literacy at the highest level (mean=4.27, SD=0.50). Details were in Table 3.

Table 3 Level of eHealth Literacy according to practicum experiences of the respondents

eHealth Literacy	Had practicum experiences in patient ward and community (n=2177)			Had practicum experiences in patient ward only (n=167)			Had practicum experiences in community only (n=249)			No practicum experiences (n=754)			Total (n=3347)		
	X	SD	Level	X	SD	Level	X	SD	Level	X	SD	level	X	SD	level
1: I know what health resources are available on the **Internet**	4.36	0.62	HH	4.15	0.68	H	4.25	0.71	HH	3.89	0.82	H	4.23	0.70	HH
2: I know where to find helpful health resources on the **Internet**	4.42	0.61	HH	4.24	0.65	HH	4.34	0.68	HH	4.04	0.77	H	4.32	0.67	HH
3: I know how to find helpful health resources on the **Internet**	4.21	0.67	HH	3.98	0.72	H	4.02	0.74	H	3.67	0.78	H	4.06	0.74	H
4: I know how to use the **Internet** to answer my health questions	4.28	0.64	HH	4.02	0.73	H	4.03	0.73	H	3.72	0.78	H	4.12	0.72	H
5: I know how to use the health information I find on the **Internet** to help me	4.36	0.61	HH	4.13	0.61	H	4.27	0.71	HH	3.98	0.72	H	4.26	0.66	HH
6: I have the skills I need to evaluate the health resources I find on the **Internet**	4.19	0.65	H	3.96	0.65	H	3.88	0.74	H	3.58	0.75	H	4.02	0.73	H
7: I can tell high-quality from low-quality health resources on the **Internet**	4.19	0.67	H	4.02	0.74	H	3.87	0.72	H	3.61	0.81	H	4.03	0.75	H
8: I feel confident in using information from the **Internet** to make health decisions	4.14	0.67	H	3.93	0.65	H	3.93	0.71	H	3.67	0.78	H	4.01	0.73	H
Total	4.27	0.50	HH	4.06	0.54	H	4.07	0.57	H	3.77	0.62	H	4.13	0.58	H

*Lowest (LL)=1.00-1.80, Low (L)= 1.81-2.60, Moderate (M)= 2.61-3.40, High (H)=3.41-4.20, Highest (HH) = 4.20-5.00

Comparison of Literacies of the students with different practicum experiences

1) Comparison of health-related Internet use

It was found that the samples which had different practicum experiences had statistical different mean scores on health information literacy and eHealth literacy at significance level $p<.05$. The topic of diseases and treatment were at a high level for both the experience in the ward and community and the ward only. For the topic of health life style was at the same at a medium level for both the experience in the ward and community and the ward only. However, for the medication, the experience in the ward and community reported higher than the ward only experience. For the group of had only community experiences considered disease and treatment at a high level compared to the medium level of the community experience only. Moreover, the group of had only community experiences search patient organizations and law regulations related to health conditions at a medium level compared to the low level of the community experience only. Both the experiences of ward and community were using peer support more than those without experiences (medium level compared to low level) as shown in Table 1.

2) Comparison of health information literacy

The experience was not related to health literacy and information literacy. But nurse career experiences were related to basic, Science, and media literacy. Basic literacy (you felt frustrated during your search for the information, 2) The information you found was hard to understand.), among the experience was higher than the no experience group (a high level compared a medium level). The Science literacy was higher among the ward and higher than the community only and no experience. In contrast the no experience had a higher level of the media literacy, information literacy and health literacy than those who three group of having experience as shown in Table 2.

3) Comparison of eHealth literacy

The eHealth literacy was positive related to having practicum experiences. The more the field of practicum experience, the higher the level of eHealth literacy. The levels of eHealth literacy were all at a high and higher level. The five focus of process in eHealth literacy(:1) know what health resources are available on the **Internet**, 2: I know where to find helpful health resources on the **Internet**, 3: I know how to find helpful health resources on the **Internet,** 4: I know how to use the **Internet** to answer my health questions, 5: I know how to use the health information I find on the **Internet** to help me) were higher among the two practicum experiences than both the only one practicum experience or the non-practicum experiences as shown in Table 3.

Discussion

1) The samples had a moderate level of health-related Internet use. Those who had practicum experiences had a high level of use of the internet to search for information about diseases and treatment at a high level (mean=3.62, SD=0.555 and mean=3.58,

SD=0.605), respectively. Respondents without practicum experiences had a lower level of health-related Internet use.

2) The samples had a moderate level of health information literacy, among the sub-literacies; the all group of the samples had a high level of health literacy. Those with practicum experiences in the patients' ward and the community had the highest mean score (mean=3.52, SD=0.76).
3) All group of the samples had high level of eHealth literacy except the respondents who had experiences in patients' ward and community had eHealth literacy at the highest level (mean=4.27, SD=0.50).
4) It was found that the samples which had different practicum experiences had statistical different mean scores on health information literacy and eHealth literacy at significance level $p<.05$.
5) These supports by Celot (2009) that person use skill promotes the ehealth literacy from internet search as the more practicum applied, the more internet search for new knowledge and journal writing.

Suggestions

As nurse students need more of new knowledge, research on the link of Health literacy and media use would advantage the support of learning in the Nursing Colleges under the jurisdiction of the Praboromarajchanok Institute, Ministry of Public Health.

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Problems and Needs of Health Service System for Aging in Phetchaburi Province[1]

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Abstract

418 older persons aged 60 years or over in Phetchaburi Province were the subject chosen by means of multiple-stage sampling. The research tools included 4 focus groups and the questionnaire with open-ended questions on every topic for older persons, their relatives or care providers. The content validity was reviewed by 3 experts who also gave the relevant advice. The reliability was then tested through the experiments with 40 older persons (not from the actual sample) having similar characteristics with the sample. The reliability analysis based on Cronbach's alpha coefficients was 78.. The data were analyzed using the statistical package software. The statistical significance level of 0.05 was also determined. The descriptive statistics: frequency, mean, percentage and the standard deviation were used in the data analysis, while the qualitative data analysis was by employed in the content analysis.

Results*:* 1. Older Persons' Personal Data - most of older persons are women in the early stage of aging (aged 60-69 years). They were married and did not work. Their children provide them with financial supports, or they are the pensioned civil servants. Most of them earn less than 5,000 baht per month. Meanwhile, their main source of income was from their children's financial supports or monthly elderly allowance. They used the elderly card for health services. A majority of them lived in the extended family.

2. Health Information: most of them did not drink or smoke but were not interested in doing exercise. The high blood pressure, diabetes, and dyslipidemia were 3 most common diseases found among them. They preferred the following 3 options in the respective order: visiting nearby health facilities, seeing a doctor at a clinic and buying medications on their own.

3**. Health Service System Satisfaction** - the sample had a high level of satisfaction towards every aspect. **4. Problems of Government** Health Facilities – large hospitals were far so it is inconvenient to commute, while smaller ones had the inadequate medical equipment, poor quality of medications. **5. Needs of Health Service** – Older persons needed free elderly care and home-based elderly monitoring by health teams.

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Summary: the declining physical condition in old age was problematic for older persons; therefore, they demanded the family doctor and home-based health care. The patient referral to a larger hospital with full equipment and personnel may be required in case of critical illness. Thus, the availability of hospitals capable of accommodating critical patients in each province may enhance the confidence of older persons and their relatives.

Conclusion: In the old age, body begins to decline. There are problems with their health for follow-up. The elderly needs to be family doctors to provide their treatment at home. If the illness is in crisis, may need to be sent to a larger hospital. The availability of equipment and personnel. If there are a high potential hospital for serious patient care in each province, it makes the elderly and their relatives feel more confident.

Keywords: Problem, Need, Health Care Systems, Elderly people

Introduction

The aging society means the proportion of population aged 60 years or over is higher than 10% of total population nationwide. The age threshold of 60 years applied by the United Nations to Asian countries was also adopted in Thailand, while the age threshold of 65 years is used by the European nations. When compared to young age, longer lifespan intensifies the following problems: declining health conditions, chronic diseases, disability, daily activity restrictions and poverty[1]. Social changes are found as evidenced by the higher number of single status, older persons living alone and lower average parity. Also, the migration for occupation reduces the role of the family that has once provided the elderly care. In spite of longer lifespan and better treatment, the populations have to live longer in the midst of disability[2]. A survey reveals that 6 common diseases of Thai older persons are high blood pressure, diabetes, heart diseases, cancers, stoke and paresis/paralysis. When considering one by one, they suffer from high blood pressure (31.7%), diabetes (13.3%), heart diseases (7.0%), paresis/paralysis (2.5%), stoke (1.6%) and cancers (0.5%)[3].

The 2nd National Plan on the Elderly (2002-2021)[4] has determined the strategic framework on relevant measures, service systems, and support networks, plan for the introduction and development of social and health services, and long-term elderly care in the community for maximization of accessibility by older persons focusing on home visit and collaboration of community-based volunteers.

The population data of Phetchaburi Province, compared between 1995 and 2012, are notably changed with a higher average lifespan and gradually increased the proportion of older persons. There are 65,265 older persons in Phetchaburi Province according to a government health facility survey on 31 January 2012. They fall into 3 groups: group 1 – 55,941 older persons)85.71%) capable for self-help and social assistance provision)social bound(, group 2 – 7,556 older persons (11.58%) capable for partial self-help)home bound(and group 3 – 1,768 older persons (2.71%) are bed bound. In particular, the proportion of older persons is 14% of total

populations with the increased index of older persons[5]. When they enter the last stage of aging, their needs of supports and assistances from others will be at the highest level[1].

According to the previous studies on problems, needs and characteristics of activities organized for preparing for ageing and on factors affecting older persons' needs of social welfares, they need health, mental and emotional care, self-adaptation to family members, preparation before and during old age, self-care for present health conditions and overall preparation for final days of life. However, such studies lack the current data on health service system and older persons' needs of health care system in Phetchaburi Province. The Ministry of Public Health has established the Excellence Center for the sustainable health promotion for older persons in all provinces. In response to such policy, the author has recognized the importance in examining older persons' problems and needs of health service system in Phetchaburi Province for the preparation of quality elderly care that truly fulfills their demands. This will lead to the formulation of policy and action plan for the suitable development of long-term health service system.

Research Purposes

To examine older persons' needs and health service system problems in Phetchaburi Province

Research Methodology

This is the descriptive research collecting both quantitative and qualitative data.

Quantitative Data Collection

The questionnaire is used in gathering the quantitative data on older persons' problems and needs of health service system in Phetchaburi Province

Qualitative Data Collection

The open-ended questionnaire is used for all topics, and 4 focus groups are conducted.

Population

65,265 older persons living in Phetchaburi Province according to the Civil Registration[5] are the population. They have to fulfill the following qualifications:

1. Having 60 years of age or over (male and female)
2. Possessing a good command of Thai language
3. Having a normal perception of time, place and person
4. Being willing to participate

Randomization

1. Sample size

418 older persons) 397.28(are randomized from 65,265 older persons using Taro Yamane formula)Yamane, 1973 (at the reliability level of .95 and error level of .05.

2. Randomization Method

The multiple-stage sampling is used in choosing the data collection location and in identifying the sample size. The selection of sample is according to the following steps:

Step 1: All 8 districts of Phetchaburi Province are randomized, and Mueang Lamphun is identified as the first district. Other 3 districts are randomized in the proportion of the population.

Step 2: 1-3 sub-districts are randomized from each district (25%) in the proportion of the population. This results in a total number of 18 sub-districts.

Step 3: Each sub-district is randomized to find 1 village (25%) resulting in total 18 villages.

Step 4: A sample of 418 older persons is achieved through the randomization of 10% of all older persons in each village.

Research Tools

The author has developed a questionnaire for the older persons, their relatives or care providers in Phetchaburi Province on the basis of relevant literature review within the research's conceptual framework and purpose. It consists of 5 parts of open-ended questions and examines older persons' problems and needs of health service system.

Part 1 involves the older persons' personal data: sex, age, marital status, educational background, occupation, income, the source of income, the right to medical services, family characteristics and care providers in a time of illness.

Part 2 concerns the health and wellbeing such as alcohol consumption, drug use, exercise, general health condition, chronic diseases, hospitalized sickness, self-care in a time of minor illness, distance and mean of transportation to health facilities, and categorization of older person groups according to their health conditions.

Part 3 relates to 3 main categories of health service system used by older persons: primary, secondary and tertiary levels as well as to the convenience.

There are 3 levels of health service system satisfaction: very satisfied, moderate and low.

Part 4 concerns 3 aspects of problems of government health facilities (health promoting hospital, community hospital, general hospital and center hospital): venue, personnel, and service. There are open-ended questions at the end of each aspect allowing the respondents to express their individual opinions.

Part 5 Older Persons' Needs of Health Service System

It investigates older persons' needs of health service system and consists of 32 questions in the following 4 aspects: 1 (health promotion, 2(disease prevention, 3 (nursing care, and 4 (health rehabilitation.

Research Tool Quality Testing

The content validity is verified by 3 senior experts who are the nursing instructor and professional nurses with expertise on older persons, while the experiment with 40 older persons (not from the actual sample) having similar characteristics with the sample is conducted for the reliability test. The whole reliability level is .78 based on reliability analysis using Cronbach's coefficient alpha. Meanwhile, the reliability level of each aspect is: personal data (90.), health and wellbeing (85.) ,health service system used by the older persons and health service system satisfaction (83.), problems of government health facilities (71.) and older persons' needs of health service system (73.).

Protection of the Human Subjects' Rights

To protect the human subjects' rights, the author has met them for self-introduction, research purpose clarification, and collaboration in data collection. They are informed about the right to accept or refuse the research participation without any adverse consequences and to leave without giving any reasons if they are unsatisfied or unwilling to answer any questions. The acquired answers or data will be presented in the overall picture and used in the development and improvement of elderly health promotion activities.

Data Analysis

After finishing the data collection process and reviewing its completeness, 418 copies of the questionnaire are rated and codified using package software. The statistical significance level of 0.05 is determined. The data analysis uses 2 following statistics.

1. The descriptive statistics includes the frequency, percentage and standard deviation. It is used in analyzing personal data, health and wellbeing data, health service system used by the older persons, problems of government health facilities and older persons' needs of health service system.

2. Content analysis is used in the analysis of qualitative data.

The author begins with the analysis of data acquired from open-ended questions. All phrases and sentences are categorized, and the irrelevant ones are omitted. The data with the shared idea are interpreted and categorized for the main ideas summarization to assess whether they fulfill the research purposes. The author has conducted additional interviews and focus group for enhancing the completeness of analyzed data.

Research Results

According to 418 copies of the questionnaire and 127 copies of the open-ended question and the focus group through the structured interview with 12 village volunteers representing the older persons or being the elderly club members, the older persons' opinions towards their own problems and needs of health service system in Phetchaburi Province can be explained as follows.

Part 1: Personal Data of Older Persons

There are more female than male in the sample. A majority of them are in the early stage of aging 69-60)years (followed by the middle stage 79- 70)years (and last stage 80)years or over(, respectively. With regard to the marital status in respective order, they are married, widow, single, separated and divorced. The older persons with primary school qualification account for the highest number. The monthly income among most of them is less than 5,000 Baht, while their children's financial supports or monthly elderly allowance of 600 Baht is the main source of income. In particular, their average monthly income is 3,250 Baht and the highest and lowest ones are 60,000 and 600 Baht, respectively. Most of older persons do not work because their children financially support them or they are the pensioned civil servants. However, certain healthy older persons may do some jobs such as employees, housekeepers, farmers, merchants, self-employed/being priests and fishermen. Regarding the right to medical services, a majority of them use the elderly card. The second highest number is the government reimbursement, which is enjoyed by older persons who are the pensioned civil servants or have children working in civil service. Meanwhile, some of them are social security members or use card for the disabled. The extended family is the family characteristic among most of them so they live with relatives who take care of them in time of illness. Nonetheless, some older persons are still healthy but have no relatives.

Part 2: Data on Health and Wellbeing

Most of older persons do not drink and smoke but they are not interested in doing exercises or do them for a few days. A small number of them do exercises on a daily basis. The high blood pressure, diabetes and dyslipidemia are 3 most common chronic diseases among a majority of them. They always visit the doctors on appointment. With respect to self-care for the initial treatment in time of minor illness, visiting nearby health facilities, seeing doctor at a clinic and buying medications on their own are their 3 preferred options. The health condition of most of older persons is 'social bound'.

Part 3: Health Service System used by the Older Persons and Health Service System Satisfaction

The health service system, divided into primary, secondary and tertiary levels, are used by the older persons due to the convenient accessibility.

Primary Level: Most of them choose sub-district-level health promoting hospitals, while the less chosen ones in respective order are the elderly clubs, elderly-care volunteer, private health facilities and community assistances (neighbors, temples or other institutions). Besides, the fitness park/exercise park is the least chosen options.

Secondary Level: They choose the provincial hospital at the highest number following by the pharmacy, clinic, district-level hospital and provincial-area private hospital, respectively.

Tertiary Level: This includes, from the highest to the lowest order, the center hospital, hospital where the medical school is located, specialized medical center and large private hospital.

According to the answers given to the open-ended questionnaire, they do not access to private health service system due to a high cost in comparison to the public one. However, some private health facilities are popular because the owners are the local people and charge a lower price.

Regarding the older persons' health service system satisfaction, all questions are found at a high level. Despite the fact that the government health facilities are renowned for low-cost or free services, a poor satisfaction towards them is found. In contrary, the older persons are satisfied with 3 service levels of private health facilities because of good service provision and polite communication manner of staffs who give advice or explanations to the patients or their relatives. The venue is convenient, clean and air-conditioned.

Part 4: Problems of Government health facilities

Nowadays, the elderly care policy and the system are highly developed, while the health personnel pays a close attention to the elderly care. However, a few staffs may likely have unfriendly or stressful facial expression because it is understandable that they must work with a huge number of patients who access to the free health services. Some health facilities have introduced the express counter for the older persons to ensure faster services. Nonetheless, long queue for medical examinations and medication pickup are still found, especially in large hospitals.

Part 5: Older Persons' Needs of Health Service System

The older persons' health service system is divided into 4 aspects.

1. Health Promotion: television broadcasting of health-related news, elderly clubs, and health team's specialized health promotion activities

2. Disease Prevention: health checkup clinics,influenza/pneumonia vaccination programs and home-based health checkups

3. Nursing Care: free elderly care, prompt access to emergency services and survey of older persons with vision problems

4. Health Rehabilitation: home-based elderly care monitoring by health team, provision of physiotherapy and exercising programs for the older persons and home-based physiotherapy.

Discussion

1: Older persons' Problem of Health Service System

In this research, problems of government health facilities are divided into 3 aspects.

1.1 Venue: the sample argues that the distance and inconvenient commute are the important problems for the large public hospitals e.g. center hospitals and general hospitals. This agrees with the study of Aphisada Laowathanaphong[6] who claims that the inconvenient contact-making with related agencies is the most problematic. According to the qualitative data, dirty floors and walkways, no direction signboards between buildings and difficult building names to memorize are the problems found. This is in contrast with the research of Woramongkon Limsiritrakul [7] conducted at a Public Health Center of Medical Department under Mueang Lamphun Municipality. It is found that this facility has a good quality of physical characteristics. There are clear direction signboards. The garden is decorated with trees and flowers, while the toilets are clean and hygienic.

1.2 Personnel: there is no much problem, except the doctors in general hospitals do not have sufficient time for symptom interrogation. The results of qualitative research reveal the following problems.

- Some staffs are stressful and unsmiling but it may be understandable that they have a heavy workload due to a large number of clients.
- The personnel does not give the explanation or explain too fast to keep up with. The clients do not dare to ask so they follow what the staffs say.
-

This is also in contrast with the research of Woramongkon[7] on the service quality at a Public Health Center of Medical Department under Mueang Lamphun Municipality. The staff's human relations are good. The first one is friendly and smiling service, while the second one is the willingness to give advice as well as to listen to and to answer the patients' questions.

1.3 Service: there are problems of the long waiting queue for medical examinations and delayed services of the dispensing room, especially in general hospitals and center hospitals. The unsuccessful treatments, inadequate medical equipment, poor quality of medications are found in community hospitals, while sub-district-level health promoting

hospitals have the problems of inadequate medical equipment**,** delayed patient referral and poor quality of medications. This conforms to the research of Woramongkon[7] who examines the health service provision at a Public Health Center of Medical Department under Mueang Lamphun Municipality. The readiness of equipment for disease diagnosis is the problem found in such research. Meanwhile, the service techniques are at a good level in accordance with the following respective order: giving the advice on medications, doctor's expertise and explaining about the time and date of re-examination appointment.

2: Older Persons' Needs of Health Service System

Their needs are divided into the following aspects.

2.1 Health Promotion: television broadcasting of health-related news, elderly clubs, and health team's specialized health promotion activities

2.2 Disease Prevention: Disease Prevention: health checkup clinics, influenza/ pneumonia vaccination programs and home-based health checkups – this agrees with the research titled "Elderly Quality of Life Promotion Performances of Kamphangphet Municipality, Rattaphum District, Songkhla Province "of Thidarat Sirisakul[8]. It is found that most of older persons have primary school qualification and earn the income from a self-employed job. Meanwhile, for the needs of health service, they demand the doctor visit for examination of older persons' health

2.3 Nursing Care: free elderly care, prompt access to emergency services and survey of older persons with vision problems - the hospital competency should also be enhanced to accommodate the people in all areas not in the capital or large cities alone.

2.4 Health Rehabilitation: home-based elderly care monitoring by health team, provision of physiotherapy and exercising programs for the older persons and home-based physiotherapy – this agrees with the research titled of "A Study of Social Welfare Needs of the Elderly in Ayothaya City Municipality, Phra Nakhon Si Ayutthaya Province "of Janpen Loykaew[9]. It is revealed that the older persons demand the highest social welfare in accordance with health and health care standards. It is suggested that the Municipality should provide the shuttle bus service to the hospital and the home-based health care. There should be medical mobile unit as well. However, this is in contrast with the research titled "Health Needs of Aging in Ban Sangkho Community, Sangkho Sub-district, Phuphan District, Sakon Nakhon Province "of Jintara Orakul[10]. It is revealed that the older persons' health needs are at a low level of 46.6%, while most of them (98.3%) are capable for self-help at the independent level.

Recommendations for the Application of Research Findings

The results of qualitative research should be reviewed and considered for improving the health service system in response to the actual needs of people.

Recommendations for the Future Research

The research on the problems related to the staff and administrator of health service system should be conducted.

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Promoting Reflective Thinking Skill of Nursing Students: Using Reflective Journal Writing in Community Health Nursing Practicum[1]

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Abstract

Reflective Thinking has been advocated as one of the important cognitive skills for graduate students. Reflective practice through the use of journal writing is used as a method to bridge the gap between nursing theory and practice, and as a tool to develop knowledge embedded in practice. **Objectives**: The objectives of this study were to compare students' reflective behaviors at the beginning and the end of reflective journal writing practice, to assess levels of students' reflective journal writing, and to investigate students' opinions toward reflective journal writing. **Method**: This study was a quasi-experimental research, one group pretest-posttest design. The conceptual framework of this study was applied from Gibb's Reflective Cycle. The subjects were 68 fourth-year nursing students, Prachomklao College of Nursing, Phetchaburi. The study was undertaken during the subject of Community Health Nursing practicum. Reflective thinking skills were promoted through the use of reflective journal writing an assignment. The students were assigned to write a reflective journal after each session of learning modules. Students' reflective behaviors and level of reflection were measured at the beginning and the end of the program. Students' opinions towards reflective journal writing were assessed at the end of the program. Research instruments consisted of 1) the scale of reflective behaviors, 2) student's reflective journal, and 3) the questionnaire towards reflective journal. Data were analyzed using percentage, mean, standard deviation, and paired samples t-test. **Results**: Findings demonstrated a significant difference in the scores for after reflective journal writing practice and before reflective journal writing practice. These results suggest that reflective journal writing practice can improve student's reflective thinking skill. Also, there was a significant difference in the scores for the 8th journal writing the score and the 1st journal writing score. **Discussions**: The findings suggest that the use of reflective journal writing is an effective teaching strategy to improve student's cognitive skills. The majority of the students found reflective journal writing useful; however, some of them indicated obstacles, barriers, and challenging. Some expressed that they would rather talk about the issues than writing the journal. Those students expressed their weakness in writing and did spend too much time to complete their journal writing each day. Nurse faculty and clinical

[1] This study was financial supported by Prachomklao College of Nursing, Petchaburi, Thailand. Correspondence concerning this article should be ad dressed to Achara Suksamran, Prachomklao College of Nursing, Petchaburi, Thailand. Contact: achara@pckpb.ac.th

instructors should recognize the importance of reflective practice development, and develop teaching and learning skills to enhance reflective thinking, and also manage learning environments and resources to support the learning needs of students.

Keywords: Reflective Thinking, Reflective Journal Writing, Nursing Student

Introduction

Reflection refers to an intellectual and affective method of learning that students use to explore their experiences and foster a deeper understanding and appreciation for learning. It has become a key issue which is regularly mentioned within the context of nursing and nurse education programs (Chong, 2009). Reflective practice has been used to bridge the gap between nursing theory and practices and to articulate and develop nursing knowledge embedded in practice.

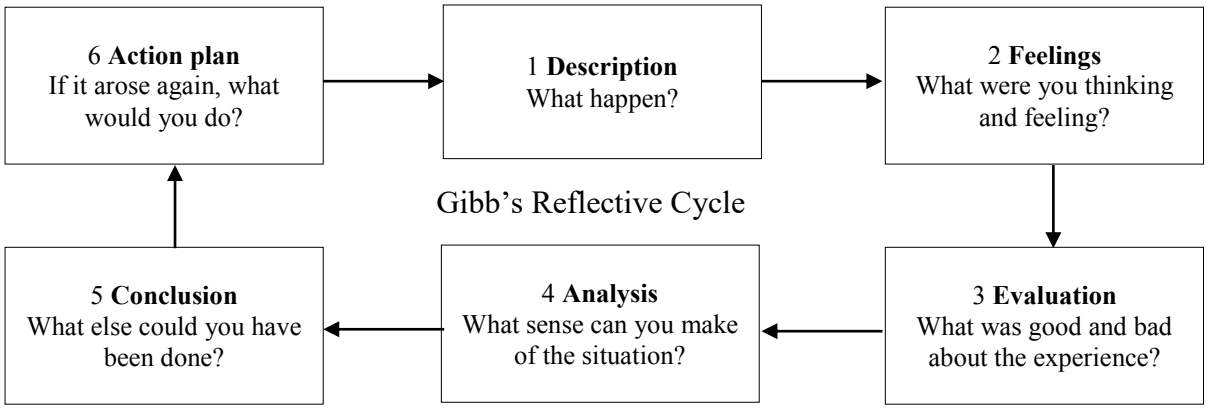
Reflective writing is used to reflect on cognitive learning experiences, attitudes, and feelings related to the experience. It is used to analyze the events of a practicum course and relate them to didactic course work. Reflective writing forces students to stop, think, and solve problems on the spot. It enables students to critically question content, process, and the premise underlying the experience. Hence, reflective writing makes students aware of uncomfortable feelings or thoughts that produce analytical thinking that leads to a change of perspective. It links the past and present experiences to prepare the student for future practice.

Many people use reflective writing as a tool to develop a professional identity which goes beyond technical knowledge and skills to abstract thinking. For students, they can use reflective writing to improve their cognitive thinking skills - reflective thinking skill. They learn to question their assumptions, re-work the problems, and take ownership for their learning. By revisiting the experience, the students become more aware of new aspects of the situation, relating new information with what they already know; possibly finding new meaning in the experience.

Promoting nursing students to have reflection skill is necessary because it can improve their critical thinking, resulting in work improvement and personal development. This quasi-experimental research aimed to investigate the efficacy of reflective journal as a means to promote reflection skill among nursing students.

Conceptual Framework

This study adopted Gibb's Reflective Cycle (Chong, 2009) including 6 steps as follows.



Research Objectives

This study aimed:

1. To compare students' reflective behaviors at the beginning and the end of reflective journal writing practice.
2. To assess levels of students' reflective journal writing.
3. To investigate students' opinions toward reflective journal writing.

Methods

Design: A quasi-experimental research, one group pretest-posttest design.

Participants: The subjects were enrolled in the study using non-probability sampling. The subjects were 68 fourth-year nursing students who registered for the Community Health Nursing Practicum course at Prachomklao College of Nursing, Phetchaburi.

Setting: The study setting was in Prachomklao College of Nursing, Petchaburi. During the second semester of the 2014 academic year, the college holds a clinical practicum course of Community Health Nursing II for the fourth year students which divided into 3 months in a row. All 4th year students were divided into 3 groups. Each group practiced in the community for 1 month.

Data collection: Data collection was carried out for three months from September 2014 to December 2014. Student's reflective behaviors and level of reflection were measured at the beginning of the course during the course orientation in the lecture room for each group and did once again at the end of the course. The students were given a brief explanation of the study before the questionnaires were distributed. At the beginning of the practicum, each student

received a notebook for writing a reflective journal. During practicum, the students were assigned to write reflective journal after each session of learning modules (8 issues). It was about two issues per a week. After finished the course, all reflective journals were returned to the researcher for grading. At the end of the course, the students' opinions towards reflective journal writing were assessed.

Measures: Data were collected using three research instruments.

1. The scale of reflective behaviors questionnaire. This is a 14-item questionnaire translated and developed by Kaewprom (2013) based on Sobral (2005). Cronbach's Alpha reliability of the questionnaire for this study was 0.89.
2. The students' opinions towards reflective journal writing questionnaire. This is a 15-items questionnaire developed by Chong (2009) and translated into Thai by *Chettha* Kaewprom, (2013). The questionnaire consisted of 10 items of benefits of reflective journal writing and 5 items of barriers of reflective journal writing. Cronbach's Alpha reliability of the questionnaire for this study was 0.79.
3. The reflective journal grading scale developed by William et al. (2000 cited in Kaewprom, 2013) . Reflective journals were graded into 6 levels from 0-6 (0-no reflection, 1-description, 2-feelings, 3-evaluation, 4-conclusion, and 5-action plan).

Data analysis: Data were analyzed using the SPSS Statistical Package, version 16. Frequency, percentage, mean, standard deviation and paired samples t-test were used to analyze the data.

Ethical Consideration

The study was approved by the Institutional Research Board and Ethics Committee of Prachomklao College of Nursing, Phetchaburi. A briefing on the information about the study, research objectives, and procedures was given to all participants in the lecture room during the course orientation. Informed consent was obtained directly from all participants. The respondents' names were kept anonymous.

Results

Objective 1: Reflective behaviors before and after reflective journal writing practice

Students' reflective thinking behaviors were assessed in total and each behavior before and after journal writing practice. The findings were presented in Table 1 and 2.

A paired-samples t-test was conducted to compare students' reflective thinking behaviors before and after the reflective journal writing practice. The findings showed that there was significant difference in the scores for after reflective journal writing practice (M=2.92; S.D. =0.24) and before reflective journal writing practice (M=2.72; S.D. =0.37), condition; t (67) = 9.34, p = .05. Also, most of each reflective behaviors were statistically significance improved

after the reflective journal writing practice. These results suggest that reflective journal writing practice can improve student's reflective thinking skill

Table 1 Comparison of total reflective thinking behaviors before and after the reflective journal writing practice, Paired samples t-test (N=68)

Reflective thinking	Mean	S.D.	t-value
Before reflective journal writing practice	2.72	0.37	9.34*
After reflective journal writing practice	2.92	0.24	

* $p < 0.05$

Table 2 Comparison of reflective thinking behaviors in details before and after the reflective journal writing practice, Paired samples t-test (N=68)

Reflective behaviors	Before		After		t-value	Sig.
	Mean	SD	Mean	SD		
I make a plan for my study.	2.47	0.53	2.56	0.53	2.55	0.01*
I discuss with friends about what we learned in class every day.	3.00	0.73	3.07	0.68	2.31	0.02*
I read and review what I have learned.	2.49	0.50	2.79	0.44	5.13	0.00**
I review and make a link of knowledge among each subject.	2.49	0.56	2.57	0.58	2.55	0.01*
I compare my learning expectation to the knowledge I have learned in the course.	2.62	0.57	3.16	0.37	6.61	0.00**
I think about what I am studying and the reasons for learning.	2.82	0.52	2.84	0.54	0.26	0.80
I review learning content and make a summary note for my better understanding.	2.50	0.59	2.82	0.49	5.66	0.00**
I consider the importance of what I learn.	2.78	0.51	3.04	0.21	4.91	0.00**
I try to make myself familiar with the course or subject I take.	3.12	0.56	3.22	0.42	2.77	0.01*
I think about how I feel about my experiences.	2.66	0.64	3.09	0.29	7.06	0.00**
I recall what I have learned during the day each day.	2.74	0.59	3.10	0.31	6.24	0.00**
I try to learn from every new situation/ new experience.	2.99	0.56	3.04	0.50	2.05	0.05
I find positive side in every experience	2.82	0.46	2.87	0.42	1.76	0.08

Reflective behaviors	Before		After		t-value	Sig.
	Mean	SD	Mean	SD		
I evaluate myself/ my work for my future improvement	2.63	0.54	2.69	0.53	2.05	0.05

* $p < 0.05$, ** $p < 0.01$

Objective 2: Levels of students' reflective journal writing scores

Levels of students' reflective journal writing ability were assessed at the 1st time and the eight time of writing using the William et. al. (2000 cited in Kaewprom, 2013). The result was presented in Table 3.

Table 3 Percentage of nursing students based on level of reflective journal writing score (N= 68)

Levels of reflective thinking		1st writing (Week 1)	8th writing (Week 4)
0	No reflection	7.35	0
1	Description	51.47	7.35
2	Feelings	33.82	22.06
3	Evaluation	7.35	61.76
4	Conclusion	0	7.35
5	Action plan	0	1.47

The finding showed that at the first time of journal writing, a large number of students were at the low level of reflective thinking graded from 0 to 3. Some students (7.35 percent) were graded at zero level. However, after they practiced writing their levels of reflective thinking increased. At the eighth time of journal writing, there was no one at zero level. The majority of the students (61.76 percent) were graded at level 3-evaluation.

After the comparison of reflective journal writing scores at the first time and the eight time of writing, the finding showed that there was a significant difference in the scores for the 8th journal writing the score and the 1st journal writing score as showed on Table 4.

Table 4 Comparison of reflective journal writing scores at the first time and the eight time of writing, Paired samples t-test (N=68)

Reflective journal writing score	Mean	S.D.	t-value
First time of writing	2.20	1.40	10.58*
Eighth time of writing	3.25	0.73	

* $p < 0.05$,

A paired-samples t-test was conducted to compare students' reflective journal writing scores at the 1st and 8th journal writing scores. There was a significant difference in the scores for the 8th journal writing score (M=3.25; S.D. =0.73) and the 1st journal writing score (M=2.20; S.D. =0.40), condition; t (67) = 10.58, p = .01. These results suggest that reflective journal writing practice can improve student's reflective thinking skill.

Objective 3: Students' opinions toward reflective journal writing

Findings of nursing students' opinions towards reflective journal writing are shown in Table 5. The results showed that majority of the students found reflective journal writing useful; however, some of them indicated obstacles, barriers, and challenging. Some students expressed that they liked to talk about the issues rather than write about their experiences. They admitted their weakness in writing and spent too much time to complete their journal writing each time.

Table 5 Nursing students' opinions towards reflective journal writing practice (N=68)

Item	Percentage of opinion				Mean	SD
	1	2	3	4		
Benefits of reflective journal writing						
1. **It encourages me to make a conscious attempt to identify and learn from what is happening**	8.80	45.60	45.60	0	2.368	0.644
2. **It allows me to view clinical situations from different perspectives**	4.40	45.60	41.20	8.80	2.544	0.721
3. **It motivates me to be a more self-directed learner**	8.80	60.30	26.50	4.40	2.265	0.683
4. **It fosters responsibility and accountability**	16.20	39.70	35.30	8.80	2.368	0.862
5. **It allows me to apply appropriate theory into nursing practice**	4.40	47.10	44.10	4.40	2.485	0.658
6. **It helps me to improve decision making**	20.60	38.20	41.20	0	2.206	0.764
7. **It helps me to review both positive and negative experiences**	0	42.60	45.60	11.80	2.691	0.675
8. **It encourages my critical thinking**	0	44.10	48.50	7.40	2.632	0.621
9. **It encourages my communication skill**	8.80	42.60	45.60	2.90	2.427	0.698
10. **It raises my self-awareness**	7.40	42.60	36.80	13.20	2.559	0.817
Barriers of reflective journal writing						
1. **Uncertainty of using an unfamiliar learning approach**	13.20	33.80	41.20	11.80	2.515	0.872
2. **Time constrains**	0	57.40	27.90	14.70	2.574	0.739
3. **The briefing of reflective practice was not adequate**	16.20	54.40	16.20	13.20	2.265	0.891

Item	Percentage of opinion				Mean	SD
	1	2	3	4		
4. **Lack of supportive environment**	22.10	45.60	23.50	8.80	2.191	0.885
5. **Unable to identify learning issues to reflect upon**	0	47.10	44.10	8.80	2.618	0.647

Note: 1=disagree, 2=somewhat agree, 3=quite agree, 4=totally agree

Discussion

The findings from this study were quite consistent with the findings of the literature and other studies. The findings of this study indicated that although students had positive perceptions towards reflective journal writing practice which is consistent with Kaewprom (2013, Chong, 2009), they also reported barriers to the reflective journal writing practice. The finding is also consistent with the finding in the literature. The reflective journal writing was difficult for some students because they must remind themselves about what to write to accomplish a higher level of reflective thinking. Therefore, some students spent a lot of time in writing a journal and might feel discouraged. Additionally, a lack of supervision from mentors or clinical instructors could be another problem. Fresh feedbacks from mentors or the instructors can increase their ability to write a better journal. On the other hand, the ability of mentors or instructors in relation to giving advice on reflective journal writing is also important.

Conclusion

The findings from this study indicate that the use of reflective journal writing is an effective teaching strategy to improve student's cognitive skills in clinical practice. The students can link the gap between theoretical knowledge and practice. To ensure effective and successful implementation of reflective practice, nurse faculty and clinical instructors should recognize the importance of reflective practice development and should be able to facilitate the students while performing journal writing practice. Nurse educators and clinical instructors should be trained to develop teaching and learning skills to enhance reflective thinking and manage learning environment and resources to support the learning needs of students. Moreover, other reflective techniques such as reflective discussion may be another alternative technique to enhance reflective thinking skill.

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The Knowledge, Perceptions, Attitudes, and Perceived Risk in HIV/AIDS among Women in Malaysia: A cross-sectional study

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Abstract

The remarkable challenge in alleviating HIV/AIDS rates in Malaysia continued from its first case in 1986. Since then, a number of government initiatives have been put in place to address the escalating rates of HIV/AIDS especially among people who inject drug (PWID). While HIV infections among intravenous drug users reportedly saw a steady decline, we seem to be leaving some people behind—women. This study seeks to examine HIV/AIDS knowledge, perceptions, attitudes, and perceived risk among women in Malaysia. We recruited 384 respondents, including 170 males and 210 females. As this research focused on women, 210 females were therefore selected for data analysis. The results show that the knowledge of HIV/AIDS modes of transmission among the surveyed respondents were rather high. However, there were some respondents who still believed that kissing and sharing utensils are the modes of HIV/AIDS transmission. Most of the respondents had moderate positive perceptions and a discriminatory attitude towards people living with HIV/AIDS (PLHIV). In terms of respondents' perception of risk of HIV/AIDS infection, surveyed respondents did not perceive themselves to be at risk of HIV infection. Nevertheless, they would protect themselves or their partners from HIV/AIDS infection by using condoms. More open discussion about HIV/AIDS should be held not only to raise the level of awareness but also to promote healthier behaviour and eliminate stigma and discrimination towards PLHIV.

Keywords: HIV/AIDS, women, knowledge, perception, perceived risk, Malaysia

Introduction

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HIV/AIDS in Malaysia was, initially, dominated by people who inject drug (PWID) and therefore, we are classified by the World Health Organization (WHO) as a "concentrated epidemic" country (AIDS/STD, 2010). Since then, the Malaysian government remains unswerving in the commitment to halting and responding to the epidemic. Various government responses and initiatives have been put in place to tackle the epidemic efficaciously in the country. From pre-marital HIV Testing, Harm Reduction Programme and to the recent country policy (i.e., National Strategic Plan for ending AIDS 2016-2030) in responding to ending HIV/AIDS in Malaysia, the new HIV infection has declined by half, falling from 22 per 100,000 populations in 2000 to 11 per 100,000 populations in 2009. The number of new infections has been stable in the past five years though it edged up in 2010 (HIV/STI Sector, 2015). While the government has made impressive efforts at achieving results and reaching out PWID to reverse this epidemic, we seem to be leaving some people behind—women.

AIDS was first spread among homosexual groups, injecting drug users and commercial sex workers from the United States and in most of other countries (Singhal & Rogers, 2003, p.38; Centers for Disease Control and Prevention [CDC], 2001; U.S. Department of Health and Human Services, 2001). In Malaysia, people who inject drug (PWID) were the main driver of HIV/AIDS infection rates in the country since 1986. These people contributed 70-80 per cent of all newly reported cases. Nevertheless, the trend has notably changed over time, which sexual transmission has now become the main driver of HIV transmission in the country, signaling young women and girls are vulnerable to HIV/AIDS. Globally, young women and girls are 2.5 times more likely to be infected with HIV/AIDS as compared to males (UNICEF Malaysia, 2008). As of December 2014, about 11,653 women and girls in Malaysia have acquired HIV since 1986 (HIV/STI Section, 2015). The Malaysian Ministry of Health (MOH) recorded 697 newly reported HIV cases and 183 AIDS cases are females. The profile of female HIV cases in 2014 indicated that close to 20 per cent were young (<25 years old), about half (45%) were Malays, 92% had acquired HIV through heterosexual transmission and 40 per cent were housewives (HIV/STI Section, 2015).

When the United States received its first HIV/AIDS case, many national policies and the Centers for Disease Control and Prevention (CDC) failed to address and recognise heterosexual transmission (Higgins, Hofman, & Dworkin, 2010). Women, therefore, were absent from clinical trials (Fox-Tierney, Ickovics, Cerrata, & Ethier, 1999). Likewise, this scenario can be seen in Malaysia, where much attention was given to injecting drug users at the beginning of the epidemic as they were the main driver of HIV/AIDS infection in the country since 1986. So, women were nearly invisible at that point in time with regard to public health aid. Only in recent years, the increasingly feminised nature of the HIV epidemic in the country has received intensive attention from various stakeholders. The Malaysian

government, especially, realises the significance of addressing the issue and is committed to tackling the issue by outlining its fourth strategy of reducing HIV vulnerability among women, young people and children in the National Strategic Plan on HIV/AIDS 2006-2010 (NSP). The government is of the view that women and girls play a vital role in the family and community as mothers and caregivers. When they are infected with HIV, they can pass the virus to their future children at birth or through breast-feeding as well as those who will be prematurely orphaned.

It is known that Malaysia is a multi-ethnic, multi-cultural and multi-religion country where predominantly composed of a Muslim majority population, and Islam is therefore very much influential. From an Islamic point of view, the only way to prevent the spread of HIV/AIDS is through sexual abstinence and faithfulness (Hasnain, 2005). Ironically, 70 per cent of people living with HIV/AIDS in Malaysia are Muslims ("More than 70% of AIDS/HIV Sufferers in Malaysia are Muslims", 2010, June 9; Alias, 2006). Regardless of Islamic tenets, some Muslims do engage in high-risk activities such as premarital or extramarital sex or/and illicit drug use that lead to HIV infection. Lust and naïve attitude have palpably diverted those attentions away from their religious beliefs. While men blithely engage in risky behaviour devoid of information and beliefs, the disease is transmitted to their innocent wives, thereby fuelling a rapid growth of the infection among the women population in this setting. This seems that being married and practising a monogamous sexual relationship did not protect these women from contracting HIV.

This article begins with literature review of why women are so vulnerable to HIV/AIDS from both scientific and social perspectives. As Islam is an official religion practised by most Muslims in Malaysia as well as contributing 70 per cent to HIV/AIDS infection in the country, then this article reviews the constraints for women to negotiate use of condom, which is one of the effective prevention approaches used in HIV/AIDS prevention, with their partners from Islamic perspective. After reviewing relevant literature, this is followed by how the data is collected and what the study reveals as well as how it can extend our current understanding of women's perceptions, attitudes and perceived risk of HIV/AIDS in Malaysia context.

Literature Review

According to the Joint United Nations Programme on HIV/AIDS (UNAIDS) (2016), adolescent girls and young women age range from 15–24 years old are at particularly high risk of HIV infection. These adolescent girls and young women account 20 per cent of new HIV infections among adults globally in 2015. In sub-Saharan Africa, women are always labelled as vulnerable to HIV/AIDS infection (Poulin, Dovel, & Watkins, 2016), girls and

young women compromise about 25 per cent of new HIV infections among adults, and women account for 56 per cent of new HIV infections among adults (UNAIDS, 2016). The root of the increased HIV risk among young women and adolescent girls are due to harmful gender norms and inequalities, insufficient access to education and sexual and reproductive health services, poverty, food insecurity and violence (UNAIDS, 2016). In particular, women's risk of intimate partner violence places them at increased risk of HIV, and women's poverty and powerlessness force them to exchange sex for resources (Dunkle et al., 2004; Gupta, 2002; Jewkes, Levin, & Penn-Kekana, 2003).

Literature reveal that women are always labelled as a vulnerable group to HIV/AIDS infection due to their biological susceptibility, reduced sexual autonomy and men's sexual power and privilege (Higgins, Hofman, & Dworkin, 2010). This proposition is explained in a model termed "vulnerability paradigm"—a model that explains the aetiology and evolution of women become the primary vulnerable victims of HIV epidemic. The major pillar of the paradigm describes gender-based social inequalities in which women are lacking power to protect themselves from contracting HIV/AIDS, and men are more likely than women to bring HIV/AIDS to the partners because they engage in more sexual and drug use risk behaviours. In order words, men are active transmitters of HIV but not active agents of prevention (Higgins, Hofman, & Dworkin, 2010). Literature also showed that women have upward of twice the probability of infection if they exposed to HIV (Padian, Shiboski, & Jewell, 1991; Nicolosi et al., 1994; Royce, Sena, Cate, & Cohen, 1997; Mastro & Kitayaporn, 1998).

Research explicated that biologically, women are more vulnerable to HIV/AIDS infection through vaginal intercourse in that they are exposed to infectious fluids for longer periods of time during sexual intercourse than men are (Bolan, Ehrhard, & Wasserheit, 1999). During sexual intercourse, the vagina faces increased risk of tissue injury, and this allows the vagina for a greater possibility of entry of the virus (Huang, 2002; Bolan, Ehrhard, & Wasserheit, 1999). Younger girls are especially vulnerable because their immature mucousal surfaces are even more easily torn during sexual intercourse (Huang, 2002).

HIV/AIDS infection among women is also clearly portrayed not only through biological susceptibility, but also socioeconomic differences and cultural conservative. Mann and Maitra (1992) revealed that in countries such as India, women's powerlessness is glorified in a *pativrata* (dedication to the husband) image, which portrays women as loyal and subordinate to their husbands, even when neglected, ill-treated, or deserted (as cited in Singhal & Rogers, 2003). The *pativrata* women, unfortunately, dutifully engages in unprotected sex with her husband, despite knowing her partner's HIV-positive status (Singhal & Rogers, 2003). Past research revealed that Black and Latina women were most likely to

contract HIV heterosexually as they lived in the poorest sections of the US cities that were hit by the deindustrialisation of the 1970s (Zierler & Krieger, 1997; Dworkin, 2005). These women mostly contracted the virus from men who were injecting drug users or had intercourse with men or other women, including sex workers (Kamb & Wortley, 2000; Guinan & Hardy, 1987; Wortley & Fleming, 1997).

The trend can also be seen in Malaysia context. Copious of research showed that the risk factor identified among HIV-infected pregnant and women is sexual intercourse with their partners, and these partners involve in risky behaviours such as injecting drug and sexual activities (Kissling et al., 2005; "Kelantanese women top list", December 2010; Allison & Seeley, 2004; Samsudin et al., 2011; Huang, 2002; Fauziah et al., 2002). The Malaysian AIDS Council, an umbrella body of NGOs working to reduce the spread of HIVAIDS as well as to provide support for people living with HIV/AIDS, also revealed that promiscuous lifestyle of men was the main factor for indirect exposure of HIV/AIDS to the women ("Kelantanese women top list", December 2010).

Samsudin et al. (2011) found that there were specific places where the prevalence of HIV/AIDS infection is higher as compared to other places in Malaysia. According to the Ministry of Health (MOH) Malaysia, fishermen were found to be the high-risk group contracting HIV/AIDS as they contributed 3,098 HIV infections since 1986 (Ministry of Health [MOH], 2008). Engagement in risky behaviours among fishermen is the major factor contributing to the number of HIV infection in the country, and more significantly is that they have put their partners (wives, friends (both male and female) and commercial sex workers at risk for HIV/AIDS (Huang, 2002). Hemrich and Topouzis (2002) have well-described that:

Vulnerability of fisheries livelihoods systems to HIV/AIDS…stems from the socioeconomic dynamics of the fisheries trade and lifestyle, and in particular the fishermen's high mobility, their long absences from home and their cash incomes which are then often spent in the trading centres on casual sex and alcohol. Vulnerability extends to their (fishermen's) casual or semi-casual sexual partners and to their wives at home (p. 90).

Women are more vulnerable when they are unable to persuade their male partners to wear male condoms. This is due to gender inequality that makes pressing for condom use difficult, if not impossible (Worth, 1989; Amaro, Raj, & Reed, 2001; Amaro, 1995). Promoting condom use as one of the HIV prevention methods is seen rather challenging in Malaysia as sexuality and Western prevention models are a taboo subject to be talked about (Hasnain, 2005; Trinitapoli, 2009). In Malaysia context especially referring to Islamic perspective, the use of condoms in preventing the spread of AIDS is an issue of great contention because this is seen as justifying illicit sexual relations or as an open invitation to promiscuity, which is disobedience to God (Trinitapoli, 2009). This "readymade" prevention approach developed

by medical scientists in the West which is to apply in the Muslim community is seen to convey a message to a person that "by wearing a condom, you can then take any risks". By this token, it leads to the possibility of that person committing adultery, which is a major evil in Islam and dogma of the religion. Although the use of condoms in preventing HIV/AIDS is proved to be significant, we cannot deny that it is still unable to offer full protection to someone from contracting HIV/AIDS (AVERT, n.d.; Weller, 1993; Trinitapoli, 2006).

Considering the great impact of HIV/AIDS infection among women, this paper aims to find out HIV/AIDS knowledge, perceptions, attitudes, and perceived risk among women in Malaysia so as to provide base information to policy makers, health public relations practitioners and the media to outline, advocate and promote national policies and communication campaigns that focus more on women in HIV/AIDS prevention in this setting.

Research Method

A stratified random sampling was implemented in Klang Valley. Based on a list of demographics obtained from the Department of Statistics Malaysia, Klang Valley is categorised into six districts: (1) Federal Territory of Kuala Lumpur, (2) Gombak, (3) Klang, (4) Petaling, (5) Sepang and (6) Ulu Langat. 384 respondents, including 170 males and 210 females, were recruited for the study using Krejcie and Morgan's formula (Krejie & Morgan, 1970). As this research focused on women, 210 females were therefore selected for data analysis.

The survey questionnaire was administered by an enumerator, namely the first author. Prospective survey respondents were screened based on whether or not they had heard of Human Immunodeficiency Virus (HIV) or Acquired Immunodeficiency Syndrome (AIDS). A total of three female respondents had heard of neither HIV nor AIDS, and were therefore excluded from the study. This study's findings and analyses on female respondents' knowledge, perceptions, attitudes, and personal perceived risk of HIV/AIDS were, therefore, based on the remaining 207 female respondents. The survey questionnaire included items measuring respondents' knowledge of HIV/AIDS transmission modes, perceptions and attitudes towards PLHIV and personal perceived risk of HIV/AIDS.

There were 10 items to assess female respondents' knowledge about HIV/AIDS (Cronbach's Alpha = .83). Twelve items were designed to measure respondents' perceptions of PLHIV and attitudes towards PLHIV respectively (Cronbach's Alpha = .72 for both). These items were plotted on a 5-point Likert scale; from strongly disagree to strongly agree. Three items, using dichotomous measurement ("agree" or "disagree"), accessed female respondents' personal perceived risk of HIV/AIDS. Data was recorded and analysed using Statistical Package for the Social Science (SPSS 20.0). Statistical analysis included parametric statistics

(i.e., Pearson correlation and T-test) and nonparametric statistics (i.e., frequencies, percentages, mean, and standard deviation).

Results

Demographic Characteristics

Table 1 summarises the demographic characteristics of all 210 female participants for this study. Out of 210 female respondents, three of them have never heard about the disease. Thus, these people were excluded from the inferential data analysis, but will be retained for descriptive analysis. The table shows that the overall mean age of the female respondents was 29.31 years old (SD = 11.89). The majorities of participants were Malays (53.8%), followed by Chinese (28.1%), Indians (13.8%) and others—consist of indigenous—were 4.3%. More than half of the respondents were Muslims with 56.2% and another 43.8% were non-Muslims. Ninety-one per cent of the female respondents had higher education (minimum SPM level) while 9% of the female respondents had lower education.

Table 1: Socio-demographic characteristics

Variable	Parameters	N	(%)
Age	Mean ± SD	29.31 ± 11.89	
Ethnicity	Malay	113	53.8
	Chinese	59	28.1
	Indian	29	13.8
	Others	9	4.3
Religion	Islam	118	56.2
	Buddhist	34	16.2
	Taoist/Confucianism	8	3.8
	Hindu	25	11.9
	Christian	20	9.5
	Catholic	2	1
	Others	3	1.4
Education Level	Lower	19	9
	Higher	191	91

Knowledge of Modes of HIV/AIDS Transmission

Overall, over 90 per cent of respondents were aware of HIV/AIDS transmission modes. Table 2 indicates most of the surveyed respondents agreed HIV can be transmitted through unprotected sexual intercourse (93.2%) and pregnancy (69.1%). However, misconceptions existed among some who believed that HIV/AIDS can be transmitted via skin contact (7.2%), kissing (30.9%), cough/sneeze (20.3%), bites from mosquitoes or other insects (31.8%), sharing foods or drinks (22.7%), sharing clothing (8.7%) and sharing utensils (21.7%).

Table 2: Response of modes of HIV/AIDS transmission

Way of Transmission	Disagree	Agree	Neutral
Sex contact without proper protection (heterosexual or homosexual)	9 (4.4)	195 (93.2)	5 (2.4)
Skin contact (hug or shake hands)	174 (84)	15 (7.2)	18 (8.7)
Kissing	93 (45)	64 (30.9)	50 (24.2)
Cough/sneeze	115 (55.6)	42 (20.3)	50 (24.2)
Bites of flies/mosquitoes/other insects	103 (49.8)	66 (31.8)	38 (18.4)
Sharing foods or drinks	120 (58)	47 (22.7)	40 (19.3)
Sharing clothing	149 (72)	18 (8.7)	40 (19.3)
Sharing utensils (e.g., spoon, cup, fork, etc.)	113 (54.6)	45 (21.7)	49 (23.7)
Pregnancy	25 (12.1)	143 (69.1)	39 (18.8)
Living/working with a person who has AIDS	153 (73.9)	26 (12.6)	28 (13.5)

Note: N=207, excluded the three respondents who have never heard about HIV/AIDS. Figures in parentheses represent percentages.

Perception towards People Living with HIV/AIDS (PLHIV)

Respondents strongly believed that people living with HIV/AIDS (PLHIV) still have the ability to work (77.3%). However, 63.7% agreed that people living with HIV/AIDS should be isolated from other people. Seventy-two per cent of the surveyed female respondents concurred that having HIV/AIDS is not an issue to be ashamed of. Sixty-eight per cent of the respondents agreed that PLHIV are dirty. More than 50 per cent of the respondents (54.1%) disagreed PLHIV should not have children. In other words, PLHIV should have children. As far as stigma and discrimination are concerned, 68.6% of the surveyed respondents still thought PLHIV should be blamed for bringing the disease into the community. This study concludes that, in general, the surveyed female respondents hold moderate positive perceptions towards PLHIV at M = 3.60 (SD = .60).

Attitude towards People Living with HIV/AIDS (PLHIV)

Notwithstanding moderate positive perceptions harboured among female respondents towards PLHIV, this survey's results indicate that respondents had a discriminatory attitude towards PLHIV (M = 3.36, SD = .58). Specifically, 53.1% of the surveyed respondents were willing to work with PLHIV if they are asked to do so. However, more than fifty per cent of the respondents would keep away from their close friends or kin if they are people living with HIV/AIDS (63.3%). In Malaysia, openly discussing HIV/AIDS is still a taboo subject (Tham & Zanuddin, 2015). As expected, 73% of the respondents refused to talk to friends or family members about HIV/AIDS-related issues. Only 42% of the respondents were willing to buy foods from vendors or shopkeepers who are PLHIV and 27% would be willing to have a meal with them. As expected, with stigma and discrimination pervasive within the general population, less than half of respondents (29%) are willing to let others know if one of their friends or family members was infected with HIV.

The researchers further analysed if there is a correlation between the surveyed respondents' perceptions and attitudes towards PLHIV. Table 3 shows a positive correlation between the surveyed female respondents' perceptions and attitudes towards PLHIV (r = .436, p=<.05). Although the result showed a weak correlation between the variables (Chua, 2013), it indicated that the higher positive perception towards PLHIV one has, the higher positive attitude towards PLHIV of the person.

Table 3: Relationship between perception and attitude towards people living with HIV/AIDS

	Perception	Attitude
Pearson	1	.436**
Sig. (2-tailed)	207	.000
N		207

Personal Perceived Risk of HIV/AIDS Infection and Perception about Condom Use

This study shows that surveyed female respondents did not perceive to have high risk of contracting HIV/AIDS, whereby 51.7% of the respondents did not think that they could be at risk of AIDS infection. While ABC approach (i.e., abstinence, being faithful to partners and condom use) is highly recommended by health practitioners and advocates in the effort of fighting HIV/AIDS, more than half of the female respondents (60.9%) agreed that they would protect themselves or their partners from contracting HIV/AIDS infection by using condoms and 71.5% of the respondents agreed that they can reduce their chances of contracting HIV/AIDS infection if they are being faithful to their partners/spouses.

In this study, the researchers found that there is a significant difference between Muslim and non-Muslim female respondents with regard to their perception towards the use of condom in curtailing HIV/AIDS infection, $t\ (202.08) = -2.642$, $p<.05$. Muslim female respondents carried a mean score of 3.53 (SD = .1.12), while non-Muslim female respondents carried a mean score of 3.91 (SD = .99). The mean difference (M = -.386) indicates that non-Muslim female respondents are more likely to use condoms with their partners to protect themselves from contracting HIV/AIDS infection.

Discussion

This study aimed to explore the knowledge, perceptions, attitudes and personal perceived risk of HIV/AIDS among women in Klang Valley, Malaysia. Several findings merit further consideration. The researchers can conclude that women in Malaysia are adequately knowledgeable about the modes of HIV/AIDS transmission. This finding is similar with Wong, Kwong Wah, and Jaafar (2008)'s study, which they found that females were more knowledgeable than males about general HIV/AIDS knowledge. However, some misconceptions exist, wherein some surveyed respondents still believed that HIV/AIDS can be transmitted through mosquito bites, sharing utensils, foods or drinks and clothing. The significant increased awareness and knowledge about HIV/AIDS among women have given credit and supported efforts done by various parties such as the government, NGOs and the media in which they have successfully reached their target messages out to this population.

Previous research have shown that stigma and discrimination related to HIV/AIDS have had profound effect on the lives of people living with HIV/AIDS, and acted as an obstacle to effective HIV prevention and treatment among these people (Genberg et al., 2009; Naing et al., 2009; Tee & Huang, 2009; Majahan et al., 2008). The present study found that moderate, rather than clear-cut positive perceptions and a discriminatory attitude towards PLHIV exist within women respondents who are reasonably knowledgeable about the modes of HIV/AIDS transmission. Essentially, women respondents think that people living HIV/AIDS should be blamed for bringing the disease into the community. As a result of this blame-the-victim stigma, many PLHIV refuse to come forward for treatments. This unfair process of blaming-the-victim discourages people from serological testing, status disclosure, remaining in care and adhering to their treatment. This ultimately suggests that the level of receptivity among women towards PLHIV is somewhat low. So, the researchers suggest that gender relationships should be at the heart of communication strategies for HIV/AIDS prevention with the help of strong political will and media advocacy. The Condom King of Thailand, Mechai Viravaidya mentioned "If AIDS prevention and control is to work, it must be multi-sectoral. It is not a medical problem. It is a behavioural problem and any institution than can

affect behavioural change must be involved" (D'Agnes, 2001, p.336). The media should also make specific voices of PLHIV visible on the media coverage, so that the public will get to know these people more in hopes eliminating stigma and discrimination on them.

This study found that majority of the respondents did not think that they are at risk of HIV/AIDS infection. According to the Health Belief Model of behaviour change, individuals must perceive themselves to be at risk of the health threat, before they take actions to reduce risky behaviours or to engage in healthy alternative behaviour (Janz & Becker, 1984). Hence, Ndegwa, Wanderi, and Mwisukha (2012) suggested that adolescents who report high perceived risk for HIV/AIDS practise safer sexual behaviors, whereas those who perceive low risk for contracting HIV/AIDS report practising unsafe sexual behaviours. The low perceived risk of HIVAIDS among women in Malaysia may due to many people thought that AIDS is something abstract and it is not going to affect them. The researchers are of the views that the perception can be changed only if there is an appropriate medium which tells everything about that epidemic. Information-related HIV/AIDS should not only be disseminated throughout the at-risk population in inducing them to change their attitudes, behaviours and perceptions about HIV/AIDS, but it is also should be targeted those who are not considering themselves at-risk. This study, therefore, provides base information and insight into outlining strategic communication plans to tackle this group who thinks they are not vulnerable to HIV/AIDS infection.

While publicly promoting condom use in HIV/AIDS prevention is seemed to be contentious in Malaysia, the finding shows that high proportion of the surveyed respondents wanted to use condom to protect themselves or their partners from contracting HIV/AIDS infection. Furthermore, the inferential statistical test indicates that there is a statistically significant difference between Muslim and non-Muslim respondents on their perceptions of the use of condom in HIV/AIDS prevention, which non-Muslim respondents have higher receptivity of use of condom in HIV/AIDS prevention compared to Muslim respondents. This shows a good sign where the Malaysian society has become more open in accepting the fact that a condom, if used correctly and consistently, guarantee more than 90 per cent effectiveness at preventing heterosexual acquisition and transmission of HIV/AIDS (Pinkerton & Abramson, 1997; Hearst & Chen, 2004). However, condom use is not necessarily the best means for HIV prevention from both religion and practical perspectives. Hence, practising abstinence and fidelity are the most pragmatic approach for HIV/AIDS prevention.

Limitations

As far as methodological perspective is concerned, this research uses only quantitative approach to study the women's knowledge, perceptions, attitudes and perceived risk of

HIV/AIDS. From post-positivism point of view, researchers cannot observe the world in a purely objective way as people's perception is subjective. Due to that reason, it is recommended that a mixed method approach could be used in future study in order to provide future discourse of knowledge to exploring women's views on HIV/AIDS-related issues.

On top of that, items in measuring the knowledge of HIV/AIDS are designed on a 5-point Likert scale which is difficult to be computed into a single scale and correlate with other variables. Future research may, therefore, consider using dichotomous measurement such as "Ture" or False" in accessing knowledge of HIV/AIDS among surveyed respondents.

Conclusion

This study examines women's level of knowledge on HIV/AIDS, perceptions, attitudes and perceived risk of HIV/AIDS in Malaysia context. The results demonstrate that Malaysian women are generally knowledgeable on HIV/AIDS, but harbouring moderate perception and a discriminatory attitude towards people living with HIV/AIDS. Although Islam is an official religion practised by most Muslims in Malaysia, the level of receptivity of use of condom as one of the effective measures in HIV/AIDS prevention is rather high. More studies should be conducted to investigate the relationships of HIV/AIDS and women.

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Labor standard, pays and labor rights in Cambodia: the case of garment sector

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Abstract

Over the past decades, Cambodian garment sector has been one of the main engines of economic growth. Almost all of the garment products are exported to the United Sates and EU markets. Although the sector has continued to grow, labor standard has not been up to standards demanded by buyers. There are still many kind of abuse of labor rights in the sector. This article examines the relationship between compliance of labor rights and salary of local workers, local staff and foreign staff in garment sector. It is believed that workers who work in high-compliance factory will get salary more than workers who work in low compliance factories. In particular, my research will focus on the following 3 sections. The first section explores the development of garment sector in Cambodia which is the driving force for labor rights movement. The second section describes the abuse of labor rights in the garment sector with the emphasis on health condition of workers. The third section analyzes the difference in salary in factories with different legal compliant level using data from ILO compliance database. The result shows that workers in high-compliance factory earned about $21 more than workers in low-compliance factories. The research result will provide implications for policy makers and other stakeholders to consider the mechanism for improving salary of workers in the garment sector while maintaining the competitiveness of sector in the global economy.

Key Words: *labor standard, trade, salary, labor rights*

1. Introduction

Along with the increase in international trade with global economies, in particular, after the transforma- tion of the economy from planned economy to a market-oriented one, garment sector has become one of the significant sectors in Cambodian economy. The sector play an important role in absorbing labor from rural areas where surplus of labor is abundant. Many female workers who have low level of education migrated to urban areas to work in garment sector which has continued to grow in particular since 1995. Favorable tax policies to attract

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foreign direct investment, cheap domestic labour cost, and preferential trade treatment provided by developed countries are amongst the factors that boost foreign direct invest- ent to Cambodia. Although the garment sector has continued to grow, compliance of labor standard still need to be improved.

Better Factory Program of ILO has worked on labour compliance in the belief that decent working con- ditions can spark market competitiveness, create a thriving society and build a vibrant economy. Compl- iance database has been recently disclosed to the public. The program launched in Cambodia in 2001 and targets over 500 factories and 500,000 workers. Recently, BFC has launched Transparency database to disseminate factory compliance data to the public in order to support the competitiveness of the Cambod- ian garment industry and to help build the reputation of Cambodia as an ethical sourcing destination. Better Factories Cambodia(BFC) is a program managed by the International Labor Organization (ILO) whose mission is to monitor factories, train management and workers, and provide guidance and advice on factory improvements that help enterprises preserve profits while respecting workers' rights. It was linked to an innovative trade agreement between the Royal Government of Cambodia (RGC) and the United States of America (USA). Better Factories Cambodia (BFC) emerged from the belief that decent working conditions can spark market competitiveness, create a thriving society and build a vibrant economy. BFC started in 2001.

