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2015 ANPOR ANNUAL CONFERENCE

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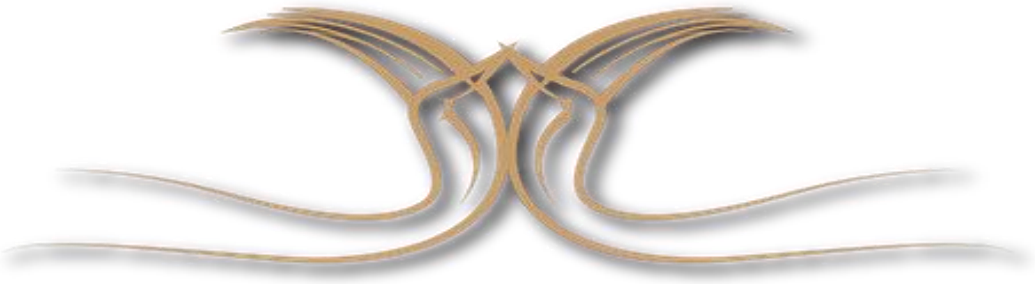

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Analysis on Amour-Propre and Obsession of Facebook and Facebook Likes
- Bringing a Focus to Teens of Age 17-19 -

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ABSTRACT

Amour-propre - Concept of Jean Jacques Rousseau that esteem depends upon the opinion of others (Discourse of Inequality – 1754) – has been one of the biggest emotions of teens on Social Network Service. In this research, the main Social Network Service will be Facebook. Although there were many researches about Facebook, they rarely dealt with the thesis about psychological reasons and reactions for "Likes" on Facebook. Our preposition is that teens show the emotion of amour-propre on account of the characteristic of Facebook because "Likes" is a touchstone to show one's popularity and influence to others.

The survey in the study aimed to show why teens use the "Like" system, and the difference between the relationships of academic achievement to students' usage and addiction to Facebook, relating with amour-propre of Rousseau. The survey, based on basic psychological research methods, factor analysis, was able to find the core reason why teens press and crave "Likes". To add on, this research focused on two more vital points, including the reaction of teens about "Likes" focusing on amour-propre, and the addiction due to "Likes" on Facebook.

Putting the results together, we could find that most students use Facebook more than one hour a day. Also, we could find out that time online on Facebook have a correlation with academic grades. Also, the obsession and amour-propre was caused by the basic emotion feeling better than others, and there was a huge difference in the rate of addiction to Likes, and the amount of Likes wanted within groups divided by academic achievement. Finally, we could assume that Amour-Propre in Facebook be a way to emission their stress for students.

Keywords: Facebook, Likes, Amour-Propre, Teens, Interpersonal Relationship

1. Introduction

Facebook has become one of the biggest markets of communication. In 2013, about 1.23 billion people used Facebook, which is the greatest number compared to different Social Network Services. (The Washington Post, 2014) As a result, Facebook became a very big factor in people's lives, from teenagers to the elderly. The generation that is highly affected by Facebook is that of teenagers. According to a news article of Marketing Land, 94 percent of teenagers in the Unites States were using Facebook, which is an enormous number compared to other generations. The system of Facebook which made Facebook popular was "Likes". Everyone could press Likes in any articles they think it is positively influencing and attractive. Likes have become one of the most believable scales to show popularity and influence to others. However, this function of Likes made people be addicted to Likes, and trigger even illegal actions just to get Likes on Facebook. For example, one person disclosed personal information about the identities of murderers on Facebook, and was arrested for damaging the murderer's human rights. Surprisingly, the man spread the murderer's personal information just to get Facebook Likes. (KBS, 2015) Actually, the person who spread the information had an average of 20,000 Likes. Like this example, there were many drawbacks of Likes on Facebook. The obsessions of Likes make these drawbacks, and the obsession is caused by the desire of popularity and attention. Even though there were many controversies about negative effects of Likes on Facebook, there were no studies about the psychological reasons why people were so interested and obsessed with Facebook Likes. Therefore, we would like to take the focus on three main points.