Trade agreement has been used to promote labour standard in the garment sector in Cambodia. The U.S.–Cambodia Bilateral Textile Agreement, initially covering 2000 and 2001 and later extended until 2004, provided an incentive to increase the quota for Cambodian garment export to the US linked to ongoing improvements in labour conditions in garment factories. The program launched in Cambodia in 2001 and targets over 500 factories and 500,000 workers. Recently, BFC has launched Transparency database to disseminate factory compliance data to the public in order to support the competitiveness of the Cambodian garment industry and to help build the reputation of Cambodia as an ethical sourcing destination. The publicly disclosing factory-specific compliance information has these objectives:

The percentage of low compliance factories shows a declining trend, which declined to 4.44% in January 2016 from 10% in January 2014[2]. In compliance database, factories are measured against 52 issues governing fundamental rights, Cambodia's labour law and regulations, and other international instruments (21 critical issues plus 31 additional "low compliance issues"). Transparency Database now contains information of about 824 assessments covering 450 factories-78.2% of the garment factories in Cambodia that possess licenses to export. In the database, those 450 factories are divided into 2 types: low

[2] Better Factories Cambodia: Garment Industry 33rd Compliance Synthesis Report produced in June 2016

compliance factories and others. A total of 25 out of 450 factories in the Transparency Database are now on the Low Compliance list.[3]

This article examines the relationship between compliance of labor rights and salary of local workers, local staff and foreign staff in garment sector. It is believed that workers who work in high compliance factory will get salary more than workers who work in low compliance factories. In particular, my research will focus on the following 4 sections. The next sections will: (1) describe research method and data, (2) explore the development of garment sector in Cambodia which is the driving force for labor rights movement (3) describe the abuse of labor rights in the garment sector with the emphasis on health condition of workers and (4) analyzes analyze the difference in salary in factories with differ- rent legal compliant level using data from ILO compliance database. The result shows that workers in high-compliance factory earned about $21 more than workers in low-compliance factories. The research result will provide implications for policy makers and other stakeholders to consider the mechanism for improving salary of workers in the garment sector while maintaining the competitiveness of sector in the global economy.

2. Research Method and The Data

This paper will address the following three questions. First, what is the recent development of the garment sector? Second, how does the abuse of labor rights in the garment sector look like recently? And the third question is about whether there is difference in average salary of workers in low-compliance factories and high-compliance factories. The answer the first two questions, I conducted desk reviews of some research articles previously conducted by independent researchers and international organizations such as ILO. In addition, to answer the third question, I conducted independent sample t-test for average salary of employ- ee in low-compliance and high-compliance factory. A sample of 258 factories is drawn from 506 effectively operating factories to test whether there is a difference in mean salary between the two groups of factories.

The data for analysis are taken from two sources, ministry of commerce and ILO compliance database. The ILO compliance database, as of October 2016, contained information of about 824 assessments covering 450 factories. Each factory is measured against 52 issues governing fundamental rights, Cambodia's labour law and regulations, and other international instruments (21 critical issues plus 31 additional "low compliance issues"). I selected only factories whose assessments are made in 2014 to fit salary paid in 2014. On the other hand, the Trade Preferences System Department of Directorate General for International Trade at Ministry of Commerce recorded monthly data of the Garment and Textile Company Profile which includes salary, source of company. For May 2014, there were 792 GSP registered

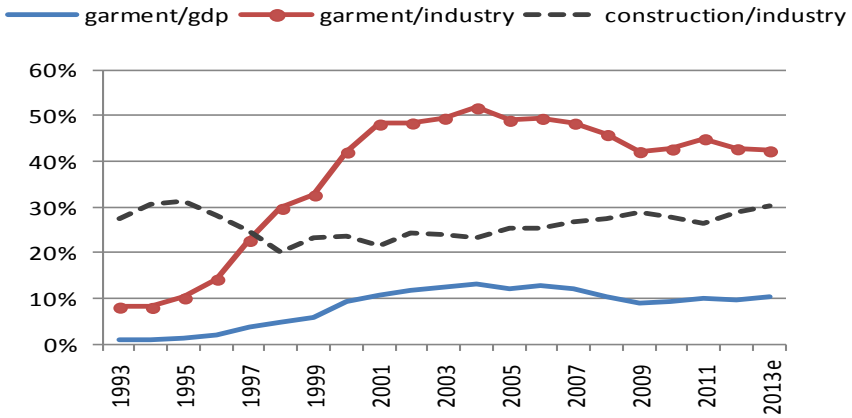
[3] http://betterfactories.org/transparency/pages/view/17#_edn1 accessed on 9 October 2016, Better Factories Cambodia Transparency Database Report, 7th Cycle 7 July 2016

garment and textile factories of which 506 Factories are effectively operating[4]. After matching data from Ministry of Commerce and data from ILO compliance database, a sample of 258 factories drawn from 506 effectively operating factories, was selected for analyzing the relationship between legal compliance and salary. Of these 258 factories, 12 are low-compliance factories and 246 high-compliance factories.

3. The development of garment sector in Cambodia

Along with the increase in international trade with global economies, in particular, after the transform- ation of the economy from planned economy to a market-oriented one, garment sector has become one of the significant sectors in Cambodian economy. For the past 20 years, Cambodian garment sector, which achieved a relatively high rate of growth, has been one of the main engines of Cambodia's economic gro- wth which has been maintained around 7%. Over 1994-2012 period, the annual growth rate of the garm- ent sector (Textile, Wearing Apparel & Footwear) was around 29% (source: MEF). Since 1999, value added generated in the garment sector was between 40 % and 50% of the industry sector. This amount is equivalent to about 10 % of the nation's GDP. Construction sector was the second largest contributor to industry sector after garment sector. Construction sector share in industry sector was about 30 %.

Garment Sector as share of GDP and as share of Industry (at Current Prices)



Source: Data from Ministry of Economy and Finance

Despite strike, political unrest, global market uncertainty, and higher minimum wage, the garment industry in Cambodia continued to growth. The number of garment factories has

[4] Factories are divided into 4 types. Of the 792 GSP registered Factories , (1) On-going closures : 153 Factories, (2) Temporarily Closed : 08 Factories, (3) Definitely Closed : 125 Factories, (4) Effectively operating:506 Factories

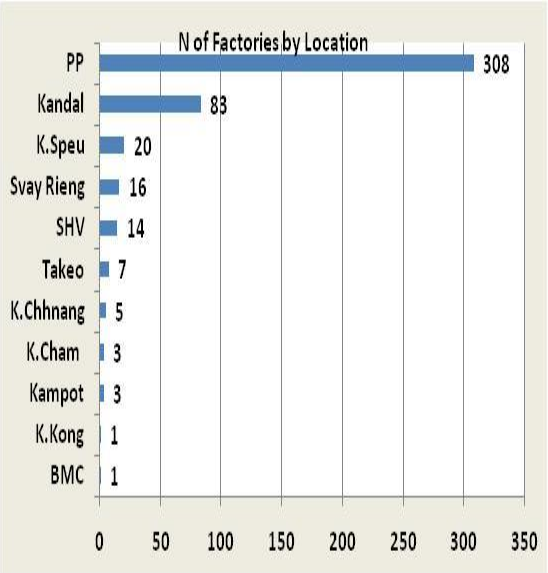
grown from 20[5] in 1995 to 742 in May 2014[6].The labor surplus in relatively low-productivity agriculture sector has been rapidly liberated to work in higher-productivity garment sector and in urban areas which grow remarkably. And the total employment in the industry (textile, non-textile and footwear) increased from 18,700 in 1995 to 681,182 workers in May 2014. The total wage payment reached $ 93,707,224.90 for May 2014. On aver- age a worker received $ 137.5 /month in May 2014.

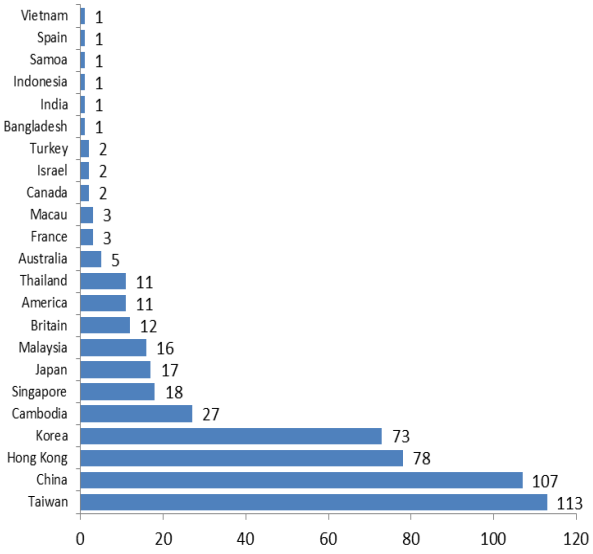
Most of the garment factories are foreign owned and concentrated in Phnom Penh. The Cambodian garment industry started in 1993 when foreign investors started to venture into Cambodia. With the granting of MFN/GSP trade privileges to Cambodia in1996 by both the USA and EU, the garment industry has maintained its preeminent position in the industrial landscape of Cambodia and after 1993 constitution of the Kingdom of Cambodia which established a free-market. Article 56 of the constitution states the Kingdom of Cambodia shall adopt market economy system. Moreover, 1994 law on investment provided incentives for investors in garment industry. Since then, there has been a large movement of female labor from rural areas to urban areas to work in garment factories which are mostly concentrated in capital of Phnom Penh and foreign owned. The investment in the garment sector is mainly from Taiwan, Korea and China. As of May 2014, 506 active garment factories (excluding foot wear) employed 480,000 employees. Most of active garment factories are located in Phnom Penh. 67 % of the total number of factories is located in Phnom Penh and 18% in Kandal province. Only 15% are located in other provinces. Almost all investments in the garment sector are from abroad, in which 22.3% of the factories are owned by Taiwanese investors. The top 4 owners are investors from Taiwan, China, Hong Kong and Korea who altogether owned 73% of the factories. Cambodian investors own 5.4% of the total number of factories.

Factory ownership and location in Cambodia (Data from MoC Garment Profile, May

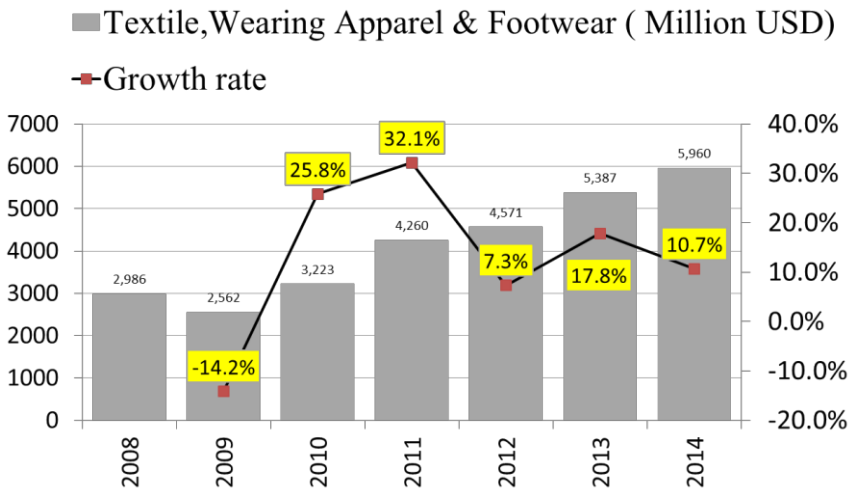
[5] MEASURING COMPETITIVENESS AND LABOR PRODUCTIVITY IN CAMBODIA'S GARMENT INDUSTRY, June 2005 by Nathan associates, inc
[6] Ministry of Commerce, the data include all operating factories: textile, non-textile and footwear

2014)





Garment products are the main export items for Cambodian Economy. And almost all of the garment prod- ucts are exported to the United Sates and EU markets. In 2014, according to data from general department of Customs and Excise, the total value of export recorded $8090 million of which about $6000 million , or 74% of the total export value, is the valued of garment products exported.



The export markets are concentrated in US and EU. During 2015, 46 per cent of Cambodia's garment and footwear exports went to the EU, while 30 per cent were shipped to the US market. The remaining 24 per cent were destined for other markets, mainly

Canada and Japan. An increasing share of Cambodia's exports from the sector has gone to the EU in recent years, with the US share falling[7].

Minimum wage and total wage payment has been improved. However the number of strikes is still large.

		Minimum Wage ($)		Mandatory allowances and bonuses				
Date	Probation	Regular	Transport and Accom	Health care	attendance	living support	OT meal	Seniority
1997	-	40	-	-	-	-	-	-
Aug-00	40	40	-	-	5	-	0.25	2 to 5
Jan-07	45	50	-	-	5	-	0.25	3 to 5
Apr-08	45	50	-	-	5	6	0.25	4 to 5
Oct-10	45	61	-	-	5	-	0.25	5 to 5
Mar-11	56	61	-	-	7	-	0.25	2 to 11
Jan-12	56	61	-	5	7	-	0.25	3 to 11
Sep-12	56	61	7	5	10	-	0.25	4 to 11
May-3	75	80	7	-	10	-	0.25	5 to 11
Feb-14	95	100	7	-	10	-	0.25	6 to 11
Jan-15	123	128	7	-	10	-	0.25	7 to 11
Jan-16	135	140	7	-	10	-	0.25	8 to 11

There is a gap in salary among different types of employees. Local staff can earn about twice more than local workers; and foreign staff can earn about twice more than local staff. The number of foreign staffs accounts for 1.3% of total employees, local staff 2.4 % and workers 96.3 %. However, foreign staff's salary account for 6.3% of the total salary. On average, a local worker received 135$, a local staff 304$ and a foreign staff 725$ as they received higher pay than local workers.

There is also variation in average salary of workers amongst factories from different countries. An average worker in factories from Israel, Australia, Indonesia, Spain, Turkey, Japan received more than an average worker in factories from Hong Kong, China and Thailand. In addition, there are some factories that pay lower than the minimum wage to workers. About 14% of the 506 factory paid an average salary lower than 95USD which is the minimum wage in May 2014.

[7] Cambodian Garment and Footwear Sector Bulletin, Issue 3 | March 2016, ILO

		Total Salary (in USD)for				Total Number of				Average Salary (in USD)of			
source	N	employees	workers	foreign staff	local Staff	employees	workers	foreign staff	local Staff	employee	worker	foreign stat	local Staff
Israel	2	108,149	103,773	1,000	3,376	551	539	4	8	196	193	250	422
Australia	5	548,156	430,381	74,727	43,048	2,550	2,348	70	132	215	183	1,068	326
Indonesia	1	233,435	224,728	2,075	6,632	1,266	1,227	20	19	184	183	104	349
Spain	1	87,503	67,530	15,012	4,961	400	373	11	16	219	181	1,365	310
Turkey	2	264,000	249,150	9,250	5,600	1,539	1,510	13	16	172	165	712	350
Japan	17	936,221	807,951	66,107	62,163	5,338	5,083	76	179	175	159	870	347
Bangladesh	1	253,241	234,956	10,650	7,635	1,555	1,503	25	27	163	156	426	283
Britain	12	3,736,262	3,086,203	353,020	297,039	22,422	21,420	253	749	167	144	1,395	397
Canada	2	173,242	158,787	8,740	5,715	1,152	1,115	19	18	150	142	460	318
France	3	141,163	123,433	10,677	7,053	912	868	19	25	155	142	562	282
Malaysia	16	2,860,085	2,364,230	248,369	247,486	17,836	16,713	282	841	160	141	881	294
Taiwan	113	16,591,615	14,693,126	1,061,619	836,870	108,386	104,014	1,531	2,841	153	141	693	295
Korea	73	10,784,471	9,570,531	775,434	438,506	71,383	69,337	668	1,378	151	138	1,161	318
Cambodia	27	4,202,419	3,926,880	143,236	132,302	29,325	28,617	233	475	143	137	615	279
America	11	1,944,260	1,680,074	142,111	122,074	13,382	12,573	211	598	145	134	674	204
Hong Kong	78	11,759,915	10,619,105	478,190	662,620	82,508	79,586	962	1,960	143	133	497	338
Vietnam	1	13,655	12,245	1,110	300	102	93	7	2	134	132	159	150
Singapore	18	3,748,260	3,038,385	452,325	257,550	24,708	23,190	660	858	152	131	685	300
Macau	3	1,009,135	957,800	11,575	39,760	7,690	7,519	34	137	131	127	340	290
Thailand	11	789,216	696,725	40,272	52,219	5,836	5,608	95	133	135	124	424	393
China	107	9,972,697	9,144,990	543,016	284,691	77,713	75,663	867	1,183	128	121	626	241
India	1	219,434	172,384	21,750	25,300	1,571	1,496	29	46	140	115	750	550
Samoa	1	211,105	210,105	-	1,000	2,084	2,001	75	8	101	105	-	125
Total	506	70,587,637	62,573,471	4,470,265	3,543,901	480,209	462,396	6,164	11,649	147	135	725	304

Most of the garment factory workers are from rural areas with low level of education. Kang (2009) interviewed 300 garment workers of whom 90% (270) were female and 10% (30) were male. The average age is 24 years old; most are 21 years of age. The majority (68%) are single, while 25% are married and 7% are widow/widower. Only 12% (or 35 people) are head of their households, while the remaining 88% (265 people) are income earners. Almost all of the workers (94.3%) have no more than a 9th grade education[8].

Level of Education Attained Frequency Percent	Percent
Illiterate or almost illiterate	3.70%
Some primary school but not completed	25.70%
Primary school (grades 1-6)	24%
Lower secondary school (grades 7-9)	41.30%
Secondary school (grades 10-12)	5%
Technical training diploma (1-3 years)	0.30%
Associates degree or higher	0.30%
Total	100%

Despite low education level, garment factory workers are not offered systematic skill or technical training. According to a study by CDRI in 2010, of the total sample of 300 workers, only four respondents (two from Chinese factories) had received training in new design and labour law. However, 41 percent of Chinese factory workers and 63 percent of non- Chinese

[8] Study on Minimum Wage for Cambodia's Garment Industry, September 30, 2009, Dr. Kang Chandararot and Ms. Liv Dannet

workers feel they have gained specific skills or knowledge from their current job, though most of them have only attained basic skills through their daily work[9]. Because of this lack of trainings, most of management staffs are from abroad. Total salary paid in May 2014 for all employees in the garment and textile factories was about 70 million USD.

4. Some forms of abuse of labor rights in the garment industry

Legal frameworks[10] have been in place in Cambodia. However, there is still a lack of legal enforcement. Abuse of labour rights has been identified as follow:

- **Wage and living condition: workers cannot receive a living wage**

Although some labor income can support their living and to some extent their families, their working conditions are still very poor. Most of the workers need to cut back their consumption spending to a level that they cannot consume healthy foods; and some are forced to work overtime to meet the order schedule of companies; some are forced to live in rooms with poor sanitation. As of February 2014 the minimum wage will be increased by 25% to $100 per month with the addition of $5 for healthcare benefits. The low salary received by garment workers has a significant impact on workers' ability to live in humane conditions and to provide for basic needs. Workers are often unable to maintain a decent diet, live in adequate housing, or provide for their families and save for the future.

A report by UK-based Labour Behind the Label and Cambodia-based Community Legal Education Centre released in September 2013 estimates that that workers, on average, consumed just under 1,600 calories per day, about half of the recommended amount. It is undeniable that the minimum wage cannot cover the cost of proper nutrition and other basic needs. The study, a joint effort by the ILO's Better Factories Cambodia project, the French Development Agency and local analysis firm Angkor Research and Consulting Ltd, found that 43.2 percent of garment workers suffer from anemia, and 15.7 percent are underweight. It also found that garment workers, whose current monthly minimum wage is U.S. $100, spend about U.S. $9 a week on food, or U.S. $1.30 a day[11]. A survey by CDRI conducted in 2010 found that only about 50% of workers sent home some money for daily food consumption, investing in agriculture, supporting education of family members, paying debt, saving for children, and buying farm land. And around half of the respondents from

[9] Assessing China's Impact on Poverty Reduction in the Greater Mekong Sub-region: The Case of Cambodia, Working Paper Series No. 52, June 2011

[10] See Annex 1: Legal framework and Labor rights: local and international instruments

[11] **Cambodian Garment Factory Workers Suffer From Lack of Nutrition, Radio Free Asia 1014-10-01, http://www.rfa.org/english/news/cambodia/workers-survey-10012014180239.html**

both Chinese and non-Chinese factories believed that their household's economic status had improved[12].

Many factories paid salary lower than minimum wage of 95$ in May 2014.

				Average salary is lower than the minimum wage	
country	Frequency	Percent	Valid Percent	Yes or No	N of factory
Bangladesh	1	0.2	0.2		
India	1	0.2	0.2		
Indonesia	1	0.2	0.2		
Samoa	1	0.2	0.2		
Spain	1	0.2	0.2		
Vietnam	1	0.2	0.2		
Canada	2	0.4	0.4	Yes	1
Israel	2	0.4	0.4		
Turkey	2	0.4	0.4		
France	3	0.6	0.6	Yes	1
Macau	3	0.6	0.6	Yes	1
Australia	5	1	1		
America	11	2.2	2.2		
Thailand	11	2.2	2.2	Yes	3
Britain	12	2.4	2.4		
Malaysia	16	3.2	3.2	Yes	3
Japan	17	3.4	3.4		
Singapore	18	3.6	3.6	Yes	2
Cambodia	27	5.3	5.3	Yes	4
Korea	73	14.4	14.4	Yes	4
Hong Kong	78	15.4	15.4	Yes	13
China	107	21.1	21.1	Yes	23
Taiwan	113	22.3	22.3	Yes	15
Total	**506**	**100**	**100**		**70**

- **Workplace conditions**

Garment factory workers are still working under severe conditions which negatively affect health and safety. For instance, some factories kept emergency doors locked during working hours, putting workers at risk of death in the event of a fire, failed to conduct emergency fire drills. Furthermore, workers are consistently exposed to high temperatures and to high levels of chemical substances for very long hours, which are exacerbated by poor ventilation systems, all of which directly harm workers' health. Episodes of mass fainting are a

[12] Assessing China's Impact on Poverty Reduction in the Greater Mekong Sub-region: The Case of Cambodia, Working Paper Series No. 52, June 2011

regular occurrence in Cambodian garment factories resulting from poor hygiene, insufficient nutrition, overheating and exposure to chemicals, excessive overtime, which are made worse by poor ventilation, exhaustion, and mass hysteria. A Ministry of Labour official said yesterday that more than 1,000 people have fainted so far this year in around 20 factories across the country (Mon, 23 November 2015, Phnom Penh Post). About 300 of people working at six different factories in Kandal province's 7NG Special Economic Zone fainted on Friday, with most blaming a pesticide that was believed to have caused a separate mass-fainting incident in the area a day earlier (Mon, 23 November 2015, Phnom Penh Post). More than 60 female workers fainted in a Cerie (Cambodia) Garment Co Ltd factory in Kampong Speu on 8 December 2015, a day after 46 garment workers fainted at the same factory (Wed, 9 December 2015 Phnom Penh Post) . The factory sprayed pesticides to kill insects on holiday Sunday and when workers came to works on Monday they get fainted as the factory did not switch on the fan. The 100 workers in Kandal, employed at Winnie Fashion Co Ltd, were protesting what they called poor physical working conditions and the company's hostile attitude towards unions(Wed, 9 December 2015 Phnom Penh Post). In addition, there are also concerns regarding the sturdiness of buildings used for factories. In May 2013, collapsing structures at two separate factories – the Wing Star shoe factory and the Top World Factory – resulted in three deaths and multiple injuries.

- **International competition as a threat to workers' living condition:**

While increasing international competition is a valid concern, it appears that it is often exaggerated and used as a threat to remind workers of the precariousness of their employment and to keep them from demanding better wages or improved working conditions (Ama Marston 2007).

- **Compulsory overtime work and long working hour:**

Compulsory overtime presents a central issue in many factory disputes in Cambodia and has led to numerous strikes. While overtime is allowed under Cambodian law, it is to be limited to two hours per day and should be voluntary. This is one of the most common patterns post-MFA, according to workers. Complaints range from being forced to work on Sundays and public holidays to being told that if they decline working one day of overtime, they will never be given overtime again. Women are also finding it more difficult to refuse overtime even if they are pregnant or sick (Ama Marston 2007).

The working time of garment factory is 6 days per week and 8 hours per day. When counting the overtime work, a worker works more than 48 hours per week. This working hours is too excessive compared to government official workers who work 5 days per week. Workers in most of private businesses work 5 days and a half. The principle of the eight-hour day and 48-hour week, as maximum normal working hours, has been internationally established since 1919, when the first ILO Convention was adopted. Forty-Hour Week Convention, 1935 (No. 47) should be applied in garment sector.

- **Sexual harassment and assault:**

Most women working at garment factories in Cambodia have left their homes in the provinces and rent rooms near factories they are working for. They rent wrecked houses or rooms to share with large numbers of people. They live under constant fear of rape and robbery. Those workers who have to commute to work on overcrowded and often broken buses experience sexual harassment from male colleagues. The ILO in conjunction with UNIFEM and CARE has undertaken a project to gather information about these sensitive issues. In a preliminary survey of 27 workers who had expressed concern over being raped and/or killed, six had already been raped or had a close friend that was, and an additional eight workers had an acquaintance who had been raped. Several of these instances are linked to working overtime. While these problems are widespread, the factory managers have done little or nothing to ensure workers' safety or take this into account in the scheduling of workers' hours (Ama Marston 2007).

- **Contracts and job security: increasing use of temporary contracts**

Contract abuses are generally the way that factory owners and managers cope with fluctuations in demand. In Cambodia Labor Law, there are two types of labor contracts: fixed duration contract(FDC) and unlimited duration contract (UDC). FDCs are widely implemented throughout the industry. Factories prefer short-term contracts because(1) it is easier for them to get rid of workers, (2) FDCs allow factories to evade the Labor Law pertaining to annual leave and paid maternity leave, as annual leave can only be taken after an employee has worked for his employer for one year. In contrast, UDCs provide more protections for workers, as they require notice prior to termination or compensation when no notice is given, and grant the employee paid leave to search for new employment. FDCs, on the other hand, only require notice if contracts are more than six months in length, and only require a very limited severance pay if no amount is specified in the collective agreement. Most factories may opt not to set a severance amount for any collective agreements in which they enter, knowing that ultimately they would only have to pay workers 5% of their total wages over the contract period. Factories can lower the amount of this severance pay by shorten the contract period. Most workers are working on 2-month contract. However, management staffs are mostly on 6-month contract.

Other abuses of working condition are still prevalent in garment sector. Workers are facing with the threat of contract termination when they join strikes. For example, About 200 workers of Len Hao factory in Russey Village, Stoeng Meanchey District came to Ministry of Labor and Vocational Training (MoLVT) to demand for 17 working conditions, in particular, for their 14 worker representatives to get back to work after they were laid off by the factory (Koh Santepheap Daily,10 May 2016) . Another example is that some company changed their names in order to avoid some payment burden. About 200 workers of Sou Tongfang in Tourl Sangke Village, Tourl Sangke District to demand for 14 working conditions including seniority payment as the factory changed the name to Vanlin Zunheng (Koh Santepheap Daily,10 May 2016).

- **Overloaded Trucks for carrying workers**

Cambodian workers who do not live close to factories use truck or Romok for commuting. Often they crammed into the back of an old, overloaded, and poorly maintained truck. Coupled with careless, unlicensed drivers, a lot of garment workers were killed or injured when they commuted to work. Low pay is one of the reasons why garment workers use overloaded private truck for commuting to work.

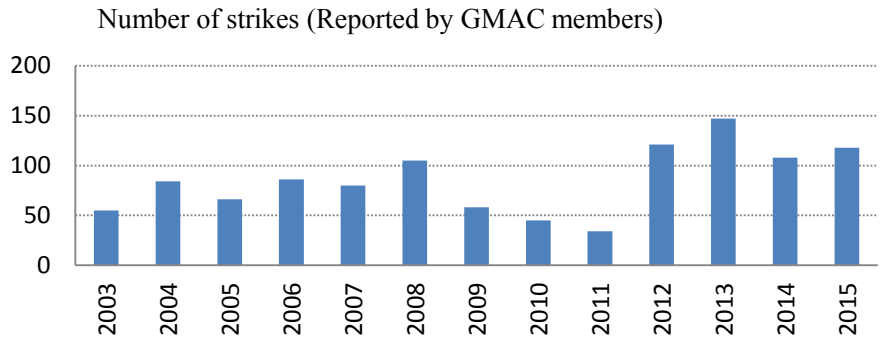
Eighteen garment workers of the overloaded 65 garment workers were sent to the hospital as the driver driven at about 80 km per hour and both back tires blew out in Kampong Speu Province (April 28, 2016. The Cambodia Daily).

- **Reproductive and maternal health**

As garment factory workers are predominantly women, the lack of access to adequate reproductive and maternal health services and protections is a significant issue. The Labor Law guarantees 90 calendar days paid maternity leave, taken either before and/or after delivery (Article 182). According to a study by ILO conducted in 2012, many women force themselves to work until the very last day before the delivery and many women on FDCs do not get their contracts renewed after they go on maternity leave. Furthermore, the return to work after delivery remains an issue for many women. Most of the factories don't set up a nursing room and a day-care center.

- **Strike and Demanding**

As reported by GMAC member, over the past 4 years, the number of strikes has increased. In 2015, 118 stikes occurred compared to only 66 strikes in 2005. At December 2014, GMAC which was established in 1996 has a total of 570 export oriented garment factory members and 58 footwear factory members, as well as 70 associate members. Those members employ more than 600,000 workers in Cambodia (GMAC yearly bulletin 2015). The increase in strikes, in part, reflects the unsatisfied working conditions and labor abuse. Most strikes demanded seniority, abuse of employment contract and labour law. As of 22 March 2016, the number of strikes taking place at GMAC member factories was 8 and 6 ended while 2 were still on strike and waiting for a further solution. Of the 8 strikes, 3 strikes demanded that factories closing down and changing location pay them (pay seniority) in accordance with the Labour Law, 1 strike demanded that the company end their employment contract and pay them 5%, 1 strike demanded the removal of Chinese manager, and 3 strikes demanded that the company implement the labour law and other points (Monthly Newsletter GMAC march 31 , 2016).



- **Housing condition**

The conditions of the housing are similar. Rooms are usually no more than 12 m2, costing around $25 per month, which usually includes water but not electricity. To save on rent, rooms are usually share among 3-5 workers. There is usually no fan in the room because workers cannot afford electricity, which makes the room hot and stuffy at night. A single room is used for kitchen, sleeping bed, and wardrobe. Most of workers who rent a place share toilet. This hosing condition poses harmful effect on workers' health.

5. Labour compliance and salary

The percentage of low compliance factories shows a declining trend, which declined to 4.44% in January 2016 from 10% in January 2014[13]. In compliance database, factories are measured against 52 issues governing fundamental rights, Cambodia's labour law and regulations, and other international instruments (21 critical issues plus 31 additional "low compliance issues"). Transparency Database now contains information of about 824 assessments covering 450 factories-78.2% of the garment factories in Cambodia that possess licenses to export. In the database, those 450 factories are divided into 2 types: low compliance factories and others. A total of 25 out of 450 factories in the Transparency Database are now on the Low Compliance list.[14]

The following results use independent sample t-test to compare the mean salary for two different groups of factories, which are classified based on the level of compliance. Salary is also categorized into 3 types: worker salary, local staff salary, and foreign staff salary. A sample of 258 factories is drawn from 506 effectively operating factories to test whether there

[13] Better Factories Cambodia: Garment Industry 33rd Compliance Synthesis Report produced in June 2016

[14] http://betterfactories.org/transparency/pages/view/17#_edn1 accessed on 9 October 2016, Better Factories Cambodia Transparency Database Report, 7th Cycle 7 July 2016

is a difference in mean salary between the two groups of factories. Since there are different levels of compliance, we have the following types of groups:

1- low compliance factories (as noted in ILO compliance database) Vs high-compliance factories
2- factory with at most two non-compliance issue among 21 critical issues Vs others

The results are as follows:

1- low compliance factories (as noted in ILO compliance database) Vs high-compliance factories

For workers, the independent sample t-test indicates that there is a significant difference in salary for average salary of workers in low-compliance factories and high-compliance factories at a confidence level of 10% , t(256)=1.94, p=0.053, two-tailed with salary of high-compliance factory workers (Mean= $139, SD=37.8) higher than salary of low-compliance factory workers(Mean= 117, SD= 41.6) . The magnitude of the differences in the means (mean difference = $21.8, 95% CI: -0.28 to 44) was small (eta squared =0 .014). However, for foreign staff and local staff, there are no significant differences in salary in low-compliance factories and high-compliance factories.

Employee type	Compliance	N	Mean	Std. Deviation
average salary of workers	high compliance	246	139.1	37.8
	low compliance	12	117.3	41.6
average salary of foreign staff	high compliance	238	673.7	519.5
	low compliance	12	483.3	263.4
average salary of local staff	high compliance	246	293.9	203.7
	low compliance	12	259.2	76.3

Employee type		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
average salary of workers	Equal variances assumed	0.02	0.89	1.94	256.0	**0.053***	21.8
	Equal variances not assumed			1.78	11.9	0.1	21.8
average salary of foreign staff	Equal variances assumed	1.81	0.18	1.26	248.0	0.2	190.4
	Equal variances not assumed			2.29	15.7	0.0	190.4
average salary of local staff	Equal variances assumed	1.27	0.26	0.59	256.0	0.6	34.8
	Equal variances not assumed			1.36	19.9	0.2	34.8

2- factory with at most two non-compliance issue among 21 critical issues Vs others

There are no significant differences in salary in low-compliance factories and high-compliance factories for all types of employees. This suggest that the assessing only the 21 critical issues (issue 1 to issue 21) may not be enough to guarantee that workers will have better salary when they move to work in factories which comply with most of the 21 critical

issues. The ILO compliance data base should disclose more information of high-compliance factories.

	At most non-compliance with two critical issues Vs others	N	Mean	Std. Deviation	Std. Error Mean
average salary of workers	at most noncompliant with 2 critical issues	175	137.50	34.85	2.63
	others	83	139.28	44.63	4.90
average salary of foreign staff	at most noncompliant with 2 critical issues	172	696.68	534.50	40.76
	others	78	593.85	451.76	51.15
average salary of local staff	at most noncompliant with 2 critical issues	175	299.49	226.29	17.11
	others	83	277.20	126.39	13.87

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
average salary of workers	Equal variances assumed	4.212	0.04	-0.351	256	0.726	-1.78921
	Equal variances not assumed			-0.322	131.13	0.748	-1.78921
average salary of foreign staff	Equal variances assumed	2.78	0.1	1.476	248	0.141	102.82604
	Equal variances not assumed			1.572	174.19	0.118	102.82604
average salary of local staff	Equal variances assumed	1.645	0.2	0.837	256	0.403	22.29081
	Equal variances not assumed			1.012	249.3	0.312	22.29081

Conclusion

Along with the increase in international trade with global economies, in particular, after the transformation of the economy from planned economy to a market-oriented one, garment sector has become one of the significant sectors in Cambodian economy. Although there is a demand for legal compliance from international buyers, an increase in minimum wage and some political uncertainty in the country, garment sector have continued to grow. Export value, number of employments, total salary paid to workers, all showed positive change in recent years. However, abuse of labour rights still exist in garment sector, that required continued monitoring from government as well as from international organizations.

Disclosing factory compliance database can be very useful for improving salary of workers. The independent sample t-test shows that there is a significant difference in salary for average salary of workers in low-compliance factories and high-compliance factories. Salary of high-compliance factory workers is about $21.8 higher than average salary of workers in low-compliance factories.

Annex 1: Legal framework and Labor rights: local and international instruments

Domestic Law

Constitution, Article 36

- Khmer citizens of either sex shall enjoy the right to choose any employment according to their ability and the needs of the society.
- Khmer citizens of either sex shall receive equal pay for the same work.
- Housework shall have the same value as work outside the home.
- Khmer citizens of either sex shall have the right to obtain social security and other social benefits as determined by law.
- Khmer citizens of either sex shall have the right to form and to be members of trade unions.
- Article 37 of the Constitution also guarantees the right to strike and engage in non-violent
- demonstrations, and Article 46 provides additional protection to women by prohibiting discrimination
- against pregnant women and guarantees the right to maternity leave.

Cambodia's labor law

Building on the basic rights protected in the Constitution, the Labor Law 1997 covers all situations where there is an employer-employee relationship, and further cements labor rights for workers. The Labor Law:

- Prohibits discrimination based on race, gender, ethnicity, religion, union membership, or other characteristics (including political opinion), when making professional decisions such as hiring, advancement, promotion, remuneration, discipline, or termination (except as provided by law) (Article 12);
- Guarantees a minimum wage that will ensure workers a "decent standard of living compatible with human dignity" (Article 104);
- Guarantees equal pay for equal work, irrespective of age, gender, or ethnicity (Article 106);
- Incorporates standards of workplace safety, hygiene, and cleanliness, with criminal sanctions for failing to implement health and safety measures in the workplace (Articles 229-30 and Article 80);
- Establishes a maximum of 48 hours per week that an employee can work, with no more than eight hours worked per day, six days per week, and with increased pay for required overtime work (Articles 137, 139 and 146)

- Guarantees minimum paid annual leave (equal to one and a half days of paid leave per month worked) (Article 166); and

- Establishes a minimum working age of 15 years old (although it can be lowered to 12 years old and increased to 18 years old depending on the nature of the work) (Article 177)

Union rights

- Chapter V of the Labor Law protects the right to establish collective labor agreements to determine working conditions and relations between employers and employees, including guarantees against social risks. Moreover, Chapter XI covers the freedom of trade unions and worker representation, while Chapter XIII covers the legal framework regarding strikes and lockouts.

International Law

The human rights and principles most relevant to the daily operations of garment factories that are protected by these international instruments include:

- The right to freedom of assembly and association, including the right to form and join trade unions
- The right to freedom of expression
- The abolition of slavery and forced labor
- The abolition of child labor
- The right to equal pay for equal work
- The right to equality at work
- The right to non-discrimination; and
- The right to just and favorable remuneration.

The RGC has ratified and is thus legally bound by all of the eight socalled fundamental ILO Conventions :

1. Forced Labour Convention (1930, No. 29)
2. Freedom of Association and Protection of the Right to Organize Conventions (1948, No. 87)
3. Right to Organize and Collective Bargaining Convention (1949, No. 98)
4. Equal Remuneration Convention (1951, No. 100)
5. Abolition of Forced Labour Convention (1957, No. 105)
6. Discrimination (Employment and Occupation) Convention (1958, No. 111)
7. Minimum Age Convention (1973, No. 138); and
8. Worst Forms of Child Labour Convention (1999, No. 182).

Annex 2 : Compliance issues. Factories are measured against all 52 issues: (21 "Critical Issues" plus 31 additional "Low Compliance Issues")

No	Cluster	Critical Issues	IMS Questions	Legal
1	Fundamental rights	Child labour is not found, or (where confirmed) is remediated	Is there any indication that the factory employs children below the age of 15? (Based on visual check and random record checks during factory visit)	C 38; LL 177(1, 4) P 307/07
2	Fundamental rights	No forced labour	Is there any evidence of forced (involuntary) labour?	C29, C1, LL 15
3	Fundamental rights	No discrimination against workers during hiring, employment, or termination based on their race, colour, sex, religion, creed, ancestry, social origin, or political opinion	Does management discriminate against workers during hiring, employment, or termination based on their race, colour, sex, religion, creed, ancestry, social origin, or political opinion?	LL 12, C.111
4	Fundamental rights	Women workers are not dismissed or forced to resign due to pregnancy	Does management dismiss pregnant workers or force them to resign?	LL 12; ILO C111
5	Fundamental rights	Women workers are not dismissed, and their employment status or seniority is not changed during maternity leave	Does management dismiss workers or change their employment status or seniority during maternity leave?	LL12, 169, 182, C. 111
6	Fundamental rights	No sexual harassment	Are workers subject to unwelcome conduct of a sexual nature (physical contact, spoken words, or conduct that creates an intimidating or humiliating work environment)?	LL 172, C. 111; C100. LL 12
7	Fundamental rights	Men and women doing work of equal value receive different pay	Are men and women doing work of equal value, but receiving different pay?	LL 12, C. 100

8	Fundamental rights	No discrimination against any worker due to the worker's union membership or union activities (during recruitment	Has management discriminated against any worker because of the worker's union membership or union activities?	LL 271
9	Fundamental rights	Workers can freely form and join trade unions of their choice	Can workers freely form and join trade unions of their choice?	LL 266, 271, C.87
10	Fundamental rights	The employer has not taken steps to bring the union(s) under its control	Has management taken steps to bring the union(s) under its control?	LL 280, C.87
11	Fundamental rights	A worker's job is not dependent on the worker not joining a union	Is any worker's job dependent on the worker not joining a union?	LL 271
12	Fundamental rights	Management does not interfere with workers or unions when they draw up their constitutions and rules, hold elections, or organize their activities, administration or finances	Does management interfere with workers or unions when they draw up their constitutions and rules, hold elections, or organize their activities, administration or finances?	LL 267, 280, C. 87
13	Fundamental rights	Workers are free not to join a union	Are workers free not to join the union(s)?	LL 273
14	OSH/Emergency	The factory conducts regular emergency evacuation drills (every 6 months)	Does the factory hold regular emergency evacuation drills?	LL 230
15	OSH/Emergency	Emergency exits are unlocked during work hours	Are all emergency exit doors unlocked during working hours, including overtime?	LL 230
16	OSH/Emergency	Sufficient number of emergency exit doors	Does the factory have enough emergency exit doors?	LL 230

17	OSH/Emergency	Proper guards installed on all dangerous moving parts (not including needle guards)	Are proper guards installed on all dangerous moving parts of machines and power transmission equipment? (not including needle guards)	LL 230
18	OSH/Emergency	Water for drinking is clean and sufficient	Does management provide safe drinking water? Does management provide enough drinking water?	LL 229; P.054/00
19	Wages	Minimum wages are paid correctly for all types of workers	Does management pay all workers at least the correct minimum wage for ordinary hours of work?	LL 10, 104; Notice 745/06; LAC Statement, 8 July 2010
20	Wages	Overtime wages are paid correctly for all types of workers	Does management pay all workers correctly for overtime work performed on a normal workday before 22:00?	LL 139; P 80/99; AC 78/04
21	Contracts	Management does not use fixed-term rotating contracts, or otherwise not include the entire period of continuous employment when determining workers' entitlements to maternity leave, attendance bonus, seniority bonus, and/or annual leave	Does management use fixed-term rotating contracts, or otherwise not include the entire period of continuous employment when determining workers' entitlements to maternity leave, attendance bonus, seniority bonus, and/or annual leave?	LL 9, 10, 73, 166, 169; N 017/00

No.	Cluster	Low Compliance* (only)	IMS Questions	Legal Reference
22	Fundamental Rights	Management gets permission from the labour ministry before dismissing union leaders or candidates for union leadership	Does management get permission from the labour ministry before dismissing shop stewards? Does management get permission from the labour ministry before dismissing union leaders or candidates for union leadership?	LL 293, P.305/01
23	OSH/Emergency	Emergency exit doors are accessible	Are all emergency exit doors accessible?	LL 230
24	OSH/Emergency	Access paths are free of obstruction	Are access paths free of obstruction?	LL 229
25	OSH/Emergency	Training to use fire extinguishers (one training/year)	Has management trained enough workers to use the fire extinguishers (both men and women)?	LL 230
26	OSH/Emergency	Fire extinguishers are sufficient	Are there enough regularly serviced fire extinguishers within easy reach of workers?	LL 230
27	OSH/Emergency	Electrical wires and switches are well maintained	Are electrical wires and switches at main electrical switch boxes well maintained?	LL 230
28	OSH/Emergency	Safety warnings are posted on the main electrical switch boxes	Are safety warnings posted on the electrical switch boxes?	LL 230
29	OSH/Emergency	Chemicals are stored properly	Are chemicals properly stored in a separate area of the workplace?	LL 229, 230
30	OSH/Emergency	Chemicals are labelled in Khmer	Are chemical containers properly labelled in Khmer?	LL 230

31	OSH/Emergency	Exhaust ventilation where chemicals are used	Does the factory have satisfactory exhaust ventilation in areas where chemicals are used?	LL 229, 230
32	OSH/Emergency	Proper personal protective equipment is provided	Does management provide proper clothing and equipment to workers who work with chemical substances? Does management provide workers with all necessary protective clothing and equipment?	LL 229, 230
33	Wages	Management keeps one complete and accurate payroll	Does management keep only one payroll ledger that accurately reflects the wages actually paid to workers?	LL 39-41; P 269/01; see also R. 85
34	Wages	Sunday and holiday work payments are paid correctly	Does management pay all workers correctly for work during weekly time off (Sunday)? Does management pay all workers correctly for work on public holidays?	LL 139; LL 10; LL 164; P 10/99; AC 82/06
35	Wages	Severance payments (5%) are paid correctly	Does management pay workers severance pay equal to at least 5% of the total wages paid under the contract when workers' contracts expire or are terminated?	LL 73, 89, 110

36	Wages	Required bonuses and allowances are paid correctly	Does management pay all workers who work regularly the correct attendance bonus per month and any other mandatory wage supplements (including health and transportation allowances)? Does management pay workers the correct seniority bonus? Does management pay all workers the correct meal allowance or give them a reasonable free meal if they work overtime?	N 041/11, 017/00, 745/06; AC 51/07
37	Wages	Wage deductions are legal and authorized	Does management make any unauthorized deductions from workers' wages?	LL 28, 44, 126, 127, 129; see also R. 85
38	Contracts	Workers receive clear written payslips in Khmer	Does management provide clearly written pay slips to workers?	LL 112
39	Hours	Overtime is limited to 2 hours per day and is voluntary	Is overtime voluntary, exceptional, and limited to 2 hours per day?	LL 139, 141(4); P 80/99
40	Hours	Workers are not punished if they refuse to work overtime	Are workers punished if they refuse to work overtime?	P.80/99
41	Leave	Attendance bonuses paid with authorized use of leave	Does management deduct the attendance bonus when workers take annual leave?	LL 168; N 041/11, 017/00, 745/06; AC

42	Leave	Management gives workers annual leave (paid or unpaid) or annual leave compensation	Does management give workers any annual leave at all (paid or unpaid) or any annual leave compensation? Does management give workers at least 18 days of paid annual leave each year? Does management unreasonably restrict workers from taking annual leave? Does management give workers an extra day of annual leave for every three years of service? Does management get workers' consent before converting annual leave to cash compensation?	LL 166; N.017/00
43	Leave	Unused annual leave is paid out upon termination	Does management pay workers for their accrued annual leave (when workers resign, their contracts expire, or they are terminated)?	LL 166, 167
44	Leave	Management gives workers paid sick leave	Does management give workers paid sick leave (100% pay for month 1; 60% pay for month 2; 40% pay for month 3; no pay for months 4-6)?	N 14/02; AC 26/03; MOLVT Policy
45	Leave	Women workers get at least 90 days off for maternity leave	Do women workers get at least 90 days of maternity leave?	LL 182
46	Leave	Maternity leave payments are correct	Do women workers who have worked for more than one year get paid for maternity leave?	LL 182, 183; AC 66/06

47	Leave	Workers are allowed to take special leave (paid or unpaid)	Are workers who request special leave allowed to take any special leave at all (paid or unpaid)?	LL 171; P.267/01
48	Collective Disputes	Conciliation agreements are implemented (rights issues)	Has management implemented the conciliation agreement?	LL 307; P.317/01
49	Collective Disputes	Arbitration awards are implemented (rights issues)	Did management implement the arbitration award?	LL 314
50	Indecent Behaviour	Management, including line supervisors, treats workers with respect	Does management, including line supervisors, treat workers with respect?	LL 172
51	Monitoring	Monitors are allowed entry	Was the ILO monitor's access to the factory restricted in any way?	Factory and BFC MoU
52	Monitoring	All documents requested are provided	Were any documents requested by monitors not provided in a timely manner?	Factory and BFC MoU

* Factories are measured against all 52 issues: (21 "Critical Issues" plus 31 additional "Low Compliance Issues")

ABBREVIATIONS & TERMS:

AC	ARBITRATION COUNCIL (Ruling)
C	ILO CONVENTION
LL	LABOUR LAW (Article)
N	NOTICE
P	MINISTERIAL DECLARATION (Prakas)
R	RESOLUTION
LAC	LABOUR ADVISORY COMMITTEE
MOLVT	MINISTRY OF LABOR AND VOCATIONAL TRAINING

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Knowledge Management Implementation in Prachomklao [1] College of Nursing, Phetchaburi Province, Thailand.

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Abstract

The purposes of this descriptive research were to study the perception of knowledge management, satisfaction of knowledge management implementation and knowledge utilization of nursing instructors, Prachomklao college of nursing, Phetchaburi province. The research sample consisted of 43 nursing instructors that work in the academic year 2015. The research instruments were questionnaires, consisted of a personal data, knowledge management perception, and satisfaction of knowledge management implementation scale, and open-ended question of knowledge utilization. The Cronbach's Alpha Coefficient reliability were .76 and .87, respectively. Data were analyzed by using percentage, mean and standard deviation. The major findings were as follows:
1. The level of knowledge management perception of the respondents were at the high level. (Mean = 4.33, in which the meaning and objective of knowledge management perception were the highest, Mean = 4.58, 4.54, respectively)
2. The level of satisfaction of knowledge management implementation of the respondents were at the high level. (Mean = 3.90, in which the knowledge identification were the highest, Mean= 4.01).
3. The respondents were using the knowledge from best practice to develop both the education and research managements.
4. The results of this study could be used in planning to improve the knowledge management process to sustain learning organization and develop the quality of nursing student and the researcher of Prachomklao college of nursing, Phetchaburi province.

Keywords: implementation/ knowledge management / perception

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Introduction

The globalization of business creates not only challenges but also opportunities for both the private and public sectors. The shift from a production-based to a knowledge-based economy, including the growth of information communications technology (ICT), has been made knowledge management (KM) a fundamental practice across all types and levels of firms. However, since the KM concept is relatively new and requires substantial effort and investment for its implementation, most organizations, especially within the public sector, have not yet reaped its full benefits. The knowledge management is an important tool in the transformative society that all organizations need to adapt for the quickly changes and effectively competitive with others. (Intree, Srisa-ard, & Sirisuth, 2009). Since knowledge is crucial for competitiveness in any sector, understanding knowledge management is particularly important because it is a vital sign for creating an organization's continuity and sustainability.

In Thailand, KM has been adopted by the government as a major component of the reform process to improve various aspects of public administration and public services. KM has become a significant commitment of the Thai government and a key instrument of public management reform. It is central to the way government integrates across various units, shares information, and delivers improved services to internal and external clients. The Office of Public Sector Development Commission of Thailand (OPDC) required public organizations as well as Higher education in Thailand to put knowledge management strategies into their respective strategic plan. KM is considered a crucial indicator in measuring an educational institute's performance. The previous study found that past performance within the organization to ensure efficiency and effectiveness in areas more dependent on several factors, including individual factors and information technology. The success factors in knowledge management, including psychological factors, such as experience, needs, attitudes, motivations, support and culture (Intree, Srisa-ard, & Sirisuth, 2009; Tawonchat, Sansorawisut, & Jomboonruean, 2012; Hansapiromchoke et al, 2015).

Prachomklao college of nursing, Phetchaburi province is an institute of the higher education that need to develop for readiness, quality and agreement on the changing society. It is necessary to introduce the process of knowledge management into the institute management to achieve the knowledge creation, exchange, and learning for create the best-practice and improve quality of work. The development of learning organization should be the academic resources for healthcare providers and community to provide a strong and sustainable health. KM project is the most important in nursing profession education which uses of KM in both theory and practice learning. They all would have many profits for students; teachers and patients to receive maximize quality of caring, safety, trusts which have to be accepted by locally to global society (Intree, 2008).

The aim was to examine how KM was applied in Prachomklao College of Nursing, Phetchaburi province and examined the perception of knowledge management, satisfaction of

knowledge management implementation and knowledge utilization of nursing instructors. The implements KM will foster development at both the individual as well as the organizational levels. This will help the nursing educators to improve its foundations for organizational improvement.

Research objective

The research aimed to study the perception of knowledge management, satisfaction of knowledge management implementation and knowledge utilization of nursing instructors, in Prachomklao College of Nursing, Phetchaburi province.

Research framework

This study based on the knowledge management (KM) theory of The Office of Public Sector Development Commission of Thailand (OPDC) and Thailand Productivity Institute (2005) provided a knowledge management process consisted of seven stages, knowledge identification, knowledge creation and acquisition, knowledge organization, knowledge codification and requirement, knowledge access, knowledge sharing, and learning. In addition, the basic way of thinking to be as recognition for KM in higher education institute can be revealed into the following 10 items: 1) Knowledge will be and remain in human intelligence, 2) Knowledge sharing and transferring are setting on their trust, 3) Technology will be built up behavior derived from new knowledge, 4) Knowledge administrator have to get rid of conflict between old culture and new one, 5) Administrators' vision and leadership should be get along well with knowledge-based economy, 6) Measurement and evaluation of KM are necessary, 7) Knowledge strategies should be examined and developed all the time, 8) Supports, stimulation and promotion should be to build up in sharing and exchanging to profit to organizations, 9) Supports and resource are critical and most important for KM, and 10) KM innovation should begin from the pilot project and then will be evaluate it by both of qualitative and quantitative methods (Marquardt, 1996; Archavaumrung, 2000)

Methodology

1. Population and samples

The population in this study comprised of 43 nursing instructors in Prachomklao college of nursing, Phetchaburi province within an academic year 2015. All of nursing instructors were willingly participated in this study.

2. Research instruments

The questionnaires were used to collect data on personal data, perception of knowledge management, satisfaction of knowledge management implementation and knowledge utilization of the samples. The measurements included:

2.1 Level of perception of knowledge management, this variable was to measure the opinion of the meaning, purpose, important, process, critical factors of knowledge management. The questionnaire consists of 36 items. A Likert scale with five possible responses was used. The Likert scale was differently formulated for positively-formulated statements (strongly satisfy= 5, strongly dissatisfy =1).

2.2 Level of satisfaction of knowledge management implementation was based on seven stages of OPDC consisted of knowledge identification, knowledge creation and acquisition, knowledge organization, knowledge codification and requirement, knowledge access, knowledge sharing, and learning. The questionnaire consists of 23 items. A Likert scale with five possible responses was used. The Likert scale was differently formulated for positively-formulated statements (strongly satisfy= 5, strongly dissatisfy =1).

2.3 The opened end question about the KM application; outcome, barriers and recommendations. The Cronbach's Alpha Coefficient reliability of this instruments were .76 and .87 respectively

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3. Data collection and analysis

The participants were asked to complete the questionnaire via an online webpage. The response rate was 90.70% or 39 out of 43. Descriptive statistics were used for the analysis.

Ethical considerations

The study was approved by the ethical committee of Prachomklao College of Nursing, Phetchaburi province**.** Participants took part voluntarily and were informed that they could withdraw at any time without giving an explanation.

Results

The research results were summarized as follows:

1. Respondents' profile

Most of the participants were female (84.61% or 33 out of 39), 38.46% aged 35 to 45 years. Most of nursing instructors had master degree (71.80%), and remained unmarried (51.30 %).

Most of participants stated that knowledge management were necessary (97.40 %). The understanding about the management knowledge was at moderate level (64.10%). The 97.40 percent had experience in knowledge management by conference or seminar participation. There were 56.40% who had been joined in community of practice.

2. Level of knowledge management perception

The nursing instructors had perceived about the concept of knowledge management at high level (Mean=4.33, SD=.52) (Table 1). The highest score was in the meaning of KM dimension followed by the perception of objective of KM dimension (Mean=4.58, 4.54; SD=.59, .61, respectively). The lowest score was in the important and benefit of KM (Mean=4.20; SD=.64).

Table 1 Mead and standard deviation of total and dimension scores of knowledge management perception (n = 39)

Perception	Mean	SD	Level
Meaning of KM	4.58	.59	Very high
Objective of KM	4.54	.61	Very high
Important and benefit of KM	4.20	.64	High
KM process	4.31	.53	High
Factors related KM	4.30	.58	High
Total	**4.33**	**.52**	**High**

3. Level of knowledge management implementation satisfaction

The seven stages of KM process were examined in this study, the main results showed that nursing instructors had satisfied about the knowledge management implementation at high level (Mean=3.90; SD=.60) (Table 2). The highest score was in the stage of knowledge identification followed by the stage of knowledge sharing (Mean=4.01, 3.99; SD=.63, .71, respectively). The lowest score was in the stage of knowledge access and knowledge organization (Mean=3.75; SD=.74, .70, respectively).

Table 2 Mean and standard deviation of total and dimension scores of knowledge management implementation satisfaction (n = 39)

Satisfaction	Mean	SD	Level
knowledge identification	4.01	.63	High
knowledge creation & acquisition	3.94	.71	High
knowledge organization	3.75	.70	High
knowledge codification & requirement	3.78	.71	High
knowledge access	3.75	.74	High
knowledge sharing	3.99	.71	High
learning	3.87	.62	High
Total	**3.90**	**.60**	High

4. The opinion about knowledge management utilization

The main findings from the opened end question about knowledge management utilization were collected into 3 issues such as;

4.1 The participants were using the knowledge from best practice to develop both the education and the research managements.

4.2 The success factors in using best practice for work development were clearly guidance from both explicit and implicit knowledge and expert's assistance.

4.3 The barriers in using best practice for work development were poor English skill, inappropriate electronic learning resources, and heavy workload.

Discussion

The aims were to examine the level of the perception of knowledge management and satisfaction of knowledge management implementation of nursing instructors, Prachomklao College of Nursing, Phetchaburi province. The main results showed that knowledge management were necessary and perceived about the concept of knowledge management at high level. It could be described that personnel of this organization would like to continue using knowledge management in their work and step toward a learning organization as the gold of KM (The OPDC & Thailand Productivity Institute, 2005; King, 2008). All personnel had been well-trained prior the implementation of KM that consistency with the study of Intree, Srisa-ard, and Sirisuth (2009). In addition, they should be trust, synergy, and participation.

According to the seven stages of KM process, the main result found that nursing instructors had satisfied about the knowledge management implementation at high level that correspond with the results of various studies (Kraiwin & Siripirom, 2014; Bualom & Siripirom, 2015). The KM has been implemented with public organizations in Thailand in order to improve organizational knowledge and the ability of government officers to respond to the surrounding changes. It is indicated that many organizations have successfully adopted KM principles to their activities. The highest score was in the stage of knowledge identification followed by the stage of knowledge sharing. Prachomklao college of nursing, Phetchaburi province enabled all nursing instructors to participation in knowledge identification based on organization's mission, goals, and strategies. As well as the stage of knowledge sharing, they engaged in sharing within small and large groups and follow to participate in ongoing activities. In accordance with Chumjit (2012) that organizations should be built as knowledge sharing cultures. Knowledge sharing could occur within a social atmosphere. It is an ongoing environment and it is called a knowledge sharing culture. An organization's culture should be built based on its values, mission, goals, and strategies.

In order to implement the KM process, respondents have indicated that they have some problems that can cause unsuccessful KM practice. The results showed that the barriers were the problems of language and inappropriate electronic learning resources. Because of a modern knowledge-enabled enterprise must support KM with appropriate information and communications technology. It indicated that organization should has an improvement plan for this recommendation.

Recommendation and future research

Although nursing instructors had satisfied about the knowledge management implementation at high level, the KM center must be continuous follow-ups and evaluation. Also, they must be create objective indicators of knowledge management success that appropriate with organization's culture. The organization should develop knowledge management couple with information technology that comfortable access, trust, and safe.

Organization should be done research in and development of activity curricula for developing capacity for KM leaders, organization group leaders, and knowledge managers. More studies should be under taken for successful factor and barriers of knowledge management implementation.

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Analyses of Micro-Livelihood Impacts of Cambodian Migrant Workers from Thailand on Communities

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Abstract

This study aims to assess the livelihood impacts of Cambodia Migrant Workers on community livelihood in Battambang Province. Specifically, the study examines the current situation of individual migrant workers, their families and communities in order to establish the correlation between micro livelihood variables such as income, living standard, employment, and family business development. A quantitative survey method was employed to collect data from 348 respondents in Moung Russey, Sangkae, Thmor Koul and Banan districts, Battambang province, Cambodia. Data was presented using statistical tools such as mean, maximum, minimum, standard deviation, frequency, percentage, Gini Coefficient and the Lorenz Curve. The study reveals both positive and negative impacts on community livelihood from migrant workers. Hence, the study suggests immediate responses of the Cambodian government's policy on migration in order to gain better and safer access migration for rural Cambodian migrant workers to Thailand.

Keywords: micro-livelihood, impact, migrant workers, community

Introduction

Labour migration has become an economic outlet for skilled and unskilled people. Apparently, the report shows that global migration has doubled from 154 million in 1990 to 232 million in 2013. Such in ASEAN region, the country members have hosted 31 percent of the migration stock (United Nations, 2013). Therefore, Labour Migration Policies have been enacted, for example, the ASEAN Economic Blueprint and the ASEAN Framework Agreement on Services 2008, for making migrants freely travel and seeking better working conditions (Association of Southeast Asian Nations, 2008). Also, the ASEAN Declaration on the Protection and Promotion of the Rights of Migrant Workers was endorsed by the Heads of State in January 2007 in Cebu City, the Philippines, in order to ensure that the workers are treated in a climate of freedom, equity, and stability in accordance with the laws, regulations, and policies of the respective ASEAN Member Countries.

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Consequently, Cambodian migrant workers in Thailand were reported sending cash remittances of about 1.5 billion Bhat ($45 million) home in order that they can use for daily expenses, health care, and household appliances (Royal Government of Cambodia, 2010). This reflects the correlative impacts of labour immigration and the growth of livelihood at local communities. Unfortunately, the political turmoil in Thailand caused an exodus of Cambodian migrant workers to Cambodia. According to Reuters (2014), about 200,000 Cambodian workers fled Thailand. Under such threating situation, plus an uncertain geopolitical situation, an economic crisis, and a sharp influx of migrants from other countries, the Cambodian workers are encountering challenges in the host countries as well as facing the backwash effects while they return home country.

Therefore, this study aims to assess the micro-livelihood impacts on the community livelihood in the four selected communes of Battambang province. The study also examines the present situation of the respondents' livelihood and analyzes the correlation between the respondents' social-economic variables and livelihood resources at the micro in terms of income, employment, small enterprise development, standard of living and socio-economic.

Significance of Study

The findings from this study are significant to government actors, development partners, policy makers, local authorities, community leaders and rural Cambodian people who migrate to work in other countries. The study also generates evidence with regard to possibilities, challenges and solutions in rural communities for returning migrant workers. The evidence is crucial for other researchers who have interests in the issue of Cambodian migrant workers.

Methods

Quantitative method was employed for the study with survey questionnaire. A quantitative sampling was used to select 348 respondents (240 household heads (68%), 80 immigrant workers (20%), and 28 local authority (8%) based on quota sampling method. Gender aspect was also included in the study not only in response to gender equity and parity, but also in cognizance of the fact that women play a vital role in improving the livelihood of individuals, families and communities. At least 50% of the selected respondents for the study were females.

Instrument and Data Collection

Three sets of questionnaires were designed for household heads, the migrant workers and local authorities. The first part of the questions was aimed at collecting the respondents' profile; the second part focused on the livelihood, while the third part aimed to assess the linkage of livelihood and migration issue. Questions were structurally designed as close-ended with responses of [1] Yes, [2] No, and 5 Linkert Scale to measure the satisfaction: [1]

very unsatisfied [2] unsatisfied [3] neutral [4] satisfied, [3] very satisfied and semi-structure with open-ended questions. Respondents were individually invited to provide answers to objective questions with "Yes, No" responses and response of satisfaction, while subjective questions are aimed to explore the perceptions of respondents regarding migration issues and the correlative impacts of the returning migrant workers on community livelihood. In total, it took 20 to 15-20 minutes for each respondent to answer the questionnaire.

Data Analysis

Quantitative data were computerized into Ms. Excel and operated the analysis by SPSS 17.0. Results were presented with the use of statistical tools such as, mean, maximum, minimum, standard deviation, frequency, percentage, Gini Coefficient and the Lorenz Curve. These tools are used to statically analyze regarding income generation, living standard, socio-economic and SME development that correlate with individual, family and community livelihood aspects.

Results and Discussions

Current Situation of Cambodian Migrant Workers' Livelihood

Findings from the study pointed out more female migrants joined the survey study. Female migrants were reportedly 56 percent, while 44 percent were male migrants. The reason for this is probably that more male migrants have returned to Thailand after the situation has been resolved, giving better access to migrant workers from neighbouring countries. Likewise, more workers from Cambodia, especially men, are likely to return, leaving female household heads dealing with normal daily work in the villages. Further, the majority (66%) of the migrants were adults in the age groups of 25-36.

This figure reflects the fact that Cambodian people in this age group need to earn income for families, thus they have to be involved with economic activities. Perhaps another reason the people in this cohort migrated to Thailand concerns narrowing job opportunities in local communities. This is due to a large growth of Young Cambodians at the age group of 22-30 competing for the same window of jobs (United Nation Development Program, 2011). The results also highlight that 28 percent of migrant workers are at the age group of 37-41. The indication is that Cambodian migrant workers in this age group need to earn money for daily expenses such as food, health care, food, child education, and other household consumptions.

Table 1: Respondents' Profiles

Parameters	Variables	Frequency	Percentage
Gender	Female	45	56
	Male	35	44
Age	<= 25	27	34
	26 – 30	13	16
	31 – 36	13	16
	37 – 41	6	8
	42 – 47	16	20
	48+	5	6
Education	Never attended formal education	12	15
	Primary education	40	50
	Secondary education	23	29
	Upper secondary education	5	6
Occupation	Farmer	45	56
	Worker	8	10
	Unemployed	17	21
	Other	10	13

The analysis, as reported in table1, also indicates that Cambodian rural workers had completed quite low education level. The survey shows that only 6 percent of the migrants had completed upper secondary education while 50 percent finished only primary education. This figure reveals that, due to the effects of war and poverty, there is a serious lack of accessibility for higher education for the Cambodian youth from rural communities. As a result, 56 percent of the survey respondents' occupations are farmers and construction workers.

Analysis of Micro Livelihood Impacts

Migrants on Employment in Communities

The study has presented the correlations between household heads and migrants' employment. The key findings in Table 2 indicate that for Cambodian migrants, construction is the main employment market in Thailand. In terms of percentages, 81 percent of the interviewed migrants used to work in the construction sector, 8 percent had worked in factories, while 11 percent were employed in other areas such as fishing, service, seasonal work, fruit juice factories and livestock farms. The main occupation of the household heads is farming at 42 percent, followed by 37 percent working in uncertain jobs, and 5 percent having family businesses such as selling food and groceries. These results indicate the correlation between education background and occupation of household heads and family members. That means the lack of skills and knowledge among the respondents

shows the lack of access to higher education. Consequently, Cambodian migrants find difficulties to get access to decent jobs in the local and international markets.

Table 2: Migrants and Families' Employment

Migrant's job	Frequency	Percentage	Family's occupation
Construction workers	65	81	Famer
Factory workers	6	8	Vendor
Fishermen	1	1	Worker
Hotel and tourism	2	3	Civil servant
Seasonal workers	1	1	Uncertain job
Fruit Juice factory	4	5	Other
Livestock farm worker	1	1	
Total	80	100	Total

The meaning of this result reflects that the majority of Cambodian migrants are employed in unskilled sectors of construction, fishing, service and seasonal work. This concerns knowledge and skill pertaining to these work areas. Another reason for this is perhaps due to the language barrier since most migrants have a limited knowledge of Thai language, making it hard to change from one job to another. Due to this they seem to have a lot of problems in the workplace, for example, a lack of possibilities of getting a better paid job, lack of health care, and social and legal protection. The Figures below indicate the responses of migrants towards the question "Did you ever change your job in Thailand?"

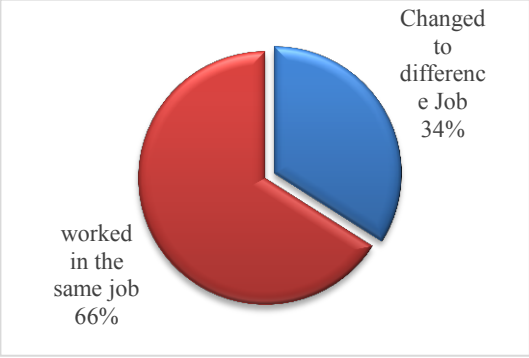


Figure 1: Percentage of Migrants who changed/never changed their jobs

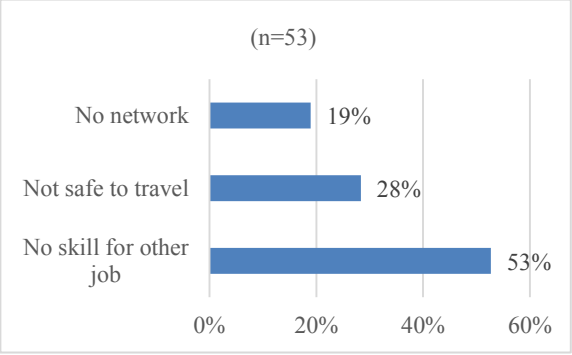


Figure 2: Reasons for working the same job/workplace

As illustrated in Figure 1, 66 percent of the returned migrants had never changed their workplaces. There are several reasons behind this; for example, 53 percent lacked skills, 28 percent concerned safety, and 19 percent related to networks. However, due to the difficult working conditions and the irregular income, other migrants decided to change their workplaces. According to the responses, 34 percent of the survey migrants had moved from

place to place in Thailand. It can be said then, that working within such environments, many migrants do not have opportunities to develop their knowledge and skills.

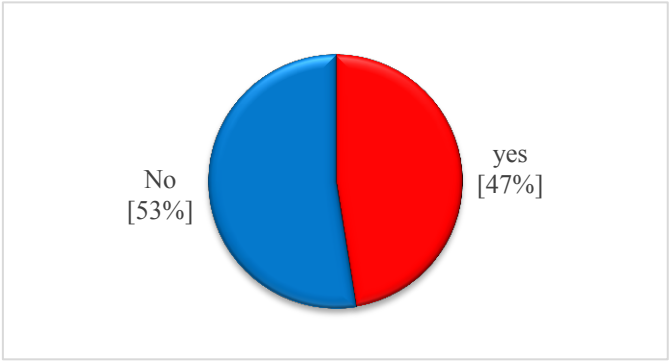


Figure 3: Percentage of Migrants who developed/never developed their skills

Responding to the question of whether migrant workers have developed their skills, 53 percent of them said "No", while 47 percent of them have developed some skills (Figure 3). The reason that Cambodian migrants do not develop skills is because a large number of Cambodian migrants were employed in unskilled areas, and seasonal work. Skills development of migrants needs some time for training. As a result, the unexpected return was a challenge since they lost both job and income. The table below reports the perceptions of 320 respondents towards the impact on employment of migrant workers returning.

The present study also reveals (Table 3) there are significantly different perceptions among returned migrants and household heads towards the impact on skills development, education and occupations. The Chi-Square Test analysis reveals extremely strong significance at 0.1%, p-value <0.001 especially on the statement "You/your family members are able to access higher education since your family members worked in Thailand." 24 percent of the respondents in Banan district agreed with the statement with extremely strong significance. Correlation with age, the Chi-square test also shows extremely strong significance of the respondents' perceptions of the statement "migration has impacted the language acquisition" especially the development of Thai language.

More than this, the significant perceptions of the respondents also concerns the fact that returning migrants give negative impact on children's education. This may happen for two reasons. One is the unexpected return to their family affects the family income and expense. They found that they could not support their child's education. Another is because of financial crisis, the family members including children decided to drop out of school so that they could earn extra income. This incident has occurred especially within those families considered living below the poverty line.

Table 3: Impact of the returned migrants on education and employment (n=320)

Migration impacts on household skills training, education, and occupation	Yes	No	Chi-test				
			District	Gender	Occupation	Education	Age
1. You/ family member learned more skill in order to find job.	89	231	0.45^{ns}	0.26^{ns}	0.006	0.032*	0.268^{ns}
2. You/ family member able to access higher education.	30	290	0.000***	0.92^{ns}	0.18^{ns}	0.01**	0.378^{ns}
3. You/ family member learned foreign languages.	101	219	0.83^{ns}	0.49^{ns}	0.005	0.044*	0.001***
4. You/ family member given up education to find job.	120	200	0.25^{ns}	0.68^{ns}	0.056^{ns}	0.464^{ns}	0.001***

Note
1. "ns.": Non-Significant at 5% if p-value ≥ 0.05
2. "*": Significant at 5% if p-value < 0.05
3. "**": Strong Significant at 1% if p-value < 0.01
4. "***": Extremely Strong Significant at 0.1% if p-value < 0.001

Impact of Migrants on Income Generation in Communities

The present study points out Cambodian migrant workers could earn an average wage of 283 Baht (35,700 Riel) per day, or 8490 Baht (1,082,400 Riel) per month in Thailand. This amount is almost 50 percent higher than local wage obtained from the same working areas, for example, construction, seasonal farming work and others.

In general, migrant workers joining the interview could earn between 170-400 Baht per day. This amount is comparatively high if it is compared with the local wages of the same career in Cambodia. The current amount of the local labour cost, for example, for construction or seasonal workers, is an estimated 20,000 Riel per day, or 600,000 Riel per month, while garment factory workers can earn USD 120, or 480,000 Riel per month according to current labour bargaining. The wage gap between the local employment market and job market in Thailand has motivated more people to migrate to other countries for economic prosperity

Information illustrated in the Bar Chart (Figure 4) reveals that most Cambodian migrant workers could receive 281 to 320 Baht, followed by 241 to 280 Baht per day. The lowest wage is 200 Baht while the highest is 400 Baht. The wage differential occurs between different working conditions and daily expense. The meaning is that those migrants who obtain high income have to spend more money on accommodation and other necessary things. The amount of expenses is different depending on the living condition and family members.

Table4: Wage distribution

N	Valid	80
	Missing	0
Mean		282.69
Std. Deviation		56.884
Minimum		170
Maximum		400

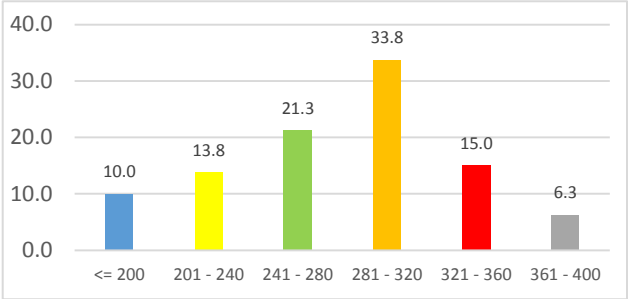


Figure 4:Wage distribution (Baht)

It can be seen that 19 of the total migrants joining the study paid an average 626 Baht or a minimum of 130 Baht per month on accommodation. In addition, they had to pay for the daily living standard, an average 107 Baht or maximum 600 Baht per day. This amount is almost the same amount of the daily expenses in Phnom Penh.

Capital and other major city areas in Cambodia. On average, selected migrant workers could save 4900 Baht per month, and send a remittance of about 4560.25 Baht per month home. However, the smallest amount of saving and remittance is zero. That means some migrants workers could not bear with the cost of daily expenses in Thailand due to the irregular income they received working in Thailand. As a result, they could not send the remittance home.

Table 5: Individual Expense, Saving, Remittance

	Accommodation Payment (n=19)	Living Payment Per day (n=80)	Saving per month (n=80)	Remittent to Family per month (n=80)
Mean	626.32	107.81	4900.00	4560.25
Std. Deviation	457.957	86.485	2412.612	2240.809
Minimum	130	10	0	0
Maximum	1500	600	10000	10000

With the substantial increase of income from migration, the income at the household level is also able to be accumulated. This is presented with the comparison of Gini Coefficient

within the six years from 2009 to 2014 (Figure 5). From the analysis, the values of Gini coefficient within the six years are statistically similar, less than 50 percent. This indicates little difference of income among the interviewed household's receipt from local income sources and the remittance from Thailand although the value of Gini coefficient in 2011 is considerably higher than other years. The evidence indicated by the Bar Chart below, shows that in 2009 the combination of income from migrants and household comprise 678,517 Riel on average, minimum 255,000 Riel and maximum 1,275,000 Riel. For the last three years 2012, 2013 and 2014, the maximum income from both migrants and household is on a peak at 4,080,000 Riel while the smallest amount of income sharply decreased to 63,750 Riel.

This income differential occurred due to the different amount of remittance sent from Thailand. As described in Table 14, the minimum monthly remittance is zero while the maximum is as high as 1,000,000 Riel. This explains the income gap where there are more members in the family working and sending money from Thailand. It also means the amount of income contributed to the improvement of family livelihood depends on the number of family members working in Thailand. The wage difference and economic contribution among respondents is studied by the Linear Regression Model, and the results are displayed by the Bar Chart below.

The Linear Regression Model, (y = income, X = 1, 2... (years) is used to study the household income of 240 respondents in four selected districts: Banan, Moung Russey, Sangkae and Thmar Korl. The linear regression model y = 79773x + 546226 with R = 0.995 represents income generation of households in Bannan, y = 100523x + 599307 with R = 0.994 for income generation of households in Sankae, y = 128313x + 490088 with R = 0.99 for income generation of households in Thmar Korl and y= 149136x + 672051 with R = 0.9916 for income generation of household in Moung Russey.

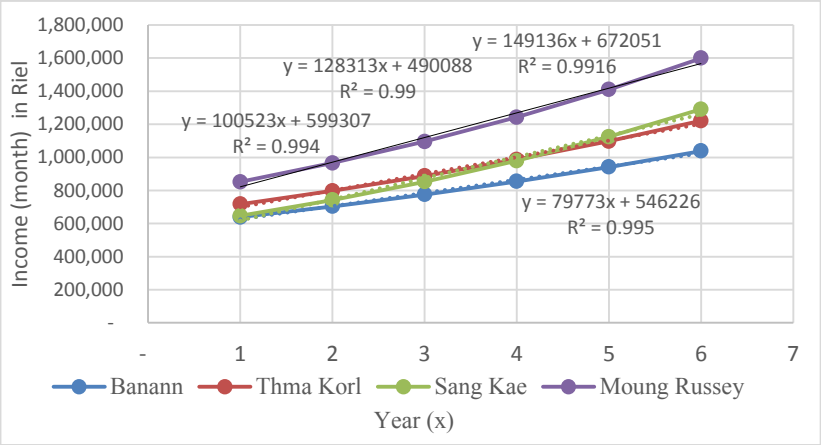


Figure 5: The distributions of family income from migration remittance

On the whole, it found that the incomes of households have increased within the whole six years since Coefficient of Determination (R2) is above 99 percent. That means the linear regression model is more than 99% correct, which Coefficient of Correlation (Multiple R) of

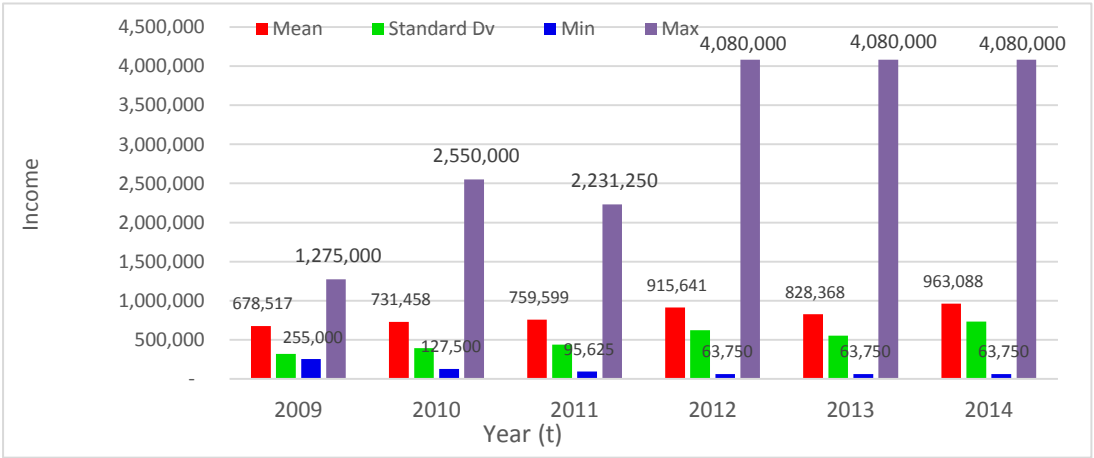
Banan (0.9430), Thmar Korl (0.9340), Sangkae (0.9472), and Moung Russey (0.9169). Thus the household income accumulation correlates with the time series with more than 90 percent accuracy

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Based on the ANOVA Test on Time Series Regression, p-value = 0.0047**<0.01 (Banan), p-value = 0.0063**<0.01 (Thmar Korl), p-value = 0.0041**<0.01 (Sangkae) and p-value = 0.010*=<0.05 (Moung Russey). This indicates that household income generation in Moung Russey is statistically significant at 5% while income accumulation of households in the other three districts is statistically strongly significant at 10% in correction with the studied time between 2009-2016.

Above all, it is undeniable that migrants working in Thailand helped to improve family livelihood. Evidently, it was reported migrants not only develop skills, but also generate income for household expenses (Royal Government of Cambodia, 2010). The results suggest that remittance has played a key role in generating household income. Consequently, the return of their members during the crackdown had a negative impact on their livelihood, in particular on income generation, since at least one member of the interviewed families was unemployed, reducing a large amount of household income. Even worse, some families have been indebted since they need money for their daily expenses as well as for the cost of travelling back to Thailand after the situation in Thailand was resolved. This concern was raised among experts, for example, Chan Sophal as quoted by VOA 2014.

Figure 6: Comparison of Household income within six years



Impact of Migrants on Living standard in Communities

The Pipe Chart (Figure 7) reports the percentage of migrant workers who had health problems while they were working in Thailand. The analysis shows that only 30 percent of the interviewed respondents had health problems while 70 percent never had any

problem. In general, migrant workers who had health problems got support from the employers for medication. In many cases, they could receive the medication from public hospitals or private drug stores in Thailand.

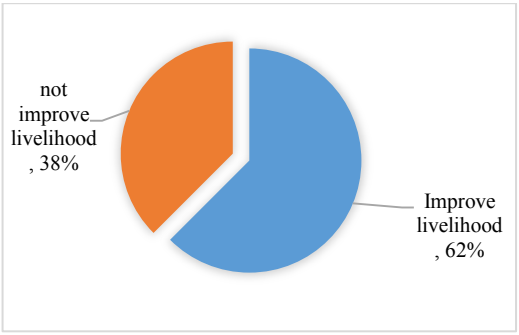


Figure 7: Percentage of migrants who have improved livelihood

Data analysis further points out that 62 percent, or 50 respondents said their livelihood have been improved as the result of income from Thailand while 38 percent replied "No", because they spent most of the income for daily household consumption in Thailand as well as for farming activities and living expenses in Cambodia. In general, most of the income from Thailand helped generate household income while the increase of household assets such as building/renovating houses, buying land, and motors remained below 20 percent. Similarly, income from Thailand is largely allocated for the improvement of their living standards and their children's education.

The reason that migrant workers invest most of the wages for household income generation is due to the fact that they migrated for the economic purpose of helping the family income. In other cases, they even borrowed money from the local micro-finance institution, relatives or informal lender for travelling to Thailand. Therefore, income generation is the priority goal for their family.

As a result, the study found that 50 percent of the migrants whose livelihood has not been improved used most income for paying off debt, while under 40 percent have not improved their livelihood because of irregular income from Thailand. This means migrants travelled seasonally to Thailand for work. After returning for a few months, they migrated again. Besides these factors, the study found that the high cost of daily expenses coupling with health care services and poor working conditions, or being cheated by intermediaries, brokers or employers had affected their livelihood improvement. The study also found that income from migration can increase household assets, especially in relation to household appliances such as televisions, phones and motors.

With regard to these assets, they are displayed by the following diagraph through the Cumulative Frequency Formula. The study found that selected households have increased their assets in terms of mobile phones, motors and televisions. By 2014, of the 240 households joining the survey, 104 households have used mobile phones with approximated

numbers of 319; 104 households have owned motors, while 137 households have got televisions. The finding reflects that at least one mobile phone is used by each family.

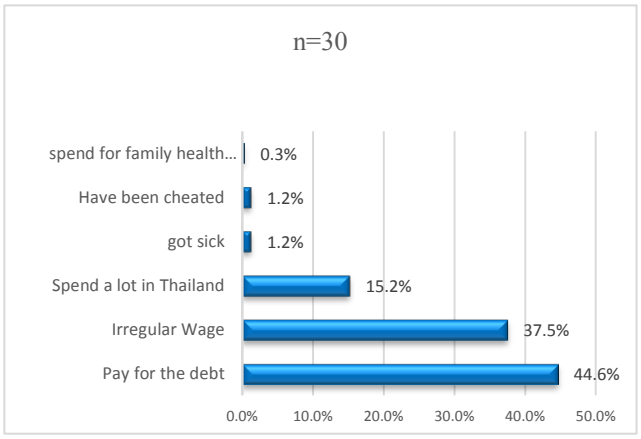


Figure 8: Reasons for not improving livelihood

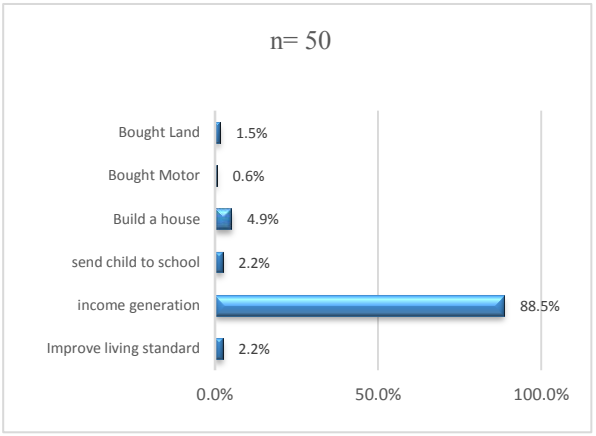


Figure 9: Improvement of livelihood assets

In addition, the study found most households use income from Thailand to improve their asset holdings. For example, 53 per cent of the respondents used income from Thailand to buy mobile phones and 47.5 per cent of the income used to buy televisions. In contrast, the study found that more household income (57 %) is spent to buy motors. This figure is higher than the amount of income from Thailand. That means income from migration helped improve small value assets rather high value asset such as motors. This probably reflects working conditions which affect the income generation of individual worker as well as their family livelihood.

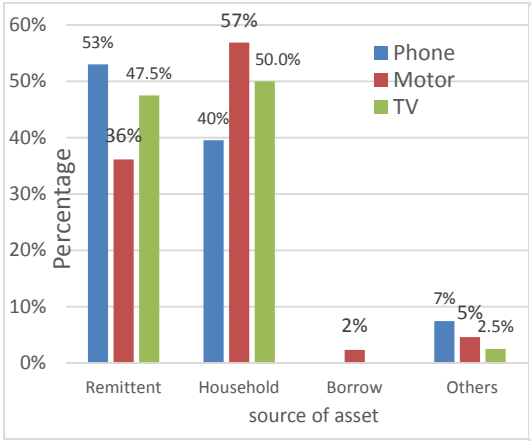


Figure 10: Sources of Assets

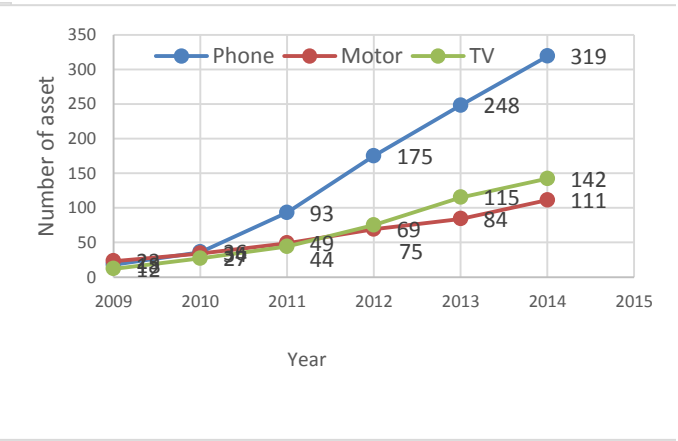


Figure 11: Types of Assets

The above results indicate that the living standards of the interviewed respondents have partly depended on the remittance from their family members working in Thailand. This was argued by Lowell and Garza (2000) that one remittance dollar can be allocated for immediate needs, stimulating business transaction. In turn, the unexpected return of their

family members surely caused challenges to their living standards since the majority of them said their living conditions have not yet improved. The worse scenario was that some respondents were indebted and had unstable income sources.

This result is supported by the finding of Organization for Economic Co-Operation and Development (OECD) (2006) that although the remittance helps alleviating poverty of the developing country, migration negatively affects human capital loss. Therefore, the incident of the mass return of migrants caused the hardship to their families. This was asserted by Joe Lowry, a spokesman for the International Organization for Migrant told VOA (2014) that the returned Cambodian migrants would face housing and medical cares.

Impacts of Migrants on Family Business Development in Communities

Responding to the question "Do you plan to work in Thailand?" 66 percent, or 56 migrants of the total informants said they would return to Thailand sooner or later (Figures 12 &13). Only 34 percent, or 24 respondents decide not to return. The study found different reasons behind their decisions.

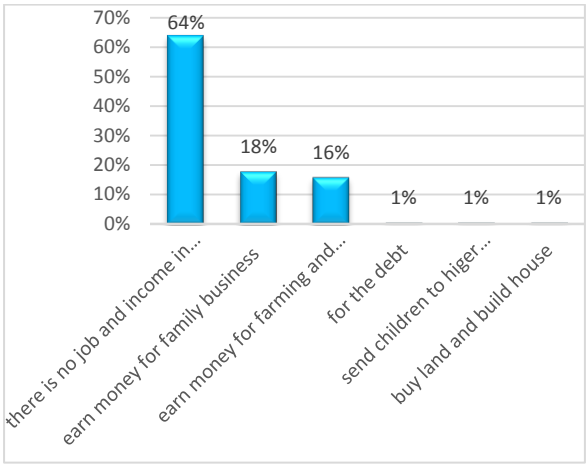


Figure 12: Reasons for returning

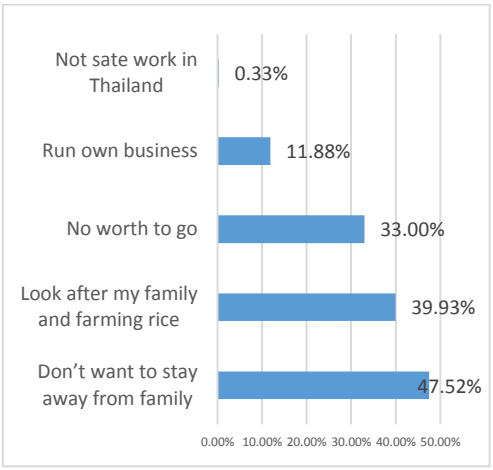


Figure 13: Reasons for not returning

60 percent or 56 migrants want to go back to Thailand due to the fact that there is no job and income to support their family. Following this, 18 percent of them need money for family businesses, while 16 percent need money for farming productivities. Besides, migrants want to accumulate household assets such as buying land and building houses, or educate their children and pay off debt. Contrastingly, of 24 migrant workers who do not want to return, 47 percent do not want to stay away from their families; 40 percent have to take care of their family members and farming land, while less than 1 percent feel concerned about safety and security. Surprisingly, 33 percent thought that it is not economically worthwhile working in Thailand when they compared the costs and benefits. Comparing the opportunity cost, they would be more likely to work in Cambodia if there were stable jobs with an approximate wage of 15,000 Riel or 20,000 Riel per day. Only 11 percent of the respondents who won't

return have their own business. That means very small numbers of the migrants are able to open small businesses. This is because of insufficient financial sources, a narrow business opportunity and inadequate business concept.

Further, finding of this study reveals the priority needs among migrants who joined the survey interview were 69.59% of them considered having a stable job and income as the first priority. They suggested that the government should expand the establishment of factories into rural areas. The second priority concerned the cost of legal procedures such as acquisition of passport and visas, as 16.70 percent of them want to have effective legal processes with low fees. Similarly, 12.78 percent suggested that the government should help set reasonable prices for local products such as rice, corn, and others. A small number, less than 1 percent of the informants, thought skills development and local resource conservation were vital for their income generation. These thoughts may be because of lack of knowledge and understanding with regard to skills development and employability of the job market. Over 50 percent completed only elementary education while under 30 percent had never attended schooling. Therefore, there seems to be a lack of understanding of correlative impact of natural resource on family and community livelihood. Even worse, there seems to be no awareness program with regard to natural resource conversation.

In summary, the study found that the returning migrants have not given strong impact to the growth of small and medium size enterprises (SME) since the knowledge, skills and experience of the migrants acquired from the workplace in Thailand are not sufficient for them to start small-medium business ventures. The findings of this study with regard to migration and entrepreneurship is in contrast to the study of Batista and Umblijs (2014) that migrants tend to take risks for business in the host country. The returning migrants couldn't attract more SMEs enterprises into the communities because migrants stayed in the community for a short time. This was due to the intervention of migration policies by the governments of Cambodia and Thailand. Since they have had unskilled jobs in Thailand, the returned migrants do not have enough skills and experience for starting up family business nor meeting the requirements of business enterprises.

Further, there lack financial sources and support from stakeholders, especially the government, in promoting the SMEs in the outreached communities. As a result, more people tend to work in Thailand rather than start businesses in their communities. Another reason may be that there is a decrease in demand of local consumers due to poor farm economies and less remittance from Thailand. Hence, the study found that the return of Cambodian migrants did not give strong impact on small-medium size business development in the community. This result is in contrast to the assumption of economist Chan Sophal, as reported by VOA (2014), that the return of Cambodian migrants could give better opportunity for investment by either local or foreign enterprises.

Conclusion

From the analysis, it should be concluded that the unexpected return of Cambodian migrants having adversely affected the present situation of individual and family livelihood in terms of income generation, employment, living standard and SME development. As a result, this situation has caused a negative impact of economic improvement on community livelihood. As indicated, family and community livelihood alike have been fragile due to the effects of natural factors (flood, drought and natural resource depletion), human factors (rapid growth of young with low skills due to poor education access), employment factors (low wage and unstable working conditions), economic factors (small income from agricultural productivities), and political factors (the change of regional policies and economic pressure). Consequently, the mass return of Cambodian workers into communities may have brought more threats to livelihoods. The micro level livelihood of rural farmers in communities has already been fragile by the effects of natural disasters, bottleneck income sources from agricultural productivity, and irregular incomes from family members in Thailand. Thereafter, the unexpected return has caused severe economic concerns at a macro level. It can be said that once the returned migrants lost jobs and incomes, unemployment was also high. On the whole, the economic performance of individual and family has been sluggish, restricting the possibilities of economic improvements in communities. This situation has inferred that the government policies on micro and macro economy through improving rural livelihood and promoting rural-economic growth remained far behind the target set in the National Strategic Plan (2009-2013) and the National Strategic Plan (2014-2018).

Recommendations

In responses to the disclosed issue on labour migration and livelihood improvement, the study would suggest the following recommendations. The first priority to help improve migrant workers' local livelihood is to expand employment market and productivities in the communities since incomes from labour migration are not certain. More attention and investment should be made to expand the job availability and sustainability of local products so that the family of migrant workers have financial secure. The government should also set up a small-scale investment package through subsidiary to local business people as well the return migrant workers so that they are able to run small business in communities. Promoting local working conditions is seen necessarily made such as a raise of wages or salaries, enforcement of employment laws. Skill training is important for migrant workers and well as their family members that they can gain better employment opportunities and wages.

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Quality of life of People with Disabilities in Suphanburi Province[1]

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Abstract

This cross-section survey aimed to study the quality of life of people with disabilities in Suphanburi province. The sample size was 395 disabled people that were selected from all types of disabled people in 10 districts of Suphanburi province. The instrument for data collection was the questionnaire consisted of general information and the World Health Organization, Quality of Life generic questionnaire-brief in Thai version (WHOQOL-BREF-THAI). Descriptive analysis was applied in this study such as frequency, percentage, mean and standard deviation.

The result showed that the majority of this study was male (56.2%) and the average age was 56.2 years. Most of them graduated at primary school level (56.2%) and about half of them were single (46.3%). Disabled people mostly have no career (94.7%) and lived with the assistants (50.1%). Basically, they stayed with a family (94.4%) in the rural area (74.4%). In general, they acquired disabilities later in life (65.3%) and the accessibility to health care was high (69.4%). The quality of life among them was at the moderate level in 4 domains: physical health, psychological health, social relation and environment. When considered on the type of disability, all of them had moderate quality of life. People with hearing disability had the highest score and the quality of life among them was significantly different from people with multiple disabilities (p=0.02) and people with physical disability (p=0.04). In conclusion, a well-plan on the development of the quality of life particularly in physical and mental health from all related sectors is needed to improve better quality of life of people with disabilities.

Key words: people with disabilities, quality of life, Suphanburi province

Quality of life of People with disabilities in Suphanburi Province

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At the present time, disability is the main issue of health. When measured the global burden of disease, more than half of the mortality before old age came from disabilities worldwide. Disabled people come to the hospitals or health service centers because they can't do some activities that they used to do before. For example, some illnesses cause disabilities resulting in incapability to do regular life activities. It doesn't come from the illness itself. To determine how serious of the disabilities, the health care professionals should consider the level or degree of the difficulties that occur in patients' daily life. In addition, the health care professionals should consider all the information including the condition of disabilities of each individual in their evaluation and planning about health care management for these impaired people (Supinna, 2012).

Disabled people are the important target group that needs to develop their quality of life. The number of these people is increasing in every society nowadays. The more the number of people with disabilities is increasing, the better and the more appropriate social services and health care system including higher quality of social welfare should be available for them. This group of people is vulnerable such as physical and mental issue. At the present time, they are still lacking of the appropriate systems that can take care of them in all facets (Bureau of Policy and Strategy, 2012). These all problems affect the quality of life of disabled people in a big scale. The quality of life comes from self-satisfaction of each individual and it depends on the basis of one's living, experience, socioeconomic status and health)Zhan, 1992(. The same as the quality of life of people with disabilities, they also need self-satisfaction in all domains: physical, mental, social and environmental aspects including the assistant from the government sectors in terms of health care, occupation, assistant instrument and rehabilitation service (Disability Rehabilitation committee, 2012).

The prevalence of disabled people is about 1,597,775 people or 2.43% of the total population in Thailand. The disabled people in the central of Thailand is ranked 3rd of the country and the number is 331,986 people or 20.78% of the total disabled people (Department of Empowerment of Persons with Disabilities, Ministry of Social Development and Human Security, 2016). During these 10 years, the problems about disabled people are the national problems ranging from moderate to high level. The quality of life of the people with disabilities is a significant issue for Thai government inevitably. Thailand already had 4 national plans (2012-2016) that aimed to protect the right and increase the quality of life of disabled people in both equality and equity. In addition, the development of technology and the accessibility to news and information for them was also included in these national plans. All the above issues are the unavoidable responsibility of the government sectors to develop a plan to increase the quality of life of disabled people (Fongsri, 2010).

In 2015, Suphanburi province had 15,343 disabled people registered to the government (4.07% of all the population in Suphanburi). The government sectors had a policy to develop the quality of life of disabled people focusing on the assistant instrument for their convenience; however, they had never done the survey on quality of life and the needs of

these disabled people before (The promotion and development of quality of life of people with disabilities subcommittee, Suphanburi, 2015).

Our research team is interesting in the developmental planning of the quality of life of disabled people. We began the study with the survey of the quality of life of disabled people in Suphanburi province in order to get the results from the study to build up the policy and develop the activities for promoting the quality of life of people with disabilities including the procedure for assisting them to live in the society with equality and equity.

Objectives

1. To study the quality of life of disabled people in Suphanburi province
2. To compare the quality of life of each type of disabilities.

Methods

Study population and sampling technique

The population of this study was disabled people from 10 districts in Suphanburi. The number of the participants was calculated using Daniele proportion (Daniel, 1987). Then, simple random sampling using random number table was performed from the roster of disabled people who registered to the government within September 30, 2014 in each district. In total, 395 participants were included in this study.

Instrument

The questionnaire used in this study consisted of 2 parts.

Part I: General information of participants such as age, gender, and marital status, type of disability, cause of disability, career and education were included in 11 questions of the questionnaire.

Part II: The World Health Organization, Quality of Life generic questionnaire-brief in Thai version (WHOQOL-BRIEF_THAI) was composed of 26 questions asking the participants about 4 domains that related to quality of life of the participants: physical health, psychological health, social relationships and environment.

Data collection

The researchers of this study have already taken permission from the directors of all the health promoting hospitals to get the list of disabled people in each area. A meeting was held to provide the detail of the research and the training for 20 interviewers was also conducted. Later, the interviewers were introduced to the participants and told the participants about the objectives of the research including the benefit of this study.

This research was approved by the Ethics committee of Sirindhorn National Medical Rehabilitation Center (number 4/2558). All participants had the right to take part in the study. After they understood clearly about the research procedures, they were free to withdraw from the study if they no longer wanted to participate in this study without any negative impacts on the treatment or support from the health care providers. The data or information, which may identify participants, was removed. All the information was restored confidentially and the results from this study were reported as overview results. All the participants were asked to provide their consent before the interview. The interview was about 10-15 minutes on average and it was performed during June to November, 2015.

Data Analysis

The descriptive statistic was performed to yield the information on:

1. General information of the participants such as age, gender and type of disabilities was described by frequency, mean and standard deviation
2. The quality of life was characterized into 4 domains: physical health, psychological health, social relation and environment and analyzed in terms of frequency, mean, standard deviation. The One-Way ANOVA was also applied in the analysis.

Results

Male was the majority group in this study (56.2%) and the average age was 50.69 years. About 50% of them graduated from primary school and most of them were single. Half of them were living with the assistants. Physical disabilities was the highest among other types of disabilities (55.2%) following by hearing disability (12.9%). Most of them were living with the family (94.4%) in the rural area (74.4%). The main cause of disability was disability later in life (65.3%) and more than half of them can access to health care services (69.4%).

Table 1 Distribution of disabled people in Suphanburi province (n=395)

	Characteristics	N	Percentage
Gender	Male	222	56.2
	Female	173	43.8
Age (years)	≥20	39	9.9
	20-29	26	6.6
	30-39	55	13.9
	40-49	63	15.9
	50-59	59	14.9
	> 60	153	38.7
	Mean = 50.69 (min=6, max=91)		
Education	No education	119	30.1
	Elementary	222	56.2
	Secondary	43	10.9
	Vocational	7	1.8
	Bachelor	4	1.0
Marital status	Single	183	46.3
	Married	127	32.2
	Divorce/Separation/Widow	85	21.5
Occupation	No job	374	94.7
	Contractor/employee	21	5.3
Type of disability	Visual disability	33	8.4
	Hearing disability	51	12.9
	Physical disability	218	55.2
	Mental health disability	23	5.8
	Intellectual disability	28	7.6.
	Learning disability	5	.9
	Autism	5	.9
	Multiple disability	32	8.3
Living condition	Live with assistant	198	50.1
	Live independently in the community	197	49.9
Family issue	Stay with a family	373	94.4
	Live alone	22	5.6
Region of living	Rural area	286	74.4
	Urban area	109	27.6
Cause of disability	Disability later in life	258	65.3
	Congenital disability	137	34.7
Health care accessibility	No	121	30.6
	Accessible	274	69.4

Table 2 Mean, standard deviation and level of quality of life of disabled people in Suphanburi province)n=395)

Quality of life	□	S.D.	Level of quality of life
Physical health	21.53	4.36	Moderate
Psychological health	19.23	3.65	Moderate
Social relationships	10.46	2.23	Moderate
Environment	26.60	4.22	Moderate
Total quality of life	83.26	13.35	Moderate

From table 2, the total quality of life of disabled people was at the moderate level (mean=83.26, SD=13.35). When explore deeply in four domains : physical health, psychological health, social relationships, and environment were moderate level (□ =21.53, SD=4.36, □ =19.23, SD= 3.65, □ =10.46 SD=2.23, and □ =26.60 SD=4.22) respectively.

Table 3 Mean and mean difference and Scheffe's test of the type of disability of the quality of life

Type of disability	Mean of the quality of life	Mean difference						
		Visual disability	Hearing disability	Physical disability	Mental health disability	Intellectual disability	Learning disability	Autism
Multiple disabilities	74.53	9.7	11.88*	9.31*	10.47	8.5	2.8	4.86
Hearing disability	86.41	2.11	-	2.58	1.41	3.38	9.07	16.71
Physical disability	83.84	.46	2.37	-1.1	.81	i.5	14.17	9.31
Visual disability	84.30							
Mental health disability	85							
Intellectual disability	83.03							
Learning disability	72.33							
Autism	69.67							

From table 3, the disabled people with hearing impairment had the highest quality of life (86.41%), following by mental health disability (85.00%) and the lowest quality of life was in the autism people (69.67%). When performed the Scheffe's test, multiple disabilities was statistically different from both hearing disability (p=0.02) and physical disability (p=0.04) while other types of disabilities had no difference.

Discussion

The study of the quality of life of people with disabilities in Suphanburi, in summary was at the moderate level. The quality of life was the satisfaction of each individual resulting from the basis of people's living, their experience including their socioeconomic status and health that was consistent with the study of Luengsomnapha, Prompraw and Khunviset (2011). They indicated that the perfect life was the appropriate living, not to be the burden and the problem of the society. This was also in the same direction of the study of Vankova and Maneheva (2015) which found the influence of the quality of life related to the 4 domains: physical health, psychological health, social relation and environment. In addition, the services for disabled people in Supahnburi were not clear cut in terms of health care and rehabilitation system for disabled people. Particularly, each type of disability needed specific and appropriate kind of health care and rehabilitation (Phothong, Deenan,and Sunsern, 2013). In our study, the autistic group had the least average score of the quality of life that was in the same direction as the national survey of the quality of life of people with disabilities (Sirindhorn National Medical Rehabilitation Institute, 2016). We also found that the multiple disabilities had the score of each domain lower than the average score.

When considered each domain of the quality of life, the physical health was at the moderate level. The most satisfaction among them was sleeping. This finding was consistent with the study of Wachirukgul (1998) which indicated that the disabled people did better in some activities particularly less motion activities such as sleeping than the heavy motion activities and some activities that needed lots of assistants.

Psychological health was also at the moderate level and the highest score in this domain was the meaning of life that was in the same direction as the study of Pongpaew (2015). Pongpaew found that the stimulation of people to focus on the disabled people by accepting their value and believing in their capability in creating good things for family and community like other normal ones can encourage them.

Social relationships was at the same level as psychological health. Disabled people were likely to make friend with others easily; therefore, this topic got the highest score in this domain. It also agreed to the study of Pongpaew (2015) which found that the disabled people can get along with other people really good. They also had good heart and liked to share with others. In addition, they appreciated the help from friends and the activities between disabled people and the community. They were proud that they can have some activities with normal people.

Like other domains, environment was at the moderate level. The highest score was the accessibility to the important news and information. The study of Kokan (2004) also found that the people with disabilities tended to follow the news and information that made them know about the privilege that can access and useful for them in order to develop their potential to be independent themselves. Moreover, the environment was one of the most topics that influenced the quality of life (Vankova and Mancheva, 2015).

Some studies about the comparison of the quality of life among every type of disability showed that each type of disability had no difference in the average score except people with multiple disabilities that had lower score comparing to people with hearing disability and physical disability. Due to the multiple disabilities had more difficulties than others including the problems about mental health, social relation, socioeconomic status and family problem, they tend to have inequality and inequity to access education (International Health Policy Program, Thailand, 2013). This study is consistent with the finding of Mae et al (2007). They revealed that the people with multiple disabilities needed to depend on others in almost every activity of their daily life; consequently, these people were vulnerable and had less chance to participate most of the activities in the community. The activities that particularly promote the interrelationship between this type of disabled people and the assistants, the support from related sectors and the appropriate environment management will increase their quality of life.

Hence, the appropriate living that covers all the basic needs of people including good health in both physical and mental will result in happiness of life. Disable people is a special group of people that is really need a good quality of life in order to live smoothly and not to be the burden of the society. In conclusion, everyone should know and understand about the quality of life of people with disabilities. Moreover, the supports from the community will be a key factor that helps disabled people to have higher quality of life. Finally, the results from this study will be useful information for the government sectors to improve all related services for disabled people and further qualitative study should be conducted to explore more deeply to get more detail for developmental planning of the quality of life for them.

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The Evaluation of District Health System (DHS) Conduction in Health Service Region 5, Thailand [1]

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Chitsuphang Thiptangtae
Sathaporn Thewchanthuk
Phao Anunjiew

Abstract

This Descriptive study aimed to evaluation the situation in the conduction of district health system (DHS) in Health Service Region 5, Thailand. The data were collected between November 2014 to March 2015 by the in-depth interview, focus group, non-participatory observation and the official paper documentation of 27 full operations of DHS which was selected by cluster sampling. The key informants purposively sampled from the DHS working group. The data collected by the research tools, the five-step progressive assessment form, the interview guideline, the questionnaire of satisfaction, observation form. The quantitative data were analyzed by mean, standard deviation and percentage while the qualitative data was by content analysis.

The research found that most DHS was operated by the committees appointed for the former projects, the District Health Coordinating Committee (DHCC), adding with the Sub-district Administrative Organization (SAO) and community agents. The budget was passed by the Ministry of Public Health. The other health resources were allocated by the DHCC as usual. The health problem topic of One District One Project (ODOP) was indicated by the committee's opinion accordingly to the disease prevalence which was diabetes, hypertension, dengue fever, people with disability and teenager problem. All districts had progression compared by the five-step ladder of progression assessment which the mean score was highest at the clients and providers' appreciation following by the unity of district health team while the lowest mean score was the resource sharing. The committee's satisfaction to DHS conduction was at high level ($\bar{x}$ = 3.59, S.D. = 0.58). The clients had satisfaction to the service of ODOP at high level ($\bar{x}$ = 4.15, S.D. = 0.61). The important factor influenced to the project successfulness was the community participation combining to the officers' competencies development relating to the people's problems and needs.

Keywords: District Health System (DHS), evaluation

[1] Financial support for this research is provided by National Health Security Office of Region 5, Ratchaburi Province, Thailand. Correspondence concerning this article should be addressed to Name of Author, Name of Affiliation. Contact: thunya_po@hotmail.com

Introduction

As the successful of the health care service system in Thailand, health care setting was spread to cover every area with network structure in the level of primary, secondary and tertiary health care services. However, the equity and accessibility have been the problem in spite of the National Health Security Office was established. The causes of imparity to access the health care service were not only the health financial but also the travel allowance to the hospital and the loss of income (World Health Organization, 2010). The lack of health care providers was an important factor that caused health system processed ineffectively. Many countries conducted the health system with insufficient of personnel (Rifat, A., 2012). Moreover, in Thailand, the distribution of health care personnel and services were inappropriate, some of them were bunched together in the big city. Most of physical rehabilitation services were located in big hospitals which were limited for client in the rural area. In consequence, the health care system cannot handle the increased and complicated health problems. Therefore, the district health system (DHS) was operated as a policy of ministry of public health (MOPH), Thailand.

DHS is an approach based on district setting applies to the whole of the health care system and at all level of health care service. It is the means to achieve an equitable, efficient and effective health system (McCoy, D. and Engelbrecht, B. 1999). The health problem solving included health promotion, prevention, treatment, and rehabilitation focus on the participation of local population that respond to local needs with appreciate the process and knowledge management (Kumkun, B. and Sornchomni, C., 2010).

The composition of DHS, in Thailand, divided into 5 principles called UCARE, consisted of unity district health team = U, community participation = C, appreciation = A, resource sharing and human development = R, and essential care = E. There was five-step ladder of progression in each composition. The goals of DHS were to enhance the health status of people in the district; to promote the self-care abilities of individuals, family and community; and to strengthened DHS teams to manage the changed health problem. According to achieve the DHS goals, and solve the health problem in the context of the districts, the co-operation of clients, their family, and all of the associated network were needed. Therefore, the One District One Project (ODOP) was assigned to every district that participated in the DHS program. Each district needed to select the most important health problem in the context of the area by the co-operation of stakeholders and associated network and, then, performed a project to solve that selected problem together. This project was called ODOP. The health problems were identified 10 issues included prevention and promotion care, maternal and child health, emergency medical services system, acute minor disease, dental health, chronic disease, psychiatric disease and mental health, disability disease, end of life care, and high risk group such as pre-school child, adolescent, and elderly. (Archananupaph, S., 2013). These issues were determined to be the essential care.

DHS was launched to all provinces in Thailand as the policy of MOPH in 2013. In order to follow the progression of DHS, the assessment procedures were determined in two ways; the

first one was self-assessment of five-step ladder of progression and the other one was achievement report of one district one project (ODOP). The National Health Security Office had the role to improve primary health care service and support the operation of DHS. The strategic plan and key success indicators were determined to 25 percentages of all districts in Thailand. There were 27 districts from 8 provinces: Ratchaburi, Nakornprathom, Kanchanaburi, Supanburi, Phetchaburi, Samutsongkram, Samutsakorn, and Prachuab Khi Ri khan as the area of responsibility of the National Health Security Office of Region 5 which conducted in the fully operation of DHS. Concerning the level of success and providing feedback on the project's effectiveness for continuous improvement, the CIPP evaluation model (Stufflebeam, D. W., 2008) were used to examine the DHS through a different aspect of evaluation: context, input, process and product.

Purpose

The purpose of this study was:

1. To evaluation the situation in the conduction of district health system (DHS) in the Health Service Region 5, Thailand.

2. To determine the important factor influenced to the project successfulness

Method

This descriptive study was conducted in the Health Service Region 5, Thailand. The data were collected between November 2014 to March 2015 by the in-depth interview, focus group, non-participatory observation and the official paper documentation of 27 full-operation of DHS which was selected by cluster sampling. The key informants purposively sampled from the DHS working group at the region, provincial and the district level composing of the Director of Provincial Health Office or his agents, the committee and the one who take responsibility for DHS policy of the district health office and of community hospital, chief of hospital's family medicine/ social medicine sectors, the representative persons of health promoting hospital/ the local administration or Sub-district Administrative Organization (SAO) and the community people who were in the DHS command appointment including the clients getting health service selected as the one district one project (ODOP). The data collected by the research tools included the five-step progressive assessment form, the interview guideline, the questionnaire of satisfaction, observation form. The quantitative data were analyzed by mean, standard deviation and percentage while the qualitative one was by content analysis. All contents were validated by a triangulation technique.

Results

The findings of the study were as follow:

1. The evaluation of DHS's context showed that DHS network of the Health Area

Number 5 composed of 8 provinces at the lower part of Central region which its population density was 121.51 per kilometer square. There were 15 regional or general hospital, 49 community hospital, 10 state-run hospitals but were not under MOPH, 18 municipality health center, 913 sub-district health promoting hospital, 2 health center belonging to the SAO, 19 primary care center, 30 private hospital (1,807 bed), and 1,078 private clinics.

2. The evaluation of DHS's input showed that the DHS program was launched in all provinces which 27 districts were in full length of operation. Most DHS was conducted by the committees appointed for the former projects, the District Health Coordinating Committee, adding with the SAO and community agents. The budget was passed from the MOPH to all DHS areas, 150,000- 200,000 baht and 100,000- 120,000 baht for the full-length areas and the normal ones, consequently. The other health resources were allocated by the DHCC as usual.

3. The evaluation of DHS's process showed that the performances were monitored by the committee. The health problem topic and ODOP were indicated by the committee's opinion accordingly to the disease prevalence which was diabetes, hypertension, dengue fever, people with disability and teenager problem. The ODOP were conducted through the action plan as usual and added some activities which related to selected health problem. The key success indicators were identified variously both in the short term and long term evaluation.

4. The evaluation of DHS's product revealed that:

4.1. All districts had progression compared by the five-step ladder of progression assessment which the mean score was highest at the clients and providers' appreciation following by the unity of district health team while the lowest mean score was the resource sharing and human development. See Table 1, illustrated the comparison between pre-assessment and post-assessment of five-step ladder of progression. Two districts (14.29 %) were in the high level of progression, 3 and 9 districts were in the middle and low level consequently. Table 2 showed the score and level of progression of each district.

Table 1 Comparison between pre-assessment and post-assessment of five-step ladder of progression.

Items of five-step ladder of progression	Pre-assessment		Post-assessment		Progression score
	$\bar{x}$	S.D.	$\bar{x}$	S.D.	
- unity district health team	2.21	0.97	4.14	0.86	1.93
- community participation	2.00	0.68	3.64	0.84	1.64
- appreciation	1.76	0.70	3.79	0.80	2.00
- resource sharing and human development	2.21	0.89	3.57	0.85	1.36
- essential care	2.29	0.83	3.86	0.86	1.57
total	2.10	0.82	3.80	0.84	1.70

Table 2 the score and level of progression of each district.

District No.	Pre-assessment score	Post-assessment score	Progression score	Level of Progression
1	1.00	2.80	1.80	Moderate
2	3.00	4.00	1.00	Low
3	3.00	4.00	1.00	Low
4	1.60	4.00	2.40	Moderate
5	2.40	3.80	1.40	Low
6	2.40	4.00	1.60	Low
7	1.80	5.00	3.20	High
8	2.00	4.00	2.00	Moderate
9	2.20	3.20	1.00	Low
10	1.80	3.00	1.20	Low
11	1.40	3.00	1.60	Low
12	2.40	3.40	1.00	Low
13	2.40	4.00	1.60	Low
14	2.00	5.00	3.00	High

4.2. The committee's satisfaction to DHS conduction was at high level ($\bar{x}$ = 3.59, S.D. = 0.58). The highest score was the satisfaction to action plan and project implementation, at high level ($\bar{x}$ = 3.68, S.D. = 0.62). While the lowest one was on the budgeting, at the moderate level ($\bar{x}$ = 3.36, S.D. = 0.73). Table 3 showed the satisfaction of committee to DHS conduction

Table 3 the satisfaction of committee to DHS conduction (N = 386)

Items	Satisfaction		level
	$\bar{x}$	S.D.	
Strategic and action plan, and project	3.63	0.61	High
Action plan and project implementation	3.68	0.62	High
Budgeting	3.36	0.73	Moderate
Product and result	3.60	0.64	High
Progression and evaluation monitoring	3.56	0.70	High
Global implementation	3.65	0.76	High
Total	3.59	0.58	High

4.3. The clients had satisfaction on the health service under the ODOP at the high level ($\bar{x}$ = 4.15, S.D. = 0.61), the highest mean score was the suggestion and service providing from health personnel ($\bar{x}$ = 4.24, S.D. = 0.69) while the lowest mean score was the pattern/method/duration of the project ($\bar{x}$ = 3.98, S.D. = 0.78). Table 4 showed the satisfaction of clients on the health service of ODOP

Table 4 the satisfaction of clients to the service of ODOP (N = 859)

Items	Satisfaction		level
	$\bar{x}$	S.D.	
ODOP public relation	4.09	0.77	High
Pattern/method/duration of the project	3.98	0.78	High
Utilization of participation to ODOP	4.20	0.72	High
Suggestion and service providing health personnel	4.24	0.69	High
Global satisfaction	4.21	0.71	High
Total	4.15	0.61	High

5. The important factor influenced to the project successfulness was the community participation combining to the officers' competencies development relating to the people's problems and needs.

5.1. The community participation included the cooperation of all associated networks, the strengthening of teamwork, and good relationship among district health care provider, the local governor, and people in the community. These connections kept them together on considering, decision-making, and problem-solving. As the participants mentioned that:

> "In the past we order them to do, but with this system, DHS, the village headman took his action and led the community to involve in very steps of activities. So, the problem was solved."
>
> "Health problems were not only the problem of the officer, but all together."
>
> "The sense of belonging to the problem and mutual responsibility to achieve the same goal, were the great power of successfulness"

5.2. The competency development of human resources was an importance success factor especially the understanding of DHS procedure of all health care providers. The others competencies such as the ability to analyst self-weakness performances, essential knowledge and skill to manage the health problem, and integrated action plan were needed as well. As the participants stated that:

> "As we conducted the teenage project, then we realized that we needed to learn more about them especially teenage psychology.
>
> "We know not much about DHS procedure. The process is unclear. If there is an explication to the lower worker, not only to the administrator, the result should be better."

Discussion

As the finding showed that most DHS was conducted by the District Health Coordinating Committee, adding with the SAO and community agents. This conduction was related to the procedure of DHS policy determined in the first step of five-step ladder of progression of unity district health team. In addition, the determination also identified the role, function, and structure of the committee which included public health officer, local government agent, and people in the community (Meaktoon, S., 2012; Chatora, R. and Tumusiime, P., 2004). The participatory of the community was the essential composition of DHS committee in order to strengthen health care system, enhancing the efficiency of the network and achieving the outcomes of primary health care (Kamuzora, P. et al., 2014). As also found in this study that the community participation was one of the important factors influenced to the DHS successfulness.

The health problem topic selected were various in each district included diabetes, hypertension, dengue fever, people with disability and teenager problem. These selected health problems were related to the data of illness in Health Service Region 5 (Health Service Region 5 Office, 2014) and to the 10 issues of essential care which determined in the DHS procedures. Then, ODOP was processed in each district to solve the selected problems.

Two districts were found in the high level of progression according to their readiness and the similarity of DHS procedure with their previously operation. The other reason was the strong participation of the community, consequently, they can solve the actual problems. As you can see that the appreciation and unity of district health team were the highest mean scores of the five-step ladder of progression assessment. The lowest mean score was the resource sharing and human development. In addition, budgeting was the lowest mean score of the committee's satisfaction to DHS conduction. These results were due to the lack and inappropriateness distribution of health personnel and finance. There was no clearly regulation of expenditure. Therefore, the guidelines for conducting district expenditure needed to be developed for district management team to understand how to pool together resource was used and distributed within the district (McCoy, D. and Engelbrecht, B. 1999). Moreover, the relationship between health district and local government was a significant point in order to develop the DHS effectively.

Conclusion

The research results in points to the encouragement of all MOPH's sectors which should focus on DHS functions. The administrators of other relative organizations, especially the Ministry of Interior, should be informed about DHS. The learning center of DHS should be established for consulting, knowledge sharing and collecting, which the crystallized knowledge is the valuable things to be published. The supervision and monitoring should function with the objective indicators. The further research is what are the factors affecting to the DHS successfulness which is in overall dimension and each area with differences of social and culture context

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Viral Issues and Public Opinion Formation on Social Media: A Case Study of "Low Yat" Racial Disagreement and Opposition Party "Bersih 4.0" Public Demonstration in Malaysia[1]

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Abstract

The basic idea behind something "going viral" involves the concept of a chain reaction. First, somebody publishes a piece of original content. On Facebook, for instance, this might consist of a funny photo. Then, for complex cultural reasons, people find the content to be extremely compelling. A high number of the original poster's friends reshare her photo. Next, a high number of their friends see it and reshare it too. This goes on and on, with reshare after reshare, until thousands or millions of people see the photo – the vast majority of whom are total strangers to the original poster. The term "going viral" refers to actual viruses, which spread in a similar chain reaction pattern, with one sick person spreading the germs to a few people near him, who in turn spread the germs to a few more people, and so on until an epidemic ensues. Social media is the most effective medium of communication bilaterally over online. Facebook is a platform of choice for a variety of purposes such as communication with family and friends, developing or establishing business and spreading the influence of ideology to attract more followers. Two-way communication in social media can effectively promote information sharing, but if the sharing involves non-authentic or misinformation disseminated widely, it may create an unhealthy situation and potentially threaten the public order. This study content analyzed and investigated the viral influence and the public opinion formation on Facebook from two cases; The Low Yat racial disagreement and the opposition party public demonstration namely Bersih 4.0, where both happened in Kuala Lumpur, Malaysia. This research is relevance and important as the public opinion formation over the social media has become evitable. The method employed in this research is by analyzing the distribution of public opinion through the comments on each Facebook's post and analyzed using the sentiment analysis on Application Web Interface API web tools. The sentiment analysis for each comment on the selected Facebook will give out the polarity of the postings. This will then be categorized into positive, negative and neutral sentiments. Data then were content analyzed and examined further using the SPSS. Sentiment analysis was also done qualitatively

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using the *Wordel* application in order to see the cloud of words for emphasizing sentiment of feeling in the opinion formations. In this research, Public Opinion was measured and Dependent variable, and there were 4 parameters measured as independent variables, namely independent sources, media sources, public opinion source and source from monitoring organization to the dependent variable, public opinion. Result found out that a total of 4254 postings were recorded for Low Yat. Out of those, 711 opinions were formed form racial disagreement of Low Yat were from an independent entity, 244 postings from opinion leader and 2029 from the media. A total of 5,296 postings were recorded for Bersih 4.0. Once online surveillance kicked in using the social media, the total postings from the three entities dropped tremendously.

Keywords: Public Opinion, Viral Issues, Social Media, Media Surveillance, Viral Postings

Introduction

Prior to political and racial tension on the social media, businesses have long use big data in the social media for marketing and brand positioning. Viral was used for greater sales and reach the target. As the importance of social media grows, so do the technical demands for handling big data. The requirement to capture data, process information, and reach sensible political and society harmony conclusions. There is a need for state and monitoring bodies, to have the expertise and technical skills to work with social media data, to interpret the relevant data - where all lies at the intersection of computer science and political science as well as communications and media content. This is important to ensure social harmony country stability.

The basic idea behind something "going viral" involves the concept of a chain reaction. First, somebody publishes a piece of original content. On Facebook, for instance, this might consist of a funny photo. Then, for complex cultural reasons, people find the content to be extremely compelling. A high number of the original poster's friends reshare her photo. Next, a high number of their friends see it and reshare it too. This goes on and on, with reshare after reshare, until thousands or millions of people see the photo – the vast majority of whom are total strangers to the original poster. The term "going viral" refers to actual viruses, which spread in a similar chain reaction pattern, with one sick person spreading the germs to a few people near him, who in turn spread the germs to a few more people, and so on until an epidemic ensues. Social media is the most effective medium of communication bilaterally over online. Facebook is a platform of choice for a variety of purposes such as communication with family and friends, developing or establishing business and spreading the influence of ideology to attract more followers. Two-way communication in social media can effectively promote information sharing, but if the sharing involves non-authentic or misinformation disseminated widely, it may create an unhealthy situation and potentially threaten the public order.

First, it was the Arab Spring. Soon after, *#BlackLivesMatter, #Ferguson, #Ayotzinapa,* and *#Nisman*. In the last five years, political conflict has migrated from the streets

and into the blogosphere. As social media grows in importance, so does time and resources that are invested by political parties, political entrepreneurs, social organizations, and lobbyist. The management of politics, and conflict, requires today the dissemination of political narratives among a growing virtual constituency that acquires information through social networks rather than through printed media or in their local communities.

Viral phenomena are objects or patterns that can replicate themselves or convert other objects into copies of themselves when these objects are exposed to them. They get their name from the way that viruses propagate. This has become a common way to describe how thoughts, information, and trends move into and through a human population. "Viral media" is a common term whose popularity has been fueled by the rapid rise of social network sites alongside declining advertising rates and an extremely fragmented audience for broadcast media.[1] Different from the "spreadable media," "viral media" uses viral metaphors of "infection" and "contamination," which means that audiences play as passive carriers rather than an active role to "spread" contents. Historically, the terms "Memes" are possibly the best-known example of informational viral patterns. Richard Dawkins coined the term "meme" in his 1976 book, "The Selfish Gene." As conceived by Dawkins, a meme is a unit of cultural meaning, such as an idea or a value, that is passed from one generation to another. A meme is a cultural counterpart to the unit of physical heredity, the gene. Therefore, an Internet meme is a cultural phenomenon that spreads from one person to another through the use of the internet. Through the spread of meme, it shows the dispersion of cultural movements, especially when seemingly innocuous or trivial trends spread and die in rapid fashion. Lauren Ancel Meyers, a biology professor at the University of Texas, said that "memes spread through online social networks similarly to the way diseases do through offline populations."

Virality

Douglas Rushkoff coined the term "media virus" or "viral media" and defined it as a type of Trojan horse: "People are duped into passing a hidden agenda while circulating compelling content." In Jean Baudrillard's 1981 treatise Simulacra and Simulation, the philosopher describes An American Family, arguably the first "reality" television series, as a marker of a new age in which the medium of television has a "viral, endemic, chronic, alarming presence.

Before writing and while most people were illiterate, the dominant means of spreading memes was an oral culture like folk tales, folk songs, and oral poetry, which mutated over time as each retelling presented an opportunity for change. The printing press provided an easy way to copy written texts, compared to laborious hand copying of manuscripts. A study of newspapers in the United States in the 1800s found human interest and "news you can use" stories and listicles (though that term had not been invented) circulated nationally as local papers mailed copies to each other and selected content for reprinting. Chain letters spread by postal mail throughout the 1900s.

Urban legends also began as word-of-mouth memes. Like hoaxes, they are examples of falsehoods that people swallow, and, like them, often achieve broad public notoriety. The difference is that urban legends are unintentionally deceptive, whereas hoaxes are intentional.

The creation of the Internet-enabled users to select and share content with each other electronically, providing new, faster, and more democratically controlled channels for spreading memes. Email forwards are essentially text memes, often including jokes, hoaxes, email scams, written versions of urban legends, political messages, and digital chain letters; if widely forwarded they might be called "viral emails". User-friendly consumer photo editing tools like Photoshop and image-editing web sites have facilitated the creation of the genre of the image macro, where the same image is overlaid with different humorous text phrases. (This type of image is what many people think of as an "Internet meme".) Video-sharing websites like YouTube made viral videos possible. A video is viral when it has a relatively large number of views, indicating a wide audience. Viral videos are often amateur uploads, but some are professionally produced.

It is sometimes difficult to predict which images and videoes will "go viral" with widespread sharing; sometimes the creation of an Internet celebrity is a sudden surprise. One of the first documented viral videos is "Numa Numa," the webcam video of then-19-year-old Gary Brolsma singing and dancing to Romanian pop song "Dragostea Din Tei". The sharing of text, images, and videos (or links to images and video on sharing sites) has been greatly facilitated by social media such as Facebook and Twitter. Other mimicry memes carried by Internet media include hashtags, language variations like intentional misspellings, and fads like planking. The popularity and widespread distribution of Internet memes have gotten the attention of advertisers, creating the field of viral marketing. A person, group, or company that wants a lot of fast, cheap publicity might create a hashtag, image, or video designed to go viral; many such attempts are unsuccessful.

Some social commentators have a negative view of "viral" content, though others are neutral or celebrate the democratization of content as compared to the gatekeepers of older media. The authors of *Spreadable Media: Creating Value and Meaning in a Networked Culture* wrote: "Ideas are transmitted, often without critical assessment, across a broad array of minds and this uncoordinated flow of information is associated with "bad ideas" or "ruinous fads and foolish fashions." Science fiction sometimes discusses "viral" content "describing (generally bad) ideas that spread like germs." For example, the 1992 novel *Snow Crash* explores the implications of an ancient memetic meta-virus and its modern-day computer virus equivalent.

The spread of viral phenomena is also regarded as part of the cultural politics of network culture or the virality of the age of networks. Network culture enables the audience to create and spread viral content. "Audiences play an active role in "spreading" content rather than serving as passive carriers of viral media: their choices, investments, agendas, and actions determine what gets valued." Various authors have pointed to the intensification in connectivity brought about

by network technologies as a possible trigger for increased chances of infection from wide-ranging social, cultural, political, and economic contagions. For example, the social scientist Jan van Dijk warns of new vulnerabilities that arise when network society encounters "too much connectivity." The proliferation of global transport networks makes this model of society susceptible to the spreading of biological diseases. Digital networks become volatile under the destructive potential of computer viruses and worms. Enhanced by the rapidity and extensiveness of technological networks, the spread of social conformity, political rumor, fads, fashions, gossip, and hype threatens to destabilize established political order.

Viral videos are among the most common type of viral phenomena. A viral video is any clip of animation or film that is spread rapidly through online sharing. Viral videos can receive millions of views as they are shared on social media sites, reposted to blogs, sent in emails and so on. When a video goes viral, it has become very popular. Its exposure on the Internet grows exponentially as more and more people discover it and share it with others. An article or an image can also become viral.

Barack Obama campaign launched *Yes We Can* slogan as a viral video on YouTube. "The Obama campaign posted almost 800 videos on YouTube, and the McCain campaign posted just over 100. The pro-Obama video "Yes we can" went viral after being uploaded to YouTube on February 2008." Other political viral videos are served not as a promotion but as an agent for support and unification. Social media was activity empowered in Arab Spring. "The Tunisian uprising had special resonance in Egypt because it was prompted by incidents of police corruption and viral social media condemnation of them."

Just days before the first presidential debate in October 2016 between Hillary Clinton and Donald Trump, the Clinton campaign has released a new ad highlighting just some of Trump's controversial comments about women over the years — and questions whether today's young girls deserve a president who calls women "fat," "ugly," and "slobs." The ad, "Mirrors," features footage of girls looking in the mirror as Trump's insults play in the background. It poses the question of what a country would be like for young girls when their president implicitly condones sexist comments.

YouTube's effect on the Social Media

With the creation of YouTube, in 2005 there has been a huge surge in the number of viral videos on the internet. This is primarily due to the ease of access to these videos. The ability to share videos from one person to another with ease means there are many cases of 'overnight' viral videos. "YouTube, which makes it easy to embed its content elsewhere) have the freedom and mobility once ascribed to papyrus, enabling their rapid circulation across a range of social networks." YouTube has overtaken television regarding the size of the audience. As one of

example American Idol was the most-viewable TV show in 2009 in U.S. while "A video of Scottish woman Susan Boyle auditioning for Britain's Got Talent was viewed more than 77 million times on YouTube." The capacity to attract an enormous audience in the friendly-using platform is one the leading factor why YouTube generates viral videos. YouTube contribute to viral phenomenon spreadability since the idea of the platform is based on sharing and contribution. "Sites such as YouTube, EBay, Facebook, Flickr, Craigslist, and Wikipedia, only exist and have value because people use and contribute to them, and they are clearly better the more people are using and contributing to them. This is the essence of Web 2.0."

An example of one of the most prolific viral YouTube videos that fall into the promotional viral videos category is Kony 2012. On March 5, 2012, the charity organization Invisible Children Inc. posted a short film about the atrocities committed in Uganda by Joseph Kony and his rebel army. It was a campaign with the intent to raise awareness of the need to bring Kony and his army to a stop, Kony is believed to have kidnapped and enslaved around 66,000 children since the late 1980s. Famous artists use YouTube as their one of the main branding and communication platform to spread videos and make them viral. For instance, after the breakAdele broke YouTube records coming back with the rapidly growing most-viewed song "Hello". "Hello" crossed 100 million views in just five days, making it the fastest video to reach it in 2015.[21] YouTube viral videos make stars. As an example Justin Bieber who was discovered since his video on YouTube Chris Brown's song "With You" went viral. Since its launch in 2005, YouTube has become a hub for aspiring singers and musicians. Talent managers look to it to find budding pop stars.

According to Visible Measures, the original "Kony 2012" video documentary, and the hundreds of excerpts and responses uploaded by audiences across the Web, collectively garnered 100 million views in a record six days. This example of how quickly the video spread emphasizes how YouTube acts as a catalyst in the spread of viral media.

YouTube is considered as "multiple existing form of participatory culture" and that trend is useful for the sake of business. "The discourse of Web 2.0 its power has been its erasure of this larger history of participatory practices, with companies acting as if they were "bestowing" agency onto audiences, making their creative output meaningful by valuing it within the logics of commodity culture."

Social Media and Public Opinion

Social media is a powerful medium and is widely used and worldwide. Although social media has become an effective channel for sharing information, it can also be misused to spread lies and misinformation. Development of social media in recent years has affected unwell towards the unity of the State (Shamsul Amri, 2015). According to Shamsul Amri, "With the

development and progress of social media in Malaysia, we need to realize that national security was open to a variety of threats, enhance transparency (transparency) of the government and it also opens the opportunity for Malaysians to discuss political issues of whether supporters the government or the opposition, "Social media has become an alternative channel of information in promoting democratic values, but many consumers less careful when throwing accusations. This situation should be monitored through postings and comments in social media, particularly Facebook which these comments refer to public opinion.

"The process of formation of Public Opinion" is described from the start of one's perception so that the formation of public opinion, depending on the cultural background, past experiences, values that will produce an interpretation or establishment of a person, and eventually formed a Public Opinion which then is supporting or opposing. Opinion of one then cumulatively can develop into a consensi (agreement), and crystallization if people in certain groups have a common vision, ideas, values espoused, background and the objectives to be achieved will create a public opinion. The best example of virality of public opinion formation over the social media is the Arab Springs in 2010 (S.Caroline, 2011).

Misuse of Social Media

Misuse of social media, a product of technological advancement, can lead to racial and religious conflicts in the country, like Malaysia. It is worrying that irresponsible people used social media to spread slander. "False information is accepted in toto without checking with valid sources and then it goes viral, putting national security at risk. "For instance, the quarrels at the Low Yat and Kota Raya plazas started with the theft of a handphone but (the news) went viral, turning them into racial conflicts," (Joseph Kurup, 2016).

As a multi-cultural and multi-racial country, Malaysian monitoring agency view the seriousness of sensitive issues over the social media. Any misled public opinion formation and become viral can led to racial misunderstanding and conflict. The main monitoring agencies in Malaysia, are the police (PDRM) and the Malaysian Communications and Multimedia Commission (MCMC) aggregated the viral issues over the social media and perform full monitoring strategies for viral issues that can led to social unrest or conflict. Malaysia has had an ugly experience of racial conflict in May 13, 1969 due to economic polarity among the Malays and the Chinese. Several steps and strategies for racial unity were taken since then and Malaysia is successful in dealing with racial misunderstanding. However, the invention of Internet and Social Media have given Malaysian and the authority a different meaning of social misunderstanding platform if it is not being monitored. Viral issue, monitoring strategies will be employed either above the belt (PDRM social media website) or below the belt (camouflage intelligent surveillance postings and physical on the ground intelligent check). Once identified, any information received through viral social media will be filtered to preserve the unity and prosperity of the country and to prevent the tragedy of May 13, 1969 repeating. Therefore, controlling public opinion and intelligent monitoring actions should be to address the issue of viral detrimental to the country's stability and unity in Malaysia.

Research objective

The main objective of this study is to examine the effectiveness of big data management and monitoring strategies on negative public opinion formations over the social media in Malaysia using two viral issues; Plaza Low Yat racial tension and opposition party Bersih 4.0 rally. This study identified the highest sentiments found in the comments of the postings on the viral issue studied, investigated the source of information that contributed to the highest negative comment on the viral issue studied and evaluate the effectiveness of monitoring body strategy on both viral issues selected for this study.



Plaza Low Yat racial tension



Opposition Party Bersih 4.0 Rally

Research Significant

This study is significant in a way as it deals public opinion formations over the social media and big data management throughout monitoring strategies. A fast and correct computer filtering needed for an efficient online monitoring strategies. The amount of information available to crunch and parse in the service of analyzing absolutely anything is massive—and growing every second. In the face of this sheer overwhelm of data, an individual business owner or social media marketer can feel powerless to make any sense of it, let alone productive use of it. But as with any shift in the tide or evolutionary leap, a smart adjusting of strategy can help monitoring agency harness the data deluge to work for them. The most important

fundamental concept to grasp, perhaps, in understanding **Big Data's** impact on social media monitoring strategies is that social media is part of big data. That is, social media is one of **Big Data's** most significant sources. CMS Wire reports that, according to industry experts, 90 percent of the available **data in the world** was collected over just the previous two years, and what's more, that 80 percent of that data comes from "unstructured" sources, like social media. If **Big Data** is the water pouring out of your faucet, then social media is the reservoir that stream comes from. It could be argued, therefore, that the unending influx of content from social media is indeed what has allowed the data analytics of the past to balloon into **"Big Data."**

Content is information. So are views, likes, shares, follows, retweets, comments, and downloads. Social media allows monitoring agencies use and view data like marketers do. So when we think of Big Data in relation to social media, we must first realize that they are not separate from one and the same (or at the least, intrinsically mutually codependent). Social Media ROI can now be Called Business ROI and Monitoring ROI." Social media is no longer merely an option for businesses alone but a requisite component of monitoring success in critical and viral issues that can led to conflict and social harmony. Hence any analysis of social media data, to be effective, must be viewed in the larger context such as social harmony value rather than solely for marketing and business's market penetration, brand engagement, and other return on investment metrics.

Research Question

Is is crucial to ask whether big data management and social media monitoring strategies over sentiments and public opinion formation on viral issue is effective in Malaysia? What are the important supporting factors contributing to high sentiments and negative opinion formations. How long does it took for sensitive and high racial conflict tension issues to ease off. Which and why monitoring and strategy implemented is more efficient and successful in reducing negative public opinion formation compared to others? Does independent news portal play a role in creating negative sentiments and negative public opinion formations? Who were the public opinion leaders?

Hypothesis

- The negative sentiment is the major comments found in the postings of the viral issues studied (H1)
- Independent news portals / news source of information is the source that contribute to the highest negative sentiment among the other sources of information (H2)
- Monitoring strategy is effective if the negative sentiment decrease after the monitoring strategy implemented by the monitoring body (H3)
- There is an association / influence between the strategy implemented by the monitoring body towards the public opinion in the social media (H4)

Theoretical Framework - Crisis Management Strategy.

In general, crisis has been defined by experts as an important event which is/are unexpected and may contribute to the negative impact to the organization. The crisis is the perception. The perception of a person or a group to an event can play a role in determining the occurrence of a crisis. The crisis is the perception of an event that threatens the parties whose involved directly or indirectly (i.e., affected stakeholders), which will give a serious impact on an organization and generate a negative result (Coombs, 2012).

Organization Crisis management is a systematic and structured approach in addressing the crisis. The audit was conducted as early confirmation before a crisis occurs. Cost effective - does not require a large team to manage crisis, the use of the expertise is only concerned to make the relevant audit. The effectiveness of crisis management improved further by forming a team that can manage or coordinate multiple crises at the same time. According Lerbinger (1997), there are two (2) main features of the crisis:
i. Happen suddenly - an unexpected crisis such. For example: 'terrorism' 9/11 or food poisoning Tylenol case, Johnson & Johnson.
ii. Uncertainty - often occur beyond the control of the organization, which occurs in the vicinity of the complex and unstable environment. For example: The riots or strikes.

Crisis management is a critical element and very crucial for an organization in managing the crisis with systematic procedure, it is also allows an organizations to detect the problem or potential problem in the early stages of the audit process, the early detection of crisis enables crisis to be prevent or treated effectively, organizations can take advantage of the expertise of the organization to plan and manage the crisis and it is more cost effective because it does not have to involve many officers to form a team. Public relations (PR) plays an important role in crisis management. How organizations manage the crisis are linked to the expertise of crisis management such as PR to communicate intelligently with the parties involved (stakeholders) - media, NGOs, victims and families of victims, activists and maintenance. Maintaining the 'relationship' with the stakeholders is essential to make sure that the image, reputation, and the existence of the organization is not compromised due to the weakness of communication and crisis management (Fearn-Banks, 2007).

The goal of the crisis management plan (CMP) is to provide the preparation and to reduce image pollution and reputation of the organization that can occur as a result of the crisis (Coombs, 2012). Crisis management has changed and evolved. At first, crisis management is solely for emergency preparedness [emergency preparedness] (Coombs, 2012). Now, it has been expanded to include four key factors (Coombs, 2012):

1. Prevention - the procedure to overcome the crisis, tracking the 'warning signs' and construct the appropriate action.
2. Preparation - this includes, diagnosing crisis weaknesses, selecting crisis management team and the 'spokesperson', (which is able to represent the organization, consisting of the

person who have the expertise to overcome the crisis), creating crisis portfolio and many more.
3. Response - create mock crisis, role-playing, as crisis preparation should always be tested
4. Revision - Assessing the organization's response in dealing with the crisis for attempted or real. Revision will strengthen the CMP, improve and learn the weaknesses of the response to make sure CMP response team will be better in the future.

In this study, we will review the effectiveness of the monitoring body (police) in dealing with the crisis faced by the organization through the impact of social media. Is the monitoring strategy is effective and appropriate to tackle the viral issues in the social media and how they practiced the damage control. Effective monitoring strategy will help the organization to face the threats or the bad impression by the users of the social media.

Sentiments and Public Opinion

Referring to the Bernard Hennessy (1981) in his book of Public Opinion, postulated five factors of public opinion which are the presence of an issue. Issues can be defined as contemporary situation that may not be able to deal, containing the element of controversy and conflict of contemporary issues. Second is nature of publics which indicate that there should be a recognizable group and an interest in the matter. Third is a complex of preferences, referring to the variety of public opinion on an issue. Fourth, expression of opinion, for example the words spoken or printed statement / writing, gestures, and the last but not least is the number of people involved. Public opinion is about how many people who are concerned about the issue.

There are two dimensions of public opinion by Bernard Hennessy, 1981 which consisting of preference (support or reject) and intensity (it measures how far preferences of those), and some level of public opinion (Bernard Hennessy, 1981) that has been identified is the dispute, communication and evaluation. For all three levels, there were three elements considered, namely social judgment or social condition or feedback. In this research, issues were selected using 5 factors presented by Bernard Hennessy, namely the presence of an issue, nature of publics, complex of preferences, expression of opinion and the number of individuals involved in the issue. Apart from that, the level of public opinion was assessed from the two viral issues investigated.

Sentiment is a feeling that can be translated into attitudes, emotions during opinion formation. It can be positive or negative. It is more on subjective perception construct. However, the construct can be examined using sentiment analysis, where computational method was employed to examine people's opinions, sentiments and emotions through entities and attributes that are expressed in the form of text (Liu, 2012). In a more concise definition, sentiment analysis is concerned with the study of individual sentiment analysis and opinion writing (P. Malakasiotis, R.-M. Karampatsis, N. Makrynioti, & J. Pavlopoulos, 2013). Through sentiment analysis, sentiment will be divided into polarities referring to the texts studied for dismantling the opinion expressed either positive, negative or neutral (Pang & Lee, 2008).

Methodology

This research selected Low Yat Plaza racial tension and opposition party Bersih 4.0 rally as two prominent negative public opinion formation over the social media. Both happened in Kuala Lumpur. Negative incited racial tension followed the Plaza Low Yat brawl in Jalan Bukit Bintang in 2015 where the incident was sparked by a crime, but was turned into racism. The Bersih 4 rally was a series of planned rallies carried out by opposition party Keadilan on 29 to 30 August 2015, which created political and public tension in Malaysia. There were 24 selected Facebook postings of Plaza Low Yat racial tension. A total of 12,695 comments were examined within 12th of July 2015 to 18th of July 2015 monitoring period. And 24 selected Facebook postings on opposition party Keadilan Besih 4.0 rally. A total of 5,296 comments were examined within 22th August 2015 to 31st August 2015 monitoring period.

- Overall – 17,630 comments (48 postings)
- Low Yat – 24 postings / 12,695 Comments (high on comments) - FBs
    - Opinion Leader (6 postings) = 656 public comments
    - Online Conventional Media (6 postings) =7042 public comments
    - Independent Media Portal (6 postings) = 2790 public comments
    - Monitoring Body (Gov) (6 postings) = 2207 public postings

    - Bersih 4.0 – 24 postings / 5296 comments (high on likes, shares & video view) - FBs
    - Opinion Leader (6 postings) = 701 public comments
    - Online Conventional Media (6 postings) = 1180 public comments
    - Independent Media Portal (6 postings) = 2187 public comments
    - Monitoring Body (Gov) (6 postings) = 1228 public comments

API Webtools and content analysis were employed to examine the viral influence and the public opinion formation on Facebook from the two cases; The Low Yat racial disagreement and the opposition party public demonstration namely Bersih 4.0, where both happened in Kuala Lumpur, Malaysia. This research is relevance and important as the public opinion formation over the social media has become an inevitable. Coding sheet and coding instruction were developed. In this research, Public Opinion was measured and Dependent variable, and there were 4 parameters measured as independent variables, namely independent sources, media sources, public opinion source and source from monitoring organisation to the dependent variable, public opinion.

The method employed in this research is by analysing the distribution of public opinion through the comments on each Facebook's post and analysed using the sentiment analysis on Application Web Interface API webtools. The sentiment analysis for each comment on the selected Facebook will give out polarity of the postings. This will then be categorized into positive, negative and neutral sentiments. Data then were content analysed and examined further using the SPSS. Sentiment analysis were also done qualitatively using the *Wordel*

application in order to see the cloud of words for emphasizing sentiment of feeling in the opinion formations.

In this study, a post from the monitoring body with the highest engagement rate will be selected as the central point of before and after the strategy by monitoring body. There were 2 facebook pages from monitoring body involved which were 'Polis Diraja Malaysia' and 'Polis KL'. On the second stage of sampling, the systematic sampling were employed using keyword identification at the main search box on Facebook application to choose the posts for independent sources, media sources and opinion leaders souces variables. Any posts that has been posted by the official facebook of conventional media is labelled as a sample of the media sources variable, any posts that has been posted by the official facebook of public figure such as sportsmen, politicians, artists, preachers and others are referred to as samples for the opinion leader source variable and last but not least, any posting that had been post by other then monitoring body, media and opinion leader are referred to as independent source variable. The unit of analysis for this study is the facebook postings while the unit of measurement is the comments.

For the case study of Plaza Low Yat racial riots incident, through a search using the keywords Low Yat Riot, there were 14 posts obtained by monitoring body source and 128 posts were obtained by independent source variables, media and public opinion leaders. Out of 128 postings, there were only 48 posts hit the engagement rate of 2%. From the total of 48 postings, 6 postings each with highest engagement rate were catagorized into independent, Media, and Opinion Leader source variables for analysis while for monitoring body, there were 6 of a total of 14 postings that have the highest engagement rate were selected for analysis. For case the case study of Bersih 4.0 Rally, a search using the keywords of Bersih 4 obtained 37 posts by monitoring body while 147 posts for independent, media and opinion leader's sources variables. Out of 147 postings, there were only 52 posts hit the engagement rate of 2%. From the total of 52 postings, 6 postings each with the highest engagement rate for independent, Media, and Opinion Leader sources variables were selected for analysis while for monitoring body, there were 6 out of 37 postings with the highest engagement rate were selected for analysis.

Virality Measurement

According to Facebook virality is defined as the percentage of people who have created a story from your page post out of the total number of unique people who have seen it. Creating a story is refers to the number of likes, comments and shares and any communication on the post. The number of communications on the facebook posting include the number of those who have seen the post which can also portray the virality level of the posting. Metrics such as the number of likes, comments and shares were among some of the parameters for PTAT metric (People Talking About This). Another measurement for virality is the engagement rate. Referring to the definition by Facebook, the engagement rate is refers as the percentage of people who have respond / act, click, or comment on the posts to the total number of people who view the post. There are several studies that involve enggagement rate had been conducted such as Who like

to engage? By Aertssen Laurens in 2013, People Talking About This (PTAT), 2010 and Facebook Engagement: We're still doing it wrong - AllFacebook, 2013.

- PTAT Metrics (People Talking About This) = Total Likes, Share and Comments
- (Facebook Engagement) : $\frac{(\text{PTAT} + \text{VIEW}) \quad X \quad 100}{\text{Total Like Page}}$

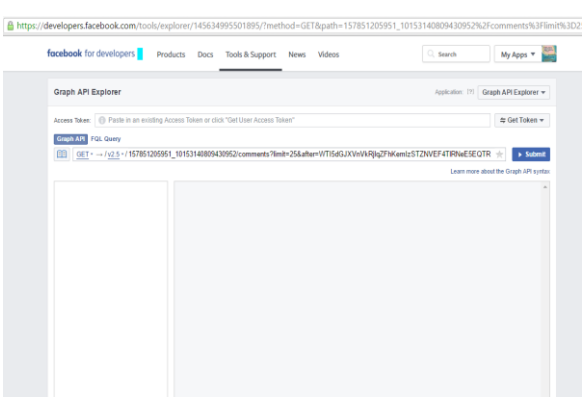
Inter-Coder Reliability - Holsti Test

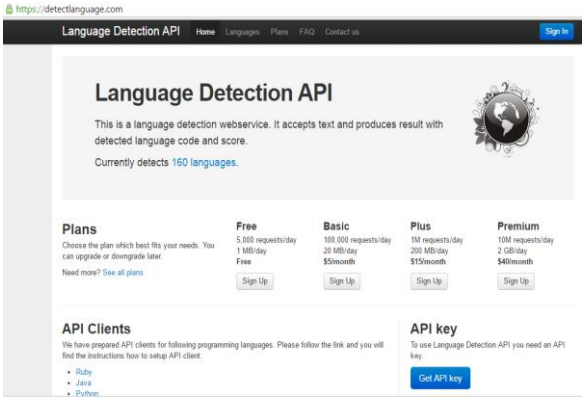
The research instruments validity and reliability were tested using different coders using the Holsti Test formula below during pilot test. Two coders were given the same coding sheet and coding instructions as instruments and were asked to examined two sets of five Facebook's postings on the viral issues. The result gained was 0.70 or 79 percent agreement among coders which is accepted as high instrument reliability and validity.

$$\frac{2M}{N1+N2}$$

API Webtools Procedures

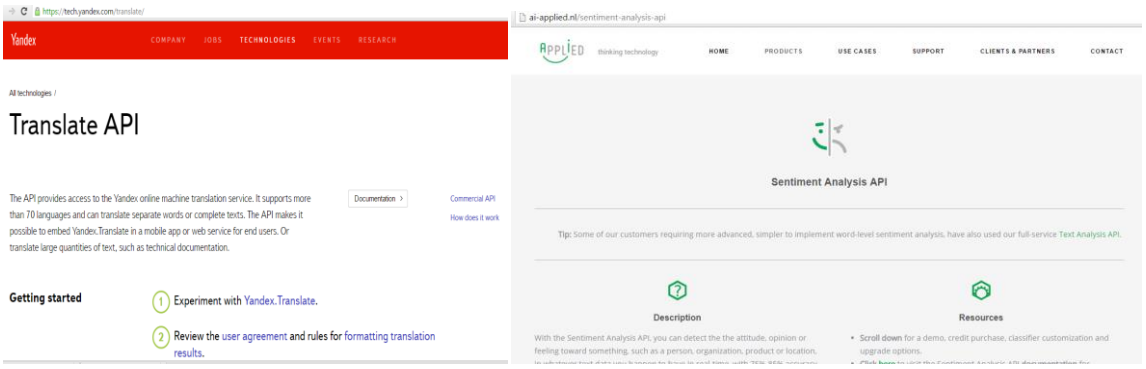
All selected samples of Facebook comments of the Plaza Low Yat racial tension and opposition party Bersih 4.0 rally were extracted using the API Webtools software. As comments from both viral issues came in several languages such as Malay, Chinese, Indian, English and several others, the comments were filtered using the API Webtools Language Detection. Overall, it detected 160 languages. The software then coded them and translated into English language using the API Webtools Language Translation. The next step was to identify the sentiments of public opinion using the API Webtools PHP sofwate (Hypertext Pre-processer) and mySQI database. Then the data were content analysed using the research coding sheet and coding instruction.





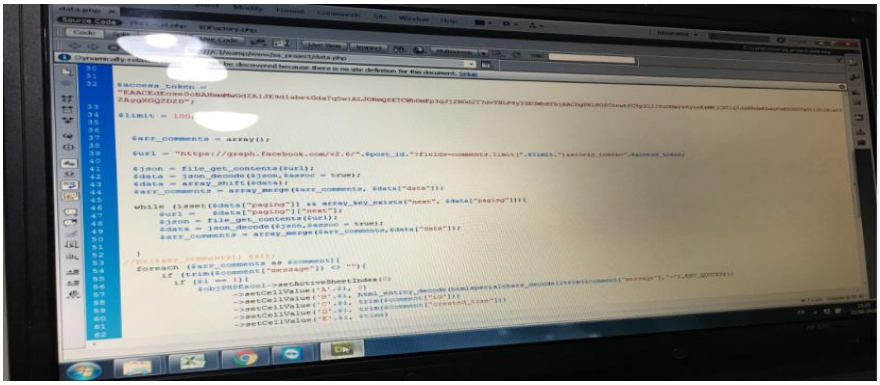
Picture 1: API Webtools Facebook Comments Extraction.

Picture 2: API Webtools Language Detection.



Picture 3: API Webtools Language Translation

Picture 4: API Webtools for Sentiment Analysis on Facebook



Picture 5: PHP sofwate (Hypertext Pre-processer) and mySQI database

Result and Discussion

Sentiment dimension distribution Low Yat Riots

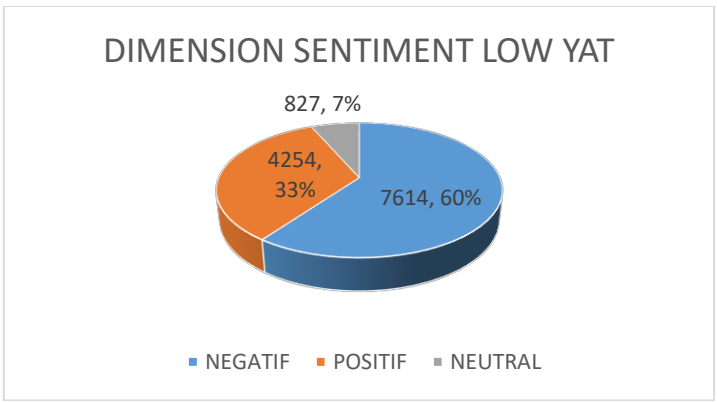


Figure 1

Referring to figure 1, the total number of comments for 24 selected posts were 12,695 within 12th of July 2015 to 18th of July 2015 monitoring period. The negative comments show the highest peak among the other sentiments. As a conclusion, the negative sentiment is the dominant comments to explain the emotion of the social media users with regards to the case study of Plaza Low Yat Racial Riots Incident (H1).

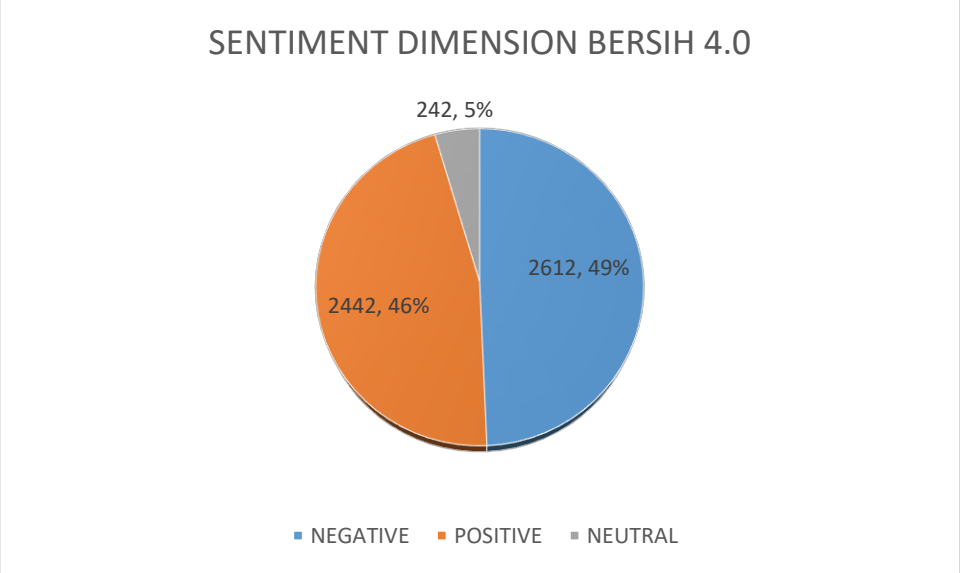


Figure 2

Referring to figure 2, the total number of comments for 24 selected posts were 5,296 within 22th August 2015 to 31st August 2015 monitoring period. The negative comments show the highest peak among the other sentiments. As a conclusion, the negative sentiment is the dominant comments to explain the emotion of the social media users with regards to the case study of Bersih 4.0 (H1).

Figure 3: Sentiment dimensions distribution based on source of information for Low Yat Racial Riots Incident

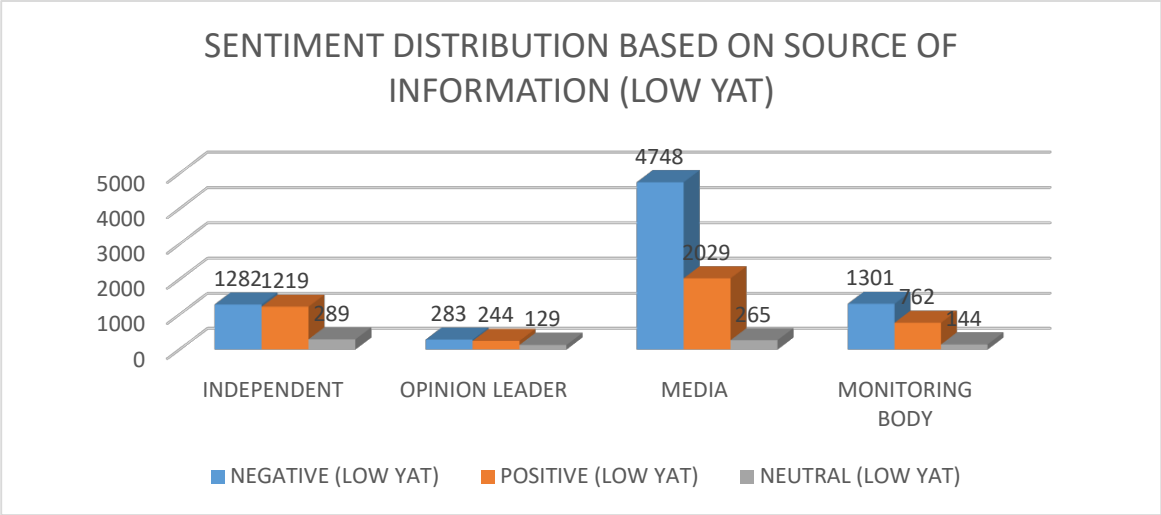


Figure 3

Based on the figure 3 above, independent source of information contributed to the highest negative and positive comments is source information from media while independent source of information for neutral comments. Media source of information also have the largest number of the comments compared to other sources of information. In conclusion, for the case study Plaza Low Yat Racial Riots Incident, it is believed that social media users tend to choose sources of information from media source if compared to the other sources. Thus, the effect of media source of information is greater than the other sources of information (H2).

Figure 4: Sentiment dimensions distribution based on source of information for Bersih 4.0

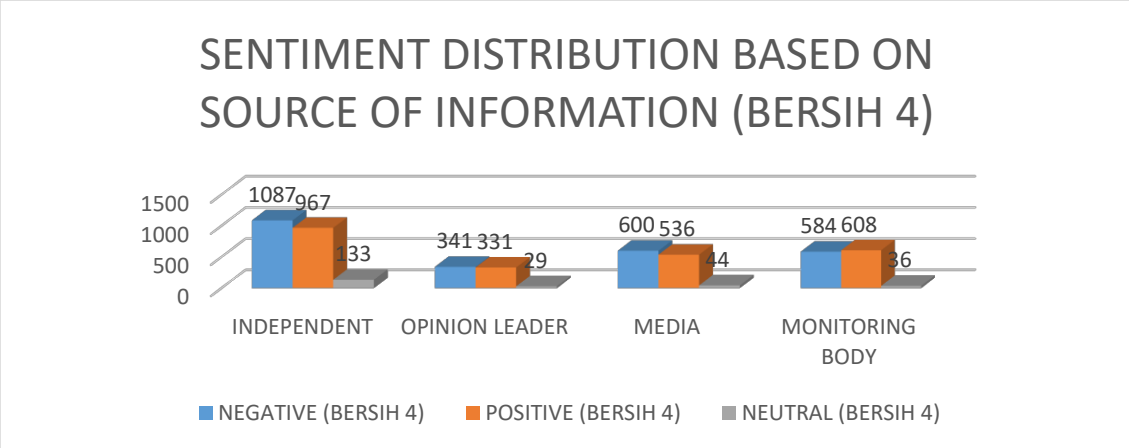


Figure 4

Based on the figure 4 above, independent source of information contributed to the highest negative, positive and neutral comments. Independent source of information also have the largest number of the comments compared to other sources of information. In conclusion, for the case study Bersih 4.0 rally, it is believed that social media users tend to choose sources of information from unknown source if compared to the known sources. Thus, the effect of independent source of information is greater than the other sources of information (H2).

Public Opinion and Sentiment Dimensions Distribution Before And After Monitoring Body's Strategy For Plaza Low Yat Racial Riots Incident.

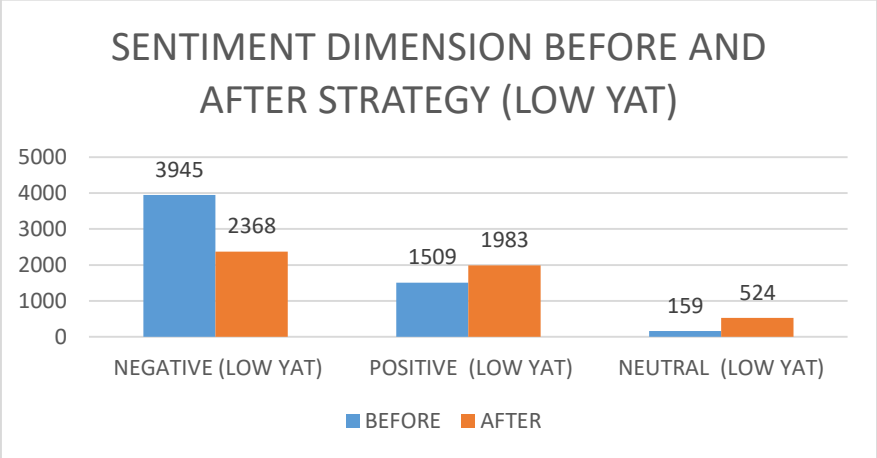


Figure 5

In this study, a post from the monitoring body with the highest engagement rate will be selected as the central point of before and after the strategy by monitoring body. Posts that have the highest engagement rate is referred as the best strategy had been implemented by the monitoring body which mostly affect social media users to click on the post and placed their comments (public opinion). For the case study of Plaza Low Yat racial riot incident, posting from monitoring body with highest engagement rate belongs to the post with post id 1D7. The date and the time of the post was published was on 12th Of July 2015 at 11.02pm. Therefore, any posts from independent sources, the opinion leader and the media regarding the studied issue before the date and the time of 1D7 posting will be coded as post before strategy of monitoring body while after date and time of 1D7 posting will be coded as post after monitoring body strategy.

Based on the figure 5 above, it was found that the number of negative comments decrease from 3945 to 2368 after the monitoring body carry out their monitoring strategy by issuing a statement through their official Facebok site. The number of positive and neutral comments also increased from 1509 to 1983 for a positive comments while neutral comments about 159 to 524 comments. Thus, reduction of negative comments and increasing of positive and neutral comments explained that the strategies implemented by the monitoring body is effective (H3).

In this study, a post from the monitoring body with the highest engagement rate will be selected as the central point of before and after the strategy by monitoring body. Posts that have the highest engagement rate is referred as the best strategy had been implemented by the monitoring body which mostly affect social media users to click on the post and placed their comments (public opinion). For the case study of Bersih 4.0 rally, posting from monitoring body with highest engagement rate belongs to the post with post id 4D10. The date and the time of the post was published was on 30th August 2015 at 2.17pm. Therefore, any posts from independent sources, the opinion leader and the media regarding the studied issue before the date and the time of 4D10 posting will be coded as post before strategy of monitoring body while after date and time of 4D10 posting will be coded as post after monitoring body strategy. Referring to Figure 6, result shows that there were increase on the negative and positive comments while decrease on neutral comments after the strategy implemented by the monitoring body. Increases in negative comments suggest that, the strategy implemented by the monitoring body is not efficient (H3).

Public Opinion and Sentiment Dimensions Distribution Before And After Monitoring Body's Strategy For Bersih 4.0

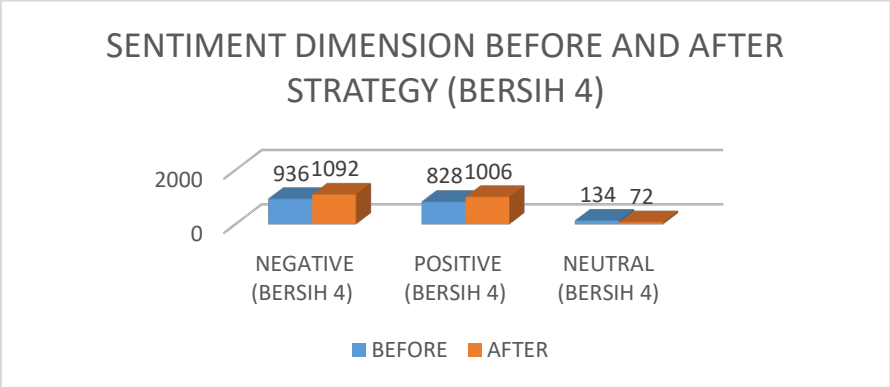


Figure 6

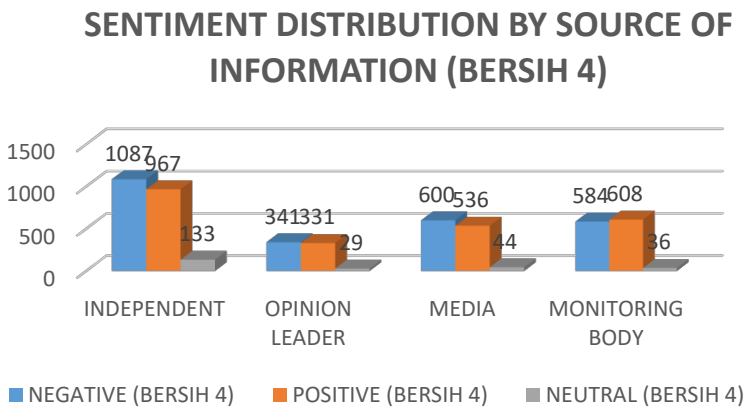


Figure 7

Chi-Square Result for Before & After Strategy by Monitoring Body for Plaza Low Yat Racial Riots Incident.

Chi-Square Result for Plaza Low Yat Racial Riots incident			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	461.691[b]	6	.000
Likelihood Ratio	444.779	6	.000
Linear-by-Linear Association	32.524	1	.000
N of Valid Cases	12372		
0 cells (.0%) have expected count less than 5. The minimum expected count is 23.43			

Table 1

Based on table 1, the value of X = 461.69 is significant at p = 0.05, the null hypothesis is rejected. This shows that there is a association between all the variables in the study. Hence, the following hypothesis is accepted: -

There is a association / influence among independent sources with the public opinion in social media (H1)

- There is a association / influence between media sources with the public opinion in social media. (H2)
- There is a association / influence among the opinion leader sources with the public opinion in social media (H3)
- There is a association / influence among the monitoring body sources with the public opinion in social media (H4)

Monitoring Time for Plaza Low Yat Racial Riots Incident and Bersih 4.0 Rally

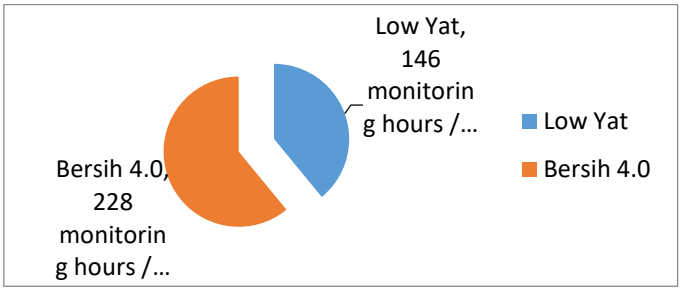


Figure 8

Chi-Square Result for Bersih 4.0 Rally			
	Value	df	AAsymp. Sig. (2-sided)
Pearson Chi-Square	26.814[b]	6	.000
Likelihood Ratio	26.921	6	.000
Linear-by-Linear Association	15.191	1	.000
N of Valid Cases	5296		

Table 2

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 32.03.

Based on table 2, the value of X = 26.81 is significant at p = 0.05, the null hypothesis is rejected. This shows that there is a association between all the variables in the study. Hence, the following hypothesis is accepted: -

- There is a association / influence among independent sources with the public opinion in social media (H1)
- There is a association / influence between media sources with the public opinion in social media. (H2)
- There is a association / influence among the opinion leader sources with the public opinion in social media (H3)

There is a association / influence among the monitoring body sources with the public opinion in social media (H4)

Chi-Square Result for Before & After Strategy by Monitoring Body for Plaza Low Yat Racial riots incident				
CHRONOLOGY		Value	df	Asymp. Sig. (2-sided)
Before	Pearson Chi-Square	94.814[c]	4	.000
	Likelihood Ratio	88.667	4	.000
	Linear-by-Linear Association	33.123	1	.000
	N of Valid Cases	4064		
After	Pearson Chi-Square	3721.776[d]	2	.000
	Likelihood Ratio	2806.313	2	.000
	Linear-by-Linear Association	2871.047	1	.000
	N of Valid Cases	4080		
Total	Pearson Chi-Square	1135.351[b]	4	.000
	Likelihood Ratio	1182.646	4	.000
	Linear-by-Linear Association	819.195	1	.000
	N of Valid Cases	8144		

Figure 3
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.00.
b. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.63.
c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.48.

Referring to the figure 3, the x =1135.35 was significant at p = 0.05. The null hypothesis is rejected. This shows that there is a associations between all the variables in the study. Hence, the following hypothesis is accepted. There is association effect among strategy from monitoring body towards public opinion in social media (H4).

Conclusion

To answer the research questions, we found that the strategy implemented by the monitoring body is not efficient for Bersih 4.0 while efficient for Plaza Low Yat Racial Riots Incident. The results for the case study Bersih 4.0 rally shows the decrease of neutral comments and the increase of positive and negative comments, explained that the strategy implemented by the monitoring body was not effective. The results for the case study Plaza Low Yat Racial Riots Incident shows the decrease of negative comments and the increase of positive and neutral comments, explained that the strategy implemented by the monitoring body was effective.

Results also shows that the negative sentiment is the largest sentiments found among the comments generated by the social media users for both cases. It is also found that the source

information from independent sources are the major contributor for the negative sentiments for the case study Bersih 4.0 while source information from media for Plaza Low Yat Racial Riots Incident. Referring to the chi-square result, there are also association / influence among the strategy implemented by the monitoring body towards public opinion in the social media for both cases.

It can be concluded that the result in this research showed that during the Plaza Low Yat Racial Riot Incidents, the Online Conventional Media plays a significant role to viral the issues and helped built up negative sentiments and negative public opinion formation. Therefore, the study found that all the tested hypothesis can be accepted whereby the results show that there were associations and influences among independent sources, media sources, sources from opinion leader and sources from monitoring body towards public opinion in the social media.

In terms of monitoring agency, the Malaysian Police Force managed the big data of viral issues on social media via Facebook had a different impact on effectiveness. There were proved of associations and influences between strategies implemented by the monitoring body towards the public opinion in the social media. The overall result found that the Plaza Low Yat Racial Riot Incident, monitoring body successfully monitor the situation and had an efficient Strategy . Post monitoring body strategies of 146 hours – 6.08 days (above the belt – PDRM's Facebook), positive and neutral comments increased to 0.39% and negative comments decreased significantly from 3945 to 2368 or decreased 39.9% or 40%. However, the online monitoring strategy for Bersih 4.0 Rally showed an inefficient strategy due to an increase in negative sentiments and public opinion post monitoring strategies deployment. Post monitoring body strategies of 228 hours – 9.5 days (above the belt – PDRM's Facebook), comments dropped 41.25% but negative comments increased to 16.7% or from 936 to 1092. Independent news portal plays a significant role as online opinion leader to lead the discussion in Bersih 4.0 rally compared to Plaza Low Yat racial incident where the conventional online newspapers play a significant role as opinion leader for online discussion or get the most shares for news, opinion and video postings

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Perception of Organizational Development among Personnel, Prachomklao College of Nursing, Phetchaburi Province, Fiscal Year 2015[1]

Panisara Songwatthanayuth

Abstract

This study was based on a survey research design with the objective of studying the perception of organization development of personnel, Prachomklao College of Nursing, Phetchaburi Province during the 2015 fiscal year. The population used for this study was composed of 99 personnel working at the Prachomklao College of Nursing in the province of Phetchaburi during the 2015 fiscal year. The subjects were categorized as professors (52 people) and support personnel (47 people). Overall, the sample group's opinions about organization development were moderate (Mean = 6.78, S.D. = 1.69). The aspect about which the subjects held the most opinions was cultural organization, which was high (Mean = 7.04, S.D. = 1.48), followed by personal development (Mean = 6.74, S.D. = 1.77), and information technology which was at a moderate level (Mean = 6.46, S.D. = 1.67), respectively. According to the research findings, the College of Nursing should give importance information technology, developing human resources and human resource management, and increase motivation for personnel.

Keywords: Organization Development, College of Nursing, Perception, Personnel, Phetchaburi

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Background and Significance of Problem

The organizational development (OD) is the planned and constant effort towards profound system-wide change focusing on the organizational culture change. The approval and support of high-rank administrators, behavioral science tools and techniques, and solution-based methodology are the keys for the organizational development. The personal change is not the sole focal point. Rather, such personal change is a byproduct of the organizational culture change (Orchard Na Takuathung, 2007). Good organizational development enhances the efficiency and effectiveness of the organization, especially its competency for quick adaptability and survival during the time of problems and changes. This leads to the introduction of work process development for promoting the involvement in common organizational goals with an emphasis on the change of obsolete and unnecessary culture that obstructs the progress and growth of the organization. The work achievement is focused instead on methods (Suanan Laohanan, 2008). The organizational development strategy requires good management and change management goals such as the creation of interaction, communication, participation, planning and conflict management. The organizational development aims at the change of formal and informal organizational cultures with a focus on the personnel development on the belief that all human beings are capable and desire for better quality of life. As a result, the organizational structure, work system, prompt information technology system, pleasant work environment and personnel's opportunity for constant growth and self-development are provided. Also, the organizational development should examine and analyze problems for identifying possible solutions across the different levels of organization ranging from the personnel to the unit/organization level.

According to the Performance Agreement between the College under the auspices of Praboromarajchanok Institute and the Office of the Public Sector Development Commission (OPDC), the organizational development is regarded as the internal dimension indicator (indicator 7.1, 7.2 and 7.3) for the assessment of the performance of Prachomklao College of Nursing, Phetchaburi Province. The organizational development is also the indicator of higher education administration standards required by the Office of Higher Education Commission. In 2014, the personnel's opinions towards information technology management and human resource development account for the lowest score (Panisara Songwattanayuth and Achara Suksamran, 2014). More focus is paid to the development in such regard in the fiscal year 2015, so the personnel development section under the human resource development and academic service department works in collaboration with all sections towards the said development. All aspects of organizational development are based on the policy supports for the personnel's fulfillment of all duties, enhancement of good work environment and promotion of ethics-based culture of active performance. Moreover, to ensure the college's work accomplishment, the personnel's competency and expertise are developed towards academic excellence. Within the OPDC Framework of Integrated Public Sector Assessment for the Internal Dimension in the Area of Organization Development (2011), the author is interested in examining the perception of organizational development among personnel of Prachomklao College of Nursing, Phetchaburi Province in fiscal year 2015. This includes the personnel development, information development and

organizational culture development. The acquired results will benefit the planning, organization, support and enhancement of the efficiency of college development.

Research Objectives

To examine the perception of organizational development among personnel of Prachomklao College of Nursing, Phetchaburi Province in fiscal year 2015

Definition of Terms

Perception of organizational development refers to the opinions of personnel of Prachomklao College of Nursing, Phetchaburi Province towards organizational management, information technology development and organizational culture development. The assessment is based on Public Sector Development Commission Survey of Organizational Development (2011).

Personnel refers to those who work in Prachomklao College of Nursing, Phetchaburi Province in the fiscal year 2015: lecturers, civil servants, permanent employees, government employees and employees of the Ministry of Public Health.

Research Framework

This research is based on the OPDC Framework of Integrated Public Sector Assessment for the Internal Dimension in the Area of Organization Development (2011); therefore, three internal dimension indicators in the area of organization development are used in promoting and developing the organizational management competency. They are: 1) success level in devising the organization competency development plans in the area of human capital, 2) success level in making the organization competency development plans in the area of information capital, and 3) success level of organizational culture development in the area of organization capital.

Research Scope

The survey research design is used in this study for examining the perception of organizational development among personnel of Prachomklao College of Nursing, Phetchaburi Province in the fiscal year 2015. The sample consists of 99 personnel who have worked in the fiscal year 2015, while the data were collected in September 2015.

Research Methodology

The sample of 99 personnel examined in this survey research are: 52 lecturers, 47 support personnel, 3 civil servants, 14 permanent employees, 3 government employees, 23 employees of the Ministry of Public Health and 14 contractual personnel. The lecturers have to work minimum 9 months in the fiscal year 2015 without maternal/ordination/sick leaves over 3 month period or attend short-term domestic and international training that last less than 3

months. Likewise, the support personnel must work at least 9 months in fiscal year 2015 without maternal/ordination/sick leaves over 3 month period.

Research Instruments

They consist of 2 parts.

Part 1: Demographic questionnaire on 5 aspects of personnel's general data: sex, age, educational background, work tenure and responsible duties

Part 2: The organizational development survey have 30 questions assessing the personnel' opinions towards organizational management process. They are based on 10-point Likert Scale and have 3 areas: personal development (10 questions), information technology development (6 questions) and organizational culture development (14 questions). The respondents answer to each question by rating (1-10) their organization's performance. The highest and the lowest scores are 300 or 30 points, respectively. The organizational development survey, which has a reliability of .87 on the basis of Cronbach's alpha coefficient (Achara Suksamran, 2013), is the standard assessment of personnel of Prachomklao College of Nursing, Phetchaburi Province. Nonetheless, the organizational development survey used in this particular research has the reliability of .89.

Protection of the Human Subjects' Rights

This research has been reviewed by the Research Ethics Committee of Prachomklao College of Nursing, Phetchaburi Province. The following details are clarified by the author: author's name and personal profile, research objectives and expected benefits, data collection process, no respondents' names identified, confidentiality protection, presentation of overall research results, rights to accept or refuse the research participation or to withdraw from the research at any time without any adverse consequences on the respondents' performance.

Data Collection

The researcher has collected the data in September 2015. The objectives, steps and processes of the study, rights and confident data collection are explained. The questionnaire is reviewed in light of its completeness prior to the data analysis.

Data Analysis

The researcher uses the package software in the following data analysis:

1. Demographic data are analyzed using the descriptive statistics: frequency and percentage.
2. Scores of the perception of organizational development are studied in order to identify the mean and standard deviation.

Research Results

This survey research has two parts and aims to examine the perception of organizational development among personnel of Prachomklao College of Nursing, Phetchaburi Province.

Part 1 Demographic Profile of the Sample

Table 1 Number**,** Percentage, Mean, Standard Deviation of the Sample (N=99)

Sample		**Number**	**Percentage**
Sex	Male	19	19.19
	Female	80	90.91
Age (years)	Below 30	18	18.18
	31-40	30	30.30
	41-50	34	34.34
	Over than 50	17	17.17
Mean = 44.09, Standard Deviation 9.12, Highest Value = 60, Lowest Value = 22			
Work Tenure in the College under the Auspices of Praboromarajchanok Institute (years)	Below 11	34	34.34
	11-20	26	26.26
	21-30	32	32.32
	Over than 31	7	7.07
Mean = 13.11, Standard Deviation = 8.46, Highest Value = 31, Lowest Value = 1			
Position			
	Nursing Instructors	52	52.53
	Support Personnel	47	47.47

According to Table 1, the female accounts for 90.91% of the sample, while 19.19% of them are male. Most of them are 41-50 year old (34.34%). They have the work tenure of 21-30 years in the College under the Auspices of Praboromarajchanok Institute. Besides, 52.53% and 47.47% of them are lecturers and support personnel, respectively.

Part 2 Perception of organizational development among Personnel of Prachomklao College of Nursing, Phetchaburi Province.

Table 2 Mean, Standard Deviation and Score Level in Each Aspect of the Perception of organizational development (N=99)

Organizational Development	Opinions		
	Mean	Standard Deviation	Level
Personal Development	6.74	1.77	Moderate
Human Resource Management	6.46	1.95	Moderate
Human Development	7.03	1.73	High
Information Technology Development	6.46	1.41	Moderate
System Management	6.29	1.78	Moderate
Database	6.60	2.21	Moderate
Computer Network	6.49	2.27	Moderate
Organizational Culture Development	7.04	1.48	High
Organizational Direction	6.82	1.93	Moderate
Leaders	6.91	2.14	Moderate
Work Culture and Environment	6.53	1.72	Moderate
Work Responsibility	8.00	2.02	Very High
Motivation	6.67	2.24	Moderate
Relations between the Superior Officer/ Head of Section and Monitoring	7.25	2.10	High
Teamwork	7.02	2.24	High
Adaptability to the External Situations	6.98	1.23	Moderate
Creation of Innovation and Learning	7.19	2.11	High
Overall	*6.78*	*1.69*	*Moderate*

According to Table 2, a moderate level of overall perception of organizational development is found (mean = 6.78, standard deviation = 1.69). The perception of organizational culture development is at a high level (mean = 7.04, standard deviation =1.48). Meanwhile, the perception of personal development and **information technology development** is found at a moderate level (mean =6.46, standard deviation = 1.77) and (mean = 6.46, standard deviation = 1.41), respectively.

With respect to the organizational culture development, the following aspects: work responsibility, relations between the superior officer/head of section and monitoring, and motivation are found at very high level (mean = 8.00, standard deviation = 2.24), a high level (mean = 7.25, standard deviation = 2.10) and a moderate level (mean = 6.67, standard deviation = 2.01), respectively.

For the personnel development, human development and human resource management are found at a moderate level (mean = 6.46, standard deviation = 1.73) and (mean = 6.46, standard deviation = 1.95), respectively.

Regarding the information technology development, the database is at a good level (mean = 6.60, standard deviation = 2.21), while the 2 aspects found at a moderate level are computer network (mean = 6.49, standard deviation = 2.27) and system organization (mean =6.29, standard deviation = 1.78).

Conclusion and Discussion

A moderate level of overall perception of organizational development found among the college personnel may probably due to the fact that they know about work policies and goals devised by the college. All personnel sign the Annual Agreement on Individual Performance and engage in the incorporation of strategies, policies, programs, projects and activities into the annual action plan leading to the understanding and fulfillment of college policies. This agrees with the study of Panisara Songwattanayuth and Achara Suksamran (2014). They claim that the college personnel has a high level of perception of organizational development because work goals are set by the college, while all personnel has performed their duties in a collaborative manner for the achievement of goals and social identity.

The perception of organizational culture development is found at the highest level because of the college's determination of concrete work directions along with the development of knowledge, understanding, and skill in devising the strategic plans and action plans in line with Praboromarajchanok Institute development strategies. The introduction of college plans aims at problem-solving and organizational development. There are concrete planning step and timeframe, while the persons are assigned the responsibility for plan formulation using the comprehensive and appropriate data to ensure the suitable execution (Panisara Songwattanayuth and Achara Suksamran, 2014). The director takes the leading role in determining the college direction in collaboration with all college personnel. For the fulfillment of the organizational vision, the director, as the good leader, should be capable of communicating with college personnel, listen to their different opinions, provide supports and use persuasive techniques. In other words, the organization administrator should play a role in "encouraging, promoting and creating the environment" (Pattanachai Kulasirisawadi, 2008) and be the role model for value-based performance with good self-regulation system and work review (Office of the Pubic Sector Development Commission, 2008), while the personnel are willing to work devotedly for the organizational goal achievement.

A moderate level of perception of personnel development is found because there is likely a higher tendency of civil service resignation or move/transfer. The personnel development section thus needs to retain the qualified personnel based on the standard direction in enhancing the motivation for the purpose of personnel retention and reduction of transfer/resignation rate. To attract their interest to work for the organization, they should have love and faith in the organization as well as good work life, while their remuneration is suitable and fair. Apart from personnel recruitment for work goal achievement, the after-work life is also crucial to human resource management. The human resource management section should pay attention to post-retirement care or a specific care for the personnel who resign by reason of necessity. Certain supports may be provided by the organization such as pension, provident fund savings or other

kinds of benefits in order to enhance their post-retirement/resignation wellness (Wilawan Rapeepisarn, 2011). For the standard of success in human resource management, the efficient personnel management should be taken into account with a focus on the correctness and timeliness of personnel management activities and processes (Bawdin Wijarn, 2008). With respect to the human resource management and human development under 2014 action plan, the college has introduced the plan for the administration and development of faculty and support personnel towards high competency. The activities supporting the conferences/training/seminars/field study are thus arranged for the faculty and support personnel in order to support their missions and to develop the academic affairs in accordance with the competency development plan. In addition, in the next fiscal year, the activities for enhancing the lecturers' managerial competency and the faculty's expertise will put more focus on the perception of human resource management and human resource development. There is an annual notice of the concrete direction of human resource development because human resource management enables the organization to recruit the knowledgeable and competent personnel to works in a manner that creates the organizational growth and the readiness for adaptation to the changes of present world (Sanit Noonin, 2013).

However, the lowest level of personnel's perception of information technology development may likely be due to the fact that the college is in process of information technology development, which is a costly and time-consuming process. For the prevention or reduction of any possible damages, the risk management is needed such as data retrieval protocol, a contingency plan for unexpected circumstances or disasters that affect the software and hardware of information system and security and safety system. Due to the importance of database and computer network, the computer and internet network development plan is introduced by the college to enhance the computer and internet network compatibility with high-speed technology. Additionally, the information technology system development should respond not only to the users' demands but also to the organization's needs and directions. The competency of all computer users is linked through the specified requirements and methods. Meanwhile, the future demands of information technology of all user groups are planned, analyzed and forecasted. The new technologies are monitored and analyzed to examine whether they suit the organization's usage, while the existing ones are constantly updated for organizational development purpose (Amnat Sripoonsuk, 2008; Bawdin Wijarn, 2008). The systematic development of information technology should be introduced for the reduction of any possible risks and damages.

Recommendations

1. The information technology system development should be analyzed in line with the specified action plan and budget for enhancing the overall efficiency and effectiveness.

2. The concrete directions for organizational development should be determined, especially human resource management and human development on the basis of suitable models/ projects or activities.

3. For personnel retention purpose, the motivation should be enhanced through the development of suitable models/projects or activities.

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Evaluation of Training Course for Caregivers to Older Adults[1]

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Abstract

Background: Due to the change of population on structure in Thailand, there is a continual and rapid increase in the elderlies leading to be the aging society. It is normal that the elderlies have chronic ailment with many diseases. This make them are depressed and taken good care. However, the Thai society at present is a nuclear family, not an extended family like before. The elderlies usually have to live alone but there are health care volunteers playing important roles in care taking of the elderlies. With regard to this respect, Nakhon Ratchasima municipality has held a project on an action meeting to develop potential of health care taken to cope with the aging society. The key project proponent in Boromarajonnani Nakhon Ratchasima Nursing College playing roles in academic services and health care monitoring.

Purpose: This study employed CIPP IEST model for the assessment (Stufflebeam and Shinkfield, 2007) which aimed to assess context, input factors, process and extend the product in term of effectiveness and sustainability and mix method was used for transfer.

Methods: A sample group in this study consisted of 72 training participants were answering the questionnaires and 12 people joining focus group discussion. Data were collected by using a CIPPIEST questionnaire. Analysis a coefficient Cronbach alpha of a CIPPIEST questionnaire was .82 In addition; data were analyzed using frequency, percentage, average, standard deviation, and content analysis for qualitative data.

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Results: Findings of the study were as follow:

Context: It was found that the project objective was appropriate and consistent with needs of training participant at a highest level the mean was 4.51 (SD = 0.40).

Input: It was found that academic service providers had good relationships and they were willing to offer academic services found at the highest level the mean was 4.79 (SD = 0.41). Also, convenience facilitation on place and training atmosphere was found at the highest level the mean was 4.66 (SD = 0.53).

Process: It was found that the form of activity holding was in a highest level the mean was 4.63 (SD = 0.59) but steps of academic service was found at the high level the mean was 4.45 (SD = 0.75).

Product: It was found that, as a whole service quality was found at the highest level the mean was 4.57 (SD = 0.70). Besides, the following was found at the highest level: giving suggestion to the society, responsive to the society, and knowledge transfer the mean was 4.68 (SD = 0.82).

Academic, to focus group discussion, it was found that this training project should be held again because it was very effective to elderly care- takers. However, the training project had some constraints: limited period of time. For sustainability, it should have continual enhancement of skills and transfer to the next training batch. Results of the project can be a guideline for the administration to makea decision about project management and development.

Keyword: *CIPPIEST model, Action training project, Elderly care- taker*

Evaluation of Training Course for Caregivers to Older Adults

Background and Importance of the Problem

Population structural change in Thailand makes a number in proportion of the elderlies in the country increase rapidly and continually; this increase in 2014 reached 14.9 percent of the country population (National statistical office, 2014).This implies that Thailand becomes to be the aging society (United Nations, 2007). As a matter of fact, NakhonRatchasima Province has the highest number of population in Thailand. According to the statistics of 15 primary service agencies, it is found that there are 19,054 elderlies living in NakhonRatchasima municipality and there are 292 bedriddenpatientsand must be dependent on at the final stage (NakhonRatchasima municipality, 2015). This makes concerned agencies prepare on care-taking and be ready for the aging society. In fact, body of the elderlies begins to be impotent and has ailments or chronic diseases making them cannot fully do activities and their mental health is at a moderate level (Sappawong, et.al, 2012).This is due to the feeling of self-competency loss, depletion of body health, lack of interaction with others, lonesome, worry, and depression (APA, 2015). Thus, it makes the elderlies must be closely taken care of by acquaintances. At present, however, there are a lot of nuclear families in Thailand and some elderlies have to stay alone due to limitations in care-taking. Hence, concerned of government agencies must play to them.

NakhonRatchasima municipality is an agency taking-care of people in its area. The municipality has mission and policy in the enhancement of the society and quality of life of the urban wellness in terms of public health, social welfare, construction and development of care leaders in public health and holding training on care-taken potential development. Health volunteers in the community play important roles in the assistance of the elderlies. Therefore, it is essential to develop their potential for effective care taking. Importantly, BoromarajonaniCollage of Nursing, NakhonRatchasima province has an agreement on the collaboration in this project for one year. This is because of the college has mission on academic service to the society, specialists in teaching and nursing of the elderlies, and readiness in input factors for holding a training.

The evaluation of a training course by using a research project is of various forms. Forthis research, the researchers employed CIPPIEST Model which was modified from CIPP model. This was on the basis of the dimension in increased evaluation covering existing yield evaluation and outcome evaluation. In this respect, diverse data collection techniques were employed to be consistent with sub-issues to be evaluated for an analysis of all stakeholders, Indeed, it was a clear and systematic and evaluation method to obtain information from the evaluation. It was data on decision making about the project and it would be beneficial to concerned personal in planning, improvement, and further extension.

Objective of the Study

CIPPTIEST(Stufflebeam and Shinkfield, 2007)was employed to evaluatecontext, input factors, process, and extent the evaluation. In other words, it was the evaluation of impacts, effectiveness, sustainability, and transfer.

Methodology

It was classified into 3 phases: pre-project implement, on – going project implement, and the end of the project. Project analysis, interview, observation, and project evaluation were employed.

1. Quantitative research: using a questionnaire on the evaluation of CIPPIEST Model of Sufflebeam (2007). The researchers asked permission from the sample group i.e. training participants (volunteers), project proponents, and the elderlies taken-care by volunteers. The researchers informed them about objectives and rights protection of the sample group. Also, the researchers explained them the questionnaire and corresponding then check completeness of data.

2. Qualitative research: In-depth interview guideline and focus group discussion were employed with key informants.

Population in sample group this includes the following:

1) 72 volunteers attending the training during 1-20 September 2016;

2) Project proponents i.e. Project committee. Resource persons from Boromarajonani College of Nursing, NakhonRatchasima province and NakhonRatchasima Municipality

3) 72 Elderly's taken-care by the volunteers.

The population and the sample group used in the qualitative research (in-depth interview guideline and focus group discussion) were of2 groups, 12 persons each. Key informants included: representative of the volunteers attending the training, representative of project proponents, and representative of the elderlies taken-care by the volunteers.

For the sample group's rights protection, the researchers did it by informing them objectives and procedures of the research and they could withdraw from the project or refuse to give data.

Research Instruments

1. Questionnaire: it consisted of two parts; Part 1 included socio-economic attributes of the respondents i.e. sex, age, marital status, educational attainment, occupation, and income,andPart 2 included pinionsof the respondents about the context of input factors, Process, and Product of the project. The evaluation was based on impacts, effectiveness, sustainability, and transfer.

This questionnaire was in the form of closed-ended questions with 5-rating scales of Likert: highest, high, moderate, low and lowest level. It was separated into three sets for: 1) training participants 2) project proponents 3) the elderlies taken-care by the volunteers

2. Focus group discussion with key informants: The research team acted as the moderators and the discussion lasted 2 hours. The discussion involved the project context based on appropriateness and responsiveness to needs of the society and the training participants. How did the training form create learning and potential development in care-taking..How did this training project make the participants be sustainably knowledgeable and skillful? How did the participants apply their gained knowledge and experience to the actual situations and how to transfer it?

Testing quality of research instruments

The questionnaire on opinions of the respondents was inspected on the basis of content validity by scholars. For reliability, the questionnaire was tried out with 30 people excluded in the sample group. The alpha coefficient of Cronbach was used for the computation the reliability of the questionnaire was 0.82

Data analysis

Descriptive statistics was used for data analysis i.e. frequency, percentage, mean and standard deviation. Content analysis was used for qualitative data

Results of the study

Data in Table revealed an average mean score and standard deviation value classified based on a level of opinions about context, input factors, process, and product. (Impacts, effectiveness, sustainability, and transfer)

Table 1 Average mean score and standard deviation of the opinion of the participants toward input factors of the project

Item	Participants			Project proponent			The elderlies		
	$\bar{x}$	S.D.	a level of opinion	$\bar{x}$	S.D.	a level of opinion	$\bar{x}$	S.D.	a level of opinion
Context of the project									
- Clear rationale	4.51	0.48	Highest	4.62	0.42	Highest		-	
- Clear objectives	4.51	0.53	Highest	4.65	0.36	Highest		-	
- Objectives were consistent with needs of the sample group	4.51	0.40	Highest	4.70	0.35	Highest		-	
Average	4.51	0.47	Highest	4.66	0.38	Highest		-	
Project input factors									
- Willingness and readiness of the project proponent	4.79	0.41	Highest	4.81	0.52	Highest		-	
- Venue, audiovisual facilities, technology	4.66	0.53	Highest	4.75	0.41	Highest		-	
- Media and training materials	4.47	0.71	High	4.60	0.62	Highest		-	
- Skillfulness of the resource persons	4.63	0.51	Highest	4.67	0.70	Highest		-	
Average	4.64	0.54	Highest	4.71	0.54	Highest		-	
Process of implementation									
- Project preparation and coordination	4.36	0.71	High	4.44	0.50	High		-	
- Form and method of training activities	4.63	0.70	Highest	4.55	0.61	Highest		-	
- Project evaluation	4.51	0.62	Highest	4.62	0.40	Highest		-	
Average	4.50	0.68	Highest	4.54	0.50	Highest		-	
Project outcome									
P: Product									
- Increased knowledge and skill in the elderly care-taking	4.70	0.49	Highest		-			-	
- Satisfaction of the elderlies		-			-		4.81	0.49	Highest
I: Impact									

- The training is responsive to needs of the participants	4.53	0.53	Highest		-			-	
- Acceptance by the elderlies	4.63	0.40	Highest	4.60	0.52	Highest	4.71	0.55	Highest
E: Effectiveness									
- Benefits and gained knowledge	4.81	0.43	Highest		-			-	
- Beneficial to the society/community	4.64	0.52	Highest	4.70	0.46	Highest	4.71	0.49	Highest
- Worthiness of the training	4.56	0.55	Highest	4.58	0.47	Highest		-	
S: Sustainability									
- The training takes part in making good care-takers	4.70	0.46	Highest	4.68	0.47	Highest	4.81	0.43	Highest
- The training has an effect on developing and strengthening the practice for the community	4.63	0.51	Highest	4.70	0.42	Highest		-	
T: Transportability									
- Knowledge obtained from the training can be applied to the community	4.68	0.49	Highest	4.62	0.46	Highest		-	
- Knowledge obtained from the training can be applied to other project	4.65	0.50	Highest		-			-	
Average	4.71	0.55	Highest	4.60	0.50	Highest	4.79	0.51	Highest

Options of the Sample Group towards Context, Input factors and Outcomes of the Project

1. Project context: As a whole, most of the training participants and project proponent respondents agreed to the project context at a highest level. Base on its details, "The objectives were consistent with needs of the sample group" was found to have the highest average mean score.

2. Project input factors: As a whole, most of the training participants and project proponent respondents agreed to the project input factors at a highest level. Base on its details, "The project proponents were ready and willing to join the project" was found to have the highest average mean score.

3. Process:As a whole, most of the training participants and project proponent respondents agreed to the project process at a highest level. Base on its details, "The project proponent respondents agreed to the project evaluation at a highestlevel".

4. Project Product: As a whole, most of the training participants and project proponent respondents agreed to increased knowledge and skills in the elderly care-taking at a highest level. Most of the elderly respondents had a highest level of satisfaction. Regarding impacts, it was found that most of the training participant respondents claimed that the training was responsive to their needs at a highest level.

For effectiveness, most of the training participants agreed to the benefits and gained knowledge which could be applicable at a highest level. Most of the project proponent and the elderly respondents agree that the training project was beneficial to the community/society at a highest level. The training participant and the project proponent respondents agreed to the worthiness of the project at a highest level. Based on sustainability most of all of the respondents agreed that the training take part in making good elderly care-takers at a highest level and it has effect on the developing and strengthening work performance at a highest level. On the basis of transportability (transfer) most of the training participant and the project proponent respondents agree that what they have learned from the training can be transferred to others at a highest level. Besides, all of the respondents had a highest level of satisfaction with the training project.

Focus group discussion

Focus group discussion members stated that this training is very good because they can gain knowledge and have a chance to practice in the actual situation which meets their needs. They wanted to have this training again because it provided learning in the actual situation and they could perceive real problems. They added that the project proponent is very attentive, friendly and knowledgeable. The training venue atmosphere was joyful with diverse learning activities. Importantly, they were well accepted by other people. They were satisfied with the training project, confident in themselves, and ready to persuade others to join the training project. Regarding the project proponents, they claimed that the training

project is good with clear curricular program and its objective meet needs of all concerned parties. However, they claimed that the training project period of time is too short to practice and exchange knowledge /experience. There was clear periodical evaluation and monitoring.

Since there was the coordination between Boromarajonani Nursing College, Nakhon Ratchasima province and Nakhon Ratchasima hospital, so there was the readiness on training venue, equipment, and convenience facilities. In addition, lecturers of the nursing college were experts in curricular program planning but it must be appropriate with the urban community context. As a matter of fact, the volunteers in this study had learned many things so the training project must be interesting, responsive to need of training participants, and applicable in the actual situations. This training project also emphasized understanding of human being which would be beneficial to deal with the elderlies.

It could be seen that training project could be responsive to needs of the participants too much based on results of the project evaluation. It was found that the elderlies accepted and coordinated in care-taking activities. As a result, they were happy and satisfied with the training project. They would like their care-takers to always visit them so that they would not be lonely. In addition, the training participants could apply what they had learned to their parents or relative who were the elderlies.

Discussions

The project context and objectives could be responsive to the sample group because it was beneficial to them. They were satisfied with the training project since it met their needs so it could be sad that the project was successful as set by the project proponents. The project evaluation helped the project proponents perceive needs of the training project participants and intervening problems as well as the relationships of the project planning. There was the preparation and evaluation of input factors in order to make the project has high potential. Besides, it constructed mutual understanding related to a guideline as an alternative for the decision-making to select a strategy employed for the goal achievement.

The effectiveness of the project implementation process should have periodical evaluation by using diverse data collection methods which must be consistent with sub-issues to be evaluated. Also, there were qualitative and quantitative data of stakeholders i.e. project implementation team, project beneficiaries, and administrators (Bousonte, 2014). For suggestions outcome of the project could be extended and supported next projects so as to be a training model. The project evaluation should be conducted periodically to make objectives of the project be responsive to needs of project participants while implementing the project. The form of project activities must be modified to be appropriate with the project context. Beside, impacts arising during the project implementation must be solved. Project outcome monitoring should be done continually for sustainably good practice.

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Return to education and labor market in Cambodia

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Abstract

This paper mainly estimates the returns to education employing the standard Mincerian function using the latest Cambodian labor force survey 2012, where the dependent variable is the natural logarithm of earnings and independent variables include years of schooling or educational attainment and potential experience. The paper also examines the effect of foreign language skills on earnings. This paper is divided into 3 sections. The first section examines Cambodia's labor markets. The second section explores econometric model, in particular, Mincerian function to estimate returns to education using the latest labor force survey 2012. We find that for employed persons with education level lower or equal grade 12 is about 3.3 percent; but it is higher for male than female. And annualized rate of return to education for undergraduate level was approximately 17 percent. Regarding language skill, we find that for people who hold bachelor degree and can speak English can earn more than those who can speak only Khmer language. There is also a significant wage gap between bachelor holders and high school certificate holders at a ratio of 1.9. Third section will explore current policies for education in Cambodia.

Key words: *returns to education, Mincerian function, labor market*

Introduction

Cambodia has made significant progress in implementing the "Education for All" strategy, which ensures equity of access to primary and basic nine-year education for Cambodian children. Other major achievements include, the gradual increase in the number of schools and teachers and improved enrolment rates at the primary and secondary school levels, particularly in the rural areas.

The adult literacy rate in Cambodia has been improved over the past 10 years. The adult literacy rate which is the share of the population aged 15 years and above who can both read and write a simple message in any language is estimated at 78 % for both sexes combined, and 72 and 85 % for women and men, respectively in 2014. The adult literacy rate has

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increased by about 9 percentage points since 2004. The increase is higher for women than for men but the differences are small.

The Cambodian education system includes pre-school, primary, lower secondary, upper secondary, higher education and non-formal education (see annex I). There are both public and private schools at all level of education. The increase in population and speedy urbanization as well as the quest for higher standard education are some factors for the fast development of private schools in Cambodia. About 3 million students were enrolled in public pre-school, primary, lower secondary and upper secondary. At higher education level, the majority of students attended private schools while at lower education level, most of the students go to public schools. According to Cambodia Socio Economic Survey (CSES), the percentage of persons attending private school among all persons who are currently attending school in 2014 is low, at about 2 % in three lower education levels including primary, lower and upper secondary education. In higher education, the corresponding rate has varied, with about 83 % of women and 77 % of men having gone to a private school/institution in 2014. Overall, private educational institutions have gained in popularity among students in terms of higher education in the last ten years.

In regards to labor market in 2014, the working population (15-64 years) was 10,001,000 of which 8,259,000 people were in the labor force and 1,742,000 people were not in the labor force (Cambodia Socio Economic Survey 2014 (CSES)). The unemployment rate was about 0.1% in 2014. About 90 % of employed persons in Cambodia have education lower than grade 12. Of 700,000 women workers in garment factories, 95% have education lower than grade 9. At higher education level, the majority of students invest a lot in foreign language, in particular, English language. Some students do bachelor degree in English language while doing another degree.

The organization of this research is as follows. First we describe research methodology, then the size of Cambodia' education. Subsequently, we examine Cambodia's labor market. Then we show the results of our empirical study about return to education. And finally we look at government policy about education.

Research Methodology

This paper uses secondary data from Socio Economic Survey 2014 (CSES2014) for describing current labor markets and education in Cambodia. The analysis in the result section uses the latest Cambodia labor force survey in 2012 to estimate return to education. For earning, we use monthly cash payment from paid employment for employees. For experience, we use the time period that employees work for the current employers. And for education, we use the highest level of school that the employees completed.

A total sample of 5584 was selected to estimate return to education for those whose education level is below or equal grade 12. Then Mincerian regression equation is run to estimate return to education. In addition we selected 515 samples of persons whose education were above

grade 12. And to estimate return to education for this group we use independent sample t test to investigate difference in payment at each level of higher education and then we calculate annualized return to education.

The size of Cambodia's Education

The Cambodian education system includes pre-school, primary, lower secondary, upper secondary, higher education and non-formal education (see annex I). There are both public and private schools at all level of education. The increase in population and speedy urbanization as well as the quest for higher standard education are some factors for the fast development of private schools in Cambodia. The following section describes the size of Cambodia's education system.

General education provision (up to grade 12)

Education can be provided by both public sector and private sector. Regarding public provision of general education, about 3 million students were enrolled in public general education from pre-school to grade 12. In academic year 2015-2016, there were 3,706 pre-schools with 4,722 staff teaching 173,893 students; 7,085 primary schools with 56,421staff teaching 2,010,673 students; 1,251 lower secondary schools with 4,722staff teaching 558,621students; 463 upper secondary schools with 14,434 teaching 266,449 students (Education Statistics & Indicators Public Pre-school and General Education 2015/2016). Regarding private provision of general education, in the whole kingdom in 2015, there were 829 private schools with a total student enrollment of 162,046 students and 9,592 teaching staff. Of the total private schools, 321 private preschools enrolled 29,890 students, 357 private primary schools 95,230 students, 43 private lower secondary schools 2,568 students, 108 private upper secondary schools 34,358 students (Education Statistics & Indicators Private Pre-school and General Education 2015/2016).

In addition to public and private provision of general education, non-formal education also plays important role in Cambodia's education system. Non-formal education aims to ensure that all children, youth, adults, poor people and those with disabilities realize their rights to a basic education and lifelong learning. Another objective is to provide opportunities for youth and adults to access life skills and become literate. The total enrollment in Functional Literacy Programme alone was 74,899 in 2015 taught by 3,534 teachers (Non-Formal Education Statistics & Indicators 2015).

Higher education provision

Higher Education on Institution" refers to those institutions offering associate degree, bachelor degree, master degree and doctor of philosophy degree under relevant government agencies concerned and the MoEYS. Higher Education governance falls under the mandate of the Ministry of Education, Youth and Sport (MoEYs). This ministry is primarily responsible for the primary, secondary and higher education overall in Cambodia. The

Ministry of Labor and Vocational Training (MOLVT) is responsible for the implementation of technical vocational education and training programmes (TVET) through the Directorate General of Technical Vocational Education and Training (DGTVET).

Cambodia's higher education system has been growing rapidly in terms of the number of higher education institutions (HEIs), especially private universities. Between 2001 and 2008, the number of private universities increased from just two to 46,while at the same time the number of public universities doubled from 13 to 26. The main reasons for this increase were the policy of public and private partnership for higher education as well as strong demand for higher education resulting from high numbers of students completing high school. By the end of 2008, there were 72 HEIs in Cambodia. Total enrolment in both public and private HEIs has grown rapidly over the past decade, from a little over 10,000 in 1992 to 137,253 in 2009. (HRINC 2010). A more recent study by ILO 2013 suggested that over the last six years, total enrolment in higher education increased from around 95,000 to more than 245,000, while the percentage of female students reached 38.3 per cent from a starting value of 31.7 per cent. The number of students that obtained a bachelor degree in the academic year 2010–11 can be estimated at between 21,500 and 24,000, and those that obtained an associate degree between 8,000 and 9,000. In conclusion, at present Cambodian universities produce between 29,500 and 33,000 graduates per year, the number of female graduates being between 11,500 and13,000.

Table 1: The Size of Education

General education below grade 12							
	Public (2015/2016)			Private (2015/2016)		Informal Functional Literacy Programme	
	school	teachers	students	school	students	teachers	students
pre	3,706	4,722	173,893	321	29,890		
primary	7,085	56,421	2,010,673	357	95,230		
lower secondary	1,251	4,722	558,621	43	2,568		
upper secondary	463	14,434	266,449	108	34,358		
Total	12,505	80,299	**3,009,636**	829	**162,046**	3,534	**74,899**
Higher education							
72 HEIs 2008 : 46 private ; 26 public			245,000 in 2010/2011				
Cambodian universities produce between 29,500 and 33,000 graduates per year in 2010/2011							

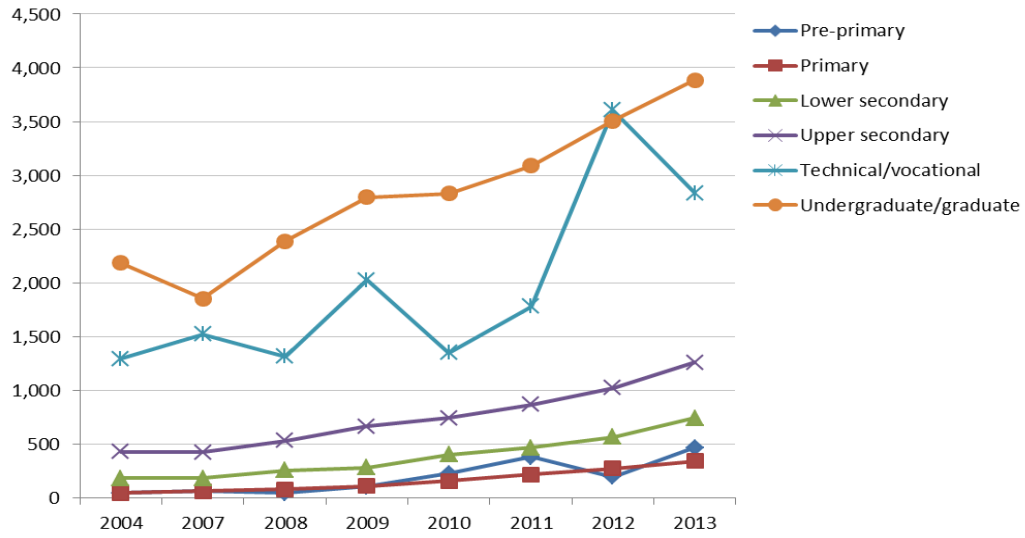
Education Costs

Average annual expense for education has increased markedly for all level of education but more sharply for lower level. The average annual growth rate of annual expense by all levels of education was much higher than average annual inflation rate in Cambodia which was

around 5%. Annual expense for undergraduate level was roughly around 90 % of Cambodia's GDP per capita.

Table 2: Annual education expense

Average annual expenses by level (Thousand Riels)									
Educational level	2004	2007	2008	2009	2010	2011	2012	2013	Avg.Growth
Pre-primary	43	64	46	107	227	382	194	468	39.3%
Primary	44	61	79	111	156	216	273	342	33.2%
Lower secondary	185	185	254	280	404	465	566	744	26.1%
Upper secondary	427	423	529	663	741	868	1,020	1,259	19.9%
Technical/vocational	1,291	1,522	1,314	2,024	1,351	1,781	3,604	2,835	10.9%
Undergraduate/graduate	2,186	1,854	2,387	2,797	2,829	3,089	3,508	3,886	13.1%
GDP per Capita		2,665	3,089	3,124	3,463	3,715	3,923	4,193	
Source: Cambodia Socio-Economic Survey (CSES)									



Reason for not attending school

For students who were between 6 and 17 years old, the major reasons for not attending school are: (1) don't want to attend school, (2) must contribute to household income, and (3) poverty. The increase in annual education expense seems not to be a major problem for not attending school. About 12.7 % of persons between 6 and 17 years old did not attend school in 2013 because they did not want to attend, 28.8 % responded they did not attend school because they must work to contribute to household income. In 2012, as reported by Ministry of Planning, about 1 person out of 5 people was living below poverty line. Although the national incidence of poverty fell sharply from 47.8% in 2007 to 18.9% in 2012, regional differences persist. Poverty was highest in rural areas in 2012, which stood at 20%, followed by Phnom Penh 16.3%, and other urban areas 14.5%. Although tuition fee is exempted for

students at public schools below or equal grade 12, most young children were finding opportunity to add up their households' income and did not go to schools.

Table 3: Why they did not attend school

Reasons for not attending school among persons 6-17 years of age who are not attending school								
Reasons for not attending school	2004	2007	2008	2009	2010	2011	2012	2013
Don't want to	23.3	21.1	17.4	14.4	12.7	15.7	17.8	12.7
Did not do well in school	6.7	7.4	8.2	12.4	10.9	8.9	8.4	7.0
No suitable school available/school is too far - No teacher/Supplies	7.7	9.2	7.6	6.4	7.3	3.0	2.4	5.1
High cost of schooling	0.6	0.1	1.9	0.1	-	-	-	0.4
Must contribute to household income	13.0	18.0	22.8	16.2	28.9	26.4	29.1	28.8
Must help with household chores	17.8	18.3	18.0	10.7	8.4	8.6	7.8	7.4
Too poor	N.a.	N.a.	N.a.	15.9	13.7	13.1	11.2	12.2
Due to disability - Due to long term illness (over 3 months)	3.2	5.3	4.0	2.4	2.9	3.1	3.0	3.0
Too young	N.a.	N.a.	N.a.	18.2	13.6	19.2	19.6	22.0
Other	27.8	20.6	20.1	3.3	1.6	1.9	0.6	1.4
Total	100	100	100	100	100	100	100	100
Source: Cambodia Socio-Economic Survey (CSES)								

Although the percentage of person who never attended school has decreased over the past 10 years, it remains high. Persons 7 years and over, who never attended school declined from 28.7% in 2004 to 14 % in 2013. The older age groups have higher rate of persons who never attended school. About half (45%) of persons older than 65 never attended school.

Table 4: Percentage of those who never attended school

Persosn 7 years and over (from 2012, 6 years and over) who never attended school by age group and sex						
Age group	2004			2013		
	Women	Men	Both sexes	Women	Men	Both sexes
7+	28.7	15.1	22.2	18.8	9.0	14.0
7-14	11.3	11.4	11.3	8.5	8.1	8.3
15-24	17.5	11.5	14.5	5.3	4.2	4.7
25-34	28.6	17.2	23.1	13.1	9.8	11.5
35-44	36.8	19.7	28.9	20.7	9.3	15.3
45-54	40.3	16.9	30.5	32.2	13.6	23.6
55-64	57.3	17.6	40.6	35.0	15.3	27.2
65+	82.9	34.9	63.1	66.1	17.4	46.8
Source: Cambodia Socio-Economic Survey (CSES)						

Cambodia's labor market

Status of employed people

Cambodia's labor force is characterized by a large number of young and low skilled workers and the majority of Cambodia's labor force is own account workers/self-employed, which dominates the labor market since a majority of Cambodians are highly dependent upon agriculture for their livelihoods. However, over the past 10 years, there were an increase in the proportion of workers in positions of paid employment and a decline in the proportion unpaid family workers. The increase in foreign direct investment in some sectors, garment, tourism, construction and so on and mostly in urban areas absorbed unpaid family workers.
Breaking down employment by status and region helps shed more light on Cambodia's informal employment sector. As shown in Figure1, the proportion of paid employees showed an increasing trend up from 22.9 % in 2004 to 40.6 % in 2013 while unpaid family workers declined substantially from 36.6 % in 2004 to 4.7 % in 2013; and the drop occurred in all areas with the other urban area dropping the most. Own account workers which represent a majority of employees working in Cambodia, are largely present in both other rural and urban areas. The proportion of own account workers has increased slowly in Cambodia, from 38.5% in 2004 to 54.7 % in 2013 as illustrated in table 1. In other urban and rural areas, the proportion of own account workers rose more rapidly than in Phnom Penh, from 36.8 % in 2004 to 52.8 % in 2013 in other urban areas and from 39.9 % to 58.6 % in other rural areas.

Figure 1: Declining unpaid family workers Vs increasing paid employees

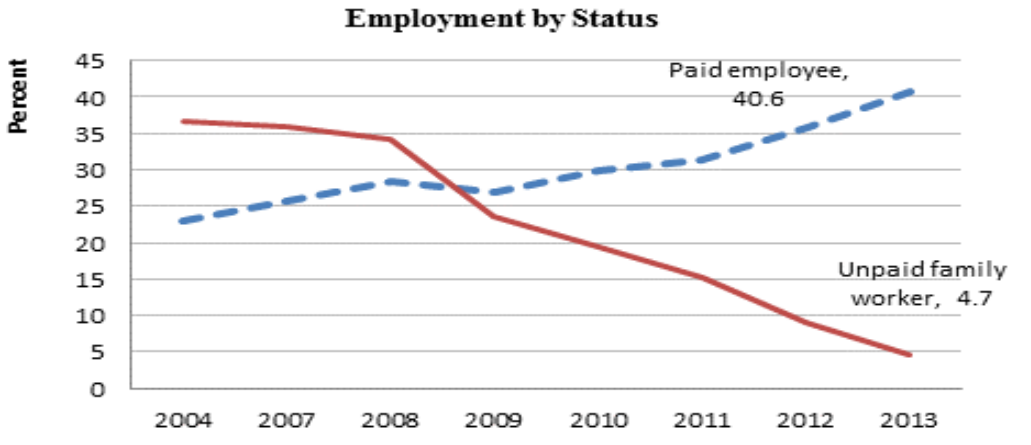


Table 5: employment by status and region

Employment status	2004				2007	2008	2009	2010	2011	2012	2013			
	Cam	Phnom Penh	Other urban	Other rural	Cam	Cam	Cam	Cam	Cam	Cam	Cam	Phnom Penh	Other urban	Other rural
Employed population, number (thousand)	6,577	591	713	5,273	7,313	7,309	7,469	7,675	7,891	7,706	7,951	942	810	6,199
Paid employee	22.9	50.9	29.7	18.9	25.8	28.4	26.9	29.8	31.4	35.8	40.6	63.6	45.0	36.6
Employer	0.1	0.0	0.1	0.1	0.1	0.1	0.3	0.2	0.0	0.0	0.0	0.0	-	0.0
Own account worker/self-employed	38.5	27.7	36.8	39.9	38.2	37.1	49.2	50.4	53.4	55.1	54.7	30.6	52.8	58.6
Unpaid family worker	36.6	19.6	31.7	39.2	35.9	34.3	23.5	19.4	15.1	9.0	4.7	5.8	2.2	4.8
Other/Don't know	1.9	1.8	1.6	1.9	0.1	0.1	0.1	0.2	0.1	0.0	-	-	-	-
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 5 also shows that the proportion of paid employees increased for all strata by 18 percentage point in Cambodia as a whole, 13 percentage point in Phnom Penh, 15 percentage points in other urban areas, and 18 percentage points in rural areas. During the same period, the employer category remained stable for Cambodia, at around 0.1 % of total employment.

Employment by sector

There were noticeable changes in the structure of Cambodia's economy from 2004 to 2013. The rate of growth in the agriculture sector fell while the pace of growth in the industry and service sectors picked up. Such structural changes and growth patterns not only impacted the economy, they also affected the labor market. Employment levels in each sector varied from year to year. As shown in Table 3, agriculture is the biggest employer, followed by the service and industry sectors. As a share of all employed people in Cambodia, the agriculture share dropped slightly while the share of workers in industry and service sectors increased. Although, agriculture sector is the largest sector in terms of employment, agriculture's share dropped from 57 % in 2004 to 48.7 % in 2013. Most of the Cambodia's agricultural workers farm small pieces of land in rural areas. The large increase in tourist arrivals and steady growth in garment and construction sectors pushed up employment in industry and service sectors.

Table 6: Employment by Sector

Industrial sector (main occupation)	2004			2007	2008	2009	2010	2011	2012	2013		
	Women	Men	both	both	both	both	both	both	both	Women	Men	Both
Employed population, (thousand)	3,035	3,068	6,103	6,828	6,824	7,469	7,673	7,890	7,706	3,882	4,068	7,951
Agriculture (Primary)	57.1	57.8	57.4	57.7	55.6	57.6	54.2	55.8	51.0	50.0	47.4	48.7
Industry (Secondary)	14.0	12.6	13.3	14.9	15.8	15.9	16.2	16.9	18.6	19.2	20.5	19.9
Services (Tertiary)	28.6	29.5	29.1	27.4	28.6	26.5	29.6	27.3	30.4	30.8	32.1	31.5
Other/Don't know/Not stated	0.2	0.1	0.2	-	-	0.0	0.0	0.0	0.0	-	-	-
Total	100	100	100	100	100	100	100	100	100	100	100	100

Employment by education level

Most of the employed workers in Cambodia have low education level. About 93 % of employed population aged 15 or older have education lower than secondary school. About 45 % of employed population in Cambodia had completed primary education. Approximately

one eighth (12.5 %) of the estimated employed population in Labor Force Survey 2012 had no education (table 3). More than 44.9 % had completed primary education while more than 35.5 % had completed secondary education; only 3.8 % of them were university graduates and 3.3 per cent obtained a vocational certificate. The largest proportion of the employed population in urban areas, 44.1 per cent (785,759 persons), had a secondary education, while the largest proportion of the employed population in rural areas, at 49.2 per cent (2.7 million persons) had only completed their primary education.

Table 7 : Employed population aged 15 or older by education level

	Cambodia	Urban	Rural
Total	7,197,416	1,783,646	5,413,770
In %			
None	12.5	5.8	14.7
Primary	44.9	31.8	49.2
Secondary	35.5	44.1	32.7
Vocational	3.3	6.9	2.2
University	3.8	11.4	1.2

Education level among occupations and industries

People with low education level mostly were engaged in agriculture work while people with university degree were mostly in manager or professional positions. And the percentage of employed persons who had a higher level of education decreased progressively in the agriculture and industry sectors. But it increased progressively in the services sector. As shown in table 4, the largest share of the employed persons who had not completed any level of education were engaged in skilled agriculture work (34.5 %), followed by those in elementary occupations (29.5 5), services and sales (17 %), and craft and related trades (10.4 per cent). As expected, the percentage of employed persons with higher education levels tend to increase in high level occupations, while it decreases among lower occupational groups. On the other hand, the largest share of the employed persons who had completed university education were engaged in professional jobs (29 %), followed by those in service and sale (24.4 %), clerks (15.5 %), and managers (10.3 per cent). As expected, the percentage of employed persons with higher education levels tend to increase in high level occupations, while it decreases among lower occupational groups.

Table 8: Education level among occupations

	Total	None	Primary	Secondary	Vocational	University
Total	7,197,416	899,955	3,230,410	2,556,581	240,350	270,118
Managers (%)	2.1	0.5	1.4	2.3	5.6	10.3
Professionals	4.4	0.4	0.9	5.1	29.8	29
Technicians	3.7	1.5	2.9	4.6	7.3	8.8
Clerks	2	0.5	0.6	2.4	6.8	15.5
Services and sales	21.9	17.7	19.9	25.9	19.6	24.4
Skilled agriculture workers	23.5	34.5	28.5	17.1	6.3	1.4
Craft and related trades	11.9	10.4	12.3	13.1	7.5	4.6
Machine operators	12.3	4.8	12.6	16	7.6	3.5
Elementary occupations	17.4	29.5	20.2	12.4	5.3	2.2
Armed forces	0.9	0.2	0.7	1	4.3	0.2

Results

This section uses the latest Cambodia labor force survey in 2012 to estimate return to education. For earning, we use monthly cash payment from paid employment for employees which is the largest share of employed population. The largest share of the employed population (46 per cent) worked as employees, followed by own-account workers (33.6 per cent) and contributing family workers (20 per cent). For experience, we use the time period that employees work for the current employers. And for education, we use the highest level of school that the employees completed. A total sample of 5584 was selected to estimate return to education for those whose education level is below or equal grade 12. Then Mincerian regression equation is run to estimate return to education. In addition we selected 515 samples of persons whose education were above grade 12. And to estimate return to education for this group we use independent sample t test to investigate difference in payment at each level of higher education and then we calculate annualized return to education.

Result of regression return to education for employee with education level below grade 12

This section provides results from the standard Mincerian function or the experience-earnings profile, where the dependent variable is the natural logarithm of earnings and independent variables include years of schooling and experience. The square of experience is also included to account for the concavity of the earnings profile. Some specifications extend the basic Mincer equation to include indicator variables for marital status and zones. In table 8 we have 2 difference models to estimate return to education for employed persons completed

grade 12 at most. The sample size is 5584 selected from labor force survey 2012. These 5584 samples are employed person who reported to receive monthly cash payment and who have education level at most completing grade 12. Each model suggested that the average return to education was about 3.3 %. An additional year of education will increase monthly salary by about 3.3 %. The 95% confidence interval for the return to education in model 1 is between 2.7% and 3.9%; and in model 2 is between 2.7% and 4% which is not a very wide rang.

Table 9: Result of regression return to education for employee with education *level <=12*

Regressors	(1)	(2)
constant	12.35***	12.24***
	(425.46)	(273.10)
education	0.033***	0.033***
	(10.51)	(10.57)
experience	0.022***	0.08***
	(4.36)	(4.215)
Experience square		-0.008***
		(-3.24)
Summary Statistics and joint test		
F statistics	72.03	51.61
R^2	0.025	0.028
N	5584	5584
*** *significant at 1%;* ** *significant at 5%;* * *significant at 10%;*		

Table 9 indicates return to education for male and female. On average, return to education for male is higher than for female. The estimated return to education is 3.8 % for each year of education for male and 2.6 % for female.

Table 10: Return to education and the gender gap (education <=12)

	Male				Female			
Regressor	Coefficients	Std. Error	t	Sig.	Coefficients	Std. Error	t	Sig.
Constant	**12.269**	0.06	189.72	0.00	**12.198**	0.06	201.54	0.00
education	**0.038**	0.00	8.20	0.00	**0.026**	0.00	6.16	0.00
experience	**0.080**	0.03	2.56	0.01	**0.112**	0.03	3.88	0.00
experience square	**-0.008**	0.00	-2.25	0.02	**-0.009**	0.00	-2.63	0.01
	n = 2966				n= 2614			
	F=38.4				F=25.43			
	R Square =0.027				R Square = 0.028			

Return to education for higher education level

In this section we estimate return to education for people with higher education level from upper secondary school certificate to doctoral degree who earned monthly cash payment. A total sample of 515 was selected from Cambodia' labor force survey 2012. Of 515 samples, 49.7% can read and write with understanding in English, 43.7% can read and write with understanding in Khmer language only, and the remaining 6.6% can read and write with understanding in other languages including Chinese, Vietnamese and French. Figure 2 illustrates wage gap among people with different level of education. There is no much wage gap among holders of Upper Secondary School certificate, holders of Technical/vocational pre-secondary diploma/certificate, and holders of Technical/vocational post-secondary diploma/certificate. And there is also no much different in earnings between Bachelor degree holders and Master's Degree holders. However, Doctorate degree (PhD) holders earn the highest.

Column 2 of table 10 indicates that holders of Upper Secondary School certificate earned on average about 411 thousand riels, holders of Technical/vocational pre-secondary diploma/certificate 485 thousand riels, holders of Technical/vocational post-secondary diploma/certificate 494 thousand riels, holders of Bachelor degree holders 775 thousand riels, holder of Master Degree 883 thousand riels and holders Doctorate degree (PhD) 1600 thousand riels. Column 1 of table 10 shows that a bachelor degree holder earned 1.9 times more than high school certificate holder. A bachelor degree holder earned about 363 thousand riels more than a high school certificate holder and the different in earning is also statistically significant as indicated by independent sample t test. From table 10, annualized rate of return to education for undergraduate level was approximately 17% ($=\left(\frac{775503}{411648}\right)^{\frac{1}{4}}-1$). This calculation is based on the assumption that it takes 4 years to complete a bachelor degree after graduating from upper secondary school and that the average monthly payment for upper secondary school holder was 411,649 thousand riels and for bachelor degree holder 775,504 thousand riels in 2012.

Figure 2: wage gap among different level of education

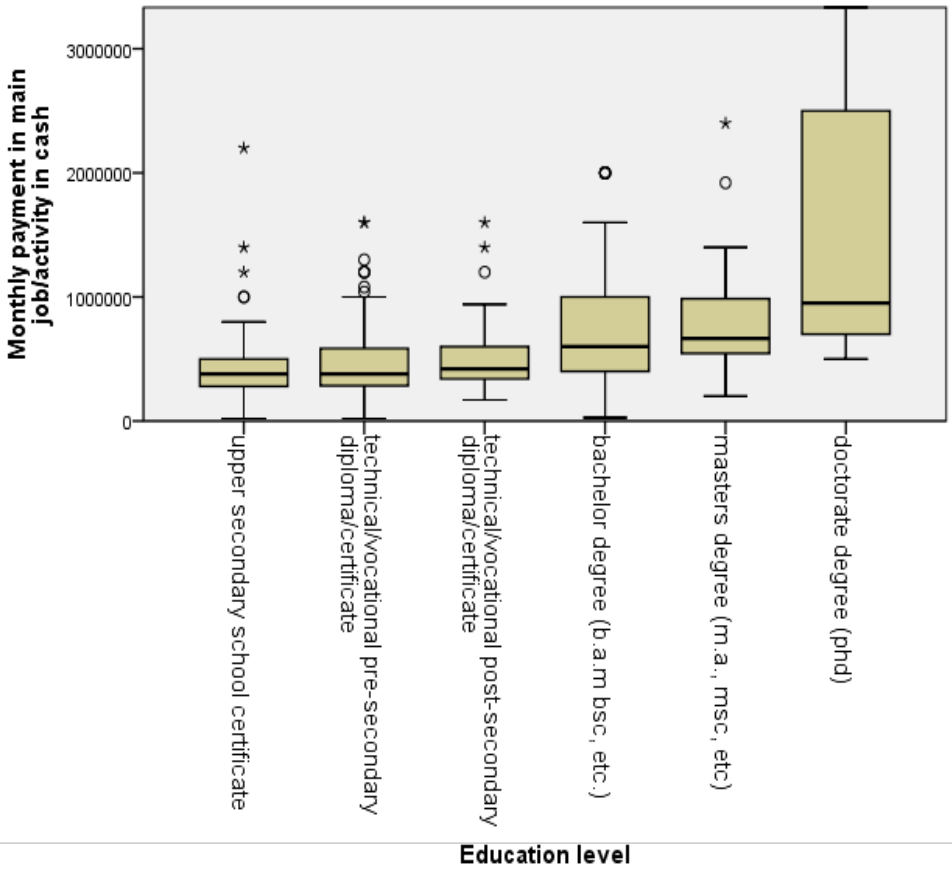


Table 11: Bachelor holder earns about 1.9 times more than upper secondary school certificate holder

(1) comparison with upper secondary school certificate	(2) mean monthly payment	(3) wage gape by Education	(4) upper secondary school certificate	(5) technical/vocational pre-secondary diploma/certificate	(6) technical/vocational post-secondary diploma/certificate	(7) bachelor degree (b.a.m bsc, etc.)	(8) masters degree (m.a., msc, etc)	(9) doctorate degree (phd)
1.0	411,649	upper secondary school certificate		-74014.3	-82996.9	-363854.738*	-421951.111*	-1188351.111*
1.2	485,663	technical/vocational pre-secondary diploma/certificate	74014.269		-8982.675	-289840.469*	-347936.842*	-1114336.842*
1.2	494,646	technical/vocational post-secondary diploma/certificate	82996.944	8982.675		-280857.794*	-338954.167*	-1105354.167*
1.9	775,504	bachelor degree (b.a.m bsc, etc.)	363854.738*	289840.469*	280857.794*		-58096.373	-824496.373*
2.0	833,600	masters degree (m.a., msc, etc)	421951.111*	347936.842*	338954.167*	58096.373		-766400.000*
3.9	1,600,000	doctorate degree (phd)	1188351.111*	1114336.842*	1105354.167*	824496.373*	766400.000*	

*(* indicates significant difference)*

Wage gap between English speaking persons and persons without foreign language skill

There is a significant large gap in earnings between persons who can read and write with understanding in English and persons who cannot at bachelor degree level. When considering language skills of persons at different level of education, compared to employed persons without foreign language skill, we find that people who can read and write with understanding in English can significantly earn higher payment, in particular, for persons who hold bachelor degree. A person who holds bachelor degree with English language skill can earn about 300 thousand riels higher than people with only Khmer language skill for the same level of education. For persons with bachelor degree, the 95% confidence interval for the wage gap is between 169 thousand riels and 431 thousand riels.

Table 12: wage gap between English speakers and person who speak only Khmer language

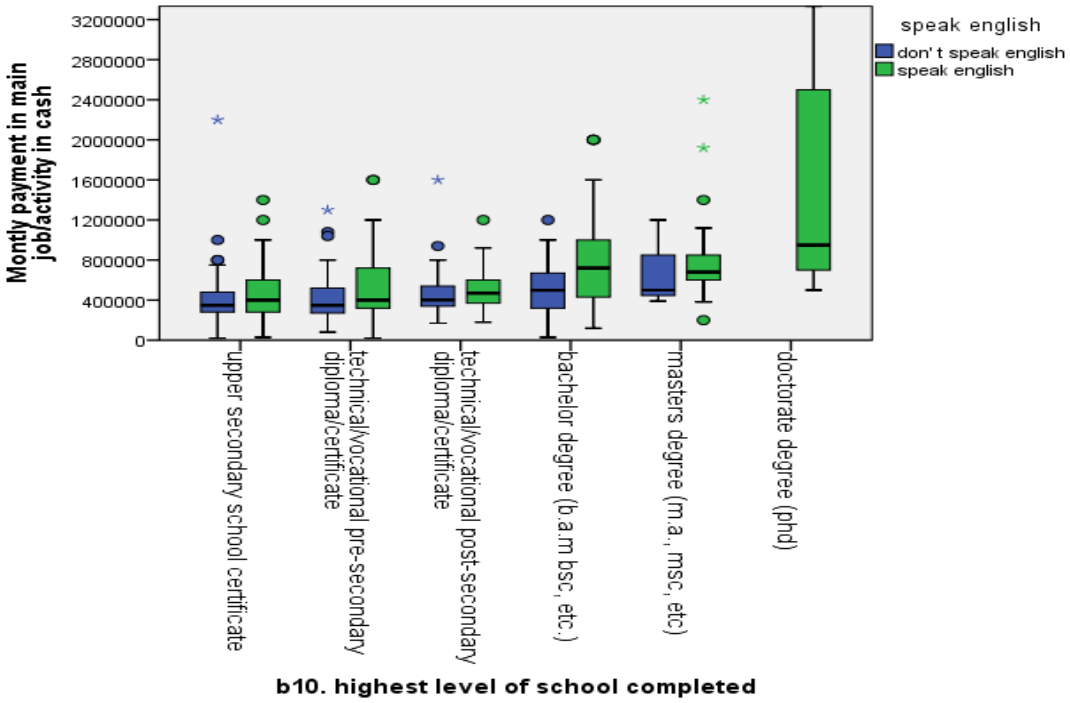


Table 13: wage gap by language skill

Education	English language skill	Mean	N	Independent Sample Test	Levene's Test for Equality of Variances		Sig.(2-tailed)	95% Confidence Interval	
					F	Sig			
upper secondary school certificate	don' t speak english	396910.9	88						
	speak english	459684.8	33	Equal variances assumed	2.181605	0.14231	0.252	-170,751	45,204
	Total	414031.1	121	Equal variances not assumed			0.288	-180,112	54,564
technical/vocational pre-secondary diploma/certificate	don' t speak english	419139.1	46						
	speak english	589655.2	29	Equal variances assumed	8.645049	0.00439	0.029	-322,655	-18,377
	Total	485072	75	Equal variances not assumed			0.053	-343,231	2,199
technical/vocational post-secondary diploma/certificate	don' t speak english	475788.5	52						
	speak english	505909.1	33	Equal variances assumed	0.044765	0.832956	0.557	-131,634	71,393
	Total	487482.4	85	Equal variances not assumed			0.552	-130,559	70,318
bachelor degree (b.a.m bsc, etc.)	don' t speak english	519338.9	36						
	speak english	819685.7	140	Equal variances assumed	5.870354	0.016423	0.002	-490,178	-110,516
	Total	758251.1	176	Equal variances not assumed			0.000***	-431,676	-169,017
masters degree (m.a., msc, etc)	don' t speak english	696666.7	3						
	speak english	857764.7	17						
	Total	833600	20						
doctorate degree (phd)	speak english	1600000	4						
	Total	1600000	4						

Wage gap between garment workers and government civil servant in education sector

For basic salary preparation, Cambodia achieved the implementation of the 20% annual increase in basic salary. In 2015, a government civil servant in education sector earned 35$ more than a garment worker and 60$ in 2016. The majority of garment workers have education lower than secondary school and the majority of government civil servants in education sector have Bachelor degrees which take 16 years of schooling. We can calculate annualized return to education in scenario where garment workers take 6 years of education and where garment workers take 9 years of education. The return to education for the first scenario is similar to what we found in the previous section which was about 3.3 %. Under the second scenario, the return to education is 5.4 % in 2016.

Table 14: wage difference in public education sector and garment sector

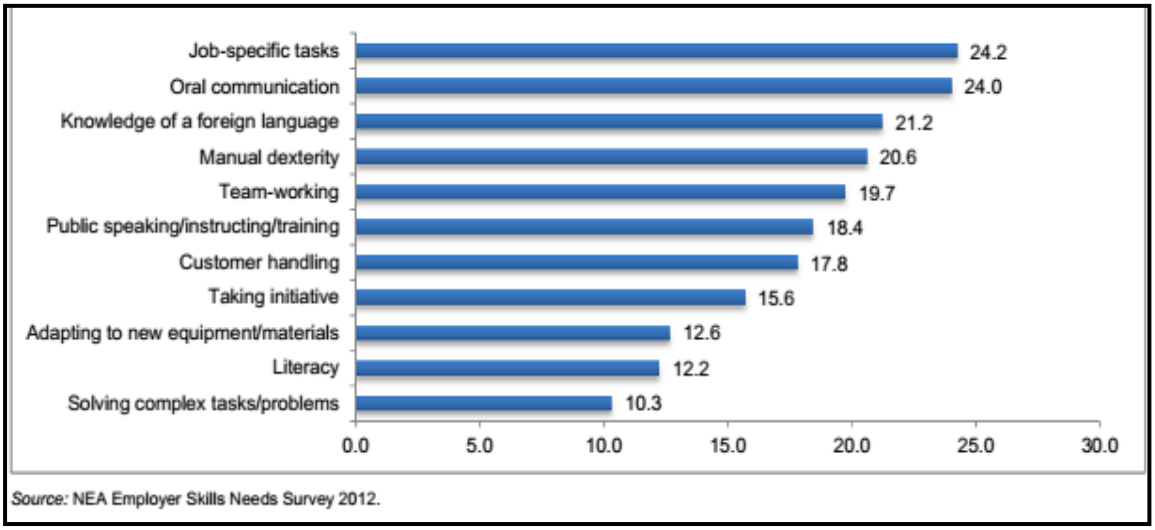
Basic salary	2,013	2,014	2,015	2,016
Public education sector(in Riels)	402,800	550,000	652,800	800,500
in $ (1$=4000 Riels)	101	138	163	200
Garment sector (in $)	80	100	128	140
wage difference	21	38	35	60
(1)return to education	2.33%	3.24%	2.46%	3.64%
(2)return to education	3.34%	4.65%	3.53%	5.24%
(1): garment worker take 6 years of education and governemt civil servant take 16 years of education				
(1): garment worker take 9 years of education and governemt civil servant take 16 years of education				

Policies for education in Cambodia and Some Issues in Education

A recent World Bank document identified four key challenges in improving and sustaining quality and efficiency for Cambodia's higher education system: the need to improve the quality of the accreditation process; the shortage of skilled, well qualified, and experienced professors at a time of rapidly increasing enrolments; the questionable quality and relevance of many courses; and the need to strengthen the research capacity at many HEIs[2].

A study by ILO 2013 also suggested skill gap. Employers find their employees could not provide enough skills for fulfilling their job. Establishments need office workers with a better knowledge of foreign languages, a more developed capacity to communicate with and handle clients, and better IT knowledge. For skilled agricultural workers, craft workers, and machine operators the main demand was for more manual dexterity and better preparation on job-related tasks. The demands were similar also for higher-level positions. Establishments suggested that managers and professionals should receive more training in IT and IT applications, communications, foreign languages, and leadership; for technicians they suggested training in job-specific tasks, and planning and organization.

Table 15: Skills that need to be improved, percentage of establishments



Ministry of Education, Youth and Sports (MOEYS) has responded to the outcomes expected in the National Strategic Development Plan (NSDP) 2014-2018 by preparing the Education Strategic Plan (ESP) 2014-2018, aiming at providing quality education to more children in all levels. three policies in ESP 2014-2018:

[2] World Bank. 2009. Cambodia – Higher education quality and capacity improvement project, project information document, p.2.

Policy 1: Ensuring equitable access for all to education services: All children have access to preschool, primary school and lower secondary school and then opportunities to continue learning. For children who do not access formal education alternatives will be provided. To achieve all these, MOEYS needs to build more schools and provision of adequate teachers.

- Ensure that all children entering grade 1 have completed kindergarten.
- Increase the number of children and youth that have access to all education levels with focused attention on equity and access for the most disadvantaged areas and groups of children.
- Increase opportunities for children to finish 12 years education with a good knowledge and reasoning and logic skills, who can further build on these skills (and knowledge) through technical training, higher education and other means.

Policy 2: Enhancing the quality and relevance of learning: All children and youth have a relevant and quality learning experience, enabling them to contribute effectively to the growth of the nation. Children will learn to think analytically and critically, and will have a good grounding in mathematics, sciences and foreign languages.

- Undertake a curriculum reform of the general and technical education in line with the international best practices.
- Revise the teacher training curriculum in line with the revised curriculum and undertake in-service teachers training.
- Ensure effective implementation of instructional-hours with adequate provision of qualified and trained teachers at all levels as well as textbooks and learning materials.
- Systematically monitor the student learning achievements by conducting national assessments at grades 3, 6 and 8 and prepare for participation in the regional and international assessment programs.

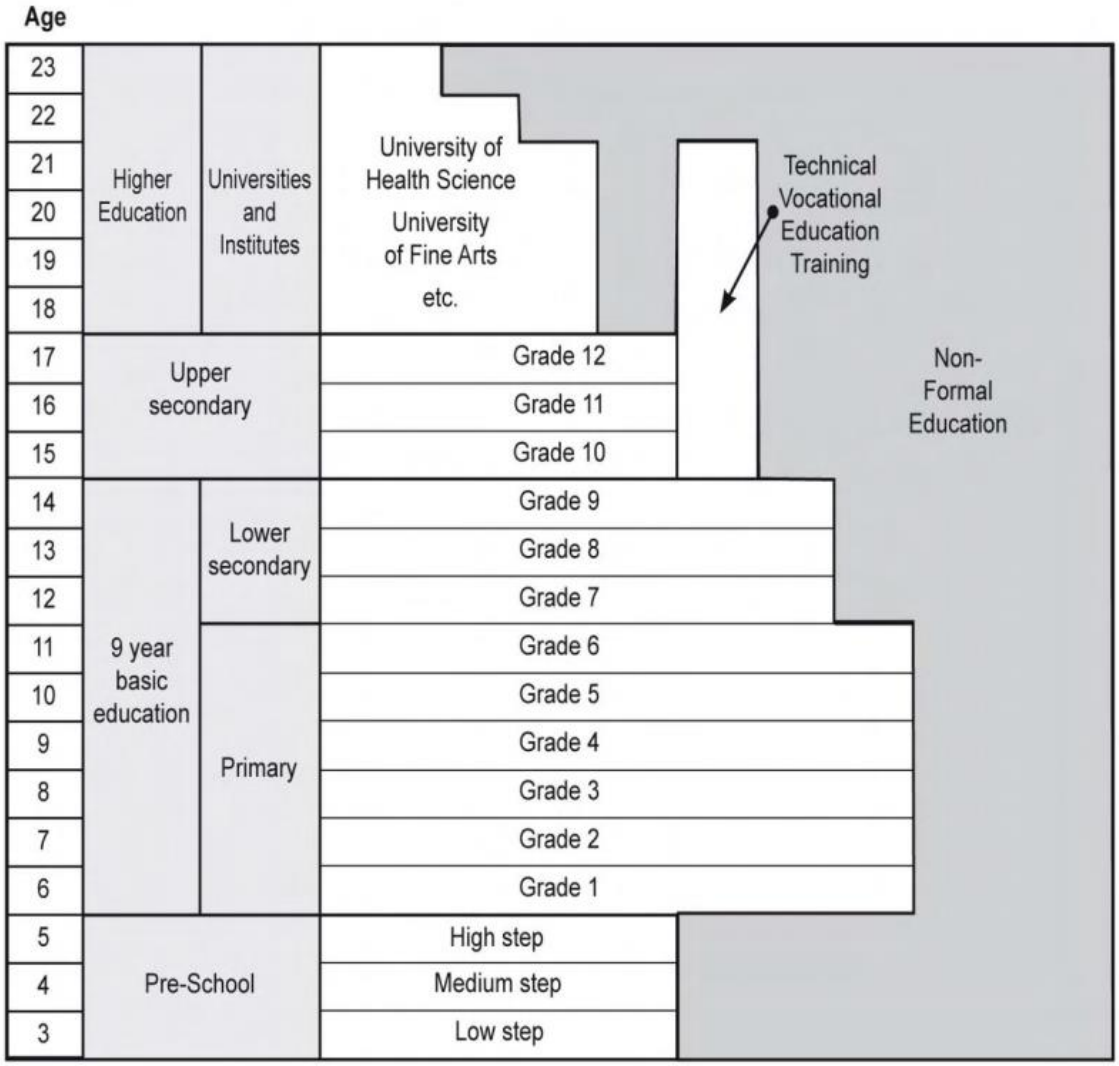
Policy 3: Ensuring effective leadership and management of education staff: Educational services are provided effectively and flexibly. Efficient and professional management provides best value with a focus on results; timely and relevant monitoring; and reporting of the results with effective feedback and mechanisms for adjusting the policy, strategy and programs.

Conclusion

This paper mainly estimates the returns to education employing the standard Mincerian function using the latest Cambodian labor force survey 2012, where the dependent variable is the natural logarithm of earnings and independent variables include years of schooling or educational attainment and potential experience. The paper also examines the effect of foreign language skills on earnings. We find that for employed persons with education level lower or equal grade 12 is about 3.3 percent; but it is higher for male than female. And annualized rate of return to education for undergraduate level was approximately 17 percent.

Regarding language skill, we find that for people who hold bachelor degree and can speak English can earn more than those who can speak only Khmer language. There is also a significant wage gap between bachelor holders and high school certificate holders at a ratio of 1.9. For next research we should investigate the reason why labor force in Cambodia has low level of education despite the high rate of return to education at university.

Annex I : the structure of the educational system in Cambodia



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THE OUTCOME OF IDENTITY DEVELOPMENT TO 21st CENTURY OF NURSING STUDENT

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ABSTRACT

The purposes of this study was to evaluate the outcomes of identity development to 21st century for nursing students, Saraburi. A sample of 393 nursing students was recruited from Boromarajonnanicollege of nursing, Saraburi. Seven instruments were employed to collect data. All instruments were valided by experts, whereas, reliabilities were examined by Cronbach's alpha coefficient as the following: 0.61 , 0.75 , 0.75 , 0.90 , 0.79 , 0.74 and 0.77.

The result revealed that :
1. The nursing student competency 21st century skill was high, mean 4.02 ,4.30 ,4.39 and 4.58 in the 1,2,3,4 year student and the mean score were low in English competency.
2. The mean score of TQF were high level at 4.57
3. The mean score of Humanized care were high level at 4.72
4. The mean score of Ethic and moral , cognitive domain , Arithmatic , communication , IT , nursing practice were higher after the project but the knowledge and the relationship aspect not higher significantly.
5. The mean score of Humanized care EBN practice not higher significantly.
The study suggested that this project should be reused and evaluate outcome. Moreover, English activity should be added into the project to developed English skill,

Keywords: TQF, 21st century, nursing student competency

Introduction

In the 21st century, holistic development is important for people and the direction of nursing student development. The aims of this development are to enable nursing students at the universal level with the characteristics of Thai and global citizens and learning outcomes based on the Thailand Qualification Framework for higher education (TQF) including the following six domains: 1) ethics and morals; 2) knowledge; 3) cognitive skills; 4) interpersonal skills and responsibility; 5) digital communication and information technology skills and 6) professional skills. Boromarajonnani College of Nursing, Saraburi, reinforces nursing students in gaining an identity for humanized care based on evidence-based practice with 21st century skills. This includes the following three important domains: life and work skills, learning and innovative skills, and information technology skills. Nursing students need to understand the differences and diversity of cultures in order to graduate as registered nurses who possess the knowledge and ability to provide quality health care services as they balance their lifestyles among dynamic societies and with personal and professional development aimed at advancement.

Research methodology

Participants

The population of this study was composed of 393 nursing students from Boromarajonnani College of Nursing, Saraburi, who were students in the first, second, third and fourth years of the 2014 academic year. All of the subjects were participants in this study.

Instrumentation and measurement

1. Instrumentation

1.1 The identity reinforcement pattern for graduate nursing students in the 21st century means an activity pattern forreinforcing curriculum during the homeroom hour. The pattern was integrated in the subject for coverage of the following three components:

Domain 1: TQF 21st Century Identity and Skills

Year 1 – Lifetime goals and adaptation to living together; social etiquette, dharma methods and dharma practice with morning and evening prayers, sharing virtuous stories, and volunteer work in three integrated subjects.

Year 2 – Personality leadership, teamwork camps and dharma methods in dharmapractice place, Thai architecture and aesthetic recreation in making flower garlands.

Year3 -Humanized and volunteer-minded care behaviors , student exchange and

Presentation , nursing innovation.

Year 4 –Humanized and volunteer care behaviors and dharma methods leading to success.

Domain 2: The activities on the use of evidence-based practice for each year are as follows:

Year– 1 Development of thinking, question-raising and improvement of daily English.

Year 2 –Technology and research and improvement of academic English.

Year–3 Use of evidence-based practice in nursing and improvement of English in nursing.

Year4–Use of evidence-based nursing innovation and improvement of English in nursing.

Domain 3: Sufficiency Economy Philosophy with activities for each year as follows:

Year 1 – Healthy vegetable plants.

Year 2 –Waste recycling.

Year 3 – Energy conservation.

Year4 – Health care based on the Sufficiency Economy Philosophy.

1.2. The following three instruments were used in assessment:

1.2. 1Graduate Attributes Evaluation Form based on Six Bachelor-Level Standard Framework. The evaluation form of the Praboromarajchanok Institute for Health Workforce Development was used. It is a form composed of a five level scale composed of 21 questions on ethics and morals, six questions on knowledge, twelve questions on cognitive competency, ten questions on relationships and responsibilities, eleven questions on arithmetic, communication and IT usage and 40 questions on nursing practice skills for which Cronbach's Alpha Coefficient equal to 0.61,0.75.

1.2. 2The Humanized Health Care Evaluation Form based on evidence-based practice developed by the researcher based on the evaluation form of the Praboromarajchanok Institute for Health Workforce Development. The questionnaire is composed of 17 questions in a 5level scale form with reliability score at 0.75.

1.2.3 Four sets of 21stCentury Competency Evaluation Form by Year developed by the researcher. The questionnaire passed content validity evaluation by qualified experts, contains twelve 5-level scale questions and has reliability scores for years 1, 2, 3 and 4 of 0.90, 0,79, 0,74 and 0.77, respectively.

2. Measurements

The students in each year performed self-evaluation at the conclusion of activities for the year. Evaluation is categorized into four levels as follows:

Mean Score $\geq$ 4 Very High
Mean Score 3.00-3.99 High
Mean Score 2.01-2.99 Average
Mean Score $\leq$ 2.00 Improvement Needed.

Data analysis

Descriptive statistics, namely, frequency, percentage, mean and standard deviation were used in data analysis, and paired t-test was used for pre-post development score analysis.

Results

Part1 Demographic Data

Table**1:** Data of Participants

Student nurse	N	%
1st year Student	108	27.41
2nd year Student	99	25.12
3rd year Student	117	29.94
4th year Student	69	17.51
Total	393	100

Part2: Outcome of Development

Table 2 Mean Values and standard deviation of Year 1 nursing student competency.

No	Year 1 Competency	$\bar{x}$	S.D.
1	Adaptation to living with the others	4.31	.50
2	Living appropriately in social contexts ,culture and economic insufficiency	4.28	.51
3	Service mindedness	4.31	.57
4	Teamwork	4.16	.57
5	Reading and summarizing academic documents	4.02	.64
6	Systematic thinking	3.89	.65
7	Questioning skills	4.27	.56
8	Perceived social and health information	3.99	.57
9	Life-long learning responsibility	4.05	.60
10	IT using ethics	4.00	.66
11	Physical and mentalself-care	4.16	.57
12	English in daily life	3.74	.67
	Total	4.02	.44

According to the table,the highest competencies forthe Year 1 students were service mindedness and adaptation to living with the others.(mean =4.31 for both aspects)The lowest competencies for the Year 1 students were English in daily life).mean=3.74)and Systematic thinking.(mean=3.89)

Table3: Mean Values and standard deviation for Year 2 nursing student competency.

No	Year 2 Competency	$\bar{x}$	S.D.
1	Maturity in daring to share ideas and debate	4.39	.49
2	Encouraging Thai values, wisdom and lifestyle.	4.32	.49
3	Service mindedness and public-minded	4.60	.49
4	teamwork	4.63	.48
5	Empathic listeningand summary without bias.	4.29	.53
6	Systematic and analytical thinking	4.19	.56
7	Seeking of knowledge from diverse sources and intelligent use of information.	4.26	.52
8	Ability to employ nursing procedures in nursing operations to promote health and prevent diseases utilizing local wisdom.	4.38	.50
9	Eagerness to learn and study about nursing practices and related information.	4.35	.50
10	Ability to use computer programs in research and academic presentations.	4.42	.60
11	Reasonable, sufficient and adequate morals and ethics in living.	4.32	.61
12	Academic English proficiency.	4.22	.58
	Overall	4.30	.35

According to the posttest results in the table, Year 2 students had the highest competencies in working in teams or with team members (mean = 4.63), while the lowest competency scores were systematic and analytical thinking (mean = 4.19) and academic English (mean = 4.22).

Table 4: Mean Values and Standard Deviations for Competencies by Year by 21st Century Skills of Year 3 Nursing Students

No.	Year 3 Competency	$\bar{x}$	S.D.
1	Emotional maturity, acceptance of criticisms for self-improvement.	4.27	.63
2	Willingness and eagerness to provide service to others.	4.46	.51
3	Effective communication with colleagues, health teams and service recipients.	4.43	.54
4	Ability to think and make decisions to solve personal and professional problems.	4.31	.53
5	Use of evidence in nursing to resolve health problems in patients.	4.47	.56
6	Use of nursing procedures in caring for persons and groups of persons with health problems.	4.37	.51
7	Holistic nursing practice with consideration of familial, community and cultural diversity contexts.	4.59	.51
8	Generous and attentive nursing practice with consideration for the opinions of service recipients.	4.54	.53
9	Ability to use computer programs for research and professional improvement.	4.37	.63
10	Sustained health preservation and provision of health advice for others.	4.40	.63
11	Ability to use English in the profession.	4.04	.65
12	Display of suitable attributes by team members and leaders.	4.51	.53
	Overall	4.39	.48

According to the post-test results in the table, Year 3 students had the highest competencies in holistic nursing practice and consideration of family, community and cultural diversity contexts (mean = 4.59), while the lowest competencies were use of English in the profession (mean = 4.04) and emotional maturity, acceptance of criticisms for self-improvement (mean = 4.27).

Table 5: Mean Values and Standard Deviations for Competencies by Year by 21st Century Skills of Year 4 Nursing Students

No.	Year 4 Competencies	$\bar{x}$	S.D.
1	Display of leadership, team management and team building.	4.55	.49
2	Creative thinking, innovations and guideline proposals for improving the profession.	4.54	.54
3	Ability to utilize information and nursing and health knowledge on service recipients and related persons using appropriate vocabulary, language and media.	4.67	.49
4	Clinical decision making and ability to adequately resolve health problems relative to situations.	4.50	.50
5	Ability to employ empirical thinking in nursing practice development.	4.63	.48
6	Ability to use nursing procedures in complex and end-stage nursing operations.	4.52	.52
7	Holistic nursing practices with considerations to familial, community and cultural diversity contexts.	4.75	.43
8	Practice of nursing with generosity, attentiveness and consideration to the feelings and opinions of service recipients.	4.79	.43
9	Use of electronic communication networks to research health news and information, exchange knowledge with health teams and in health service districts.	4.66	.47
10	Set a good example and become a leader in health.	4.68	.48
11	Professional English proficiency.	4.28	.64
12	Good member of the profession and institution.	4.62	.48
	Overall	4.58	.35

According to the posttest results in the table, Year 4 students had the highest competency on practicing nursing with generosity, attentiveness and consideration for the feelings and opinions of service recipients (mean = 4.79), while the lowest competencies were professional English proficiency (mean= 4.28) and clinical decision making and ability to adequately resolve health problems relative to situations (mean= 4.50).

Table6: Comparison of TQF pre-post mean scores of nursing students (n=378)

TQF	Mean	SD	t	P- value
Ethics and morals				
Pre-	3.73	.32	-1.529*	.049
Post-	3.77	.34		
Knowledge				
Pre-	3.48	.42	-.770	.160
Post-	3.51	.45		
Cognitive				
Pre-	3.56	.41	-7.88*	.016
Post-	3.59	.42		
Relationship Skills				
Pre-	3.66	.39	-2.078	.698
Post-	3.73	.38		
Digital Communications and IT Skills				
Pre-	3.52	.42	-1.88*	.000
Post-	3.57	.41		
Nursing practice Skill				
Pre-	4.61	.48	-.553*	.028
Post-	4.63	.43		
Total				
Pre-	3.58	.34	8.108	.086
Post-	3.75	.26		

* P<0.05

According to the results in the table, the post mean score for ethics and morals, cognitive skills, digital communication and IT skills, nursing practice skills were all significantly higher.

Table7: Comparison of pre-post mean scores for health service and humanized care in Year 2-4 student nurses(n=284)

HumanizedCare	Mean	SD	t	P- value
Pre-	4.77	.34	.861	.390
Post-	4.80	.36		

According to the results in the table, the post mean scoresforhumanized care and EBN practice were not significantly higher.

Discussion and suggestions

1. Categorized by year, the posttest competencies of nursing students in 21st-Century Skills were high. The findings might be explained in that the activities were designed to cover development in the 21stcentury with consideration given to the difficulty of activities as suitable for each year. In addition, the activities set suitable competencies for each year and integrated with subject learning in many activities. Nevertheless, when analyzed individually, the students in every year were found to have lower English competency as same as the other nursing college.(kamonrat turnor,2016). This might have occurred because the integrated development activities for English were not enough. At Year 1, for example, English used in everyday life was broadcastover loudspeakers. For Year 2, English shows were organized. For Year 3, an English corner was created in libraries. However, the durations for the aforementioned activities might have been inconsistent, and students had no self-training. Furthermore, previous studies have found that development of English speaking and listening skills in students requires students to spend time in training themselves in listening activities such as story-telling and speaking in front of the class (Prince of Songkhla University,2007).

2. Comparison of mean scores on attributes of graduates on humanized healthcare service based on evidence-based practice pre and postdevelopment of nursing students produced no differences with statistical significance. The findings might be because the college stipulated for humanized healthcare service based on evidence-based practice be provided with the identity of the college (Praboromarajchanok Institute , 2012) and involved planning for serious skill development for individual subjects and course promotion activities with emphasis on training activities to raise questions, research and use evidence-based practice consistently for each year of nursing education (Tassanee Krirkgulthorn, 2013). Hence, the aforementioned score was high with a mean of 4.72 and no clear pre-or posttest variances.
3.The mean attribute scores of graduates at the bachelor-level of nursing students showed the overall mean pre and posttest scores for five aspects were no different. However, individual analysis found ethics and morals, cognitive competency, digital communication and IT skills with professional nursing practice to have improved mean posttest scores with statistical

significance at $p< .05$. The findings can be explained in that the majority of the activities by year were activities aimed at promoting harmony and balance in life, morals and ethics, and humanized care. Furthermore, there were dharma activities and clear hours for improvements. All of the aforementioned led to increased scores. For the bachelor-level standards on knowledge and relationships and responsibilities, the pre- and posttest mean scores were no different with statistical significance. This was because the activities were student development activities aimed at improving courses rather than knowledge aimed at promoting life learning and learning techniques.

The graduate attributes based on the bachelor-level standard of nursing graduates at the overall and individual levels on nursing practice were very high. This was because professors and students had shared planning in organizing development activities in line with the framework for the bachelor-level standard. As a result, the students effectively learned development objectives and organized activities. Furthermore, the activities generally led to good nursing preparations, e.g., nursing care activities in scholarship sources at semester end. Furthermore, the mean score for humanized healthcare using evidence-based practice of nursing students was also high which concurs with research on competency assessment of new nursing graduates of no more than two years in which professional nursing practice was found to be the highest scoring attribute (jareesri Kulsiripanya, 2012).

Recommendations

1. Uniform graduate development models should be applied and monitored.
2. Additional activities should be organized to promote English and systematic thinking skills, critical thinking and logical thinking.

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The effects of motivation interviewing on self-care behaviors and waist circumference of the obese older persons [1]

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Abstract

The obese older persons have physical, psychological and social problems. Weight control need to establish the motivation to promote sustainable self-care.

This research was an experimental design. The obese older persons from Tumbon Health Promoting Hospitals, Amphur Banlard, Phetchaburi Province were recruited. Sixty participants were random assigned to the experiment and control group. The program consisted of individual approach of 2 sessions. It was provided in week 1, 2 which took about 30-45 minutes. The home visit was taken at week 4. The outcomes were evaluated by the personal questionnaire, and self-care behaviors questionnaire (Cronbach's Alpha =. 87). Data were analyzed by the Independent t-test.

The results revealed that the experiment group had higher mean scores than the control group significantly ($t = 9.31$, $p < .01$). This study indicated that utilizing motivation interviewing techniques could enhance motivation self-care behaviors of older persons. However, waist circumference mean score in both groups were not difference. The investigator recommended the health personnel to use this program for health promoting of the obese older persons in a long period.

Keywords: obese older persons; self-care behavior

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Background and Significance of Problem

The obesity is an important risk factor for non-communicable diseases (NCDs), especially diabetes, high blood pressure, Hypercholesterolemia, cardiovascular disease and cancers. It also causes insulin resistance and intensifies cardiovascular diseases (Tungtronjit, 2007). The 4th Survey of the Health of Thai Older Persons in 2008-2009 through the waist circumference measurement reveals that 81.4% of male and 80.0% of female older persons aged 60-69 years are obese. According to the Population and Housing Census, National Statistical Office of Thailand (2010), there are 8,011 older persons in Thailand in 2010. This number is expected to increase to 12, 272 and 17,744 in 2020 and 2030, respectively. The obesity problem in the future will affect the quality of life of older persons, contributes to the increase of health-related expense resulting in the economic loss and increases disability and mortality rate owing to the complications of chronic diseases. National Health Development Plan under the Eleventh National Economic and Social Development Plan (2012-2016) notes that the consumption of sweet, salty and fatty foods with inadequate fruit and vegetable intake is the important risk behavior of Thai population. In this regard, 34.7% of Thais are obese and overweight, while 16.2 million of them have over-standard waist circumference. The change of consumption behavior in an appropriate manner is thus required.

The obesity intensifies the insulin resistance leading to several complications so the obese older persons' weight control is crucial for dealing with chronic diseases. Most of them achieve weight control for a short time followed by the recurrence of overweight (Tsai & Wadden, 2005). The majority of weight control program involves food control and exercise. However, they lack the motivation to regularly control their food intake; are embarrassed to take exercise in the midst of other persons; and do not have spare time for exercise. They also avoid taking exercise because they are unconfident in the methods they have chosen and in the suitable intensity of exercise. In this regard, the self-control of food intake enables older persons not only to lose weight but also to reduce the sugar level in blood, HbA1c and body fat percentage (Brunerova, Smejkalova, Potockova, & Andel, 2007).

The obesity problems in the obese older persons are complex. The physical aspect involves the weight gain and severe insulin resistance due to sulfonylureas intake (Pitiporn Rattanataweeboon, 2010), fat accumulation in body with ageing, high carbohydrate food consumption, low fibrous food intake as well as lack of physical activities and of regular exercise. Mental problems are also found among them because they are stressful for chronic diseases requiring continual treatment and have poor time and stress management. Some obese older persons suffer from the depression (Katon et al, 2004). With respect to the social aspect, the obese older persons tend to believe that they are the burden for their family members. They feel alienated while dining with other persons as they have to avoid certain foods for blood sugar and blood pressure control resulting in the difficulty of socialization. Some of them are unable to join the parties or social activities regularly and feel strange when doing exercise) Wimonrat Chongcharoen, Wandee Khahawong, Angsuma Aphichato et al., 2008).

Therefore, the obese older persons' achievement of weight loss depends on the enhancement of motivation in order that they recognize the importance of health problems and make their own decisions towards the behavior change in a devoted manner. They will not be discouraged by the obstacles or situations probably emerged during the course of weight control program. This is to enhance the suitable health care and regular self-practice. The literature review through empirical evidence gathering reveals that the motivation interviewing (MI) is the counseling-based discussion for enhancing the obese older persons' motivation. There is the collaboration in identifying problems and addressing issues recognized as risk behaviors or harms to health of obese older persons who are reluctant or ignore to change their behaviors (Miller & Rollnick, 2002). The spirit of motivation interviewing refers to the evocation (or to elicit) for older persons to discuss and make a decision on their own towards the behavior change. The collaboration between the counselor and older persons is focused; therefore, the former provides the trust, autonomy, motivation and support so that the latter can make a decision on their own. This will enable them to review their thinking process and truly recognize the importance of individual problems leading to the motivation for behavior change. They have reflected the commitment to change during the discussion (Prochesca, 2006) and express their thoughts and sense of responsibility for changing their self-care behavior in light of food control for constant weight loss.

A previous study reveals that the promotion of motivation enables the obese older persons to initiate the consumption behavior change (Miller & Moyers, 2006; West, Dilillo, Bursac, Gore, & Greene, 2007). The promotion of motivation, goal setting, self-observation and self-assessment of behavior change as well as encouragement for sustaining self-care behavior are the crucial elements for the efficient implementation of consumption behavior change program (Barnard et al., 2009). Therefore, the motivational interviewing-based program for consumption behavior change is adopted in this study to enhance the obese older persons' motivation for self-care behavior change. The author is also interested in program outcome evaluation through the assessment of self-care behavior change in order to learn about the motivation found in older persons. The waist circumference measurement follows the definition of International Diabetic Federation (IDF).

Objectives

To examine outcomes of motivational interviewing-based program for consumption behavior change to enhance the obese older persons' motivation for self-care behavior and waist circumference.

1. To compare between the experimental and control group in light of the outcomes of motivational interviewing-based program for consumption behavior change to enhance the obese older persons' motivation for self-care behavior.
2. To examine outcomes, found in the experimental and control groups, regarding the motivational interviewing-based program for consumption behavior change to enhance the obese older persons' motivation for waist circumference.

Research Methodology/Design/Population/Sample

The randomized control trial design is used consisting of experimental and control groups. The self-care behavior and waist circumference of all samples are measured 1 week before and after the experiment.

Population: the obese older persons have the waist circumference of 90 cm. (male) and of 80 cm. (female) according to the Asian criteria (World Health Organization, Regional Office for the Western Pacific, International Association for the Study of Obesity, & International Obesity Task Force, 2000). The cluster sampling and computer package program is used in choosing the sample, while the health service center is randomized from Tumbon Health Promoting Hospitals in Phetchaburi Province. The sample consists of obese older persons who fulfill the following inclusion criteria: at least 60 years of age, being literate with a good understanding of Thai language. They will fall into the exclusion criteria given that they take weight loss pills or suffer from the complications of chronic diseases.

Sample Size: the systematic review of research and meta-analysis reveals that the motivational interviewing-based program for weight loss has the effect size = 0.72 (Rubak et al., 2005). Besides, a group of 18 samples is formed after determining the value of alpha = .05 and power = .80 for an experiment in which 2 groups are re-measured (Erdfelder & Faul, 2010)**.** However, when taking into account the loss rate, a group of 30 samples is created instead.

After the research ethics has been reviewed by the original affiliation and the research approval is granted, the author has clarified the sample's rights and research process to generate the understanding and to ask for permission prior to the research.

Research assistant preparation: the research assistants are 2 professional nurses with experience in the elderly care. The training of accurate waist circumference measurement is provided by the author for them, while the inter-rater reliability is tested.

Both groups (experimental and control groups) will be appointed 1 week (Week 0) before the program implementation in order to complete the personal questionnaire and questionnaires for measuring self-care behavior and waist circumference.

Experiment

Experimental Group: the older persons will be appointed individually for a discussion with the author in Week 1 and 2 for 30-45 minutes each. The home visit appointment for Week 4 is also made. The gist of motivational interviewing-based discussion is as follows:

First discussion: the author uses the open-ended questions in the discussion allowing with older persons to talk about their health conditions and feelings for gathering the data concerning their physical, mental, emotional and social aspects. The nursing diagnosis based on

the consumption behavior and health problem assessment is conducted before the formulation of nursing practice using the motivational counseling in line with the stage of change. The behavior change and health promotion are focused, while the individuality of older persons is respected with the emphasis on the collaboration. The older persons have the autonomy to make their own decision for behavior change. They are provided with the neutral information and reasons without leading, influencing and threatening. The author gives them the opportunities and shows them that the author is always available to talk, give the information and help them when necessary. The 'elicit-provide-elicit' technique is used to facilitate their opinion expression and experience sharing on food control. Besides, the manual "No Belly Fat and Proportional Eating Habit for Disease Reduction 2:1:1" and the book "Reducing Sweet, Fatty and Salty Food Intake and Eating More Fruit and Vegetable for Good Health" are distributed to them. The different support sources that assist the food control behavior change are assessed. If they are ready for the behavior change, the author will help them to reach the agreed conclusions on the goals and activities that they are needed to do for 1 week.

Second discussion: the author and older persons have collaboratively assessed the progress of behavior change and self-control to enhance the motivation in sustaining the conduct. Thus, the outcomes of the implementation of planned behavior change program during the past week and the goal achievement are examined in a collaborative manner. The author shows the emphatic understanding towards older persons whose behavior change is unsuccessful by not blaming them. Rather, the author carefully listens to them, reflects the understanding of their feelings and encourages them to find other solutions. The goal may be adjusted in order to facilitate their goal achievement. In case of the recurrence of overweight, the author will reduce their disappointment as much as possible by giving them will power and use the reflective thinking technique in understanding the reasons behind the failure. They are encouraged to find new tactics towards the successful behavior change. With respect to those who successfully change their food control behavior for weight loss, the author will sincerely compliment them and enhance their motivation to sustain such behavior.

Home visit: the author and older persons have collaboratively assessed the progress of behavior change and self-control to enhance the motivation in sustaining the conduct. Thus, the outcomes of the implementation of planned behavior change program during the past week and the goal achievement are examined in a collaborative manner. The author enhance their motivation and confidence to sustain health behaviors, especially weight control, as well as helps them solve problems and benefit from different support sources.

Control Group: the sample receives normal health care program together with the manual "No Belly Fat and Proportional Eating Habit for Disease Reduction 2:1:1" and the book "Reducing Sweet, Fatty and Salty Food Intake and Eating More Fruit and Vegetable for Good Health".

The author makes the appointment with the sample of both groups (experimental and control groups) in Week 4 so that they complete the questionnaire for measuring self-care behavior and waist circumference.

Research Tools

1. Personal questionnaire on age, sex, educational background, chronic health conditions and health care center attended

2. Self-care behavior questionnaire on food consumption, exercise, stress management and prevention of complications of chronic health conditions affecting the weight control

3. Motivational interviewing-based program for consumption behavior change

4. "No Belly Fat and Proportional Eating Habit for Disease Reduction 2:1:1" manual (Institution of Nutrition, Ministry of Public Health, 2009)

5. "Reducing Sweet, Fatty and Salty Food Intake and Eating More Fruit and Vegetable for Good Health" book (Institution of Nutrition, Ministry of Public Health, 2011)

6. Measuring tape band for waist circumference and waist circumference data form

Verification of the quality of research tools: the self-care behavior questionnaire is developed by the author and verified by 3 senior experts. It is improved and experimented for reliability test before actual usage. Also, the author has created the motivational interviewing-based program for consumption behavior change. It is verified by 3 senior experts too. It is improved and experimented for reliability test before actual usage.

Data Collection

One week before the program implementation, the research assistants have gathered the data from both experimental and control groups. The assessment is conducted in Week 4 after program implementation.

Data Analysis

1. The descriptive statistics, percentage and mean are used in the analysis of personal questionnaire.

2. The percentage and mean are used in the analysis of data related to self-care behavior and waist circumference.

3. The difference of mean of self-care behavior and of waist circumference in the experimental and control groups is analyzed using t-test.

Research Summary, Discussion and Recommendations

Research Summary

The general data of the sample reveals that both groups consist of an equal number of male and female populations whose age is between 61-86 years. Moreover, 46.67% of them are married. 81.58% of them finish primary school level. Meanwhile, 28.33% and 70% of them are farmers and have sufficient income for their living, respectively.

Chi-square is used in the test of difference of personal data between the experimental and control group. No difference of data characteristics is found as shown in Table 1.

Table 1 The difference of personal data between the experimental and control group.

Personal Data	$x^2_{(df)}$
Sex	$.00_{(1)}$
Educational Background	$1.40_{(1)}$
Occupation	$3.48_{(3)}$
Age (Years)	-.02
Income Sufficiency	$.27_{(2)}$
Family Income (Baht/Month)	.14

Analysis of the data was conducted using t-test. It is found that the pre-treatment self-care behavior and waist circumference of both groups are indifferent. In contrary, after the experiment, the experimental group has a higher mean score than the control group with a statistical significance at the 0.05 level. ($t = 9.31$, $p < .01$), while no difference regarding the mean score of waist circumference between both groups is found as shown in Table 2.

Table 2 The comparison of pre- and post-treatment mean of self-care behavior and waist circumference between the experimental and control groups

Variables	Period of Time					
	Pre-		4 Weeks		t-value	*p*
	Mean	S.D.	Mean			
- Self-Care Behavior	87.67	2.04	97.27	< .01	9.31	< .01
- Waist Circumference	97.27	3.91	95.43	>.05	.87	>.05

Discussion

The research results indicate that the motivation interviewing, which focuses on the older persons' feelings and actions, has an impact on their self-care behavior change. They have the autonomy to make their own decision. The empathy is reflected, while the reflective thinking is used for promoting their confidence in the individual competence. This enables them to recognize the obesity-induced causes, consequences and indications as well as to determine the expected goals and behaviors for their own health conditions (Miller & Moyers, 2006).

The results of this study agree with the work of West, Dilillo, Bursac, Gore, & Greene (2007 (who argue that the motivation interviewing enables people to control their weight. It is a technique consisting of an experience sharing process that enhances full understanding of problems and obstacles and encourages the determination of commitments. The people are able to set their own goals for lifestyle change. Those who are ready and have made a decision to change themselves may choose foods for weight control purpose and avoid the undesired eating behavior. This will eventually enable them to achieve weight loss (Gokee-LaRose, Gorin, & Wing, 2009; McLaughlin et al., 2007).

However, no difference of mean of waist circumference in the experimental and control groups is found despite the fact that the sample has chosen the suitable foods. This may be attributable to the individual fat metabolism and the inaccurate result assessment e.g. waist circumference measurement and short period of time for assessment and monitoring.

Recommendations

- This program should be implemented by the health personnel to promote the older persons' health and long-term monitoring. The program implementation in other situations or with other of sample group having the behavior change problem should also be studied. It is suggested that the eating behavior control and exercise promotion should be incorporated into the older person's behavior change program.

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Cambodia: Strategies for Diversification and Industrial Upgrading

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Abstract

Background: Cambodia experienced the economic growth around 7% per year for nearly a decade mainly contributed by garment, agriculture, construction and tourism sector. In order to keep up the stable growth, Cambodia needs to build a good human, physical and institutional capital to develop more new industries other from the traditional ones in addition to stabilizing the macroeconomic situations.

Aim and approach: This study try to explore the ASEAN regional value chains and production networks linking to the global value chains in electronics, automotive together with agricultures and how the Cambodian industries connected to the systems. The study show that most foreign firms invested in Cambodia imported productive inputs from their production networks, assembled them and exported the final products to developed countries. In addition to the classic products which helped to earn a substantial amount of foreign exchanges, 83 marginal products have been found. The marginal products are the products that are increasing their exports year after year and will gain the revealed comparative advantages if proper industrial policy are created and implemented. Favorable business environment that reduce the cost of doing business should be pursued to attract the Foreign Direct Investments in the new industries to build the revealed comparative advantages for the marginal products through creating a system to facilitate flow to knowledge and technology transfers among the firms. Cambodian firm structure has been characterized as "missing the middle" and most of them are informal. Incentives framework should be considered to promote the registration of the informal to become formals.

Conclusion: In conclusion, Cambodian firms have connections with firms in the regional value chains and global value chains in both traditional industries and new industries such as electronics, automotive and food processing. The government should exploit this opportunity by introducing the fully developed innovation system to facilitate the flow of new knowledge technology transfer from multinationals to local firms by cooperation between public sector and private sector to learn new things in the systems by creating and implementing the appropriate industrial development policy. So Cambodian firms will have higher production capabilities to produce goods and services adapted to international standards that can supply to the world market.
Keywords: Cambodia Macroeconomic Analysis; Cambodia economic diversification

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Introduction

Cambodia envisions becoming the upper middle income country by 2030 (RGC, 2014). Cambodia recognizes that it depends on the four main sectors such as garment, agriculture, construction and tourism, most of them are low-skilled and low value-added products. In order to achieve the goal, Cambodia needs to mobilize the resources, such as human, physical and institutional capitals, to develop the complex productive capabilities to produce the exported products in the non-traditional industries so as to become competitive in the world market. They are the industries that are producing to export, but they have not yet revealed comparative advantages in the world market. Their products have many nearby products useful for further diversification and upgrading into higher value-added products.

Cambodia has set the target economic growth of 7% to achieve every year by attracting the Foreign Direct Investments (FDIs) and domestic investments toward non-traditional sectors, in addition to the traditional sectors. In order to achieve this target of growth, four research questions should be answered to explore the world and regional value chains, as well as the constraints and opportunities to develop a suitable industrial policy useful to enhance further diversification and upgrading.

1) What is ASEAN regional value chain?
2) What are the situations of Cambodian economy?
3) Why does Cambodia need to diversify beyond its traditional sectors and upgrade them?
4) Which are the strategies that Cambodia needs to succeed in diversification and upgrading?

In order to answer these research questions, six sections have been introduced in the following report: section 1 explores on the regional value chains in ASEAN; section 2 focuses on the macroeconomic analysis of Cambodia; section 3 on the trade by partner countries; section 4 on the trade by sectors; section 5 is about the firms structure in Cambodia while section 6 focuses on the reasons for diversification and upgrading, and constraint of Cambodia to attract FDIs in the new industries together with the industrial policy and institutional arrangements to coordinate and implement the industrial policy.

1. Regional value chains in ASEAN

Regional value chains in ASEAN are spreading, deriving from even more countries, companies and a broader range of products that are involving the RVCs to strengthen the connectivity in the regions. TNCs, enlarging their operations in the region along with the local firms that are reinforcing their capacities to produce parts and components used in the subsequent stages of production, help to strengthen RVCs in ASEAN. The regional integration is helping all ASEAN member states to connect one with the other through FDI, contract manufacturing, licensing and franchising, trade in parts, components and final goods,

arm's length transactions. This activity was also pushing the spreading trend in RVCs in ASEAN.

RVCs in different industries made the connectivity in ASEAN increase through production, investment, trade and business linkages (figure 1.1). They also helped to improve the connectivity of countries, companies and industries in the region. This improvement in connectivity adapted to the ASEAN's three pillars of physical, people and institutional connections.

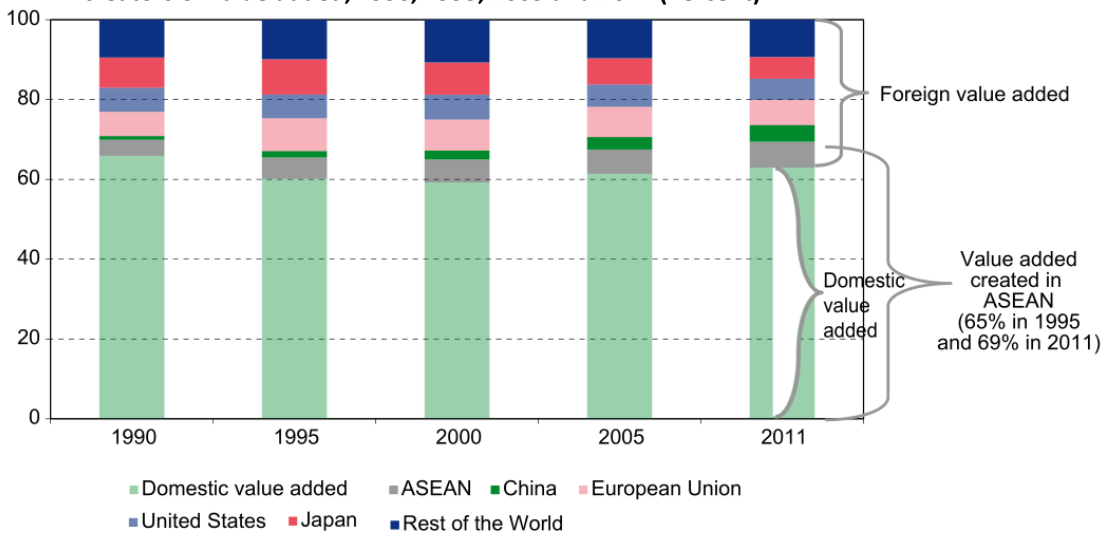
The share of value added ASEAN inputs of the total exports from the region was increasing substantially from 65 percent in 1995 to 69 percent in 2011 (figure 1.2). Since both export-oriented foreign and local firms were expanding their operations in producing intermediate inputs, these inputs were used in subsequent stages of value chains for assembling the components in later stages or finished products in the region. In this way, they promoted an increase in ASEAN value added inputs of the region's export during the period.

Figure 1.1 Regional integration, RVCs and ASEAN's connectivity



Source: ASEAN investment report 2014

Figure 1.2 Value added exports from ASEAN, by domestic, ASEAN and top four foreign country creators of value added, 1990, 1995, 2005 and 2011 (Percent)



Source: ASEAN investment report 2014

2. Cambodia: macroeconomic analysis

The external sector was in a good position due to the healthy foreign direct investments inflows, which were enhancing the macroeconomic stability. In 2014, the export growth decelerated more than the offsetting lower import demand, thus making the current account deficit (excluding official transfers) increase to 11.2% of GDP from only 10.7% of GDP in 2013 (figure 2.1). However, this deficit was financed by the foreign direct investments and contributed significantly by the construction and tourism sectors, but only a small amount by the garment sector. The Gross International Reserves (GIRs) increased to $4.6 billion representing 4 months of prospective imports of goods and services.

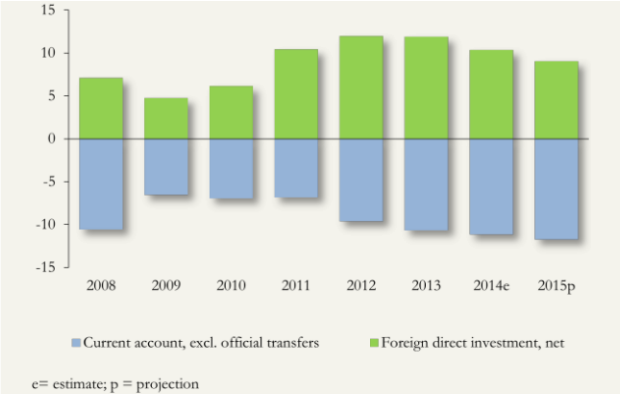
The export growth reduced because of the slowing export growth in the garment and footwear sectors as well as in the agriculture sector (figure 2.2). Although the external conditions were favourable, the internal factors emerged as barriers to earn foreign exchanges. These internal factors were the tighter labour market and the rising minimum wages, as well as the continued appreciation of the US dollars that made the garment exports grow at a slower pace. On the other hand, the exports of other than garments also slowed down, especially those of agricultural products. The lower agriculture commodity prices in the world market made the value of the agriculture exports decelerate, although the exports increased in volume.

The import growth became moderate due to the weaker growth in overall economic activities, except for the imports in the construction materials which were increased because of the

booming construction sector. However, the fall in oil prices will contain the imports in 2015, since Cambodia is an oil importing country.

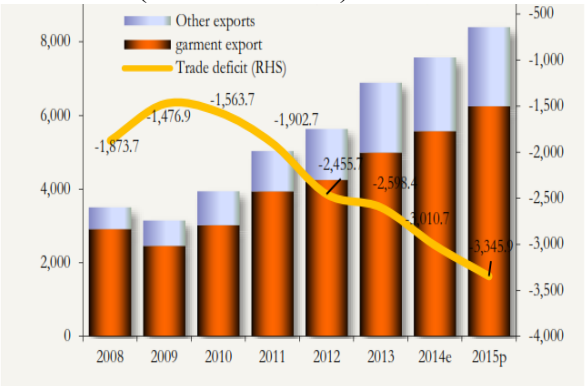
Figure 2.2 As export growth decelerates more than offsetting slower import demand, trade balance deteriorates further. (In US$ million) import demand, trade balance deteriorates further. (In US$ million)

Figure 2.1 As export growth decelerates more than offsetting slower import demand, trade balance deteriorates further. (In US$ million)



Source: Cambodia economic update 2015

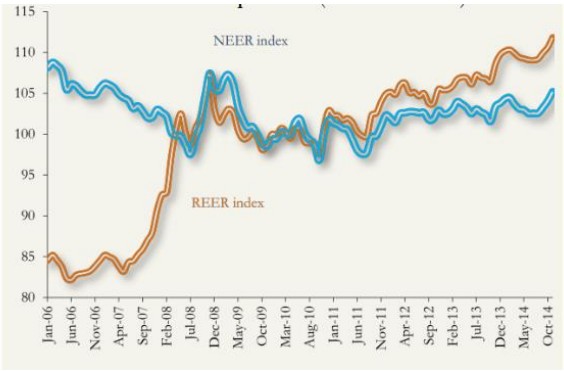
Figure 2.2 As export growth decelerates more than offsetting slower import demand, trade balance deteriorates further. (In US$ million)



Source: Cambodia economic update 2015

In Cambodia, the exchange rate targeting still continued to back up the price stability. Exchange rate targeting means that the National Bank of Cambodia tries to buy or sell the US dollar in the economy in order to fix the exchange rate of the Cambodian Riel versus the US dollar that should remain CR 4000 per US dollar. In 2014, the exchange rate targeting, together with dollarization were reducing the Cambodia's competitiveness in exporting to the EU market. The US dollar was appreciating against other currencies, particularly the Euro, so did the Cambodian Riel, which was only slightly depreciating against the US dollar. The Cambodian Riel depreciated to CR 4075 per US dollar at the end of 2014, compared with only CR 3995 per US dollar at the end of 2013 (figure 2.3). The Cambodian Riel was experiencing the appreciation against the Euro of about 17% in 2014.

Figure 2.3 Nominal and real effective exchange rates depreciated (Index 2010 = 100)

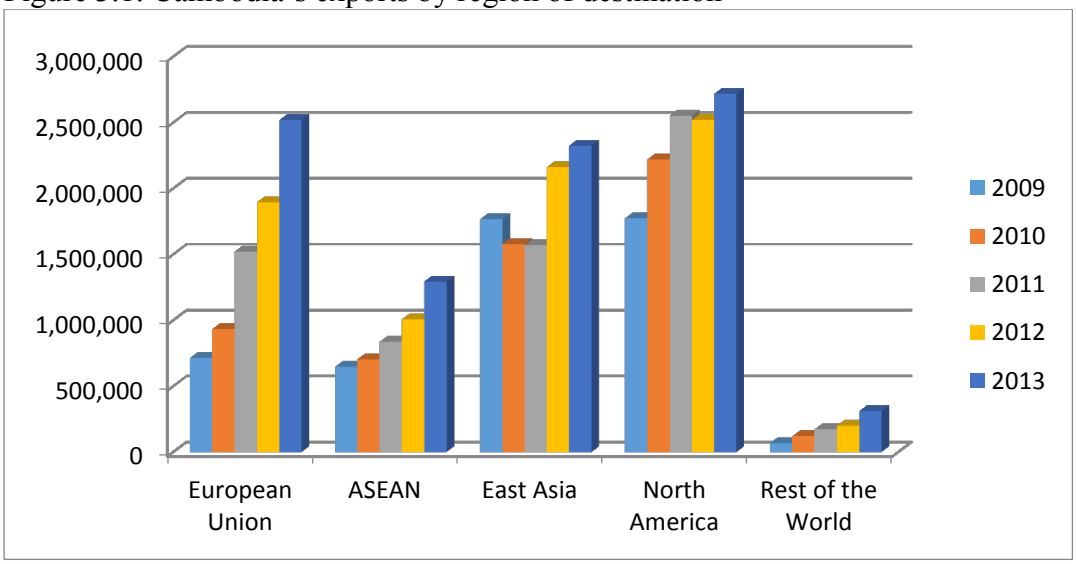


Source: Cambodia economic update 2015

3. Trade by partner countries

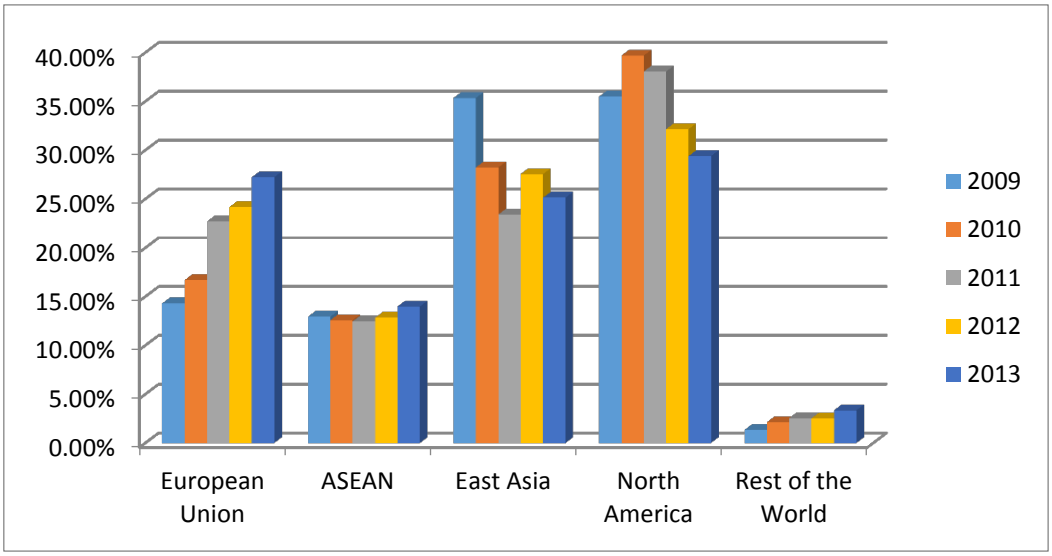
In a long-term perspective, although European Union and North America remained the major trading partners of Cambodia with rising imports demands, also the share of exports from Cambodia to other areas increased steadily (figure 3.2). The share of Cambodian exports going to the European Union increased steadily from 14.3% in 2009 to 27.2% in 2013, offsetting the decline in share of Cambodian exports to North America from 35.35% in 2009 to only 29.4% in 2013. Meanwhile, ASEAN's and Rest of the World's shares as market destinations rose slowly from 12.93% and 1.34% in 2009 to around 14% and 3.35% in 2013, respectively. Whereas the share of Cambodian exports going to East Asia fluctuated around 26%. This addresses that Cambodia is in the process of diversifying its destination markets in the Asian countries where they experienced the fastest economic growth in the world.

Figure 3.1: Cambodia's exports by region of destination



Source: ITC trade map

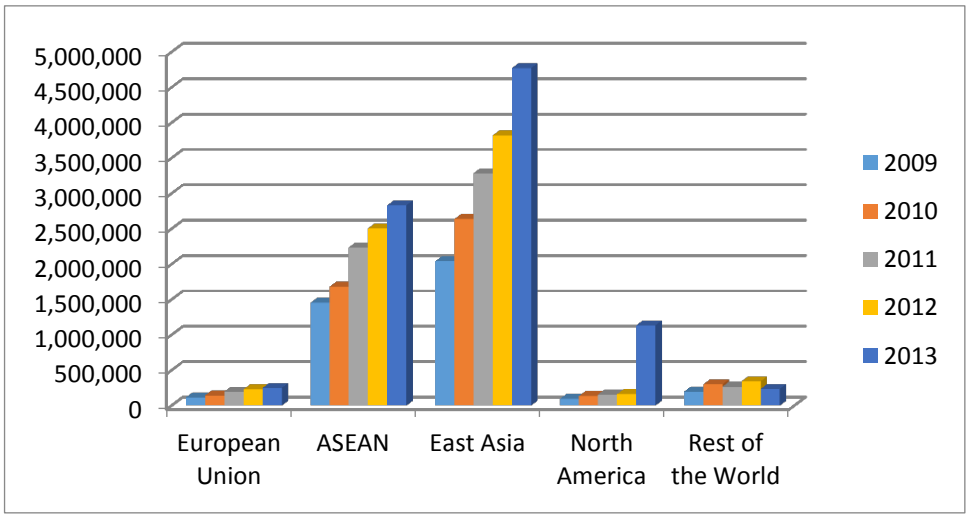
Figure 3.2: Cambodia's market shares by region of destination



Source: ITC trade map.

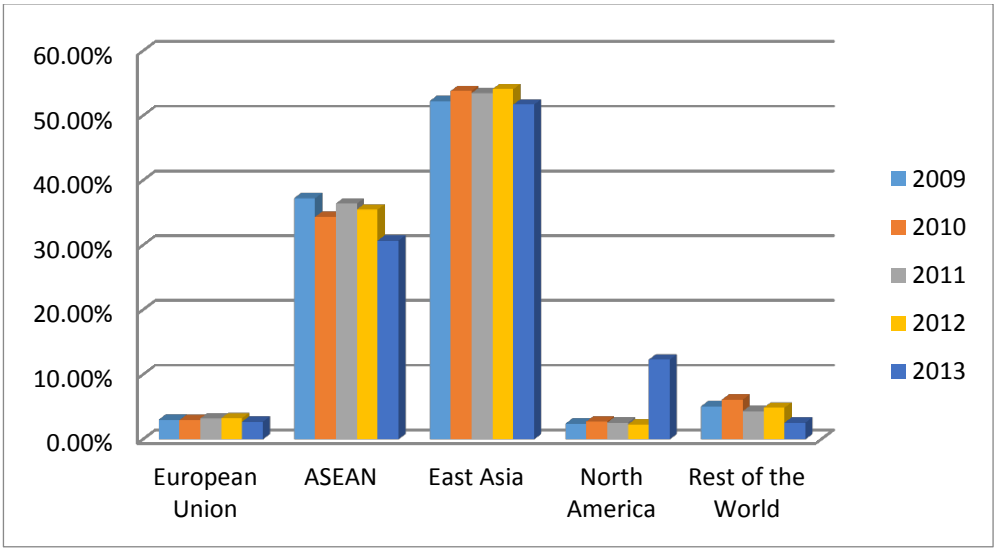
Cambodian imports are strongly regionalized due to the high shares of Cambodian imports from ASEAN and East Asia more than 30% and 52% for the last 5 years, respectively (figure 3.3 and 3.4). The regionalized Cambodian imports, together with the high export shares to developed regions (figure 3.2), suggesting that Cambodian firms are working in the downstream stages of regional value chains controlled by other Asian countries. Most of the firms investing in Cambodia came from China, Taiwan, province of China, Japan, South Korea and other countries in ASEAN (NIS, 2014).

Figure 3.3: Cambodia's imports by region of origin



Source: ITC trade map

Figure 3.4: Cambodia's import market shares by region of origin



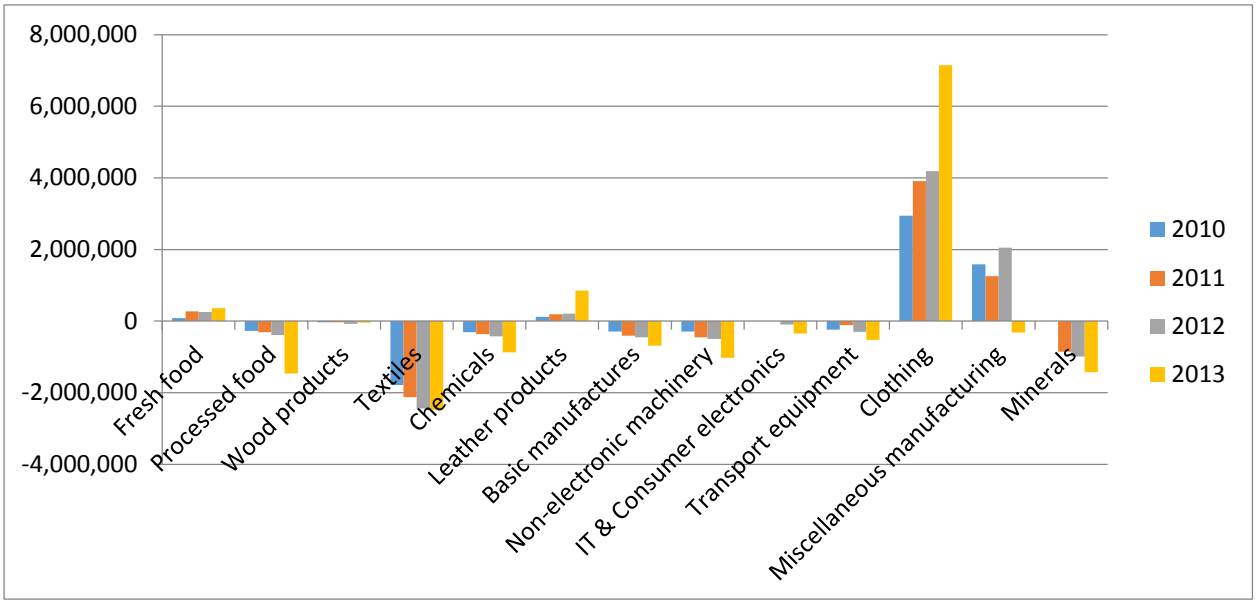
Source: ITC trade map

4. Trade by sectors

Turning to analyse the trade by sectors, in 2013 the trade balances surpluses in fresh food, in leather products and especially in the clothing sectors, which significantly increased from $4.2 billion in 2012 to $7.14 billion, could be offset by the trade balances deficits in other sectors such as processed food, wood products, chemicals, basic manufactures and electronic machinery (figure 4.1). All these factors created the small amount of surplus in the trade balance as a whole.

Cambodia is the least developed country where foreign garment firms' operations were involved only in "cut-make-trim" activities and, strictly connected with the increase in the exports of the clothing sector, there was also the increase in the imports of textiles used as intermediate inputs for the exported clothing products. The robust growth in the exports of manufacturing also implied the import of oil and gas in larger quantities, in order to support the exporting industries. In addition to this, the increasing trade balance surplus in fresh food, together with the rising trade balance deficit in processed food, proofed that most of the agricultural products exports consisted of raw materials and unprocessed goods, underlining the fact that Cambodia needs to attract more foreign direct investments in the food processing sectors to support the agriculture sector as a whole. The increasing deficits of the trade balances in other sectors, such as chemicals, basic manufactures, non-electronic machinery, IT & consumer electronics, transport equipment and miscellaneous manufacturing (only in 2013), proofed that these sectors imported the intermediate inputs and re-exported the final products to the origin countries or to other countries.

Figure 4.1 Cambodia's trade balance by sectors (Thousands of US dollars)

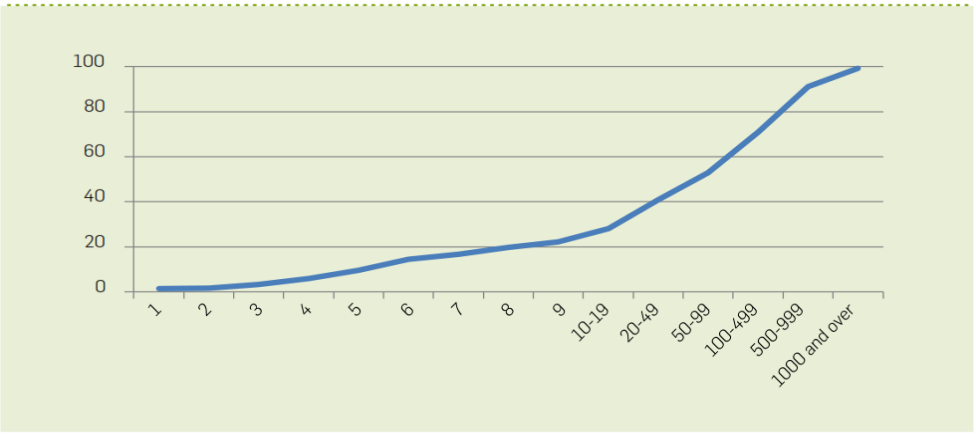


Source: ITC trade competitiveness map

5. Firms

Cambodia has 505,134 firms, among which the micro establishments represent more than 97%, the small and medium enterprises 2.6% and the large enterprises 0.02%. The Cambodian economy is highly informal with only 3.4% of the total firms registered at the Ministry of Commerce (National Institute of Statistics, Ministry of Planning, 2012, table 2-3-2). The registration represented only a small amount of the micro enterprises, but 50%, or more, of the enterprises with 50 employees or a higher number (figure 5.1).

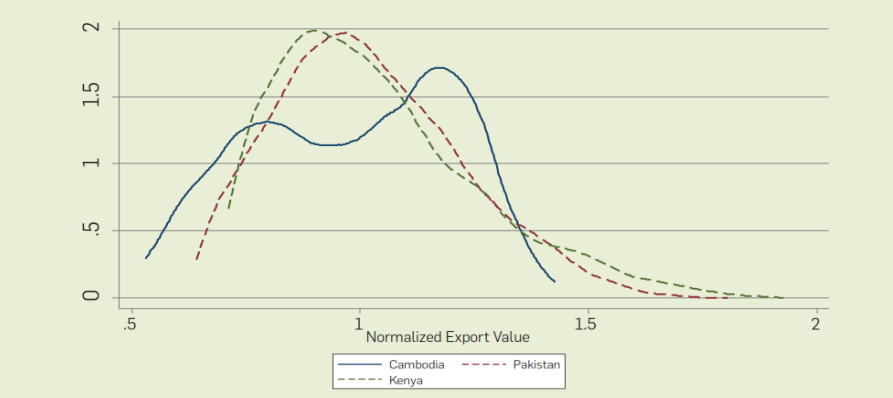
Figure 5.1 Percent of firm registration at MoC, by number of employee



Source: Investment climate assessment 2014

The Cambodian low level of export participation can derive from the small number of SMEs able to export to international markets. The export performance of most countries can be explained according to the Pareto-shaped distributions, a power law which shows that many small and medium size enterprises and a small number of big enterprises export to international markets. But this is contrary to Cambodia's experience that shows how some small firms, few medium size firms and many large firms export to international markets, differently from Pakistan's and Kenya's experiences, even if they have a similar GDP per capita (figure 5.2). This phenomenon can derive from the barriers that happen to the medium size firms and that can prevent them from exporting to international markets.

Figure 5.2 Distribution of export value across firms, 2009



Note: This figure compares the distribution of export value among exporting firms in Cambodia, Kenya, and Pakistan in 2009. Export value is normalized by the median of each country distribution.

Source: Investment climate assessment 2014

The shortage of middle size firms in the export structure derives from the difficulties in non-tariff measures such as export permits or licenses, conformity assessments, customs clearance and border issues, export inspections as well as procedural obstacles that cause the export costs to increase (International Trade Center, 2014). However, the customs clearance and border procedures as well as the certificate of origin (CO) have been automated and the export inspections have been improved. Thus, streamlining and automating the other remaining procedures in the framework of the National Single Window will decrease the cost of doing business and, ultimately, the number of exporters will double because there are more middle size firms entering the export markets (World Bank and ADB, 2015).

6. Strategies for diversification and upgrading

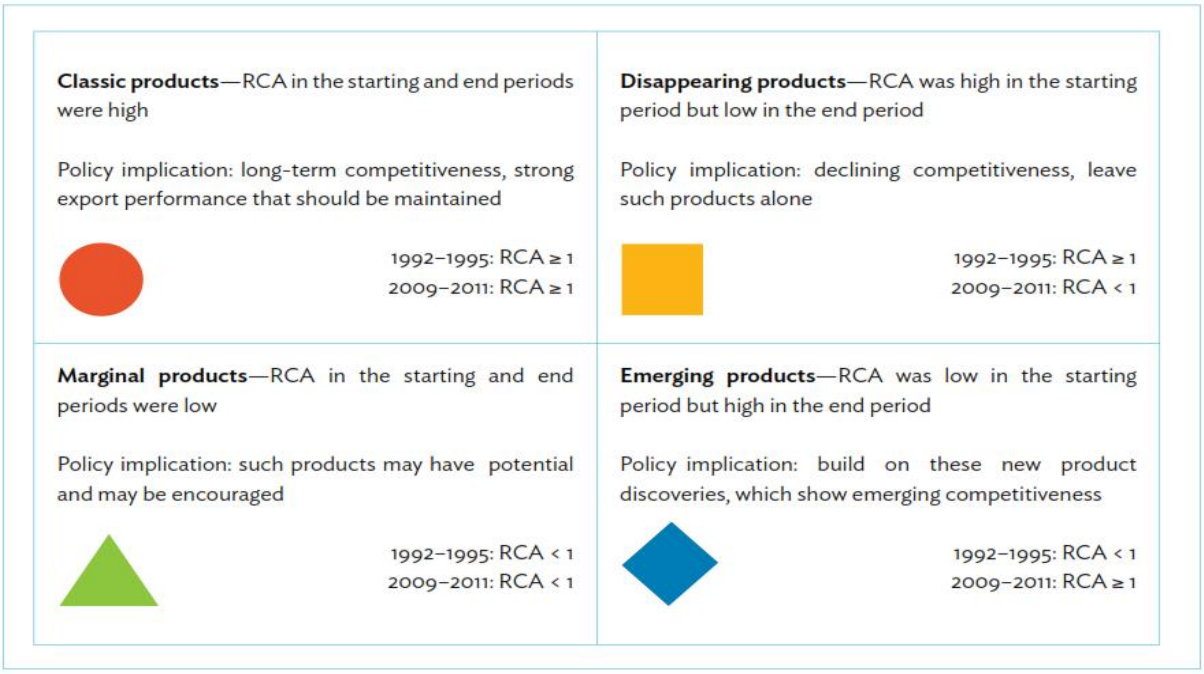
6.1 Why is economic diversification needed?

The product space analysis, which was introduced by Hidalgo et al. (2007), is very important for helping the government to search for products to promote as part of diversification. The

product space is the network of relatedness of products, in which the products that are scattered in the central space are the sophisticated products having a lot of nearby-products to diversify from, whereas those located on the less-connected periphery are less sophisticated products to develop from. The proximity is used to measure the probability that a country can create the RCA in a product because it already has it in another product, and vice versa. For instance, a country tends to produce and export new products very similar to the products they currently produce in the product space. The path is the sum of proximities values between a product in the space and all the other targeted products. Some countries that want to move to the core products need to go across a long path, that's why poor countries have difficulties to converge their income to the rich countries' income.

Cambodia appears to have potential products other than garments and agro-based products, and that it can build the capabilities to create Comparative Advantages for them. During the 1992-2011 period, Cambodia exported 587 products. For the products that exported for a short time, intermittently, or at an amount of less than $200,000, they were definitively eliminated. So, Cambodia had only 147 exported products for the period. ADB (2014) divided these products into 4 groups, such as classic, emerging, disappearing and marginal products, according to the changes of the status of the RCA of the products from the 1992-1995 period to the 2009-2011 period (figure 6.1.1).

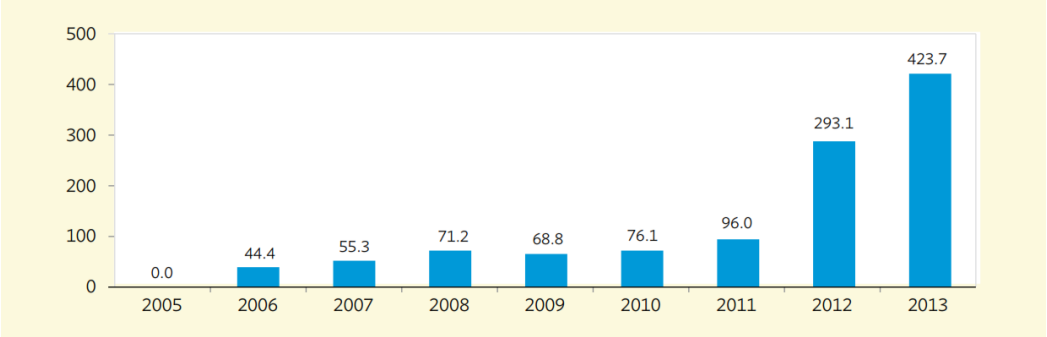
Figure 6.1.1 Cambodia's classic, disappearing, marginal and emerging products



Source: ADB 2014

Cambodia has 27 classic products and 29 emerging products (ADB, 2014) which are helping Cambodia to earn foreign exchanges and appear to be very important for the Cambodian economy. These products are becoming competitive and have greater opportunities for a further growth and diversification. For instance, bicycles are experiencing an exports growth in recent years (figure 6.1.2). An industrial cluster should be created around this emerging product for producing parts and for building the supporting industries to develop their production capabilities. The disappearing group has only 8 products, most of which are agricultural products, such as cereals, fishes, raw cotton, and soybeans, and the government should not take care of them.

Figure 6.1.2 Bicycles exports, 2005-2013 ($ million)



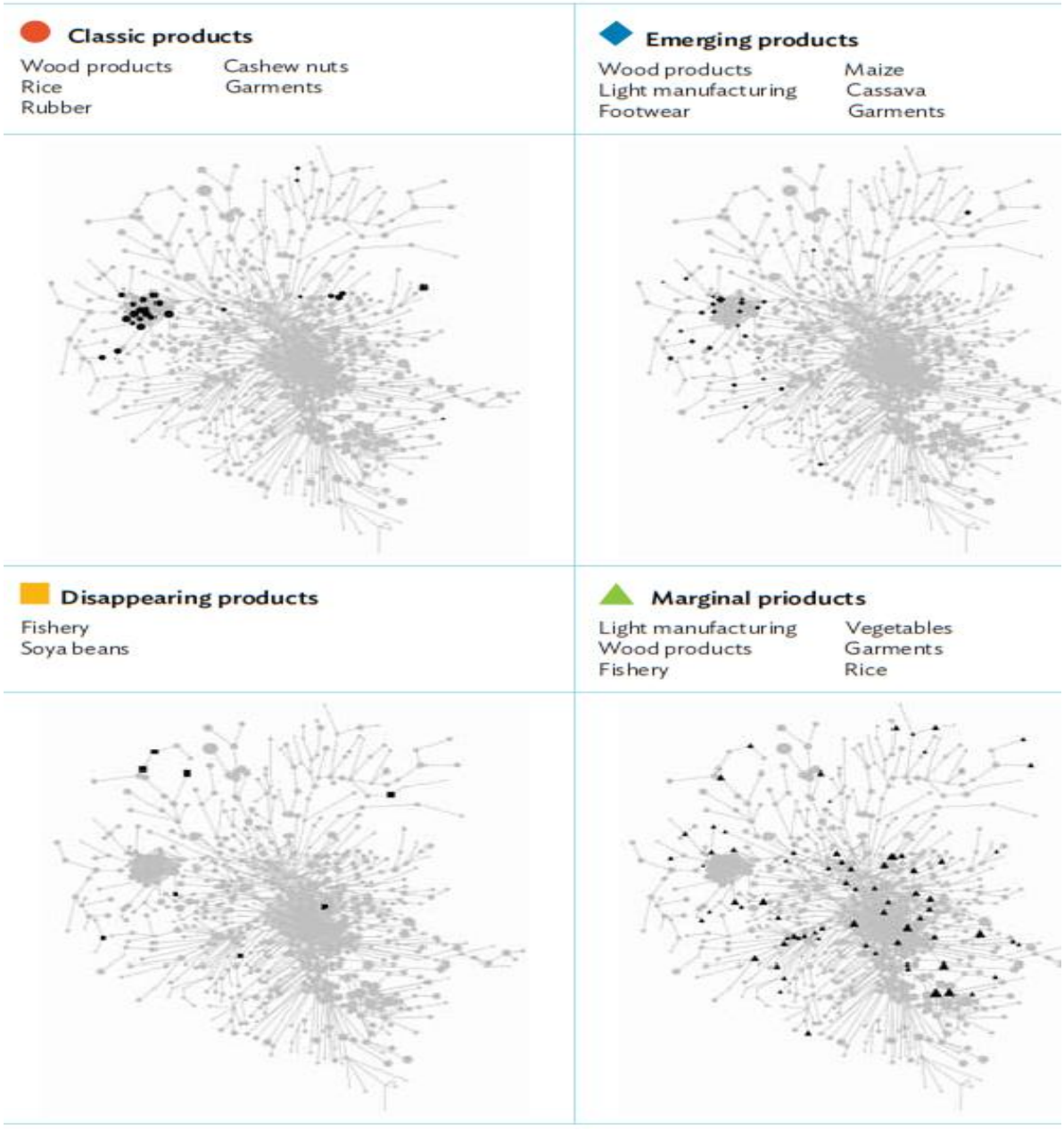
Source: ADB 2014

There are 83 products that are identified as marginal. Most of them are of light manufacturing such as machinery, metallurgy, chemicals and furniture (appendix 1). These products can be developed to become competitive in the exports markets, together with the traditional garments and farm-based products. There are 3 important characteristics that show how marginal products are the potential products to pursue further diversification and upgrading in order to develop the Cambodian economy as a whole. Firstly, marginal products are not related to the traditional garment sector that has enough productive capabilities to export its products abroad. The marginal products are scattered mostly in the densely connected core, and are different from the one belonging to the garment clusters located in the small area on the left of the central space (figure 6.1.3).

In order to build the production capabilities for the former products, resources such as skilled labour, physical and institutional capitals should be reallocated to create Comparative Advantages for these products in the world market. This is a great challenge that the government needs to do to encourage further growth and diversification. Secondly, marginal products located in the center of the space are in a very well-connected area, meaning that these products have a lot of nearby products for a further diversification. The potential diversifications can be measured through a path which is the sum of the product proximities to all the other targeted products related to it. On the contrary, garment products are a self-contained cluster having no related products except for footwear. Finally, most of the marginal products that are located on the densely connected core are more-sophisticated and

have a high value. The allocation of resources to build the complex capabilities to produce these products and gain the RCA will help Cambodia to modernize its economy becoming a middle-income country very fast.

Figure 6.1.3 Cambodia's product space map: classic, emerging, disappearing and marginal products



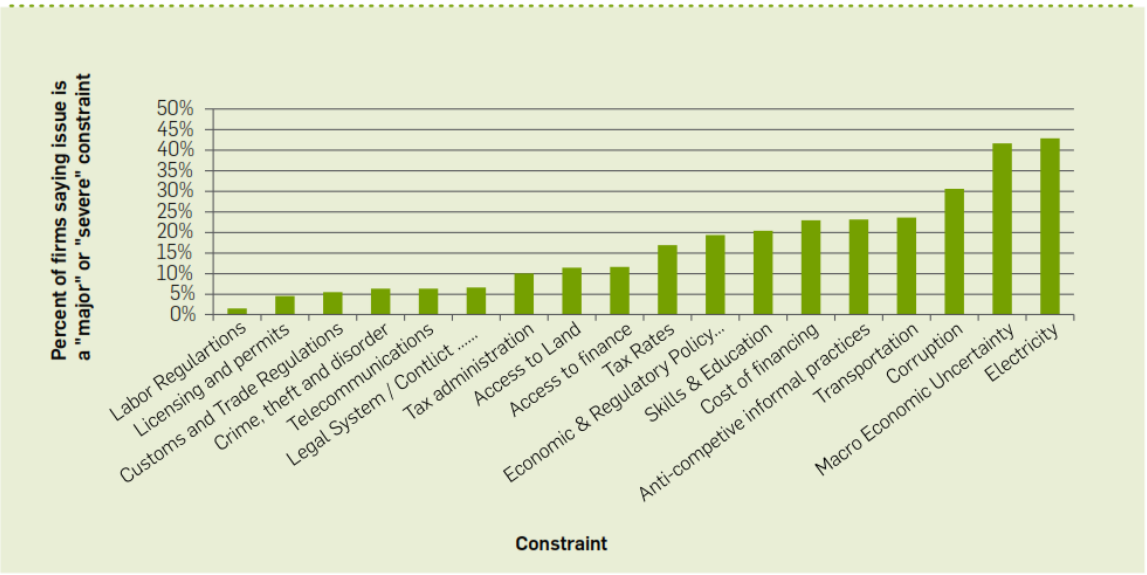
Source: ADB 2014

6.2 Cambodia's Constraints to Attract FDIs

Cambodia, in a status of Least Developed Country (LDC), can gain from the preferential access to developed countries, but it will lose these opportunities when the free trade agreement between European Union and Vietnam completes in the near future and when it graduates to the middle-income country status (World Bank and ADB, 2015). On the other hand, its comparative advantages in the labour intensive manufacturing are under pressure compared with Myanmar and Vietnam that in this sector represent the alternative investments to Myanmar and Vietnam.

Although there is a great reform to strengthen the business environment, the investment climate still seems to have difficulties in attracting FDIs (figure 6.2.1), being electricity, corruption and anti-competitive practices the top three constraints. Electricity has not only higher costs than other countries in the region, but it is also not reliable, especially at the borders with Thailand and Vietnam where the SEZs are located. This problem should be resolved by negotiating agreements with the neighbouring countries in the short term and expanding the power grid and connectivity in the medium term (World Bank and ADB, 2015 and RGC, 2014). The corruption and anti-competitive practices occur through face-to-face relations between officials and company staff in processing the government procedures. Although the Ministry of Economy and Finance (MEF) and the Ministry of Commerce (MOC) are implementing the automation of customs and the border reform, the automation of the new company registration and the automation of the Certificate of Origin (CO), they are still challenges. On the other hand, competition laws are not still in place that make the level playing field for firms in Cambodia are not secure.

Figure 6.2.1 Major or severe constraints faced by all firms (registered and unregistered) in Cambodia, 2012



Source: Investment climate assessment 2014

6.3 Industrial policy

In a theoretical perspective, in order to develop a country, a government needs to diversify its economy into new sectors and sophisticate its products into high value-added ones. This can be achieved by incentivizing the entrepreneurs to invest in new non-traditional products. The industrial policy is the tool used by a government to manage the two key "market failures" that blunt the incentives for further diversification into non-traditional products. These are the informational externalities and the coordination failures. The concept of informational externalities is related to the self-discovery activities conducted by entrepreneurs to experiment new non-traditional products that have already been produced abroad, in order to produce them locally with lower costs and more profit. A carrot-and-stick strategy should be used, in which the carrot represents the incentives that the pioneer entrepreneurs would receive, such as a subsidy of some kind, the trade protection and the provision of a venture capital. However, a stick should be imposed on the recipient of the subsidy that performs opportunistic actions in order to receive the incentives from the industrial policy. Because of coordination failures there is a sum of activities that a government needs for promoting the large-scale investments projects and for helping them to be profitable. These activities may consist in providing ex ante subsidies (implicit bailout, investment guarantee), building an industrial cluster to produce parts and to develop the supporting industries, supplying a new technology and providing a particular kind of training, and so on (Rodrik, 2004).
Cambodia has developed the Industrial Development Policy (IDP) 2014-2024 to strengthen the further diversification and sophistication of the products into higher value-added products.

The IDP has introduced the scope to achieve an industrialization strategy. It focuses on promoting the manufacturing and the agro-processing sectors by attracting the FDIs in these sectors and by developing the SMEs, so as to produce those products useful for boosting the exports growth and for substituting the imports. It also harnesses the opportunities that Cambodia is a member of the ASEAN economic community and a Greater Mekong Sub-region (GMS) economic corridor to attract foreign investors toward the manufacturing sector. Moreover, it aims at integrating Cambodia into the regional and global production networks by improving the transport and logistics systems between the industrial parks in economic areas/ poles, such as Phnom Penh, Sihanoukville, and other borders, linking them to the bigger industrial parks in Bangkok and Ho Chi Minh city. Another important point is that it reorients the firms into the industrial zones, so they can benefit from the common infrastructures such as connectivity, coordinated transport and logistics system, utilities, social infrastructures and so on. The Royal Government of Cambodia (RGC) arranges the SEZs at the borders with Thailand and Vietnam to encourage the manufacturing sector to participate in the regional production networks. It also arranges the Phom Penh-Shanoukville corridor for the export-oriented manufacturing, the corridor from Kompong Cham to the Northwest for the agro-food processing industrial clusters, and Siem Reap, concentrated on arts and craftsmanship, as industrial center for supporting tourism. This scope also helps to develop the special economic zones, the economic corridors, the industrial parks, as well as

the industrial clusters, especially through the participation in the regional networks of production fragmentation.

6.4 Institutional arrangements

Although Cambodia has introduced the Industrial Development Policy 2014-2024, institutional settings need to be arranged appropriately to create and implement the industrial policies (RGC, 2014). The Private Sector Development Steering Committee was created as a coordination or deliberation council and chaired by the Minister of Economy and Finance, with the Minister of Commerce as vice-chair and other line Ministries as members (ADB, 2014). This Committee needs to collect the information about investment ideas from private sectors or elsewhere, to coordinate different state agencies, to initiate some changes that are necessary in legislation and regulation, to reduce the transaction costs or impediments, to provide subsidies and financial supports to generate more new activities and to allocate these different elements of support along with appropriate conditionalities (Rodrik, 2004).

This Committee also established the public-private sector forum chaired by the Prime Minister that conducts a meeting every 6 months to provide the opportunities for private sector to make some requests to the government and for the latter one to push the former ones for more investments in new activities. With this process in place, the policy-makers can integrate with the private sectors to know the opportunities and constraints of the economic restructuring bottlenecks, so as they know when and where to intervene with appropriate adjusted policies and with which level of incentives provide the firms to help them in further diversification and upgrading.

The Industrial Policy also requires competent and committed agents to implement the possibility of following the framework of the policy (RGC, 2014). The Ministry of Industry and Handicrafts (MIH) has assigned the General Department of Industry the task to handle the specific responsibilities of the industrial policy, such as developing the industrial strategies, regulating, formulating and implementing the manufacturing(ADB, 2014).
Although Cambodia has adopted a limited budget of capital expenditures for industrial policies in the past (ADB, 2014), it is planning to enlarge the budget in the future (RGC, 2014). The capital expenditures for industrial policy that fall under the “manufacturing, mining and trade” component represent only 5% of the total government budget, being equivalent to $50 million per year for 5 years. Recently, Cambodia is planning to expand the public capital expenditures at an amount of $500 million per year and use it as a seed to attract the private investments for about $500 million per year, so the total capital expenditures will increase to $1 billion per year until 2020. The public investments will be used to develop infrastructures and other sunk costs for supporting the private investments.
Cambodia has assigned the Council for Development of Cambodia, and its operational bodies, the Cambodian Investment Board (CIB) and the Cambodian Special Economic Zones Board (CSEZB) the task of attracting private investments and of reorienting them to new industries. The CIB has the responsibility to promote investments, oversee and implement the Cambodia’s Qualified Investment Projects (QIPs), while the CSEZB needs to manage the

SEZs and provides incentives to the firms operating in them. The CDC, chaired by the Prime Minister with the Minister of Economy and Finance and the Minister of Commerce as vice-chairs, is controlled by the powerful political elites.

Concluding remarks

ASEAN countries are gaining competitiveness in the electrical and electronics equipment industry as well as in the automotive industry, in the automotive parts/components industry, and are participating effectively in the global value chains of these industries. So Cambodia, that wants to diversify into the two new industries, should create the favourable investment climate to attract the FDIs of these industries and upgrade them to become competitive by encouraging the trade facilitation for a better participation in the regional production networks.

Cambodia's growth remained robust at an estimated 7% in 2014. This growth is propelled by the garment, agriculture and services sectors such as finance and real estates, but the garment and agriculture sectors show a sign of slight slowdown.

Cambodia is dependent on only a small quantity of industries in a number of sectors, such as clothing, miscellaneous manufacturing, leather products, fresh food and transport equipment, for boosting the national exports to earn foreign exchanges.

The informal sector contributed to the Cambodian economy in the sizable production and employment but its productivity was lower than the formal sector. The SMEs represented 99% of the production base, but their share in the export performance are very low, addressing the existence of a Missing the Middle of exporters in export markets. This may derive from the business environment that only encourages the large firms or export-oriented firms, thus keeping the firms remain small and informal without taking care of the regulatory framework. The informal sector can be decreased by providing the incentives to the firms to become formal, together with the enabling policy to promote them by providing the suitable capital to let them grow. This combination of policies would improve the formalization process, increase the number of medium size exporters, enhance the macroeconomic efficiency and also increase the government revenues, the salaries of workers, and the higher skilled labours.

Cambodia is earning the main export revenues by 27 classic products and 29 emerging products, continuing to achieve further growth and diversification so as to gain the world market shares. In addition to these, 83 marginal products are characterized as the potential export products which have the opportunities to further diversification and upgrading, because they are mostly located at a densely well-connected area in the product space, representing high sophisticated products and having many nearby products from which to develop. Concerted efforts should be put in place to reallocate the physical, human and institutional capital to develop the complex productive capabilities. Improving the RCAs in

these potential export products will help to modernize the Cambodian economy and become an upper middle income country very fast.

The strategies for diversification and upgrading were designed by the RGC, that is the development of an industrial policy to reallocate the resources useful to promote the expansion of the entrepreneurs' economic activities into new sectors, and the provision of a predictable and coherent regulatory framework, of necessary infrastructures, targeted incentives, utilities, connectivity, and so on to the investors for helping them to be successful in their businesses in Cambodia. In addition to an appropriate industrial policy in place, an institutional setting must be organized to implement it, functioning as an organism which should be always alert to the constraints and opportunities embedded in the private sectors, ready to react immediately through adjusted industrial policies and suitable incentives to be provided to the private sectors for enhancing the diversification process in the Cambodian economy.

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Appendix 1: Priority export products

	SITC	Description	Priority	PRODY	Path
Classics					
1	2820	Waste and scrap metal of iron or steel	Metal ores	10,492	128
2	6341	Wood sawn lengthwise, veneer sheets, etc., up to 5 mm in thickness	Cork and wood	9,292	158
3	2690	Old clothing and other old textile articles; rags	Textile fibers	7,697	149
4	2450	Fuel wood and wood charcoal	Cork and wood	5,767	145
5	0422	Rice, semimilled or wholly milled	Cereals	5,642	105
6	2483	Wood, nonconiferous species, sawn, planed, tongued, grooved, etc.	Cork and wood	4,851	125
7	2923	Vegetable plaiting materials	Crude materials	3,552	147
8	2472	Sawlogs and veneer logs, of nonconiferous species	Cork and wood	3,123	101
9	2320	Natural rubber latex; natural rubber and gums	Crude rubber	2,889	53
10	0577	Nuts: edible, fresh, or dried	Vegetables	2,414	117
11	2922	Natural gums, resins, lacs, and balsams	Crude materials	1,630	108
12	2225	Sesame seeds	Oleaginous fruit	1,358	99
13–27		15 commodities	Garments	8,361	143
Disappearances					
1	6210	Materials of rubber	Rubber	17,580	185
2	0350	Fish: dried, salted or in brine, smoked	Fishery	15,258	117
3	0481	Cereal grains: worked or prepared, not elsewhere specified	Cereals	13,265	163
4	0341	Fish: fresh or chilled, excluding fillets	Fishery	11,560	112
5	2222	Soybeans	Oleaginous fruit	8,353	71
6	2924	Plants and parts of trees used in perfumery, pharmacy; etc.	Crude materials	4,621	120
7	4243	Coconut (copra) oil	Oils and fats	4,005	48
8	2631	Raw cotton, excluding linters, not carded or combed	Textile fibers	2,013	89
Emerging					
1	2511	Waste paper and paperboard, etc.	Pulp paper	24,028	151
2	8960	Works of art, collectors' pieces, and antiques	Other Mfg.	21,968	131
3	6583	Travelling rugs, blankets (nonelectric), not knitted or crocheted	Textile	14,963	123
4	2460	Pulpwood (including chips and wood waste)	Cork and wood	12,341	139
5	2882	Other nonferrous base metal waste and scrap, not elsewhere specified	Metal ores	12,216	144
6	7852	Cycles: not motorized	Transportation	10,173	146
7	0440	Maize: unmilled	Cereals	9,277	123
8	2733	Sands: excluding metal-bearing sands	Fertilizer	8,414	138
9	7938	Tugs, special purpose vessels, and floating structures	Transportation	8,254	102
10	1211	Tobacco: not stripped	Tobacco	6,708	121
11	9710	Gold: nonmonetary (excluding gold ores and concentrates)	Gold, non-monetary	6,369	101
12	4242	Palm oil	Oils and fats	5,876	80

continued

	SITC	Description	Priority	PRODY	Path
13	6584	Linens and furnishing articles of textile, not knitted or crocheted	Textile	5,862	134
14	0611	Sugars: beet and cane, raw, solid	Sugar	5,388	103
15	0548	Vegetable products: roots and tubers, not elsewhere specified, fresh, dried	Vegetables	5,130	116
16	7933	Ships, boats, and other vessels for breaking up	Transportation	5,069	136
17	6581	Bags, sacks of textile materials, for the packing of goods	Textile	4,262	142
18	9410	Animals, live, not elsewhere specified, (including zoo animals, pets, insects, etc.)	Animals, live	3,583	118
19-28		10 commodities	Garments	7,409	148
29		Footwear	Footwear	10,153	148
Marginals					
1	7284	Machinery for specialized industries and parts thereof, not elsewhere specified	Machinery	36,279	144
2	5417	Medicaments (including veterinary medicaments)	Chemical	28,360	187
3	7442	Lifting, handling, loading machinery, telphers, and conveyors	Machinery	26,299	179
4	5839	Other polymerization and copolymarization products	Chemical	25,536	156
5	6531	Fabrics, woven, of continuous synthetic textile materials	Textile	24,712	167
6	8928	Printed matter, not elsewhere specified	Other Mfg.	24,483	185
7	8942	Children's toys, indoor games, etc.	Other Mfg.	23,150	48
8	7648	Telecommunications equipment, not elsewhere specified	Machinery	22,326	120
9	0488	Malt extract; cereals preparations with less 50% of cocoa	Cereals	21,937	164
10	7371	Metallurgy and metal foundry equipment, and parts thereof, not elsewhere specified	Machinery	21,854	132
11	7643	Television, radio broadcasting, transmitters, etc.	Machinery	21,155	90
12	6415	Paper and paperboard, in rolls or sheets, not elsewhere specified	Paper products	21,139	164
13	7721	Switches, relays, fuses, etc; switchboards and control panels, not elsewhere specified	Machinery	20,675	177
14	5121	Acyclic alcohols and their derivatives	Chemical	20,629	117
15	5419	Pharmaceutical goods, other than medicaments	Chemical	20,512	147
16	2482	Wood of coniferous species: sawn, planed, tongued, grooved, etc.	Cork and wood	20,348	132
17	7234	Construction and mining machinery, not elsewhere specified	Machinery	20,221	131
18	8939	Miscellaneous articles of plastic	Other Mfg.	20,136	196
19	8993	Candles, matches, combustible products, etc.	Other Mfg.	19,504	162
20	6997	Articles of iron or steel, not elsewhere specified	Metallurgy	19,288	194
21	6428	Articles of paper pulp, paper, paperboard, or cellulose wadding, not elsewhere specified	Paper products	19,109	185
22	6251	Tires: pneumatic, new, for motor cars	Rubber	18,952	180
23	7649	Parts, not elsewhere specified, of and accessories for apparatus falling in heading 76	Machinery	18,885	110
24	8931	Plastic packing containers, lids, stoppers, and other closures	Other Mfg.	18,261	187
25	6573	Coated or impregnated textile fabrics and products, not elsewhere specified	Textile	18,223	188

continued

	SITC	Description	Priority	PRODY	Path
26	0819	Food waste and prepared animal feed, not elsewhere specified	Animal feeds	18,215	163
27	6996	Miscellaneous articles of base metal	Metallurgy	18,206	184
28	6940	Nails, screws, nuts, bolts, rivets, etc, of iron, steel, or copper	Metallurgy	17,937	164
29	6911	Structures and parts of iron, steel: plates, rods, and the like	Metallurgy	17,851	199
30	8998	Small-wares and toilet articles, not elsewhere specified; sieves; tailors' dummies, etc.	Other Mfg.	17,806	154
31	6960	Cutlery	Metallurgy	17,804	140
32	7169	Parts, not elsewhere specified, of rotating electric plant	Machinery	17,730	180
33	6552	Knitted items, not elastic nor rubberized, of fibers other than synthetic	Textile	17,500	129
34	6924	Cask, drums, etc, of iron, steel, aluminum, for packing goods	Metallurgy	17,416	195
35	8973	Precious jewelry, goldsmiths' or silversmiths' wares	Other Mfg.	17,014	130
36	7239	Parts, not elsewhere specified, of machinery and equipment of headings 72341 to 72346	Machinery	17,006	172
37	7599	Parts, not elsewhere specified, of and accessories for machines of headings 7512 and 752	Machinery	16,886	84
38	1222	Cigarettes	Tobacco	16,775	152
39	7162	Electric motors, generators (not direct current); generating sets	Machinery	16,464	183
40	7821	Motor vehicles for the transport of goods or materials	Machinery	16,352	169
41	8219	Other furniture and parts thereof, not elsewhere specified	Furniture	16,178	180
42	5921	Starches, insulin, and wheat gluten	Chemical	15,827	150
43	6998	Articles, not elsewhere specified, of copper, nickel, aluminum, lead, zinc, and tin	Metallurgy	15,445	183
44	6560	Tulle, lace, embroidery, ribbons, trimmings, and other small wares	Textile	15,385	171
45	7244	Machines for extruding manmade textile; other textile machinery	Machinery	15,137	100
46	8212	Furniture for medical, surgical, dental, or veterinary practice	Furniture	15,053	174
47	8310	Travel goods, handbags, etc, of leather, plastic, textile, others	Travel goods	14,619	98
48	0344	Fish fillets, frozen	Fishery	14,592	120
49	8211	Chairs and other seats; and parts thereof, not elsewhere specified	Furniture	14,392	161
50	6532	Fabrics, woven, 85% plus of discontinuous synthetic fibers	Textile	14,319	154
51	6421	Packing containers, box files, etc, of paper, used in offices	Paper products	13,907	184
52	6994	Springs and leaves for springs, of iron, steel, or copper	Metallurgy	13,599	181
53	7245	Weaving, knitting, etc, machines; machines for preparing yarns, etc.	Machinery	13,483	110
54	8972	Imitation jewelry	Other Mfg.	12,680	104
55	7932	Ships, boats, and other vessels	Machinery	12,615	119
56	6353	Builders` carpentry and joinery (including prefabricated)	Cork and wood	11,367	167
57	8947	Other sporting goods and fairground amusements, etc.	Other Mfg.	11,171	122
58	6522	Cotton fabrics, woven, bleached, dyed, etc, or otherwise finished	Textile	10,370	122
59	1110	Nonalcoholic beverages, not elsewhere specified	Beverages	10,349	153

continued

	SITC	Description	Priority	PRODY	Path
60	2731	Building and monumental (dimension) stone, roughly squared, split	Fertilizer	10,189	132
61	7243	Sewing machines, furniture, needles etc, and parts thereof, not elsewhere specified	Machinery	10,058	103
62	8997	Basketwork, wickerwork; brooms, paint rollers, etc.	Other Mfg.	9,996	143
63	0813	Oilcake and other residues (except dregs)	Animal feeds	8,822	110
64	2111	Bovine and equine hides, raw, whether or not split	Raw hides	8,694	151
65	6122	Saddlery and harness, of any material, for any kind of animal	Leather	8,109	109
66	6114	Leather of other bovine cattle and equine leather	Leather	8,081	138
67	6534	Fabrics, woven, less than 85% of discontinuous synthetic fibers	Textile	7,934	148
68	6123	Parts of footwear of any material except metal and asbestos	Leather	7,838	162
69	6673	Precious and semiprecious stones, not mounted, set, or strung	Mineral	6,932	110
70	8482	Articles of apparel, clothing accessories of plastic or rubber	Garments	6,681	94
71	0360	Crustaceans and mollusks, fresh, chilled, frozen, salted, etc	Fishery	6,438	111
72	6589	Other made-up articles of textile materials, not elsewhere specified	Textile	6,361	143
73	0615	Molasses	Sugar	5,581	133
74	2871	Copper ore and concentrates; copper matte; cement copper	Metalliferous ores	5,558	98
75	0421	Rice in the husk or husked, but not farther prepared	Cereals	5,073	127
76	6978	Household appliances, decorative articles, etc, of base metal, not elsewhere specified	Metallurgy	4,720	113
77	0751	Pepper of "piper"; pimento of "capsicum or pimenta"	Spices	4,652	119
78	2713	Natural calcium phosphates, natural aluminum, etc.	Fertilizer	4,224	61
79	2221	Groundnuts, green	Oleaginous fruit	3,941	106
80	0542	Beans, peas, other leguminous vegetables, dried, shelled	Vegetables	3,329	113
81	5513	Essential oil, resinoid, etc.	Oils and perfume	2,552	144
82	6521	Cotton fabrics, woven, unbleached, not mercerized	Textile	2,230	117
83	1212	Tobacco, wholly or partly stripped	Tobacco	1,778	139

mfg = manufacturing, mm = millimeter, PRODY = a measure of technological sophistication, SITC = Standard International Trade Classification.
Source: Estimates based on UN Comtrade Database, accessed April 2013.

Source: ADB 2014

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Strengths and Weaknesses about Corporate Management of local cable TV company in 2016

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Abstract

Cable Television is a system of delivering television programming to paying subscribers via radio frequency (RF) signals transmitted through coaxial cables or fiber-optic cables. It can help people who live in someplace where can't receive television signals can receive television signal. In Thailand, it had many local cable TV owners in all areas for servicing to people. In 2016, it had changed about television system in Thailand from analog system to digital system. Digital television system is high resolution system, and is the transmission of audio and video by digitally processed and multiplexed signal. This system can support more than one program in the same channel bandwidth.

However, this system had effect to both audiences and media owners such as television station, True vision cable TV, satellite and local cable TV. Therefore, media owners had to change tools about receiving and transmitting system of television for digital system. This alteration is one of media corporate management process. In this case, researcher was emphasized to local cable TV owners because they had gotten directly effect to them, and researcher was analysis about strengths and weaknesses factors of their company.

The strengths and weaknesses factor is one of SWOT Analysis. The SWOT analysis is an extremely useful tool for understanding and decision-making for all sorts of situations in business and organizations. It has Strengths, Weaknesses, Opportunities, and Threats. Researcher has studied information and interviewed with subject specialist about media and Cable TV, and surveyed number of Cable TV member in Thailand by using questionnaire about their media corporate management process.

The results of the strengths and weaknesses of local cable TV before its changing in 2016. The strengths 3 factors are many channels for watching, nice public relations and advertising, and its famous media in each local place. In the same time, the three weaknesses factors are investment, technology about receiving and transmitter tools and laws and Principles of transmitting that's effect to Cable TV owner.

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However, after the television system has changing from analog system to digital system in 2016, the weaknesses about investment and technology about receiving and transmitter tools is remain problem for local cable TV owners. The new weaknesses is local cable TV member is decrease because digital television has many channel and suitable for them. Meanwhile, the strengths of local cable TV in 2016 are local news programs for local people, laws and principles of transmitting that are support local cable TV than the past and nice public relations and advertising than the past and reach to member easily and instantly.

Keywords: local cable TV owner, analog system, digital system, strengths and weaknesses, SWOT analysis, corporate management

Introduction

Media Institution is one important institution, and its function is communication in society, sending news and information to people and the other thing that's concerned communication and information. Media Institution can help people to know events and changing that affect to their society both in their country and in abroad. In Thailand has many media for people who choose it to watch information, and it does depend on their choosing media. Cable TV is one media that's people who choose it especially people who live in locality. It has many channel for watching and it can help their television is clearly because someplace where's near the sea and it's valley that's a problem about transmitting television signal. Therefore, it's a media business that's modern and interesting in locality. The member cost isn't too expensive around 300-500 baht. The income of local cable TV company is member cost and public and advertising of local company in each place. The local cable TV can still remain in these localities. It has many factors about management of these companies.

The local cable TV management or organization or using SWOT Analysis for organization management is management process about strength, weakness, opportunities and threats of company that's affect to manage inside company. In the same time, it's preparing the company for organization management in the future. SWOT Analysis is

Strengths : areas you do well or advantages of your organization
Weaknesses : areas to be improved
Opportunities : external factors that may contributed to your organization and can build up your strengths
Threats : potential problems or risk caused by external factors that your organization may face



Picture : SWOT Analysis
Source : http://www.photosforpeace.org/education-and-self-improvment/conduct-a-swot-analysis-of-your-business/

SWOT Analysis can help the local cable TV company or to decide whether or not an objective is obtainable and therefore enables their company to set achievable goals. In present, local cable TV company is used SWOT Analysis for managing in their company because it's a basic management process.

Before it has changing television system in Thailand in 2016, local cable TV has many problems such as investment, technology and modern equipment and laws of local cable TV. Meanwhile, local cable TV has some strengths because it's small and medium of local media company in locality and it hasn't expensive member around 300 – 500 baht. In addition, local cable TV enterprises would like build a good relationship with the local customer by using localism people like as them. Until the television system was changing analog system to digital system in 2015 that's effect to local cable TV enterprises because they've to adjust themselves to new system.

For this reason, the aim of study in this research is studied about corporate management of local cable TV company that's emphasize about strengths and weaknesses of corporate management after it has changing television in 2015, and to analysis for the causes of effect to them for adjusting their company in the future.

Purpose

To analysis Strengths and Weaknesses about Corporate Management of local cable TV company after the television system was changing from analog system to digital system in 2016.

Methodology

Researcher distributed questionnaires to 75 local cable TV enterprises in Thailand, and in-depth interview 10 local cable TV enterprises and confederate who is carry on their company for more than 10 years about local media or mass media

The data for this study were collected in three parts are general data of company, data of corporate management and effects that's inside and outside company before and after television system changing to their company. In part of data collection, researcher has collected information around 5 months, and used SPSS software computer program to analysis statistics of this data. After that, take it to sum up about strengths and weaknesses about corporate management of local cable TV company before and after it has changed television system.

Results

Before it has changing television from analog system to digital system in 2015, the local cable TV has corporate management, and it has strengths and weaknesses that's effect management are

strengths	weaknesses
1. Quality channel many channels for watching	1. Problem about investment.
2. Good skills about technology equipment for transmitting.	2. Problem about out-of-date of equipment.
3. Good corporate management and famous company in locality.	3. The lack of mass communication skills for television production.

After that, it has changing television from analog system to digital system in 2015. The local cable TV has faced a problem about corporate management but they've still to keep their strengths of company. In the same time it has new problem that's effect to their management. The strengths and weaknesses of local cable TV management after it has change television system are

strengths	weaknesses
1. Quality channel and many channels for watching	1. Local cable TV member is decrease.
2. Good corporate management and famous company in locality.	2. Problem about investment.
3. Good skills about technology equipment for transmitting.	3. The lack of new technology equipment especially digital technology system.

Discussion

To study about Strengths and Weaknesses about Corporate Management of local cable TV company in 2016 has founded the first strength of local cable TV before and after television system changing is famous company because enterprises are mainly local people, and they're understand about need of local people about news or information that's concern their life. Local people would like to know news and information inside and outside their abode, but meanwhile they like to know news and information that does occur in their locality because it's a direct effect to them. In the same time, the main television station has limited to present local news or information because their duty are present general news or information that isn't limited areas. When they had to present local news, they'll present important news in some local and people are interest it. Therefore the local cable TV enterprises use this case to keep their member by using local news television program. They've to offer a quality channel and many channels for watching including to specify a price of member isn't expensive around 300-500 baht that is suitable for people who live in locality area.

When it has television system changing in 2015, the local cable TV enterprises have to adjust their company in everything for keeping their member. This system changing has rather effect to them especially the number of local cable TV member are decrease because the income of these company was supported from a price of member and a price of advertising and local public relation in each local areas. If the number of local cable TV member is continuously decreased, it might effect to their investment is decline and someplace is close their company in future.

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Thai Cuisine in Singapore: A Case Study of Sensory Perception and Brand Loyalty

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ABSTRACT

This paper is a part of an dissertation on the Thai cuisine in Singapore. The main purpose of this research project is to delineate the sensory perception of Singaporean customers of Thai restaurants in Singapore so as to better understand their implications for policy initiatives that could guide a more efficient operation of Thai restaurants abroad, especially in terms of brand loyalty building strategies. Due to its relative sophistication, a case study of the prospects and problems of Thai restaurants in Singapore is likely to be of interesting applications in the emerging ASEAN Economic Community, where cultural, demographic, and income diversities are so great.

This study utilizes a combination of qualitative and quantitative research methods. The main methods used in this study are "focus group" and "survey questionnaire." The present paper is a preliminary report on the first phase of the study. It is a report on some results from a focus group research, in which a group of Singaporeans residing in Thailand have participated to offer their views and experiences on Thai cuisine, both in Singapore and in Thailand.

The focus group research found that Singaporeans are very familiar with Thai cuisine, both in Singapore and in Thailand. All participants have expressed a strong preference of Thai cuisine on the basis of its relative sophistication of delicious taste, sophisticated spices and herbs, perfection in preparation, excellent service, and good value. The participants shared their mutual view that the authenticity of Thai cuisine in Thailand makes it much better than that available in Singapore. One participant said that since most Singaporeans have visited and eaten authentic Thai food in Thailand, Thai restaurants will fare much better if they offer Thai cuisine of similar qualities.

THE ECONOMIC IMPORTANCE OF FOOD AND CUISINE

Owing to a set of appropriate weather conditions, natural endowments, and biological diversity, Thailand has long been a major producer and exporter of quality agricultural products to the world market. In this context, Thailand's food industry has expanded steadily. At present, in terms of volume of food export, Thailand ranks number 7th in the world, following only the European Economic Community, the United States, Brazil, the People's Republic of China, and Argentina. In 2007, the total value of Thailand's food export products stood at US$ 19,395 million (see Table 1).

Table 1 VALUE OF EXPORTS OF THE FOOD INDUSTRY: 2002-2007

Million US$

	2002	2003	2004	2005	2006	2007
EEC) 15(	189,177	231,096	261,806	275,332	301,026	357,401
United States of America	50,263	55,499	57,421	59,762	66,740	85,846
Brazil	15,956	19,967	26,020	29,468	34,147	41,123
China	15,815	18,926	20,483	24,363	28,016	32,987
Canada	17,218	19,235	22,584	23,075	25,418	29,802
Argentina	11,602	14,542	16,378	18,434	20,503	27,761
Thailand	10,020	11,477	12,583	13,000	15,038	19,395
Australia	12,902	12,277	17,300	16,528	17,247	17,052
Indonesia	6,204	6,631	8,356	9,496	11,177	15,953
Malaysia	6,354	8,225	9,208	8,865	10,086	14,851
Total World Exports	737,568	489,038	561,338	606,889	670,245	812,859
Share of Thailand	1.36	2.35	2.24	2.14	2.24	2.39

Source: *Global Trade Atlas*, cited in The Master Plan for the Food Industry, *2008-.2012*

Since World War II, but especially in the past few decades, Thai cuisine has clearly risen to a world-class status, consistently stood on top of the lists of favorite cuisines across continents. For example, in 2005, according to a survey by the Kellogg School of Management and Sasin Institute, Thai food ranked 4th "in the mind" of targeted respondents, following only Italian, French, and Chinese food, and ranked 6th on the list of respondents' "favorite cuisines", following Italian, French, Japanese, Chinese, and Indian cuisines (Sunanta,2005). In 2011, THE WORLD'S 50MOST DELICIOUS FOODS, a poll organized by CNN, ranked a number of Thai dishes on its world popularity list. While *Massaman* Curry made to No. 1, other Thai dishes such as spicy shrimp soup (tom yam kung), spicy papaya salad (som tam), and waterfall meat (nam tok moo), were also on the same list as well.

Although the key mechanism for this reputation has been the operation of Thai restaurants in Thailand itself, which are famous among several millions of foreign visitors to the country each year, the steady expansion of Thai restaurants abroad has also been a key factor in this

phenomenon, albeit with mixed records owing to uneven quality of food and service being offered in each location. This phenomenon has helped to promote the export of food and food-related products as a major export enterprise, generating ever greater revenues annually, to an extent that Thailand has been properly called one of the world's kitchens. Clearly, the combined impact has been the increased significance of "food" in the making of the Thai economy, both in national and foreign markets.

THAI CUISINE GOES GLOBAL

Understandably, the Thai governments have demonstrated an increasingly strong interest in developing policy packages to support quality control of Thai restaurants abroad, as well as to facilitate the growth of food-related products for export, which are indispensible contributors to Thailand export-oriented economy. Under the patronage of "Thai Cuisine to the World," a 2003 policy initiative to promote Thailand's food abroad, this industry has steadily grown into one of the top revenue earners of the country, with some one million employers. In 2009, there were over 14,000 Thai restaurants abroad, mostly based in the United States, followed by those in Great Britain, Australia, Germany, and Japan. This figure is a big jump from 2004 when, according the Food Institute of Thailand, there were only 6,537 Thai restaurants abroad.

In recent years, it has become rather clear that many of the most successful Thai restaurant chains abroad are operated by foreigners, which can be explained by their somewhat developed skills in the conduct of modern business. On the other hand, Thai restaurants operated by Thais abroad are often launched by amateurs, many of whom have entered this business by the simple fact that they are living in a given foreign country through motivations other than the desire to do business per se. Consequently, when such Thais initiate, or expand, their restaurant business abroad, this is often pushed by their need to create jobs for their own relatives, rather than to extend their empire as a business principle. In any event, Thai cuisine abroad has become an important enterprise in the Thai economy which calls for a serious attention from all sectors concerned, including the academia in the fields of marketing and branding.

A NEW CHALLENGE FOR THAI CUSINE IN AEC

On top of such challenges in some international markets, the emerging ASEAN Economic Community (AEC) constitutes another challenge to Thailand's position in the enlarging regional food market. Thai restaurant industry is not only an economic commodity but also a cultural entity that can enhance better relations in the region. As AEC grows, a key question is how Thai cuisine is going to be influenced by regional dietary cultures. While cuisine is a product of longstanding cultural traditions, it is also something that is rather dynamic, in the sense that it must make adjustments, for better or worse, to the new realities, especially market expectations and economic pressures.

MARTIN LINDSTROM AND BRAND-BUILDING OF THAI CUISINE

Under such new circumstances, brand development is a field that can be mobilized to strengthen the competitiveness of Thai cuisine in AEC markets. In this context, this research project will rely on the wisdom of Martin Lindstrom's "brand sense" as a promising theoretical guideline to lead Thai cuisine toward a better future. By sensitizing Thai cuisine to a conscious utilization of the idea of "brand sense," it might be able to modernize its ways that will not only preserve the integrity of Thai cuisine, but also enhance the quality of Thai cuisine itself.

Although the idea that sensory experience can enhance customer value is not entirely new, it is Lindstrom (2005) who confirms that sensory experiences can indeed strengthen the efficiency of branding. With the assistance of an international research institute, Millward Brown, a team of 600 researchers undertook a qualitative and quantitative research project over a period of 18 months across 13 countries. The findings have revealed a mind-blowing result that 99 percent of all brand communication today is focused on our two senses: what we hear and see. In sharp contrast, 75 percent of our emotions are generated by what we smell.

Lindstrom states that most marketing experts routinely build their branding strategies by relying on only what we see and hear. Consequently, brand building through advertising has experienced a definite, declining impact, so the cost of reaching out to the consumers is moving steadily higher. Lindstrom, therefore, proposes that "Brand Platform" be extended to cover, as far as possible, all the sensory experiences, namely, sight, sound, smell, taste, and touch (Lindstrom, 2005, p. 13).

In addition, Lindstrom has found that each world-class brand normally excels in the use of only one sensory dimension. Lindstrom suggests that a successful brand building strategy must be based on identifying a key "sensory touch point" which is most representative of a given brand. Then, that sensory touch point must be extended to deepen the brand to the other senses of the customers even further. In principle, the more points to touch the customers' feelings, the stronger the brand will become. Ultimately, such brand building should lead to a feel of "authenticity," indicating what is trustworthy, true, and real.

Lindstrom's findings imply that the possibilities of exploiting the five sensory dimensions for brand building are endless. With that kind of assumption in mind, this research study is set to explore the realities of Thai restaurant business by surveying the existing research on restaurant business in general and Thai restaurants in particular. In this context, the key question is to delineate the dominant exploitations of customers by Thai restaurants.

BRAND LOYALTY IS KEY

Since this field of research is rather huge, we have chosen to focus mainly on the factors that influence the ultimate outcome of consumers' behavior the most, that is, brand loyalty, or the intention of returning to visit a given restaurant again and again. Brand loyalty has been defined as "a deeply held commitment to repurchase or re-patronize a preferred product or

service consistently in the future despite situational influences and marketing efforts" (Oliver, 1999). On the other hand, Aaker (1991, p.31) defines brand loyalty as "the attachment that a customer has to a brand."

Our literature research has found that there are three main factors that influence the behavior restaurants' customers in terms of brand loyalty the most, namely, quality of food, quality of service, and restaurant's environment (Kivela et al.,1999; Hyun, 2009; Jang and Namkung, 2009). Such findings are consistent with a similar research on ethnic restaurants (Ha and Jang, 2010; Jang, Ha and Park, 2012).

WHY A CASE STUDY OF THAI CUISINE IN SINGAPORE?

In view of the coming upsurge of AEC markets, we have chosen to conduct a case study of Thai restaurants in Singapore. Singapore is selected because of its special status in AEC. It is recognized in terms of highest Infostate (*Kotler et al*.,*2007*), highest GDP per Capita in the region (World Bank, 2011 as cited Avgerou et al., 2008), and highest per capita expenditure in food & beverage)New Zealand Trade and Enterprise, 2008(. Singapore can also claim a relative importance as a market because of its longstanding familiarity with Thai cuisine. For these reasons, the choice of Singapore is likely to provide many interesting results which can be of general application. The main objective of this study is to draw some important lessons which will instruct us how to go about improving brand loyalty for Thai restaurants abroad.

RESEARCH DESIGN AND METHOD

The study is divided into two phases, combining both qualitative and quantitative methods. In Phase One, we will utilize a focus group method to test a number of reactions to Thai cuisine among a group of selected Singaporeans residing in Bangkok. The results from Phase One will then be used to develop a full-fledged questionnaire on a score of pertinent issues. In Phase Two, this questionnaire will be utilized as a tool aiming at a much broader group in Singapore through survey questionnaire (Harrison and Reilly, 2011; *Östlund et al*., 2011). By relying on a combination of methods, it is hoped that the validity of our findings will be strengthened. As demonstrated by Hines, cross-cultural surveys can further insure the cultural relevance and accuracy (Hines,1993).

SAMPLE

In Phase One, this research concentrates on generating key information through the help of focus group method. The members of this group are 8 Singaporean male entrepreneurs and their wives and professional staffers of Bangkok-based business enterprises, who have been based in Thailand for many years. With such credentials, the participants are all sufficiently familiar with Thai cuisine as well as other ethnic cuisines in Singapore. In addition, all are quite knowledgeable about Thai cuisine in Thailand itself.

DATA COLLECTION PROCEDURE

As is often the case with focus group method, the members of this sample are selected out of the researcher's personal relationship with the group and the willingness of the given participants to cooperate in this study. On the day the focus group session took place, seven people actually participated, with one of the invited members missing owing to an unexpected business emergency.

The main goal of the focus group session was to acquire an understanding of the depth and width of the participants' familiarity and appreciation of Thai food and the operation of Thai restaurants in Singapore. To achieve our goals, several, casual open-ended questions were formulated to get the reactions of members of the focus group. To stimulate spontaneity, the session was carried out during a Thai lunch in a private room of a business office of one of the participants located near the Embassy of Singapore on Sathorn Road. As members of the focus group enjoy their Thai lunch, we casually pose each question for their free reaction. The whole session, which was mutually educational and entertaining, lasted about three hours.

The session was audio-recorded, manual notes were taken by one research assistant. All data from the focus group conversations were transcribed and synthesized. Then, a content analysis applying coding, frequencies, and pattern techniques were used to analyze the focus group report so as to check for duplication and possible missing components. The results of this analysis are meant to be used to formulate a survey questionnaire as another research instrument to collect more detailed information for the next, final stage of analysis.

SUMMARY OF FINDINGS ON THAI FOOD IN SINGAPORE:

Sensory perception of Thai food:

O: The first and most overwhelming agreement among all the participants is that Thai cuisine is tasty and delicious. In their view, Thai cuisine excels in four basic tastes, namely, sour, sweet, salty, and spicy.

O: Another major impression of the participants is the wonderful smell of Jasmine rice. But the participants also spoke of the unbearable smell of Pla Ra (fermented fish from the Northeast). When asked about the smell of Nam Pla and Coriander, the reaction was varied, some liked it, some not.

O: One participant observed that "a unique thing about Thai food is that it is very generous with the vegetables. Even a simple dish of noodles, it's not just plain noodles but there are many other elements.

Sensory perception of Thai food: Comparing Thai cuisine with other cuisines:

O: When asked whether or not the most popular aspect of Thai food is its spicy taste, the participants agreed, but said that the spicy taste is not the only explanation because other cuisines, such as Indian, are quite spicy too. The participants noted that Thai cuisine is very impressive because of the wide variety of dishes available. Some participants observed that it was the great diversity of spices and herbs that are put in each dish that makes Thai cuisine stand out among international cuisines.

O: In terms of taste, all participants echoed the same opinion that the taste of Thai food is extremely complicated, triggering many senses simultaneously. Sometimes, it is crispy in a unique way. Other times, it is soft and delicate. Thai cuisine is not plain, but very sophisticated

.

O: A few participants noted that Thai food look very attractive in terms of colors.

Sensory perception of Thai food: Thai cuisine in Singapore and in Thailand:

O: All participants have eaten Thai food extensively both in Singapore and in Thailand. When asked for a comparison, all agreed that Thai food in Singapore is not as great and authentic as that found in Thailand. Some participants claimed that they "know" what the real taste of Thai food should be like, so, to be successful, Thai food in Singapore must be prepared more like the way it is done in Thailand. One participant said, "Don't ever forget that Thailand is only a few steps from Singapore."

O: One participant observed that "Thai food in Singapore is not as sweet as that found in Thailand. Singaporeans are very health conscious. We don't like our food to be so sweet. In a way, I think each country has its own preferences, so foreign restaurants tend to make an adjustment to local standards."

ON THAI RESTUARANTS IN SINGAPORE:

Sensory perception of Thai restaurant

O: Asked about their sensory impression of food, service and environment in Thai restaurants in Singapore, the participants agreed that "it depends on the restaurant type."

O: The participants said that there are at least three groups of Thai restaurants in Singapore, for example, "Thai Express" is a fast food which offers quick meals and takeaways, "Coffee Dow" is a trendy style restaurant that serves trendy Thai food, and "Thanying" and "Patra" serve a great variety of authentic Thai food within an

atmosphere of traditional Thai décor and music, with staffs wearing traditional Thai costume.

Sensory perception of Thai restaurant: Do the sensory impression that you have makes you feel loyalty to Thai restaurant?

O: All participants agreed that "The most important aspects are the taste and the value for money."

O: Another participant mentioned a dimension on customers' loyalty in the restaurant business, "For me if, I go back to Thai restaurant, it is probably because I can feel kindness. The more important is the service staffs surround you." One participant told the group that "Let's say it. Thais are very good when it comes to servicing. It is very disappointing to go to a Thai restaurant and the service staffs are from other countries." Another participant confirmed that "Thais are very good in the area of servicing. They excel in service because they are very cautious people."

O: All participants were in agreement that "The market for Thai food in Singapore is really huge. Most Singaporeans who have visited Thailand love Thai food".

ON IMPRESSIONS OF THAI IMAGES:

O: On their experiences in Thailand, the participants were of the opinion that "Thai people are very different. They enjoy themselves.

O: "When I think of cuisine in the restaurant in traditional Thai, Thai girl, then you remember culture, architecture, and image of the temple."

O: Another participant spoke of her impression in this way, "When I think of Thai cuisine, it makes me realize that Thailand is a very productive country. If not, how can you people produce such a great variety of food? There is an abundance of food everywhere."

O: One participant added that "Thais love decorations. Just look at the way they cut the cucumber. And just think of all the Nam Jim (sauces)." Another agreed, "They go to every extreme to make it all so perfect, like a five-star hotel."

The results from this focus group research are being used as part of the key data to feed the design of a survey questionnaire to be conducted with Singaporeans in Singapore in August-September 2012.

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"Facing" DU 30

Gerardo Guiuan

This exposition is a brief reflection of understanding the new Philippine President, Rodrigo Duterte. It exposes two significant factors: Statesmanship and Messaging that seemingly made a deep impact in how the Filipino electorate reacted and voted last May 2016. It is an attempt to paint the evolving political scenario and mirror in it the "face" of President DU 30.
Two stages: Statesmanship, Messaging.

Statesmanship.

the behaviour and actions of an experienced and respected politician or member of a particular profession: http://dictionary.cambridge.org/dictionary/english/statesmanship
A national election is always a time to harp on love of country. In the present Philippine Constitution (1987), this happens every second Monday of May, in an interval period of six years. Prior to this, the 1935 Constitution, which was carefully crafted under the patient and watchful eyes of the Americans from 1901-1935, the term of Office of a Filipino President is a four-year interval, patterned until today in the American Constitution. The brief stint of the 1st Filipino Revolutionary President (Aguinaldo), 1898-1901, at the beginning of the American colonization, is to be seen more as an amicable accommodation of a "new big brother" to a "little brother" after three centuries of Spanish rule. This was strongly validated during the Second War, 1942-1945, when the Philippines inescapably engaged a bloody war with the Japanese and triumphantly rescued again by " the returning big brother" as a constant ally. Thus, the concept of Statesmanship in Philippine politics, particularly as a distinctive character of the Office of the President, was minted both in a time of peace for preparation and stabilization and a time of war for conviction and resolve.

The emerging Presidentiable-mold must strike a balance between a stable vision-leader and a passionate speaker-thinker. Remarkably, this mold emerged and was embraced by the Filipino electorate, with the women exercising the right to suffrage beginning 1939. Between 1944-1986, among the seven Presidents (Osmeña, Roxas, Quirino, Magsaysay, Garcia, Macapagal and Marcos), three were former governors, all were former Congressmen, five were former Senators, four were former Cabinet members and former Vice-Presidents; none was a former municipal/city mayor. Without saying, this may be considered as a good benchmark of "Statesmanship" when the Philippines was considered then as one of Asia's leading economies and South East Asia's pioneering countries. Our Presidents were engaged in macro-level management and showed deliverables specific to their terms. In fact, aside from Roxas and Magsaysay who left Office due to death, the remaining five Presidents submitted themselves for re-election at the end of their terms but were all defeated, except for Marcos (the case of Marcos was different particularly in his imposition of martial law in 1971 and the elections held in 1981 boycotted by the opposition). This shows that the electorate was presented with

statesmanship-politicians every four years and have more reasons to select a new one, not necessarily for better or for worse, but for good and for better.

This condition dramatically changed after the dreaded Marcos regime with the eruption of the People Power Revolution of 1986. Cory Aquino was catapulted to power with none of the minute experience and respect of a politician—she was merely a plain housewife but the wife of a slained Statesman-Senator, Benigno Aquino, the perennial rival of Marcos. Between 1992-2016, among the four Presidents (Ramos, Estrada, Arroyo and Noynoy Aquino), one was a former Congresswoman, three were former Senators, two were former Cabinet members and Vice-Presidents; none was a former governor, but one was a former mayor. The Presidentiable-mold has changed. Micro-level political management is appealing and gaining more ground. Thus in the last May 2016 elections, two were former mayors (one was an incumbent) and none of the two was a former Congressman nor a Senator (referring to Binay and Duterte). Among the other three contenders (Roxas, Poe, Santiago), all were incumbent Senators, two were former Cabinet members, one was a former Congressman, and another was a member of the Judiciary (the last President who had this latter distinction was President Laurel in 1943-45, which was a time of war).

Maybe by a play of analysis, the Statesmanship-mold in Philippine politics has entered three stages: the first one, from 1944-1986, was initiated by the 1st Visayan President, Osmeña; the second, from 1986-2016, was initiated by the 1st woman President, Cory Aquino, and the third and present stage, beginning May 2016, was initiated by the 1st Mindanaoan President, Duterte. If we are to give a momentous historical background to express this significance, the first stage engaged in the devastation of and the rehabilitation from a World War (WWII). This stage (1946-1986) started with the horrors of war but it also ended with the horrors of another kind of violence—dictatorship. On the other hand, the second was miraculously born of a bloodless People Power. In a more distinct fashion, the second stage (1986-2016) was opened and closed by two Aquinos, the mother—Cory and the son—Noynoy on the occasion of the 30th anniversary of what is more popularly known as EDSA Revolution. It started with the yellow ribbons of hope and doves of peace but ended with a barrage of natural disasters (on top of it was typhoon Haiyan, the deadliest Philippine typhoon on record), military blunders (like the Mamasapano incident with the fallen SAF 44, considered as mission-accomplished and a non-issue with the killing of the intended target—international terrorist Marwan), and unrelenting political harassments of non-Liberal Party members for "transparency" (for example, former President Arroyo was judged not guilty and released by order of the Supreme Court after five years of hospital arrest, just 22 days after President Aquino ended Office; while the Liberal Party, the Party of the incumbent President, submitted its Statement of Contributions and Expenses—SOCE of the losing Party presidentiable in the last elections, six days after the COMELEC's deadline). The former President Aquino even snobbed the 1st State of the Nation Address (SONA) of the new President Duterte last July 25, 2016.

And so, the third stage was simply a call for "Change"—a Statesmanship of Change which is still on the horizon. It is starting from where both previous stages started—a certain horror of a "new war" and a message of "calculated" hope and peace in this time of massive Corruption.

Quite noticeably, Philippine society is facing a different kind of war today—not from the outside but from within our families (the war on drugs). However, this war is littering our streets with bodies of bloodied men and women, both innocent and guilty "suspects" in the name of "calculated" peace (in three to six months time). This is where President Duterte stands in Statesmanship. Micro-level political management has reached the Presidency—he is Mayor Digong of Malacañang. It might help if one opens the pages of Davao City's recent past to anticipate upcoming events in the country at least for the coming year. This is the first face of DU 30, Mayor Digong. He is a local Statesman, a looming icon of Change.

Messaging

The Presidential campaign of the 2016 national elections officially started on February 9, 2016, three months prior to election day. All the five Presidentiables presented their particular political platforms with a brief recall statement. Since DU 30 is the subject matter at hand, his message will come last; the sequence follows the official ballot results.

The late Senator Miriam Santiago's platform was: Jail for wrongdoers. As a presidentiable, she is the only seasoned judicial-executive-legislative candidate—she has hopped the three branches of government. At the very start, she harped on a looming probability that due to her deteriorating health endorsing vice-presidentiable Bongbong Marcos (the dictator's son) to regain power is a better option. And Marcos' rise in the election surveys made the fight for the vice presidency as important as the presidency. From the vantage point of the sitting administration—an Aquino at that, it would be ironical if Marcos would hold the second-highest government post during the 30th Anniversary of the People Power Revolution as it would underline the failure of the "proverbial Edsa system" and how its promise was strangled by elite politics (Bello, Philippine Daily Inquirer, February 16, 2016). In fact, her priority is to build new jails for the guilty PDAF (Priority Development Acceleration Fund or "pork barrel") legislators which were a declaration of war to all legislative candidates. She has opened the "Pandora's box" of the first and only dictatorship in Philippine history and ignited a version of how the Marcos' revanchists would like to rewrite a defeated past today. She has undermined the fact that lasting peace has to follow history's unperturbed way. Martial law has destroyed Filipino sensibilities of democracy and many victims are still clamoring for justice even today. Now that she is gone, can Filipinos, particularly the young, cherish democracy more clearly from the vantage point of the Marcos' dictatorship?

Vice-President's Jejomar Binay's electoral platform was: Decisive Leadership. Unfortunately, his pending plunder and graft cases put two pillars of Peace, i.e., Truth and Justice in question. Since appointed as OIC (Officer-in-charge) of Makati in 1986 (after EDSA People Power), Binay has never lost in all of the past nine local elections. His political strategy rests on Realignment as gauged by the proliferation of Sister-Cities/Municipalities with the Premier City of Makati. This gave new richer opportunities and a bright potential for power. The objective of this is victory at the polls and that this power has to be shared with no one (Lumauig, Philippine Daily Inquirer, February 23, 2016). The real problem here is discrimination—he, his wife and his children have alternately held power in the executive and

legislative arena for almost four decades (his wife was a one-term former mayor, his lawyer-daughter is the sitting Makati Mayor, his eldest daughter is a sitting Senator while his only son was the recent former mayor, suspended for graft). Immediately, after his term of office as VP, he filed bail to prepare his long battle for the court cases. His end is but a picture of the political reality that realignment and discrimination are enemies of democracy. Eventually, political power destroys the perpetuators themselves despite the longevity of control. Fate pushes him to return to the basic family orientation in handling authority for the other two pillars of Peace to thrive, i.e., Freedom and Charity.

Senator Grace Poe's platform was: *Gobyernong may Puso (Governing with a Heart).* In recent election history, she has garnered the highest number of votes—20.3 million, as Top 1 senator since 1988, a neophyte candidate and an Independent. Her fairy-tale story line became part of the Supreme Court's script as she was declared qualified to run, with a vote of 9-6, on the legality behind her citizenship and residency qualifications. But the real election issue faced by Senator Poe revolved on her decision to acquire American citizenship, even if only for a few years, which leads to the second issue—on experience. To be President needs more serious intention, competence and trustworthiness. Experience is vital in running any organization, especially in government. Moreover, no Independent presidentiable has ever won a national election in Philippine history, even in the worst conditions, like in the 1986 snap election. By far, she has not turned the tide of Philippine partisan politics. She is now in the Senate to finish her next 3-year term and the Supreme Court belatedly ruled that her citizenship and residency qualifications are binding. Senator Poe must have realized that in entering politics an "integrating" experience e is a must. She just cannot promise "governing with a heart" and set aside the moral fact that she has renounced Filipino citizenship for economical reasons. Particularly this was a time when almost all Filipinos work abroad to help in the financial capability of the family left here. She lacked a certain resonance with the Filipino condition and that there is no lasting economic gain when short cuts are made.

Senator Mar Roxas' electoral platform was: Sustain *dating matured (Straight Road).* Applying epistemological realism, Philippines is an archipelago composed of 7,107 islands; so daang *matuwid (straight road)*does not assume a historical/ethnological sense; we need bridges—7,106 to "connect" our islands. Sociologically, Filipinos think cyclical (by connections) not linear (by chronology). Thus, even the bamboo—a national symbol, is never perfectly straight—it bends but never breaks. He must have learned that the Aquino administration's 4Ps (the ***Pantawid*** *Pamilyang Pilipino—Alleviating the Filipino Family* Program) were a big and sure help for our poor to cross even one step over the poverty line. As argued by a columnist (David), the mantra "if there's no corrupt, there was no poor" of President Noynoy in June 2010 was not congruent with the UN study of August 2012 which counters it "if there's no poor, good governance takes care of itself". What is glaring in more recent analyses is that higher wealth and economy of a country lead to a better society. Indeed, transparent governance is the prize, not price, of growth; poverty, in all its forms, is the culprit to society's woes. Senator Roxas quite belatedly realized, despite his long stint in government, that connections, in varied and multiple ways, are keys to sustained growth.

And last but not the least, Mayor Duterte's platform was: I deliver on promises. Mayor Digong, of the largest city of Davao, is an ambivalent, publicly-boastful politician con criminal (as he publicly proclaims—if necessity warrants, a President must be ready to die or allow judicial killing as leverage to lawlessness). If the 2016 election was a card game, he was the Joker card. First, he allowed the Commission on Elections to decide on his fate as a candidate after months of playing with the media that he will or will not file his Certificate Of Candidacy. Second, as the country's first-ever Mindanao-based president, we have not heard anything enthusiastic from "down South" that the dawn of Change has come from "down-under"—in fact, the terrorist group Abu Sayyaf has not abated its presence in Mindanao. A third and disturbing question is his promise to rid the country of corruption, crime and illegal drugs in three to six months whereas he is in power for six years. And this is where President Duterte thrives—he is blown away by the "euphoric" change built from the age-long premise that Mindanao is the "Land of Promise." So he excites by his bags of surprises through impromptu speeches, controversial pronouncements and banter of "crass remarks." Then a lame excuse or apology turns the issue favorable to his side. Among the presidentiables, his message was a direct invitation for an engaged risk with a calculated success. The positive outcome of the preliminary talks with the leaders of the Filipino Communists (Communist Party of the Philippines, CPP- New People Army, NPA) brings the risk factor to a manageable level after previous efforts in the last two administrations. However, the issue of Extra-Judicial Killings (EJK) of drug addicts/pushers/criminals covers the success of the "war on drugs" as lawlessness and disrespect of human rights. For DU 30, these things need to happen as long as the almost 16 million Filipinos who voted for him do not cry foul. But how can this thing happen? He presents both risk and success in cold facts. His message is the same story of what an ordinary overseas Filipino worker (OFW) goes through in leaving a wife, family and friends for a job abroad—risk one's security to have a bit of success in life—the bitter for the better. We Filipinos face an unclear future, like our leader. But if we don't face this reality we may miss the opportunity for the promise of Real Change. As a promise, we hope that this risk may eventually become our enduring success.

2016 ANPOR Annual Conference
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The Research of Communication of Online Rumor-Refuting Platform，illustrated by the case of “the rumor pulverizer” microblog.

网络辟谣平台的传播研究——以“谣言粉碎机”微博为例

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摘要：随着新媒体发展，网络平台既成为谣言滋生之篮，亦承担辟谣传播乃至科学传播的渠道。在诸多谣言主题中，有关科学的谣言不胜枚举。果壳网专为“反谣言”而专设小组“谣言粉碎机”，以破除不实科学言论及信息。

本研究通过内容分析法，观察果壳网旗下科普小组“谣言粉碎机”2013 年 1 月至 2016 年 6 月有关辟除谣言的微博内容，以此为例，探究微博辟谣平台的用户关注、内容生产特征、辟谣传播与舆论相关度的关系。同时，结合“谣言粉碎机”微博 2013-2015 三年间变化情况，对其运行现状进行总结及思考。

关键词：谣言；谣言粉碎机；辟谣；微博；科普

Abstract: With the development of new media, the network platform has not only become a place to transfer rumors, but also a channel to refute rumors and create a science communication. Among the abundant themes of rumors, rumors about science are numerous. The Guokr has set up a group “rumor pulverizer” for the purpose of anti-rumor to eliminate false speech and information on science.

Through the content analysis method, this research has observed “rumor pulverizer” under Guok from January 2013 to June 2016 on the microblog content about refuting the rumors. Base on this, the research also studies on the relationship between the users’ attention, content production characteristics, rumor-refuting spread and the relevance of public opinion about the microblog refuting-rumor platform. Meanwhile, combining with the changes of “the rumor pulverizer” microblog from 2013 to 2015, this research also gives a conclusion and thinking on its operation situation.

Key words: rumor; rumor pulverizer; refute rumors; microblog; popular science

一、研究背景与目的

谣言，拥有非正式、非证实、大范围、高传速等特点。谣言因大众的集体认知而产生，依赖大众而存在，是填补信息空白的一种畸形产物。[i]自文字发明前，谣言即以口口相传的方式传播。大众媒介的出现和发展，为谣言辟除提供了更有效的传播渠道，谣言特征中的“非正式”特点被进一步框定为“非官方及传统媒体”。网络媒体诞生后，受众获取信息的渠道由虽然传统媒体向新媒体转移，然而，网络平台中信息的海量化、碎片化和不确定性，反而使得公众在寻求真相时更加依赖传统媒体的存在。

那么传统媒体是否真正能够代表权威？新媒体平台是否只是为谣言传播提供便利？诚然，网络媒体发展后，产生了谣言与微博等新型社会化媒体相结合的产物，但同时，掌握了亲民语言、受传合一、快速辟谣等优势的网络辟谣平台亦应运而生。有学者

认为，网络中的辟谣是艰难的，因为辟谣无法跟随谣言进行不断反复，“辟谣必须严格遵循正式宣布的固定形式[ii]”。诚然，传统媒体具有一定的高权威性，但谣言信源中又不乏其身影。不可否认，传统媒体已非民众接触科学资讯的唯一管道，新媒体同样担当着辟谣传播的渠道作用，其对于科学传播的作用日渐凸显。

在谣言的众多主题中，有关科学的谣言一直为人关注。某一公共事件发生后，谣言总相伴而生，如“福岛核电站”事件导致抢盐热潮、“非法疫苗”事件致使公众谈“苗”色变等。2010 年，主打“科技有意思”的泛科技主题网站“果壳网”上线。果壳网下设多个不同类型和领域的科学兴趣小组，其中，“谣言粉碎机”（以下简称“谣碎机”）为满足受众对科普的最大诉求——反谣言而设立，以还原真相和辟除谣言为宗旨。截至 2016 年 6 月 30 日，“谣碎机”占据果壳官网小组实力榜的榜首，共 1212248 人加入，其官方微博拥有 1316270 粉丝量，发布量为 1814 条。“谣碎机”微博与微博用户互动良好，辟谣内容直接详实，成为微博谣言的有力打击者和科普知识的传播者。

目前，关于“谣碎机”的研究主要集中于对“谣碎机”传播内容和传播特色的质性研究。根据谣言公式可知，“谣言传播力度与事件重要性、表述模糊度和受众判断力高度相关[iii]”。基于此，本研究将针对“谣碎机”微博内容进行内容分析，从量化研究入手，探究影响“谣碎机”微博注意度的影响因素。

同时，本研究还将补充微博用户对辟谣微博的注意力，通过对“谣碎机”微博中辟谣所涉科学议题、辟谣来源资质、微博呈现方式、所破谣言是否与舆论事件相关以及每条微博转发量进行整理、统计，并以此为基础，探究何种谣言较受网络辟谣平台注意，何种辟谣微博较受微博用户关注。

综上，本研究针对“谣碎机”2013 年 1 月至 2016 年 6 月微博，提出以下三个研究问题：

研究问题一：“谣言粉碎机”微博用户倾向性（注意度）之影响因素是什么？

研究问题二：“谣言粉碎机”内容选择（注意度）之影响因素是什么？

研究问题三：“谣言粉碎机”微博在 2013-2015 年间变化情况如何？

二、研究方法

本研究采用内容分析法，通过观察“谣碎机”的微博内容，检验谣言的构成因素与“谣碎机”注意度及微博用户反应的关系，并通过描述性统计观察“谣碎机”三年间的微博变化情况。

1、抽样方法与分析单元

本研究选取“谣碎机”官方微博 2013 年 1 月至 2016 年 6 月间共 638 条微博作为分析对象。

本研究选择微博样本的原则为：（一）只选择内容为辟除谣言的微博；（二）微博形式为原创或转发，转发形式中原微博内容或转发内容须为谣言或辟除谣言；（三）计数单元以“谣碎机”所发布微博为准，如：“谣碎机”发布微博 A，后又转发微博 A，则计为两则，若其他账号发布微博 A，仅转发微博 A 一次，则

计为一则；（四）微博（包括链接文章）须有二分之一以上的字数包括辟谣信息、知识、分析、佐证等，由此保证该条微博是真正的辟谣微博，而非复述谣言、调侃等无实质性辟谣的内容。

通过样本选择，最终得到符合选择原则的微博样本共 465 则。

2、类目建构

（1）因变量

微博用户除自行生产微博内容外，还最常执行转发微博及评论微博两类操作。因转发行为对于微博内容传播具有更鲜明和直接的作用，故本研究将微博转发数量作为第一个因变量。

为考察“谣碎机”本身对于谣言主题的注意度是否有所差异，本研究将微博总字数作为第二个因变量。台湾学者张郁敏综合 Kiousis 关于媒体显著性因素的研究后总结，媒体显著性包括突出、注意、向度三个构成要素，其中注意要素侧重于新闻媒体对于新闻主题的知晓度，针对纸媒反映于该新闻主题的新闻量的多少。在此， 本研究将这一概念引申到微博账号对微博内容主题的注意度上，将微博总字数作为检测“谣碎机”对于微博内容元素的知晓程度。

（2）自变量

辟谣内容科学主题

“谣碎机”原则上只针对与科学主题相关的谣言。本研究以台湾学者张郁敏关于科学新闻媒体显著性的研究中对科学主题的类目建构为基础，在观察“谣碎机”微博内容后，进行了一定的调整和补充。

本研究对于辟谣内容所涉及的科学主题包括以下七类：公共卫生与医疗健康（医学、药品）、农业与食品科学（食品科学、农业科技）、地球与航天科学（能源、环境、气象、大气、地球科学、天文航天）、科技与工程（生活科技、行动科技、电脑科学、国防科技、轮机造船、工程材料）、基础科学（生物、物理、化学、数学、心理）、其他科学（古生物、考古学与其他）[iv]、研究者或科学事件（与科学信息有关的人物、事件）。

辟谣来源资质（科普文章作者资质）

在观察“谣碎机”微博链接文章之作者标签后，本研究将辟谣来源（即微博或微博链接科普文章作者）资质分为六类：达人类、专科本科学历、硕士学历、博士学历、从业人员、果壳网等媒体官方编辑或联合编辑。

微博呈现方式

本研究微博呈现方式包括纯文字表述、文字结合图片、文字辅以视听文件、文字结合图像及视听文件四类。

舆论相关度

舆论相关度的考量有两部分因素组成，一为谣言的信源情况，二为该谣言或辟谣内容与新闻事件的相关情况。

信源情况中，本研究分为无信源、有模糊信源、有明确信源三类。

新闻事件相关度中，本研究从事件程度、影响范围等出发，以无关、私人事件和突发性公共事件为基点，遵照由国务院于 2006 年颁布《国家突发公共事件总体应急预案》之标准，将此类目具体细分为无关、与私人事件相关、与自然灾害相关、与事故灾难相关、与公共卫生事件相关和与社会安全事件相关六类。

原创性

为考量原创性对于微博用户信息选择是否有影响，以及分析“谣碎机”微博构成情况，本研究还将对其原创性进行观察，分为原创和转发两类。

三、资料分析

1、样本结构分析

本研究按照辟谣微博选择原则筛选后，共得到 465 则有效微博样本。样本平均转发量为 852.80，微博总字数平均值为 2104.04。

“谣碎机”最常发布与公共卫生和医疗健康相关的辟谣微博（n=133,28.6%），与其他科学（古生物、考古学）的相关比例最少（n=2,0.4%）。

辟谣来源资质中，作者为果壳网等媒体的官方账号或编辑的占比最多（n=158,34%），此外，博士学历为较多数（n=100,21.5%），达人类作者（n=11,2.4%）相对较少。

在微博呈现方式方面，“谣碎机”所有辟谣微博皆无纯文字表达，而文字加图片的形式占据极大比率（n=418,89.9%），文字与音频或视频的组合方式最少（n=17,3.7%）。

就谣言信源而言，经统计后发现，有模糊信源样本量过少，因此将无信源与有模糊信源合并为无明确信源一项。“谣碎机”辟谣微博中无明确信源（n=271,58.3%）高于有明确信源（n=194,41.7%）的样本量。

“谣碎机”的辟谣微博基本不涉及新闻事件（n=422,90.8%），而在与新闻事件有关的微博中，多数仅与私人事件或个体事件相关（n=19,4.1%），没有涉及社会安全事件的辟谣微博。

“谣碎机”微博较常采用原创形式（n=398,85.6%）。

详见表 1。

表 1 “谣言粉碎机”辟谣微博叙述统计

变量	频数（N）/平均值	百分比（%）/标准差
转发量	852.80	1925.46

总字数	2104.04	1271.865
辟谣内容科学主题		
公共卫生与医疗	133	28.6%
农业与食品科学	121	26.0%
续表 1 “谣言粉碎机”辟谣微博叙述统计		
地球与航天科学	38	8.2%
科技与工程	29	6.2%
基础科学	130	28.0%
其他科学	2	0.4%
研究者或科学事件等	12	2.6%
辟谣来源资质		
达人类	11	2.4%
专科、本科	40	8.6%
硕士研究生	91	19.6%
博士研究生	100	21.5%
从业人员	65	14.0%
果壳网等媒体账号、编辑	158	34%
微博呈现方式		
纯文字	0	0%
文字加图片	418	89.9%
文字加音频、视频	17	3.7%
文字加图片加音频、视频	30	6.5%
谣言信源		
无明确信源	271	58.3%
有明确信源	194	41.7%
新闻事件相关度		
无关	422	90.8%
私人事件	19	4.1%
自然灾害	7	1.5%
事故灾难	7	1.5%
公共卫生事件	10	2.2%
社会安全事件	0	0%
原创性		
转发	67	14.4%
原创	398	85.6%

2、研究问题检定

（1）影响微博用户注意度的因素探究

在探究微博用户注意度的影响因素方面，本研究采用单因素方差法分析谣言科学主题、辟谣来源资质、微博呈现方式和新闻事件相关度四项，采用独立样本T检验法分析谣言信源与原创性两项。

从整体上来看，除谣言或辟谣微博的科学主题【F=0.557,p=0.764】外，其他微博构成元素皆对微博用户的注意度产生影响。

辟谣来源资质【F=1.866,p<0.1】方面，来源资质为达人类（M=331.18）和本科、专科类（M=378.10）的微博转发量显著低于博士研究生（M=987.02）和果壳网等官方媒体的账号或编辑（M=772.58）。

从微博呈现方式来看【F=60.833,p<0.001】，文字加图片形式（M=636.03）的微博转发量显著低于文字加音频或视频形式（M=5264.12）。从描述统计来看，微博用户更倾向于转发以音频或视频为信息载体的微博。

微博的舆论相关度方面，谣言信源【F=7.301,p<0.05】和新闻事件相关度【F=5.744,p<0.001】均呈现对微博用户注意度的显著影响。从描述统计来看，微博用户较倾向于转发有明确谣言信源（M=1107.06）及与公共卫生事件（M=3215.50）有关的辟谣微博。

此外，微博用户对于微博的原创性【F=5.786,p<0.001】态度明显。微博用户更倾向于转发“谣碎机”的原创式微博（M=934.53），而非转发式微博（M=367.30）。

详见表2（无显著性检验结果略）。

表2 “谣言粉碎机”微博用户注意度影响因素（转发量VS微博元素）

变量	M	SD
辟谣来源资质		
达人类（1）	331.18	242.313
专科、本科（2）	378.10	199.470
硕士研究生（3）	737.85	2624.470
博士研究生（4）	987.02	1398.984
从业人员（5）	1382.63	3300.574
果壳网等媒体账号、编辑（6）	772.58	1049.579
F=1.866，p<0.1		
Dunnett T3: （1,4）**；（1,6）**；（2,4）**；（2,6）***		
微博呈现方式		
文字加图片（1）	636.03	741.256
文字加音频、视频（2）	5264.12	5756.992
文字加图片加音频、视频（3）	1373.33	4557.055
F=60.833，p<0.001		
Dunnett T3:（1,2）*		
谣言信源		
无明确信源（1）	670.78	1619.719
有明确信源（2）	1107.06	2265.271

F=7.301，p<0.05		
新闻事件相关度		
无关（1）	751.13	1460.742
私人事件（2）	973.68	2122.712
自然灾害（3）	1830.86	3667.434
事故灾难（4）	2300.57	2372.660
公共卫生事件（5）	3215.50	7778.189
F=5.744，p<0.001		
原创性		
转发（0）	367.30	348.489
原创（1）	934.53	2065.530
F=5.786，p<0.001		
辟谣内容科学主题	F=0.557，p=0.764	
注：#p≦0.1，*p≦0.05，**p≦0.01，***p≦0.001		

（2）影响“谣言粉碎机”注意度的因素探究

在探究微博用户注意度的影响因素方面，本研究同样采用同微博用户注意度影响因素探究一致的方法。

从整体来看，只有辟谣来源资质【F=9.687,p<0.001】和微博呈现方式【F=5.602,p<0.01】是影响“谣碎机”注意度的因素。

在“谣碎机”小组内，达人类（M=2406.64）、专科、本科类（M=2368.40）、硕士研究生（M=2328.42）和博士研究生（M=2609.68）作者的文章篇幅显著较果壳网等媒体的官方账号或编辑（M=1623.73）所提供的多。即总体而言，有明确学历资质标签的作者倾向用更多的篇幅来阐述对谣言的辟除和相关知识的介绍。同时，拥有从业人员资质（M=1965.66）的作者文章所用篇幅显著较博士研究生资质作者低。

当微博呈现方式为文字加图片（M=2168.97）时，“谣碎机”通常使用较多字数描述辟谣内容。其他两种微博呈现方式所用篇幅则显著少于文字与图片结合的形式。

详见表 3（无显著性检验结果略）。

表 3 “谣言粉碎机”注意度影响因素（字数 VS 微博元素）

变量	M	SD
辟谣来源资质		
达人类（1）	2406.64	1942.213
专科、本科（2）	2368.40	1184.585

硕士研究生（3）	2328.42	1214.468
博士研究生（4）	2609.68	1236.688
从业人员（5）	1965.66	1295.851
果壳网等媒体账号、编辑（6）	1623.73	1114.084
F=9.687，p<0.001		
Dunnett T3：（1,6）*；（2,6）**；（3,6）***；（4,5）**；（4,6）***		
微博呈现方式		
文字加图片（1）	2168.97	1241.736
文字加音频、视频（2）	1414.24	1425.924
文字加图片加音频、视频（3）	1590.23	1405.735
F=5.602，p<0.01		
LSD：（1,2）*；（1,3）*		
谣言科学主题	F=0.884，p=0.507	
谣言信源	F=0.830，p=0.521	
新闻事件相关度	F=0.801，p=0.525	
原创性	F=9.478，p=0.963	
注：#p≦0.1，*p≦0.05，**p≦0.01，***p≦0.001		

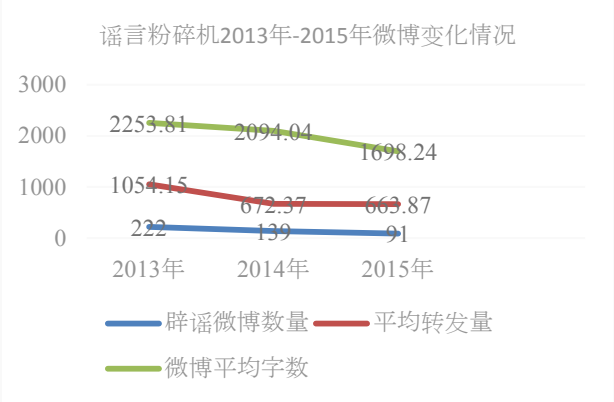
（2）“谣言粉碎机”2013 年至 2015 年微博变化情况

因各年间样本量无法满足单因素方差检验条件，故本研究使用描述性统计作为“谣碎机”2013 年至 2015 年间变化情况方面分析方法。

2013 年 1 月至 2015 年 12 月间，“谣碎机”整体微博与辟谣微博数量逐年下降。根据观察，自“谣碎机”于 2010 年 11 月 14 日发布第一条微博以来，从 2011 年至 2015 年发布的微博总量分别是 708、438、304、186、103；截至 2016 年 6 月 30 日，“谣碎机”的月平均发布量从 2011 年的 59.0 锐减到 2.83。

此外，“谣碎机”三年间的平均转发量和平均微博字数皆呈现递减趋势，2013 年与 2014 年的转发量变化尤为明显，说明“谣碎机”及微博用户对其辟谣微博的注意度亦逐年下降。详见图 1。

图 1 “谣言粉碎机”2013-2015 微博变化情况



在辟谣内容的科学主题方面，农业与食品科学主题所占比率增多，在 2015 年取代公共卫生与医疗主题成为占比最多的辟谣内容科学主题。自 2014 年起，“谣碎机”开始加入其他科学与研究者、科学事件的主题内容。基础科学的内容占比持续保持在较高且稳定的水平。

果壳网等媒体官方账号、编辑或联合编辑一直占据最大比率（30%以上），达人类作者略有增加。三年间，硕士研究生和博士研究生作者的占比都呈现先上升后下降的趋势，从业人员作者则呈现先下降后上升的趋势。

在微博呈现方式方面，2015 年，“谣碎机”增加了文字描述与图像、音频或影像相结合的内容表现形式，根据本文内容分析结果，此种方式转发量远高于文字加图片的单一形式，也就是说，2015 年“谣碎机”的微博呈现方式趋向多元化。

在舆论相关度方面，“谣碎机”既有进步，又有停滞。在谣言信源方面，“谣碎机”的辟谣微博自 14 年起大幅增加了对信源的追溯，其明确信源的微博数量显著上升，根据本文研究结果，这有助于辟谣内容获得更高的微博用户关注度。相反，“谣碎机”并没有加大对舆论热点、新闻事件的关注，与新闻事件无关的辟谣微博比率与缺失的新闻事件类项逐年上升。

详见表 4（略三年数值均为 0 之类项）。

表 4 “谣言粉碎机”2013-2015 微博变化

变量	2013 年	2014 年	2015 年
辟谣微博数量	222	139	91
		（平均值/百分比）	
转发量	1054.15	672.37	663.87
总字数	2253.81	2094.04	1698.24
辟谣内容科学主题			
公共卫生与医疗	33.8%	23.0%	23.1%
农业与食品科学	24.3%	25.9%	31.9%
地球与航天科学	9.0%	7.9%	6.6%
科技与工程	5.0%	7.2%	6.6%

基础科学	27.9%	28.8%	28.6%
其他科学	0	0.7%	1.1%
研究者或科学事件等	0	6.5%	2.2%

续表 4 谣言粉碎机”2013-2015 微博变化

辟谣来源资质			
达人类	1.4%	1.4%	5.5%
专科、本科	10.4%	7.2%	7.7%
硕士研究生	18.5%	22.3%	18.7%
博士研究生	22.1%	25.2%	14.3%
从业人员	14.4%	12.2%	16.5%
果壳网等媒体账号、编辑	33.3%	31.7%	37.4%
微博呈现方式			
文字加图片	91.0%	93.5%	82.4%
文字加音频、视频	4.5%	1.4%	3.3%
文字加图片加音频、视频	4.5%	5.0%	14.3%
谣言信源			
无明确信源	71.2%	43.2%	52.7%
有明确信源	28.8%	56.8%	47.3%
新闻事件相关度			
无关	87.4%	94.2%	97.8%
私人事件	6.8%	0.7%	1.1%
自然灾害	3.2%	0	0
事故灾难	0.9%	2.9%	1.1%
公共卫生事件	1.8%	2.2%	0
原创性			
转发	11.3%	22.3%	12.1%
原创	88.7%	77.7%	87.9%

四、结论与讨论

本研究结果显示，“谣碎机”微博内容主题主要与公共卫生和医疗健康、农业与食品科学以及基础科学有关。辟谣内容科学主题皆非“谣碎机”注意度和微博用户注意度的影响因素。根据观察，关于研究者与科学事件的主题中，涉及传闻传说、轶事趣闻的内容较多，表明“谣碎机”的微博内容不再保持纯粹的科学主题，

此种变化固然增强了可读性，但亦有打科学“擦边球”之嫌。

辟谣来源资质与微博呈现方式均是微博用户注意度的影响因素。据 2015 年《中国互联网络发展状况统计调查》对中国网民学历结构的统计，中国网民中低学历者仍占较大比例，这从一个侧面反应了网络辟谣平台存在和发展的必要性。根据本研究结果，微博用户更倾向于转发高学历或者具有相关从业经验和资质的作者所提供的信息。辟谣来源资质同样影响“谣碎机”的注意度，高学历作者往往采用更大篇幅来叙述谣言与辟谣，“谣碎机”等媒体编辑所用篇幅却最少。

根据进一步观察，辟谣来源资质中“官方账号或编辑、联合编辑”一项的增多，源于 2013 年 8 月 21 日起“谣碎机”微博开始主推的“流言百科”（果壳网于 2013 年开发）。“谣碎机”所发布微博中来源于“流言百科”的文章，主要由两个及两个以上编辑或作者合作完成。

根据分析，联合编辑出品文章的转发量明显较低，“流言百科”多数文章是由编辑摘取不同的同主题或针对同谣言文章进行的整合和编排，内容容量较小、新鲜度较低。“流言百科”文章的作者一栏，只显示作者名称，缺少小组内文章涉及的“身份标签”，致使读者无法直观获得辟谣来源的资质情况，这可能是影响转发量的又一因素。

在把握内容生产与舆论的相关度方面，“流言百科”产出文章较之前的进步是对谣言信源的追溯。“流言百科”创立初期，几乎每篇文章专设“谣言溯源”部分，从古书典籍到网络红人，编辑通过追溯谣言源头，给出明确信源。但从 13 年底、14 年初起，“流言百科”对于信源的把握开始松弛，大部分文章省略溯源部分，原本进步之处开始消弭。

根据本研究结果，受众对包含明确信源且与新闻事件相关的辟谣内容更为关注。那么“谣碎机”微博在舆论相关度方面表现如何呢？相比由舆论热点和新闻事件产生的“谣言”，“谣碎机”更关注对与事件无关的“流言”。可以说，只着力完成了其宗旨中“破除不实科学言论”，而忽视了“还原事件真相”。2013 年 1 月到 2016 年 6 月间，“谣碎机”近 90%以上的微博与新闻事件无关，且缺失类项逐年增多。2015 年，大量舆论事件爆发，其中不乏与科学知识紧密相关的事件，如“山东疫苗事件”、“民科与引力波”等等，然“谣碎机”并没有实时跟进。截至 2016 年 6 月 30 日，2016 年上半年度“谣碎机”仅发博 17 条。从 2013 年到 2015 年“谣碎机”微博变化情况可知，“谣碎机”的更新频率、发布数量、转发量、内容含量等多数指标皆有所下降，且出现重复情况。

王国华，王戈，杨腾飞，钟声扬（2014）认为，果壳网对信源较为重视，以期其内容生产符合科学业界普遍认知。此种做法较大程度上避免了因个人因素导致的事实偏差。其次，在辟谣判定依据上，“通过对既有文献的查找与解说来分析流言[v]”，使其绝大部分内容符合集体认知的基础标准。根据本研究结果，在近三年间的部分阶段，“谣碎机”确实在信源和判断依据方面保持高度把控，但总体来说，对于自身的要求严格度呈现下降趋势。

截至 2016 年 6 月 30 日，虽然“谣碎机”在果壳网小组实力榜中一直稳居榜首，但其在上升榜中排名第二十二，原创榜排名第十四，活跃榜仅排名四十。王国华，

王丽丽，王雅蕾（2013）认为，民间辟谣组织既有自发性特点所带来的良好科普效果，又易因非营利性的特质，而在辟除其他类型谣言时受到外界质疑。[vi]也就是说，相较其他组织，作为民间组织的“谣碎机”类网络辟谣平台，其传播效果亦有一定的局限性。

此外，“谣碎机”在发布组内作者文章时，会对链接文章附以介绍，如“【自己在家种菜更安全吗？】越来越多的人选择自己在家种菜。自己在家种菜也有一些风险……”，但发布来源于“流言百科”的文章时，往往只在微博中呈现如“传说中的【老鹰活到 40 岁的时候会拔毛断喙，然后重生】是真的吗？来自#流言百科”作为介绍，缺乏对文章要点的提取和突出。这意味着文章编辑、文章作者与微博编辑间缺乏交流互动。

根据杨鹏，史丹梦（2011）的研究结果，在微博中，“谣碎机”较传统媒体和官方科学传播媒介，更具显著优势。其原因在于，“谣碎机”具备“平民化”的形象和“草根化”的特点，且“谣碎机”较为受到受众认可的主要原因，在于其切实生活的内容生产，和符合网络语言特色的符号表达。[vii]运行初期，“谣碎机”确实依靠独具一格的特点跳脱传统媒体之外。随着网络环境发展，草根性和平民化成为众网络辟谣平台的统一风格，“谣碎机”已不再独树一帜。运行发展阶段，“谣碎机”除侧重于“流言百科”外，再无其他明显变化。直至 2016 年，其存在问题逐渐凸显：缺乏详实的选题策划，随机性较强；缺乏固定的意见领袖或明星作者，对作者的依赖度较高；缺乏鲜明的媒介特色，没有触发公众记忆点的语言风格和态度。其实，“谣碎机”组内拥有高频发文作者，其文章转发量也较为可观，如食品工程博士“云无心”，药学硕士“窗敲雨”等等。“谣碎机”应有意识的培养自身的明星作者，从而利用意见领袖作用和明星效应提升传播效果。

综上，根据本文研究结果，“谣碎机”等网络辟谣平台或应：（一）把握受众需求特点，根据受众定位调整语言风格、内容构成；（二）根据网络环境传播特点，把握“快、准、狠”原则，迅速捕捉舆论中心和热点事件，挖掘舆论相关度较高、传播范围较广的谣言题材，并及时组织相关作者对谣言进行辟除；（三）培养素养较高、专业性较强的作者团队。注重对作者团队的人员构成，建立相应的培养机制，将自身的人力资源管理成熟化体系化。在保证高质量内容生产的同时，加强编辑团队与作者团队的有效融合；（四）推进媒介融合。网络辟谣平台可与传统媒体或其他网络媒体达成合作，共享信息生产者资源，互相对内容进行校正和规范。打破受众对网络平台“不专业、不权威”的刻板印象，分化传统媒体的部分市场。

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A critical response to public opinion research in the Internet era, or some possible responses to challenges

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Abstract
The internet has brought deep changes to public opinion and research into it. On the one hand, the platform where public opinion locates, the way how it expresses and social influences of online public opinion have become heated topics in the present-day scholarship. On the other hand, the internet is also re-shaping the ecology of public opinion research, attracting academic attention from scholars of various backgrounds such as statistics, big data, psychology, politics, communication and journalism.
Take China for example. 80 pieces of approved research fund at the national level during 2005-2013 were about public opinion, 48 of which referred to online public opinion. Search on The National Knowledge Infrastructure (CNKI, a database similar to Google Scholar) for three different expressions of "online public opinion" in Chinese – wangluo yulun, wangluo minyi and wangluo yuqing, we could find 730,000, 270,000 and 110,000 results respectively. These evidences help us to understand how heat the research into online public opinion is in Chinese scholarship.
This paper, however, will approach this issue from a critical perspective, to reveal the deep challenges of public opinion research under the shadow of this heated research wave, including the powers that shape the credibility of online public opinion and what researchers could respond, accordingly. The paper argues that online public opinion research should 1) focus more on "group opinions" in plural sense rather than "mass opinion" in single sense and 2) apply more qualitative methods such as online ethnography rather than mainly based on quantitative methods (particularly the heated "big data" thing).

Keywords
Online public opinion, China's public opinion, group opinions, qualitative methods

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信息化时代舆论研究的思考

曹小杰

互联网给社会带来的影响是方方面面的，它不仅日趋改变舆论的承载平台、表现形式以及社会影响，使得“网络舆论”成为当前舆论研究的主要关注点，也在深刻地改变着舆论研究的学术生态，吸引了包括心理学、政治学乃至非人文社会科学等学科的学者进入该研究领域。

在 2005-2013 年的国家社科立项课题中，有关舆情项目共 80 项，其中 48 项为网络舆情项目[1]。仅 2015 年国家社科年度立项，舆情占 17 项，其中 13 项与网络舆情有关。在中国知网上，以“网络舆论”为关键词可检索到近 73 万条结果（2010 年出现激增），检索“网络民意”可得近 27 万结果（2011 年达到峰值），而以“网络舆情”为关键词可搜到近 11 万结果（2011 年增速非常明显，增长势头至今不衰）。以上数据虽不那么严谨，但至少从侧面反映出网络舆论研究似乎正在成为新的炙手可热的主题。

在这种研究气氛下，以泼冷水的方式来进行反思显得有些不合时宜。但毫无疑问，诸如舆论研究目前所遭遇到的瓶颈、影响网络舆论真实性的重要力量、网络舆论真实性的获得途径等问题，在互联网引入中国二十余年、网络舆论研究已开展多年的今天，是时候进行系统的梳理和反思了。

一、舆论研究面临的问题

（一）概念本身的问题

在国内学界，虽然有不少学者如甘惜分、周建明、陈力丹等曾经作出过严肃讨论，对于当前界定何谓舆论有启发有帮助，但整体上来说，这个概念仍没有定论、存在较大争议。不同研究在表述上和侧重上的差异是争议的最好表征。据不完全统计，相关用法就包括舆论、舆情、民意、公众舆论、公共舆论、公众意见、社会舆论、新闻舆论、民间舆论、官方舆论、大众舆论、网络舆论、网络舆情、网络民意、新媒体舆论、舆论表达、舆论引导、舆论导向等。

[1] 杨斌艳《舆情、舆论、民意：词的定义与变迁》,《新闻与传播研究》2014 年第 12 期，第 112-118 页。

这些用法所组成的概念族系大致可以分成两类。一类是母概念，如舆论、民意、舆情等。舆论、民意、公众舆论三者只是译法差异，基本可以等同使用[2]。当然对其具体所指，不同学者的看法存在差异。甘惜分认为舆论是“公众的意见或言论”[3]，落脚在意见或言论上。作为舆论的狭隘定义，它强调了舆论的某种稍纵即逝性质。而刘建明则认为“民意是人民意识、精神、愿望和意志的总括，是社会舆论这一意识现象的主导部分”[4]，强调意识、精神、愿望和意志等层面。该定义侧重“意识”，虽仍比较狭隘，但强调了舆论稳定性一面。陈力丹对二者做了综合，他认为“舆论是公众关于现实社会以及社会中的各种现象、问题所表达的信念、态度、意见和情绪表现的总和”[5]，将其拓展至信念、态度、情绪层面，意见或言论无疑是舆论最重要的内容，但是态度、情绪甚至信念同样也非常重要，尤其是在意见或言论无法合理表达的情况下。陈力丹还将行为补充进舆论范畴，认为诸如静坐、游行示威等行为舆论比言语舆论的强烈程度更大些。而舆情作为一个比较新的带有中国特色的概念，目前仍无权威定义（对应的英译词也没有），笔者倾向于认为它指的是舆论的情况，与国情的用法类似，主要由智库等应用型研究机构所使用并为决策服务。

另外一类是由母概念派生出来的子概念，如社会舆论、民间舆论、精英舆论、官方舆论、新闻舆论、大众舆论、网络舆论、网络舆情、网络民意等。它们都是根据舆论的不同维度或层次而作的区分，如根据参与主体而分的官方舆论与民间舆论。在中国语境下，官方舆论主要由新闻舆论所呈现，民间舆论与大众舆论基本等同，并在更为宽泛的意义上等同于社会舆论。而互联网时代以来，网络舆论/线上舆论与线下舆论成了一组常见的子概念。线下舆论也常被宽泛地等同于社会舆论。

总的来说，既有对舆论的定义体现的是学界对整全（cosmos）意义上的舆论的迷思，这能从“主导部分”、“总括”、“总和”等词反映出来，也同样体现在某些学者

[2] 陈力丹认为公众舆论是同义反复，因为舆论（public opinion）概念本身即包含公众之意。考虑到汉语中因约定俗成而常有同义反复的词语，如“哭泣”、“站立”、“美丽”等，这里不做细辩。关于“舆论”与“舆情”的差异，可以从相关研究的性质来进行粗略区分，一般来说，学术研究倾向于使用“舆论”，而政策性研究倾向于使用“舆情”。本文如无特别说明，统一使用“舆论”一词。

[3] 中国大百科全书总编辑委员会：《中国大百科全书·新闻出版卷》，北京：中国大百科全书出版社，1990 年，第 457 页。

[4] 刘建明主编:《宣传舆论学大辞典》，北京：经济日报出版社，1993 年，第 336-337 页。

[5] 陈力丹《关于舆论的基本概念》,《新闻大学》2012 年第 5 期，第 6-11 页。

试图用“三分之一”或“三分之二”[6]这样的量化方式来阐释何谓舆论的做法上。在信息化、多元化的社会语境下，整全意义上的舆论概念无法对多维度、多层次的现实做出更好解释，子概念的出现作为一种回应，通过细分指向具体群体、具体空间的具体舆论概念来解决解释力的问题。这种状况的出现，意味着对有关舆论的讨论由关注整体意义的大众转向了有差别的分众、由宏大舆论转向圈层小舆论。本文第三部分对这种转向将有更多讨论。

（二）研究方法的问题

有学者发现，国内舆论研究在研究旨趣、内容侧重、研究方法以及学术影响等方面与国外舆论研究大异其趣，国内舆论研究大多是为如何引导和治理服务的，并且多以逻辑思辨、推理阐释方法为主，缺少规范的实证研究；而海外多以实证方法进行研究，比如运用问卷和抽样调查、控制实验的方法来检验各种因素对公众的认知、态度、行动的影响，或者使用非介入性研究的方法分析来自各种媒体的文本或数据对不同媒体使用对公众的影响，整体上侧重效果研究和受众研究。[7]

当然近年来国内采用实证方法来分析舆论的文献在逐渐增多，当前比较热门的理念是使用大数据技术来分析舆论。随着计算机技术的发展，人类社会生活所制造的数据每天都在以亿字节的速度增长[8]，尤其随着互联网技术的进一步普及，用户在各种线上平台留下的文字、图片或音视频所形成的海量数据，理论上可以藉由数据挖掘技术进行收集并分析，从而重构舆论研究的思路、方法与手段。

但看起来美好的大数据思路同时存在种种挑战。首先并非每个人都喜欢在网上表达观点，通常网上只有 1%的用户会贡献内容而剩下的 99%都是潜水者[9]。如果只收集分析 1%表达出来的部分，而对这 99%的部分（其实仍可能通过沉默的上网行

[6] 陈力丹《关于舆论的基本概念》,《新闻大学》2012 年第 5 期，第 6-11 页。
[7] 王凤仙《国外传播学领域网络舆论研究现状——基于 ISI 三大引文索引数据库的文献计量分析》,《暨南学报》2015 年第 2 期，第 15-23 页。
[8] Christopher Frank, Improving decision making in the world of big data, Forbes, March 25 2012；转引自沈菲、王天娇《大数据语境下的民意：研究路径与趋势》，张志安主编《网络空间法治化——互联网与国家治理年度报告（2015）》，北京：商务印书馆，2015 年，第 288-303 页。
[9] Bell McConnell, Jackie Huba. (May 3, 2006). "The 1% Rule: Charting citizen participation". Church of the Customer Blog；转引自沈菲、王天娇《大数据语境下的民意：研究路径与趋势》，张志安主编《网络空间法治化——互联网与国家治理年度报告（2015）》，北京：商务印书馆，2015 年，第 288-303 页。

为如搜索、浏览、点击、投票等来表达态度或意见），这就需要对信息化时代舆论在定义层面进行拓展。信息时代的舆论至少应该强调两个维度：作为话语的舆论，作为行为的舆论。对于话语的舆论，目前的算法对于讽刺、春秋笔法等高修辞表达方式仍是无能为力的。尤其是在审查的语境下，某些敏感话题的表达往往不是直白的，人工都未必能够读出背后隐微曲折的含义，遑论机器。行为舆论也非常复杂，单靠统计行为数据有时候无法准确判断行为的性质（亦即行为本身所体现的态度）。比如针对某事件的搜索行为，搜索发起者对该事件（以及相关方）的态度究竟是支持还是批判呢？（态度数据有时候非常重要，比如大选时候对某候选人的搜索行为，搜索是一回事，支不支持是另外一回事，两者不能混为一谈。）另外搜索行为往往也受到外在不确定因素的影响。以谷歌 2008 年启动的“流感趋势”（Google Flu Trend）项目为例，它在第一年表现不俗，比美国疾控中心还提前两星期预告了上一年度流感的发病率。但随后其预测的可信度大幅降低，出现系统性误差的主要原因居然是媒体对该项目的大幅报道导致人们的搜索行为发生了变化。[10]

还需要注意的是，网络舆论不能等同于现实民意（这一点目前大概已成为研究共识）。从名称即可看出，它依托网络环境并且主要在网络中发酵、扩散。根据中国互联网信息中心（CNNIC）最新发布的《第 38 次中国互联网络发展状况统计报告》，截至 2016 年 6 月，中国网民规模达 7.1 亿，网络普及率达 51.7%，手机网民规模已达 6.56 亿。网民规模的逐年扩大，的确能扩大网络舆论的表达主体基础。但是需要注意的是，即便如此，网络舆论也不必然地就是社会舆论，至少从网民分布的空间结构来看，来自农村的网民仍然只占总体网民的少数（26.9%）。[11]更多的差异甚至内部冲突体现在性别、年龄、社会经济地位等人口结构问题上。从根本上来说，“网络舆论也是多种社会因素复杂互动的结果……需要将它放在更宏观的社会环境下，深入地研究它与其他社会因素或社会现象之间的相互作用及其结果”。[12]如何将网络舆论背后复杂的社会互动因素揭示出来，成为舆论研究的一大挑战。

[10] 沈艳《大数据分析的光荣与陷阱——从谷歌流感趋势谈起》，2016 年 7 月 5 日访问与：http://www.tencentresearch.com/4456_50，20160705。
[11] CNNIC2016 年 8 月 3 日《第 38 次中国互联网络发展状况统计报告》，2016 年 8 月 24 日访问：http://www.cnnic.net.cn/hlwfzyj/hlwxzbg/hlwtjbg/201608/P020160803367337470363.pdf。
[12] 彭兰《关于中国网络舆论发展中几组关系的思考》，《国际新闻界》2009 年第 12 期，第 75-80 页。

在目前规范的舆论研究中，量化的实证研究方法居于主导地位，很少有从质化方法来分析研究舆论的。这由舆论研究一贯比较注重整全、宏大视角的出发点所决定。但正如下文将会讨论到的，随着由宏大舆论研究转向圈层分众舆论研究，质化方法会变得越来越重要。

（三）舆论研究的结构性问题

首先是内容结构问题，以网络舆论研究为例，国内往往以技术平台为中心。丝毫不奇怪的是，各种基于互联网平台的命名如论坛舆论、微博舆论、微信舆论等不断出现。这就使得相关研究深受技术平台本身的兴衰起落的影响，比如新浪微博火热的时候，许多研究关注微博舆论，而当微博式微时，研究又转向了其他技术平台，而缺乏对于舆论主体的持续关注。与技术中心主义思路相关的是舆论研究也多关注事件型舆论，缺乏对与持续性公共议题相关舆论的关注。

其次是学科结构问题，海外舆论研究虽然多数来自政治学、社会学背景，但明显具有非常明显的跨学科特征，而国内主要来自新闻传播学[13]。新闻传播学对于舆论研究的确很重要，但作为一个跨学科的研究领域，它急需来自其他领域学者的参与，并且呼吁更多规范实证研究的出现。跨学科还意味着需要超越人文社会科学范畴，转化和应用更广泛领域的既有知识，包括社会动力学、复杂适应系统科学、统计学、系统动力学、人工智能、心理学、医学等。如何将这些知识纳入到舆论研究中来，本身也是非常重要的课题。

再次是研究机构结构问题，除了大学及科研机构在研究舆论外，各种民间或官方智库、商业化机构等都在开展相应的研究（包括研发舆论监测系统及软件等）。问题不是只有某些机构才有资格去研究舆论，而其他机构没有资格，而在于参与机构良莠不齐，在研究规范及伦理方面缺乏共识标准。目前绝大部分商业化的网络舆情和舆情研究机构主要依托舆情监测系统及软件在网上抓取目标信息并进行分析，正如有研究发现的那样[14]，这里面容易将舆情监测系统及软件所抓取的信息视为舆情，并且混淆信息内部的结构差异，比如究竟是媒体意见还是网民意见，是真实表达还

[13] 刘毅《国外舆论学研究的“知识图景”：热点、网络与结构》,《新闻与传播研究》2015 年第 5 期，第 19-31 页。
[14] 杨斌艳《舆情、舆论、民意：词的定义与变迁》,《新闻与传播研究》2014 年第 12 期，第 112-118 页。

是被操纵的表达等。

事实上，自 2008 年网络舆论/舆情研究开始流行以来，这已经成为具有相当规模的产业（包括舆情监测服务及软件），是许多新闻媒体、商业网站、商业机构推出来创收的业务。这些门类繁多的“舆情监测”服务面向各级地方政府以及国有企事业单位，为后者应对负面新闻提供舆情资讯及相关服务[15]。根据《经济学人》2013 年的一则报道，上百家公司推出了至少 125 款舆情监测软件[16]。如何平衡舆论研究所指向的社会责任与舆情服务所追求的商业价值，成为值得重视的问题。

二、权力与资本角力下的网络舆论

通常来说，一场具体的舆论包括议题（舆论客体）、公众（舆论主体）、一致意见（舆论表现）等核心要素。在这些核心要素之外，语境要素也非常重要。不同政治环境下的舆论有很大的不同，理论上，作为表达、对话、协商和共识的过程，舆论得以实现的基本前提是相对“自由的说真话的环境”[17]。在表达与风险高度相关的背景下，舆论本身的动向会变得复杂并且难以捉摸。由此形成的舆论主体在表达意愿、表达动机以及表达方式上往往与其他语境的不一样。另外，资本对舆论的潜在影响往往也被当前学者所忽略，它在网络语境下与权力的作用几乎同样重要，也比后者更为隐蔽。

舆论是社会的皮肤。从社会治理的长远目标来看，保证真实舆论得以生产的环境，有利于促使真实舆论的形成，进而为准确决策提供重要依据。反过来，如果舆论本身带有水分，分析过程中又没有将这种水分挤出去，据此而产生的决策报告的价值便要大打折扣。但在现实生活中，社会治理者因种种因素的影响，经常会选择以短平快的方式去处理问题尤其是负面舆论问题，以求短期的治理效果，这是其一。

其二，理论上自主的社会公众才是舆论的主体，但在现实语境下，机构主体或者相对不自主的参与者均在舆论生成过程中扮演着重要角色。在相对更为匿名的（至少前台是这样）互联网语境下，机构或者具有体制背景的参与者完全可以无碍地出现在一次次的舆论事件中，并影响舆论态势的走向。这些主体包括但不限于监

[15] 吴剑杰《舆情监测被列为政府购买服务的对象》，2016 年 8 月 27 日访问：http://china.caixin.com/2014-02-17/100639488.html。
[16] Gady Epstein. (2013, 6 April). China and the internet: A giant cage. *The Economist*, 1-14.
[17] 张志安《整天谈舆论，如何懂舆论》，《记者观察》2013 年第 10 期，第 42-43 页。

管部门、新闻媒体、商业网站、公众、知识分子、社会精英、意见领袖、网络评论员等等。尤其是日渐壮大的网络评论员队伍，以及正在被“收编”的新媒体代表人士（包括活跃在网络上的知识分子、社会精英以及意见领袖等），他们在表达方式与技巧上越发了解互联网并以网民喜闻乐见的形式来参与影响（甚至操纵）网络舆论。这套方式在短期内可以迅速地稀释或者扭转负面舆情的走向，但最终使网络舆论变得虚虚实实、半真半假，决策意义上的参考价值大打折扣。

网络舆论的参与者还需要将商业网站囊括进去。姑且不论商业网站经常需要根据宣传口径要求对相关信息进行过滤，它们在社会责任与利益诉求之间的张力也常常会影响舆论的态势。对商业网站来说，言论在某种意义上“已经成为了一种可以大规模售卖的商品”[18]，在网站追求点击量的诉求之下，大规模聚集的话语本身变成了可以变现的大数据资本。以百度疾病类贴吧为例，其内容常受到来自广告商的影响，未必是关于用户的原生态舆论的汇集。又比如在前文所提及的谷歌流感项目中，根据搜索引擎结果来估量舆论价值除了因搜索引擎可能受到商业诱惑而可靠性降低外，还会因为其内在算法的缺陷而造成系统性误差[19]。但与此同时在与权力的关系中，资本出于牟利的目的，有时候在客观上也扮演了一种与权力对立的角色（比如延时删帖以吸引人气等），从而为舆论发酵和生产提供了空间（尽管这种空间可能是有限的）。在利用大数据方法进行网络舆论研究时，需要将这些潜在的因素考虑进去。尤其是通过数据挖掘软件进行网络舆情分析，如何剔除这些变量的影响成为衡量其分析结果可信度至关重要的指标。

商业化的舆情服务机构也是网络舆论的重要参与者。前文提及的商业化舆情公司不仅提供舆情监测服务，很多时候也提供有偿删帖服务。此外还有相当数量以删帖及软文公关为主营业务的网络营销公司存在，目前被查封并曝光的就有口碑互动、新讯传媒、雅歌时代、尔玛互动营销公司等，诸如“网络水军”、“网络推手”等新词汇的出现便与这些舆情公司直接相关。根据《新世纪》周刊 2013 年的报道，这些删

[18] 王洪喆《争夺“网民”：数字时代政治主体的生成》,《文化纵横》2015 年，第 35-38 页。
[19] 同时参考 Min Jiang. (2014). The business and politics of search engines: A comparative study of Baidu and Google’s search results of Internet events from China. *New Media & Society*, 16(2), 212-233. DOI: 10.1177/1461444813481196; Min Jiang. (2014). Search concentration, bias, and parochialism: A comparative study of Baidu, Jike, and Google’s search results from China. *Journal of Communication*, 64(6), 1088-1110. DOI: 10.1111/jcom.12126。

帖公司不仅可以删除流行论坛、商业门户、社交媒体上的相关信息，还可以删除新闻网站的信息；有些网络营销公司，甚至通过自发负面新闻自删的方式变相要挟相关企业出钱购买其服务。[20]删帖及相应的舆论操控成为一门名副其实的生意。在舆论的向量中，这些参与者所施与的力与舆论真正主体所施与的力通常是相反方向的。

第三，在权力与资本的双重作用之下，普通参与者在表达意愿和表达方式方面也会发生比较显著的改变。在表达方式上，大量间接表达方式（如文字变异、图片拼接、混剪、另类修辞、隐微写作等）被创造性地使用于日常表达中，并形成一种独特的网络亚文化。这种以明显区别于其他语境的不那么直白的表达方式所呈现的舆论，目前仍未引起足够的重视。以哈佛大学 Gary King 团队的一则著名研究为例[21]，他们在实验法中用到的直白的敏感词在机智网民的实际表达中几乎是不太可能会用到的（既然用了就没办法发表），在实际表达中使用的往往是相对不那么直白的类比、讽刺、比喻的文字游戏，以及图文声像等更为丰富的表达手段。换言之，网络审查未必能够真正限制舆论的发生，但它肯定会改变舆论发生的形态——舆论在亚文化场域中换以间接、相对隐晦的方式表现出来。

当然不排除许多网民会选择放弃这种“躲猫猫”的游戏，而转向另一个极端，即成为社会政治的冷漠动物。这种冷漠可能以两种主要形式表现出来，或者转向拥抱其他议题（比如娱乐），从而成为真正意义上的舆论的沉默者；或者成为舆论的消极参与者，只有相应的阅读或者关注行为（如点击相关内容），而缺乏内容表达或者反馈（如不点赞、不评价、不置可否）。对于前一种形式，假若这个群体的规模持续扩大，它对整个社会政治生态的影响会非常消极[22]。而后一种沉默舆论形式的影响则需要系统讨论，它也经常被分析者所忽略，但正如下文将讨论到的，我们还是可以通过一些方法对其进行研究和了解。

关于表达方式的改变还存在更多情况，比如部分用户可能会费尽心力去使用防火墙外的网络平台。他们或者使用常见的海外互联网平台如脸书、推特等，或者搭

[20] 王晨、王珊珊、任重远、朱以师、于宁《删帖生意》，《新世界》周刊 2013 年第 6 期，2016 年 8 月 27 日访问：http://china.caixin.com/2013-02-08/100491759_all.html。
[21] Gary King, Jennifer Pan & Margarete E. Roberts. (2013). How censorship in China allows government criticism but silences collective expression. *American Political Science Review*, 107(02), 326-343.
[22] 正如尼尔·波兹曼《娱乐至死》（广西师范大学出版社，2011 年）或如罗伯特·帕特南《独自打保龄》（北京大学出版社，2011 年）所担心的那样，瓦解现代政治社会强调公众参与的合法基础。

建个人网站并将服务器挂在海外。这个群体的规模目前没有权威统计数据来估测，但许多舆论案例显示，他们是海外有关中国舆论的重要参与者并经常成为西方媒体报道时援引的对象。网络监管也不太能够覆盖这批网民，因此并不能够限制相关舆论的发生与扩散，舆论活动的空间从国内扩散到了海外。

根据上述分析可以看出，网络舆论深受权力与资本的双重影响，在呈现形态、真实程度以及具体启示方面表现出复杂特征来。权力可能会影响具体的舆论走向，但不太能够限制舆论的出现，舆论会以他种形态在新的空间中出现。而资本有时候存在阻碍舆论生成的作用，但有时也会促使舆论的生成。基本上可以认为，真实舆论总是客观地在那里，关键看研究者用什么方法去接近它。目前比较热门的大数据分析方法，尤其是根据网络搜索或者关注的热度来进行研判（如利用机器算法来自动提炼热门的舆论事件），即便不是掩盖了一些重要事实和维度，仅靠使用这种“懒人方法”也是不够的。在进行具体的网络舆论/舆情分析时，需要考虑到权力与资本的影响并且寻找有效办法来剔除这些变量的影响，这样得出来的研究结论其决策价值才可能更可靠些。

三、真实网络舆论的获得路径

（一）概念工具：转向隐性舆论与分众舆论

为了获得真实网络舆论，首先需要对在权力与资本角力之下的网络舆论的新形态进行重新反思。换言之，舆论研究的工具概念需要调整，既要从整全性的大众舆论转向分众舆论，做文化族群式（如知识分子社群、底层民众、黑客、小粉红等）的圈层舆论研究，也要从显性舆论转向隐性舆论，关注被主流研究议程有意无意遮蔽掉的舆论部分。相对目前被研究得较多的显性舆论，对各种分众舆论尤其是隐性圈层舆论的讨论仍很不够，这也是目前比较有挑战也可能更有价值的领域。忽略这两种形态的网络舆论/舆情研究其价值需要质疑。

首先是隐性舆论，简而言之，是暂未被主流社会所注意或知晓的舆论。它既指潜在的、不活跃的网民对某一社会现象、问题或政策带有共同倾向性的信念、态度、意见和情绪的表现。网民保持潜水、不活跃状态有时是由其个性所决定，有时则是

因为舆论管控而导致的表达受限。沉默作为一种隐性舆论形态[23]，是对管控的消极抵抗，因为沉默使得显露出来的舆论看起来符合管控方的预期，但压抑的不满情绪仍然存在，真实民意可能被遮蔽。隐性舆论同样也指活跃的网民在表达这种信念、态度、意见和情绪之时或之前之后被删除的部分，或者因技术设计不可见的部分（如微信舆论[24]或防火墙外的舆论）。根据隐性舆论的标准，上一部分讨论到的沉默舆论、域外舆论以及活跃在各种亚文化圈层中的另类舆论均带有较强的隐性特征。尤其是沉默舆论主要以网上行为为依据，基本上属于相对隐性的舆论形态。当然，另类舆论有时也可能以显性方式呈现（如帝吧亚文化与民族主义情绪的表露），但总体上目前仍是隐性为主；而域外舆论虽是显性舆论，但相对国内来说基本算是隐性舆论。

需要说明的是，这里所讨论的隐性舆论并不等同于潜在舆论或潜舆论。与一些学者[25]把海外舆论、民间舆论与潜在舆论作了明确区分不同，笔者认为隐性舆论同时也可以发生在海外（如果它因为技术设计而未被国内主流社会所知晓的话），也可以发生在民间层次（比如在网络亚文化群体中，前提是这种亚文化群体的舆论仍未被主流社会所知晓）。同样与一些学者[26]把潜舆论、显舆论和行为舆论作明确区分不同，笔者认为隐性舆论也可以是公开表达的意见（即显舆论，比如海外公开表达的意见无法在国内被主流社会所知晓）还可以是行为舆论。换言之，是否被主流社会所知晓成为衡量是否是隐性舆论的重要指标，只要仍未被主流社会所注意到的舆论形态均为隐性舆论。隐性舆论带有边缘性质，是中心之外的舆论。它也带有动态性，随着主流社会给予更多的注意，隐性舆论会逐渐显性化。

其次是分众舆论，基于前述两大部分的讨论，舆论研究首先需要正视乃至反思整全、宏大的研究进路，从关注大众舆论（mass opinion）转向关注有差别的分众、

[23] 沉默作为一种舆论形态目前仍未被充分讨论，只有极少数学者关注了该主题。如徐翔《“沉默舆论”的传播机理及功能研究》，《南京社会科学》2015 年第 10 期，第 112-117 页。
[24] 张志安、束开荣《微信舆论研究：关系网络与生态特征》，《新闻记者》2016 年第 6 期，第 29-37 页。
[25] 童兵、王宇《论潜在舆论和潜在舆论场及其引导》，《当代传播》2016 年第 3 期，第 12-14、30 页。
[26] 如陈力丹、刘建明、孟小平等。参见陈力丹、林雨丰《再论舆论的三种存在形态》，《社会科学战线》2015 年第 11 期，第 174-179 页。

关注圈层小舆论。在平面媒体及广播电视主导的时代，社会舆论深受这种以单向度传播为特征的信息技术的影响。以至于 19 世纪，大不列颠帝国可以籍由报纸建立起宗主国与殖民地之间的“想象的共同体”[27]，而广播技术使得炉边谈话之类的政治宣传几乎能够同时渗透到统治范围内的每个角落。电视技术基本上延续了这种单向度的传播格局，从而使得以竞争、征服、加冕等宏大叙事为特征的“媒介事件”不断出现[28]。但是互联网时代尤其是社交媒体时代，这种单向度的传播格局被极大地打破，多向度、播散式的传播局面逐渐形成。换言之，在一定时期内针对某一事件或现象，公众意见或态度不再容易受到单一媒介的操纵，而在表征上呈现出较大的异质、复调特征。

在这个意义上，延续着传统的大众舆论思维并将一定时期内的舆论视作一元的、宏大的、整全的，亦即大舆论，就会显得格格不入，也无法真正理解传统宣传模式失效等很多问题。分众舆论（或者圈层舆论）的提出，即是为了从概念层面回应社会异质性、舆论多元化复调化的事实。分众舆论不仅指发酵于不同网络社区的舆论（如强国论坛、猫扑论坛、天涯社区等），也指发酵于亚文化群体聚集区的舆论（有时在同一个网络社区如在百度贴吧，也可能存在基于不同亚文化群体聚集而表现迥异的舆论）。一则具体社会事件（包括舆论宣传）未必能够吸引到所有（或者大部分）分众的参与，就算能够吸引大多数分众的参与（是否能够自始至终参与也是存疑的），不同分众在参与时多半也带有各自的文化族群烙印（如体制内人士、网络评论员队伍、小粉红等）。

作为对南振中“两个舆论场”观点的进一步阐发，分众舆论的概念是为了继续破除舆论研究关注整全意义上的大舆论的迷思，因为民间舆论场虽然将有别于主流官方舆论场的特征揭示了出来，但却遮蔽了民间舆论本身的多元、复调特征。事实上，民间舆论场本身存在许多不同的小舆论，小舆论之间也既存在协同也存在对峙，它们并不完全截然地与主流官方舆论场相对立。从实用主义角度来看，与其基于错误或者虚假的宏大舆论而形成不当的决策，还不如去关注各种不同亚属群体及其小舆

[27] 本尼迪克特·安德森《想象的共同体：民族主义的起源与散布》，吴叡人译，上海：上海人民出版社，2005 年。
[28] 丹尼尔·戴扬、伊莱休·卡茨《媒介事件》，北京：北京广播学院出版社，2000 年。

论（价值未必真小），而后者或许是探求真实舆论的一条出路，也是从注重短期的总体信息调控走向长期的社会心态调适的可能之路。

分众舆论或者小舆论的概念，也对应了西方舆论研究在主题上的专业传统以及舆论客体对象的多样化这一状况。换言之，舆论客体对象并不完全指向政府，同样也可能指向行业机构、社会组织，除了关注腐败、公共政策等问题外，还会涉及到全球变暖、转基因、同性恋、烟草 工业、酒精政策、种族主义等丰富多样的现象及话题。转向分众舆论或小舆论，也是让舆论回归其作为一种社会监督力量的原初定位。

需要注意的是，分众舆论或者圈层小舆论本身不是对于大众舆论的抵消，一些属于亚属群体的小舆论在影响到足够多的社会公众时，它就可能成为大舆论或者说“主导舆论”（陈力丹以三分之二为临界点来进行界定）[29]。以网络舆论为例，严格来说，网络舆论也只能算是一种圈层小舆论，它隶属于社会舆论，是通过互联网来表达的社会舆论。随着互联网的日渐普及以及社会结构的进一步改变，网络舆论常常扩散至线下并成为一种社会舆论，二者的重合度在增加。

根据分众舆论的标准，目前网络上比较重要的另类舆论、沉默舆论与域外舆论几乎都不能算严格意义上的大众舆论（尽管在某些情况下，这些新的舆论形态可能扩散成为大众舆论），而更多的是分众舆论，亦即舆论的主体是各种分众，这也是由现代社会的异质性和功能分化的内在特征决定的。

（二）方法诉求：质化与量化的结合

从纯方法论的角度来看，相对于隐性舆论而言，显性舆论更容易把握；相对于宏大舆论而言，分众舆论或者小舆论更容易把握。与此同时，从分众舆论或小舆论切入也可能形成对隐性舆论研究的破题。除了可利用传统舆论研究方法比如以分层抽样的方式进行问卷调查外，理论上，这些隐性的、分众的舆论形态还可通过至少三种相对客观的大数据方式获得，一是相关后台数据库（对应沉默舆论），二是网民变换着形式使得内容获得公开的部分（另类舆论），三是在海外平台呈现出来的相关部分（海外舆论）。

[29] 陈力丹《关于舆论的基本概念》,《新闻大学》2012 年第 5 期，第 6-11 页。

第一种途径面临着如何合理使用后台数据的问题，牵涉到公众隐私、政府及互联网企业权力边界等问题，是个世界性的新问题。以美国为例，棱镜门事件之后，包括美国在线、苹果、脸谱、谷歌等多家互联网公司向美国政府施压，要求其对网络监听活动进行改革。在此后的多宗案例中，互联网公司以保护用户数据安全为理由，拒绝配合政府索取用户信息、对后台数据进行挖掘的要求。但是互联网企业内部已经开始重视其数据资本，通过成立内部研究院对后台数据进行挖掘并为其市场开拓服务。日益增长的后台数据对探讨真实舆论的作用可能会愈来愈明显。

第三种途径是全球化时代的一种景观，以中文推特网为例，因防火墙的缘故其用户规模并不大，但影响力却不小，许多国内维权人士或者异见分子活跃其上，他们针对中国环境及抗争、人权等问题的意见往往被国际媒体所重视并摘引[30]。越来越多的国内学者开始重视这部分海外网络舆论，当然研究时经常需要借助翻墙技术。西方学者利用大数据方法对社交媒体在舆论中的功能及作用研究已经非常多，这些相对多元相对成熟的研究方法是国内学者进行海外舆情研究可以借鉴的。在此不作赘述。

第二种途径目前仍是比较少见的。文字变异、图片拼接、混剪、另类修辞、隐微写作等被广泛用于敏感语境之下，成为进行意见和态度表达的常见方式。目前很少有舆论研究关注以这种非主流方式所呈现出来的舆论形态。相比较而言，有更多的相关研究以文化研究尤其是青年亚文化研究自居，目前国内已经有不少团队（如苏州大学新媒介与青年文化研究中心）致力于某些亚文化群体的研究，出了不少成果。也有越来越多的研究从情感动员的视角来关注网络动员与群体事件[31]，这类研究实际上与舆论研究有不少交集。如何将这些亚属文化研究及社会分析整合进网络舆论研究中来，依旧任重道远。这也就意味着，除了量化方法之外，需要探讨更多的质化方法来研究不同参与者在舆论中的地位与角色，探索舆论中行为数据的态度维度等，并将两种方法路径结合起来。

在一则具体的舆论研究中，这三种路径通常也需要结合起来。比如对沉默舆论

[30] 刘小燕、李云翔《国内政治议题的国际溢出效果研究》,《国际新闻界》2015 年第 8 期，第 20-32 页。
[31] 比如杨国斌《悲情与戏谑：网络事件中的情感动员》,《传播与社会学刊》2009 年第 9 期，第 39-66 页。

的分析，后台数据可以通过对参与者在网络日常生活中方方面面的足迹来综合判断一则具体的点击阅读行为背后的态度（亦即对沉默语言的解读），但同时也可以通过线下的问卷调查、访谈或者观察来接近一种比较真实的状态。另外还可以借鉴印度底层研究的方法策略，通过分析官方话语的叙事背后所隐藏的不同“故事”，从而把被其遮蔽的舆论还原出来，换言之，既要从官方舆论所说的方面来理解，还要从其“不言”的方面来理解。[32]藉此还原真实舆论被遮蔽的层面。从理论上来说，唯有将公开表现出来的部分与未公开表现出来的部分合在一起，才算构成了真正的舆论。而对于另类舆论的研究，最为关键的仍需要对这些另类舆论所依托的亚文化群体进行系统了解，这里便可以将网络民族志法[33]与线下方法结合起来讨论，据此来了解他们的“方言”（与主流话语不同的词汇体系）、隐微表达方式与习惯等，从而帮助我们更好地了解凝聚在这些不同亚文化社区中的圈层舆论（如帝吧亚文化与一系列民族主义情绪表露的舆论事件）。

另外需要注意的是，虽然有些议题更容易成为线上舆论、有些更容易成为线下舆论，但网络舆论在很大程度上存在与线下、与更广泛意义上的社会舆论的互动情况，基本上不存在纯粹意义上的网络舆论。其次舆论具有过程性，通过不同参与主体不断的有机运动来执行某种反应社会政治症候的皮肤作用。不同参与主体在不同时间节点上进入或退出舆论场、在话语权上所占比重以及对舆论态势走向的作用机制等均存在较大差异。研究时需要重视舆论生产的这个时间维度。

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[32] 参见王庆明《底层视角及其知识谱系——印度底层研究的基本进路检讨》，《社会学研究》2011年第1期，第220-246页。
[33] 参见罗伯特·库兹奈特《如何研究网络人群和社区：网络民族志方法实践指导》，叶韦明译，重庆：重庆大学出版社，2016年。

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The Communication Features and Laws Study of Healthy Emergencies Network Public Opinion Based on Field Theory Perspective

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Abstract

Couple aim to reignite public opinion about 2016 Shandong "deadly vaccine" accident, which is a widely discussed issue nowadays. From the Bourdieu's field theory perspective, China has been formed a new pattern of public opinion which is the coexistence of the official media opinion field and the public opinion field ,which started the game for this event. The official media opinion field higher concerning and active involvement promote a balance between two fields and make network public opinion subsided gradually within a short time, which deserves our attention. So this paper studied the difference between Sina News and Sina Micro-blogs from Information receiving model which consisted of the amount of published public opinion information, the source's credibility of public opinion information and the content of public opinion. And then we can grasp the characteristics and laws of the public opinion dissemination of the two platforms at each stage of the event.

Taking public healthy emergencies as the point-cut, this paper count data samples of 17th March to 16th April based on Sina News and Sina Micro-blogs, which focused on 2016 Shandong "vaccine" incident, in Sina that is one of China's four major portal websites . The relevant information of this event retrieved by Search Engines of Sina micro-blog and Sina News. After delete information which is no source, irrelevant or duplicate through the network crawler removal, it was screened out that 109 Sina News

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and 866 Sina Micro-blogs. Finally, the frequency statistics and regression analysis of the 975 data were carried out by using the content analysis method.

The results shown that, the duration of public healthy emergencies has been discussed substantially same, but there is a big difference that the development trend of public opinion in above two types of platform. Public opinion "resurgence" is dominated by the official media opinion field， which will accelerate the dissipation of public opinion. It is the key to control development of network public opinion in the germination period. Mainstream media still occupy the high ground of public opinion based on the Influence and authority of the news media. News and micro-blog's forwarding volume by the release of time, the impact of the media itself has a great contrast; News platform focus on social comfort and micro-blog platform using fragmented information to build a comprehensive understanding of the audience. URL function in Micro-blog contacted directly to news pages, by which would achieve complementary information. The public opinion field can supervise and question the government's behavior in real time through the network, so as to reduce the phenomenon of concealing facts and improper treatment. The official opinion field information disclosure and timely rumor science can accelerate the cooling of public opinion.

Keywords: the Bourdieu's field theory perspective; Shandong "deadly vaccine"; Sina News; Sina Micro-blogs; Communication Features

The Communication Features and Laws Study of Healthy Emergencies Network Public Opinion Based on Field Theory Perspective

一、引言

近年来中国的突发公共卫生事件频发，不仅威胁公众的人身安全，更在互联网快速发展的影响下引起社会不安和轰动，其影响范围广、造成损失较大。2016 年中国山东“问题疫苗”致命事件再次点燃公众的舆论热情引起全社会广泛关注。从布尔迪厄场域理论的视角来看，中国已经形成官方舆论场和民间舆论场两个相互制约又相互促进舆论新格局。新闻媒体作为党和政府的喉舌是官方舆论场的典型代表，凭借自身的信息优势和权威性，通过对新闻信息有策略性的控制和引导，在关键事件中占据舆论高地，发挥不可忽视的议程设置作用。网民过网络途径表达自己的舆论意见，无疑是“最有影响力最、有决策欲望”的行动集体。此次事件中，官方舆论场的高度重视、积极应对促使两舆论场逐渐趋于平衡，该事件舆论得以在较短时间内消退，此次成功经验值得研究和借鉴。借此，本文通过对舆情数据的量化分析来探究官方舆论场在面对民间舆论场的冲击时如何成功引导舆论发展，以期认识微博和网络新闻为代表的社会化媒体的舆情传播特点和规律，发现并总结本次疫苗事件的舆论引导经验，进而对官方舆论场和民间舆论场之间的平衡发展提出一些可行性建议。

二、研究思路与研究方法

本文以 2016 年山东“问题疫苗”致命事件为研究实例，以“中国四大门户之一”的新浪网为平台，搜索新闻媒体在新浪新闻、新浪微博两平台上发布的舆论信息为研究对象，共抽取 2016 年 3 月 17 日至 2016 年 4 月 16 日共 30 天的样本，覆盖事件发展的全过程。

在数据获取阶段，以“山东疫苗”为关键词，并限定内容发布时间为 2016 年 3

月 17 日-4 月 16 日，通过新浪微博、新浪新闻平台的检索功能，分别检索到山东“问题疫苗”事件的相关信息，并通过网络爬虫程序，去除没有来源的信息和删除不相关、重复的信息，最终确定共有 866 条和 109 条信息，总计 975 条。

针对山东“疫苗”事件发生、发展各个阶段的表现，本文采用采用内容分析法，对该事件的网络舆论全过程进行频数统计和回归分析，从信息接收模型的角度分析舆情信息的发布量（帖子总量）、舆情信息来源的可信度（如信息源的类型以及权威性等）和舆情内容（如观点质量）等影响受众信息接收因素，准确的把握事件各阶段的舆情信息是舆情监测和引导，进而解决以下几个研究问题：

1）突发公共事件舆情在网络新闻平台与微博平台的发布量呈现何种趋势和差异?

2）事件发展各阶段新闻平台与微博平台的舆情来源分布是否存在差异，差异如何?

3）事件发展各阶段新闻平台与微博平台的舆情内容信息是否存在差异，差异如何?

由于网络传播的参与成本低,人气集聚快,传播规模和影响可以迅速扩大,使网络舆情发展的集聚效应十分明显。依据网络舆情发布量的时间轴线图可将此次事件的网络舆情的发展划分为“散播— 集聚—热议—消散”四个阶段，即 3 月 17 日-3 月 21 日、3 月 22 日-3 月 24 日、3 月 25 日-4 月 2 日、4 月 3 日-4 月 16 日。

三、数据分析与讨论

1.新浪新闻与新浪微博总体舆情发布量变化情况

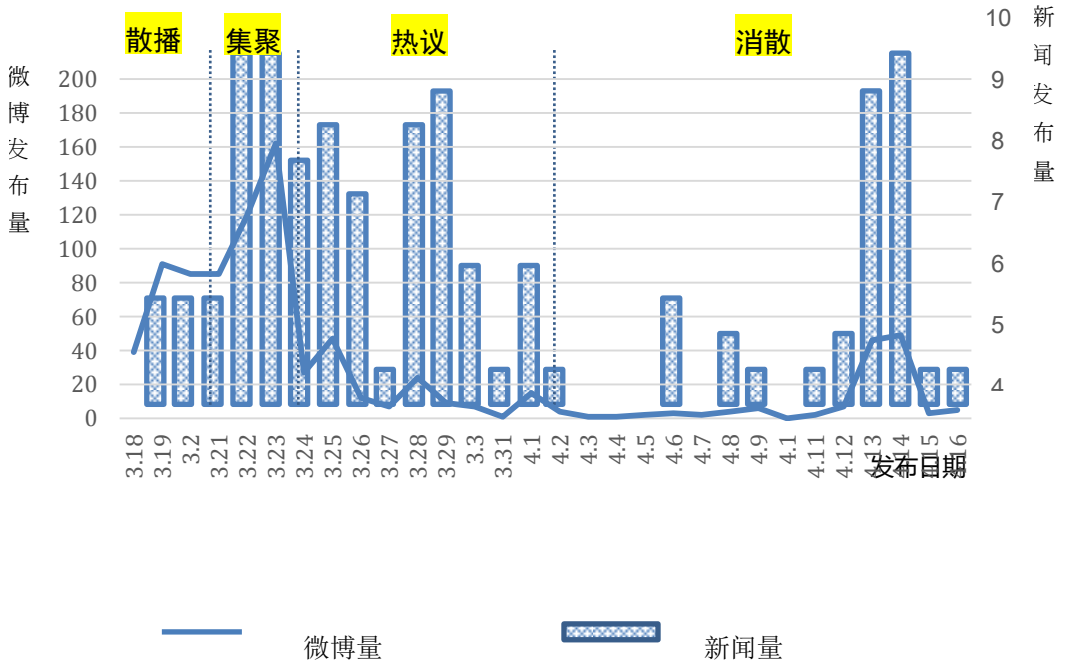


图 1.两平台舆情发布量对比分析图

如图 1 所示，新浪新闻首次出现相关信息实在 3 月 19 日，3 月 22 日在舆论集聚阶段出现峰值，新闻发布量达到 10 篇，随后出现多次小峰值，起伏跌宕，其中不乏当天没有发布任何相关新闻信息的情况。与此同时，新浪微博于 2016 年 3 月 18 日开始出现有关此事件的微博，3 月 23 日舆论集聚达到最大峰值，微博数量飙升至 166 条，4 月 13 日、14 日新闻、微博发布量出现舆论“回潮”，随后网络舆论逐渐消散。

进一步对比分析发现，山东疫苗事件在这两类平台上的存活生命周期大致相同，微博平台对于信息的披露略早于网络新闻平台。在事件发展中，新闻平台信息数量少，呈现多峰分布；而微博平台信息数量巨大，则总体呈现明显的单峰分布。

2.事件发展各个阶段新浪新闻与新浪微博舆情发布量比较分析

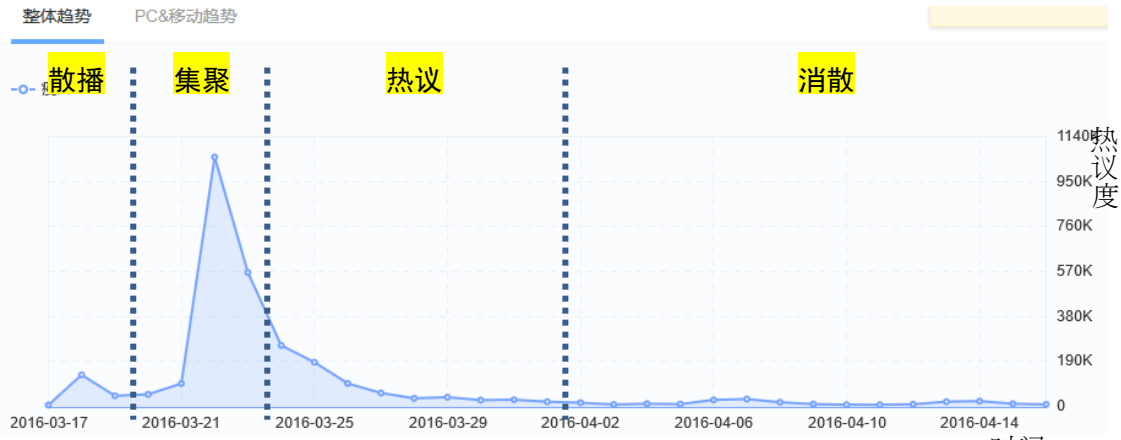


图 2.热词趋势图

目前中国网民多通过网络社交渠道发表言论形成民间舆论场，新浪微博是代表。由图 1 可见，新闻媒体的微博早于新闻发布此事件，同时在 3 月 19 日形成了一个对于该事件的讨论高峰，而此时正式新闻平台对于该事件进行首次报道的时间点。可以看出官方舆论场非常重视对民间舆论场信息需求的满足。、新闻对于突发公共卫生事件的报道在时间上具有跳跃性，其中有 7 天新闻发布量减少为每天 1 篇，3 天没有任何关于此事件的新闻报道，而其余日期的新闻发布量出现多次峰值；而微博对于该事件则有连续的和持续的讨论（除了舆论消散阶段的 4 月 10 日没有相关报道之外，日均发帖量为 28 篇）。从舆情信息量上看，在舆论散播、集聚阶段，新闻的发布量较为密集，之后两个阶段则呈现出起伏波动的现象，而微博贴量总体上是相对密集和连续的，即突发公共卫生事件的每一个高峰的出现都有一定的提前积累量，因此可以说，微博平台能从一定程度上预判突发公共事件的爆发。这个结论和上文提到的微博对于突发公共事件的关注度更为持久和连续、消散的比较慢的结论相互印证，也可以说官方舆论场和民间舆论场的博弈较为持久。

3.新浪新闻与新浪微博舆情来源比较分析

综合分析新闻样本可发现，综合类新闻媒体对于此事件的关注较多；其中 866 条新闻媒体类微博中有 93%新闻媒体通过微博官方机构认证，网络新闻媒体占比较大（共有 519 条）。

转发次数在 500 以上的相关微博有 47 条，其中转发次数在 1 000 以上的相关微博 31 条 ，转发量达到 1000 以上的新闻媒体有央视新闻、澎湃新闻、人民日报、头条新闻、环球时报、新京报、今晚报、中国新闻网、财经网、中国之声，央视新闻于 3 月 20 日发表的相关微博以转发 112677 次位列转发次数首位，显示出了巨大的影响力，也可看出主流媒体在此事件中对舆论的重视度，而民间舆论场显然对于官方舆论场的表现表示认同。

由表 1 可看出，舆情信息发布总量大于 10 条的新闻媒体均为微博机构认证用户，属于综合性新闻媒体，其中商业类新闻媒体占 1/3，党媒占 70%。相同的新闻媒体对于特定突发公共卫生事件舆情信息在新闻平台上发布内容数量远小于微博平台（京华时报的新闻发布量比微博发布量多一条）。

表 1.山东“疫苗”事件新浪新闻和新浪微博中共同新闻媒体来源发布量比较

消息来源	微博发布量	新闻发布量	发布总量
新京报	18	12	30
中国经营报	18	5	23
中国新闻网	14	9	23
财新网	20	0	20
央视新闻	20	1	19
头条新闻	18	0	18
财经网	14	4	18
新浪财经	13	1	14

河南新闻广播	13	0	13
南方日报	9	3	12
华商报	11	0	11
京华时报	5	6	11
中国日报	11	0	11
北京青年报	11	0	11
中国之声	10	0	10
人民日报	8	2	10

在对比两平台上新闻媒体发布时间的异同规律时，笔者发现，部分新闻媒体在新浪新闻平台上没有新闻发布，且新闻媒体并不是将所有的信息都同时发布在新浪新闻平台和新浪微博平台上，故控制舆情内容变量，最终得到 11 组对比数据（如表 2 所示）。从表中可看针对相同的舆情信息，新闻和微博的转发量受到发布时间、媒体自身影响力的影响呈现出较大差别。

表 2.山东“疫苗”事件新浪新闻和新浪微博中共同

新闻媒体来源发布时间和转发量比较

	新浪微博		新浪新闻	
媒体	**发布时间**	**转发量**	**发布时间**	**转发量**
新京报	3 月 18 日 20:38	124	3 月 19 日 01:20	7014
	3 月 19 日 11:12	52	3 月 20 日 02:20	692
中国新闻网	3 月 20 日 08:59	229	3 月 19 日 21:52	0
	4 月 14 日 08:34	43	4 月 13 日 23:52	1
央视新闻	4 月 13 日 23:17	488	4 月 13 日 23:19	5
新浪财经	3 月 28 日 17:01	48	3 月 28 日 21:40	0
	3 月 28 日 19:15	31		
财经网	3 月 22 日 19:27	1457	3 月 22 日 19:29	3
	3 月 22 日 21:20	254	3 月 23 日 16:10	657
人民日报	4 月 1 日 08:48	2057	4 月 01 日 09:14	0
京华时报	3 月 22 日 18:02	55	3 月 22 日 18:04	2

4.事件发展各个阶段新浪新闻与新浪微博舆情内容比较分析

通过对新闻平台、微博平台上的舆情信息内容进行内容分析可以发现，其内容具有交叉性，在前期数据整理的基础上，对致命疫苗、问题疫苗、疫苗检验、冷

链、运输、流向、流入、食药监（总）局、庞某卫、监管、问责、逮捕（刑拘、批捕）等关键词进行了检索、编码，最终形成 11 项内容细分，经过相关性分析后提取了特征值大于 1 的六个主成份因子，即疫苗问题、食药监（总）局调查及回应、科普/安抚、疫苗流向、其他信息、监管问责，共可解释 68.33%的变异量（KMO=0.493 ，Bartlett 的球形度检验后 P=0.000 < .001）。考虑到新闻与微博的传播效果存在差异，将两平台上的舆情信息内容进行分类，并对各时段内不同内容所占比例进行统计，如图 7、图 8 所示。

表 3.山东“疫苗”事件新浪新闻和新浪微博舆情信息内容主成份矩阵

	成份					
	1	2	3	4	5	6
1“致命（问题）”疫苗	.565					
2 食药监（总）局		-.754				
3 逮捕刑拘批捕						.737
4 疫苗流向				.674		
5 疫苗检验	.811					
6 庞某卫		-.533				
7 冷链运输	.595					
8 监管问责						-.554
9 科普/安抚			-.467			
10 信息公开					-.457	
11 其他（需注明）					.656	

如图 3，微博舆情内容随着事件发展不断发生着变化。在事件发展的散播阶段，微博舆情多以疫苗本身所存在的问题为主，同时疫苗的流向也引起了广大网民的关注，之后伴随着舆情信息的不断扩散，受众对疫苗本身所存在问题逐渐了解，越来越多的微博用户开始关注投向疫苗流向以及食药监（总）局对此事件的调查以及回应上，官方舆论场上食药监（总）局对此事件的回应非常及时，于事件散播当日通过互动力强、受众广泛的微博平台进行发布，事件散播的第三天（即 3 月 20 日）信息发布量达到最大值，受众对事件的了解也不断深入，事件逐渐清晰透明，官方舆论场开始对前期受众的疑问、质疑、困惑做出回答，伴随着多形式多途径科普、辟谣和安抚社会的信息的增加，网络舆论逐渐降温。4 月 13 日，官方舆论场发布了切实的问责处理以及冷静的思考与反思，最终给受众吃了定心丸，网络舆论落幕。从微博舆情信息的总体发布状况来说，微博平台上的舆情内容与时事发展息息相关，且与受众的认知过程一致。

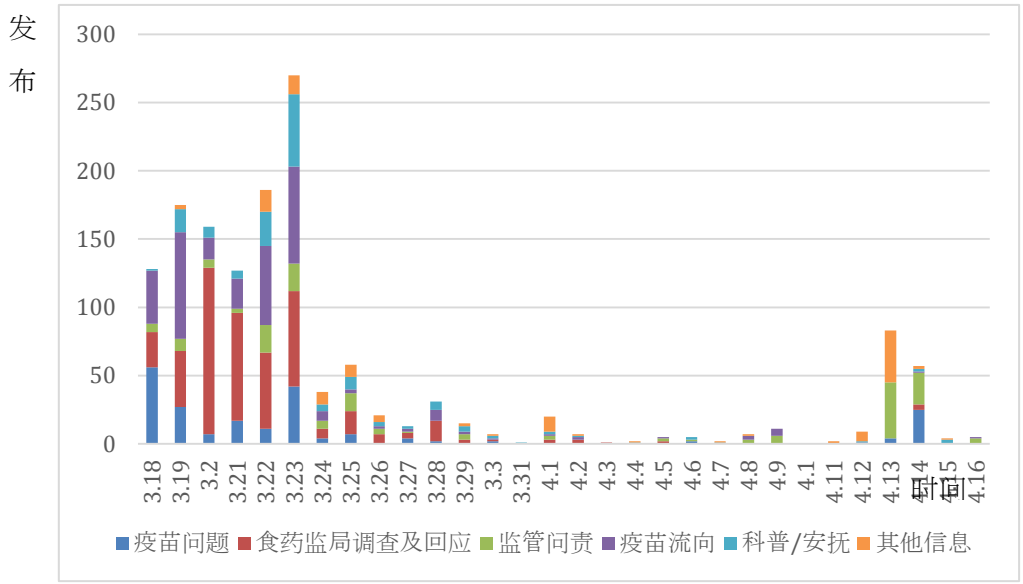


图 3.新浪微博舆情信息内容分布图

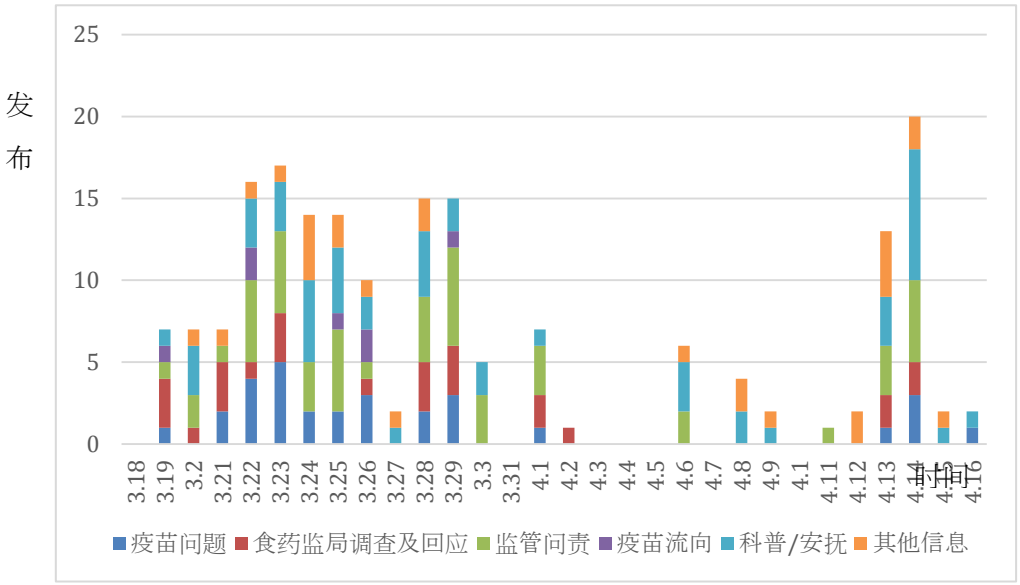


图 4.新浪新闻报道内容分布图

如图 4，总体来看新闻平台舆情信息内容变化与微博一致。有关疫苗本身的问题的新闻数量较少，大多数是关于食药监局调查及回应，以及疫苗流向问题，并在全国范围内展开严格排查和监管，全程发布科普、安抚类信息，也可看出新闻作为官方舆论场发言人不仅肩负着客观报道新闻事实的责任，同时也肩负着为政府发声、稳定社会的责任。

四、结论与讨论

1.两平台舆情发展态势差别较大，舆论萌芽期把控尤为关键

从新闻媒体的新闻与微博发布量来看，微博首次发声略早于新闻，初期微博信息也始终处于持续累积的过程，舆论也更具有持久性，呈现暴增缓消的发展态势，而新闻舆情总体维持在较低发布量水平，呈现间断性发展态势，总体来看两平台上的舆论消退路径趋于一致。究其原因主要有两个方面，一是与两平台的传播特性有关。特别是在各种突发性事件中，微博的及时性表现都出类拔萃。微博不仅

在第一时间向网友发布了很多第一手信息，甚至成了一些专业记者发现新闻报道素材的信息源。二是与事件总体发展有关。在事件发展的关键节点上新闻和微博舆情信息对称，相互呼应，民间舆论场高度参与的微博在一定程度上可以弥补新闻报道的缺陷。

从突发公共卫生事件的预警角度看，事件的萌芽期显得尤为重要。基于社交网络的微博在事件发生的第一时间即可将信息网式散播，因此微博平台能从一定程度上预判突发公共事件的爆发，官方舆论场上的新闻媒体在在事件初期准确把握舆情信息，快速控制负面舆情，高效引导正面舆情的基础，能够使得中后期舆情平稳发展，从官方舆论场的应对上看出民间舆论场相对较为平和。

2.网络舆论消散后期出现由官方舆论场主导的舆论“回潮”

从图 1 可看出，在新浪新闻和新浪微博的舆情发布消散阶段出现了舆论“回潮”现象，即经过前期舆论集聚阶段的舆论峰值，网络舆论随着事件的发展逐步消散，此时突然出现舆论峰值的再现，在此引起了大范围的社会关注，之后舆论正式消散，本文认为这样的舆论现象与海水“回潮”极为相似，在此定义为舆论“回潮”。

4 月 13 日国务院总理李克强主持召开国务院常务会议，听取山东济南非法经营疫苗系列案件调查处理情况汇报，决定先行对一批责任人实施问责，并公布了山东疫苗案的处理情况，通过新闻平台将信息公之于众，由此引起 4 月 13、14 日的舆论“回潮”,此次“回潮”促进了网络舆论降温，乃至消散。

由此可见，由官方舆论场主导的舆论“回潮”凭借给趋于理性的民间舆论场抛出最后一颗“定心丸”，全面公开事实真相，有利于民间舆论场了解政府积极、彻底的处理事件的态度，逐渐消解两个舆论场的矛盾。试想，若舆论“回潮”由民间舆论场主导，由下及上倒逼官方舆论场，其结果可能会再次引起网络舆论狂潮，因此对于舆论“回潮”的研究尚需继续深入。

3.新闻媒体对新闻、微博的策略性发布极大影响受众对信息的接收效果

从舆情信息来源的分析中可以看出，主流媒体、党媒的及时发声有助于民间

舆论场形成对事件的初步认知。此事件中官方舆论场将舆论重心趋向网络新闻媒体上，包括国家级媒体，如央视新闻、人民日报；还有地区性新闻媒体如南方都市报、重庆商报、成都晚报等；同时还有以电台为主打的新闻媒体，如中国之声、河南新闻广播等；也有其他各类专业性媒体，如法制晚报、经济观察报。网络是此次舆论的主要阵地，民间舆论场往往通过网络与官方舆论场展开博弈，主流媒体对此事件持续深入报道，加之既有的影响力巨大，一定程度上赢得了民间舆论场的信任和认同。

同一新闻媒体对于该事件舆情信息在新闻、微博平台上发布存在时间差，这将影响受众对信息的转发量。新闻滞后于微博发布，新闻转发量大于微博转发量，新闻与微博同时发布或早于微博发布，新闻转发量小于微博转发量。

新闻和微博的转发量受到信息发布时间和媒体自身影响力的影响呈现出极大反差。《新京报》作为综合类大型城市日报，高度密集覆盖北京市场，因此选择将新浪微博作为信息预热发布于众，再深度整合相关舆情信息发布于新闻平台，满足受众广泛涉略、慎重转发的心理，有效实现新闻报道的转发量和关注度的提高。中国新闻网于当日深夜发布新闻，于次日清晨发布微博，受网民阅读时间和阅读习惯的影响，微博转发量明显高于新闻。央视新闻、新浪财经、人民日报、京华时报四家新闻媒体基于对自身媒体影响力考虑，采取双平台发布，微博信息以其实时更新、短小精悍、便于查看的优势获得了比新闻更多的转发量。财经网的两组对比数据很好的印证了上述规律。

《突发公共事件舆情传播特征与规律研究》一文曾提到，相同的新闻媒体对于特定突发公共事件舆情信息在新闻平台上发布时间均滞后于微博平台，这与本研究结果有出入，一方面此事件发生周期短，不论微博还是新闻都在抢占时间一线，这也是最主要的一个原因，另一方面不同的新闻媒体在发布信息是都会基于对自身影响力的考量有选择的发布。

4.受两平台传播特性的影响，新闻平台重社会安抚，与微博信息互补

从舆情信息的内容分布来看，微博平台上舆情信息更多围绕“问题疫苗”展开，

信息更全面，科普/安抚类信息持续跟进，而新闻平台上内容多为对该事件处理结果和监管问责的信息，更加突出新闻媒体的党和政府发言人的角色，科普/安抚类信息所占比重相对较大。呈现这种差异的原因主要有三个：

一是受舆情信息属性的差别影响，碎片化信息构建网民对事件的认知。网络舆论的网民态度易受情绪影响，对政府和相关方行为本能的排斥，缺乏却都长篇新闻的耐心，而微博信息互动性强，网民能够自由参与，更乐意将碎片化的信息进行自主整合形成认知，因此官方舆论场表现出积极的迎合态度，满足受众的信息需求。

二是两平台的媒介责任有关。我国新闻发布有严格的规范，相比微博更为严肃、正式，信息也更为权威，这也导致新闻不得不避开某些敏感信息，更多承担发言人和稳定社会的责任，而微博因其准入门槛低，信息管制相对宽松，能够实时跟进事件发展，还能充分调动民间舆论场的力量促进事件调查，因此呈现的内容与“问题疫苗”更为密切。

三是与官方舆论场的社会责任有关。为避免网络舆论不断扩大、社会讨论愈加激烈，官方舆论场积极迎合民间舆论场的信息需求，第一时间公开了事件的相关发展状况，以及相关部门——食药监局对此事件的态度及处理行为，这在很大程度上消解了公众的疑虑，避免舆论爆发引来的负面社会问题，有效实现官方舆论场和民间舆论场的平衡。

五、结语

突发公共卫生事件往往具有紧急性、破坏性、不可控性等特征，在互联网快速发展的基础上，受众通过网络平台更加自由的参与社会事务，这一议题的研究可为官方域论场的决策提供理论支持。

但不可否认政府在处理事件时仍存在隐瞒、处理不当的现象，而民间舆论场恰恰通过网络舆论的形式实现了对官方舆论场的反抗和监督，使得新闻媒体代表的官方舆论场不得不做出相应的妥协，进而充分发挥两个发布渠道的独特传播优势，

整合与事件相关的多个新闻源，及时辟谣和科普，形成一种多角度、立体化的报道，最大程度还原事实本来面目，获得更多受众的关注和转发，获取民间舆论场的信任，进而掌握话语主动权，引导受众接收主流信息，使得网络舆论也在较短时间内逐步消退。

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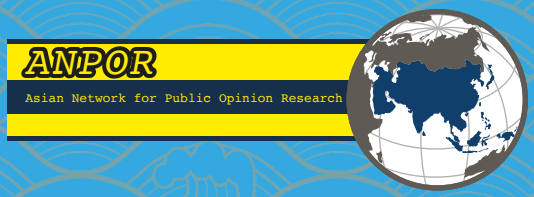
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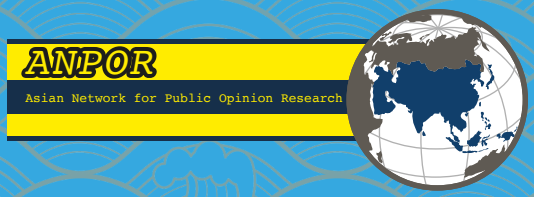
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