1. Whether the emotion of Amour-Propre exist in students in relation with Facebook Likes
2. The students' obsession with Facebook and Facebook Likes
3. The relationship between academic achievement and obsession to Facebook Likes

2. Theological Background

Amour-Propre (Self-Love) is a concept which represents that esteem depends upon the opinion of others – making one be consciously aware of others' opinions. This concept was first introduced in Rousseau's second discourse of Dijon Academy, called *Discourse on the Origin and Basis of Inequality among Men.* Rousseau explained that humans in natural state have two main characteristics, called amour de soi and amour-propre. Amour de soi means love of self, and refers to the kind of self-love and self-protection that humans share with brute animals and predates the appearance of the society. Amour de soi does not relate to the opinion of others, and only need minimum amount of resources to prolong life. However, with the development from natural condition to society, people craved for interest and acknowledgement from others. This became the root of Amour-Propre, which cannot be fulfilled because Amour-Propre is basically comparing with others. At last, Rousseau claimed that amour-propre led to people's hypocrisy and vanity.

3. Research Subjects and Method

1) Research Subjects

The subjects were 17-19 year old students, from different schools of Republic of Korea. We divided the group by two different standards. The first standard is whether the students were in a dormitory or not. Students inside a dormitory will have closer communication with their Facebook friends. The second standard is the academic achievement of students. The achievement was measured by the September National Academic Achievement Mock Exam, which was held in September 2nd, 2015. We predicted that students with a higher academic achievement would have less time online on Facebook, therefore having less amour-propre and obsession to Likes of Facebook.

2) Research Method

The experiment was done in a survey format. In this study, the survey was constituted of 3 different parts. The first part found out people's different Facebook usage patterns, including online time, number of friends on Facebook, and reason for using Facebook. The second part of the survey aimed to seek students' addiction on Facebook, which was done in a combination of Likert's Scale (Scale of 5) and short-answer questions. The last part, done only in Likert's Scale, aimed to figure out students' emotion of amour-propre caused by Facebook Likes. The survey included total of 23 questions including personal information as academic achievement, gender, or dormitory usage. (Table 1)

Table 1 Survey Configuration and Questions

Classification	Type	Question
Basic Information of Respondent	Short-Answers/Likert's Scale	•Gender •Academic Achievement •Does the respondent live in a dormitory?
Facebook Usage Patterns	Short-Answers/Likert's Scale	•Online time on Facebook •Reason for using Facebook •Number of Friends on Facebook •Posting on Facebook •Mostly Posting Subject on Facebook
Facebook Obsession Check	Likert's Scale	•Addicted to Facebook •Nervous when not online for a long time •How many percentage of your friends addicted to Facebook
Amour-Propre Caused by Facebook	Likert's Scale	•Number on Like on Recent Post •Number of Expected Likes •How many Likes do you click on others' posts •Type of posts you press Likes •If people press Likes on your reason, what would be the reason •Earning money with Likes is justifiable •Dislike would be a good idea •Feel Amour-Propre when getting many Likes •Post just to get Likes

4. Results

1) Demographic Characteristics

47 men (65.2%) and 25 women (34.8%) participated in the survey. Also, 30 students (41.7%) were from dormitories (Korean Minjok Leadership Academy), and 42 students (58.2%) were from school without dorms, including Chungnam High School and Seocho High School. In the samples who responded to the survey, 29 students (40.2%) had an academic achievement higher than 20 percentile of all students in Korea, 12 students (16.7%) had academic achievement between 20-40 percent, 19 students (26.3%) had academic achievement between 40-60 percent, 7 students (9.7%) had academic achievement between 60-80 percent, and 5 students (6.9%) had academic achievement lower than 80 percent.

Table 2 Demographic Information

Item	Division	Number of Subjects	%
Gender	Male	47	65.2
	Female	25	34.8
Dormitory	Yes	30	41.7
	No	42	58.3
Academic Grades	0~20%	29	40.2
	20~40%	12	16.7
	40~60%	19	26.3
	60~80%	7	9.7
	80~100%	5	6.9

2) Students' Facebook Usage Patterns

The second part of the survey aimed on the students' usage patterns of Facebook. With the survey, we could conclude out some meaningful results, related to online time on Facebook differed by academic achievement and dormitory residence.

Figure 1. Students' Facebook Online Time per Day

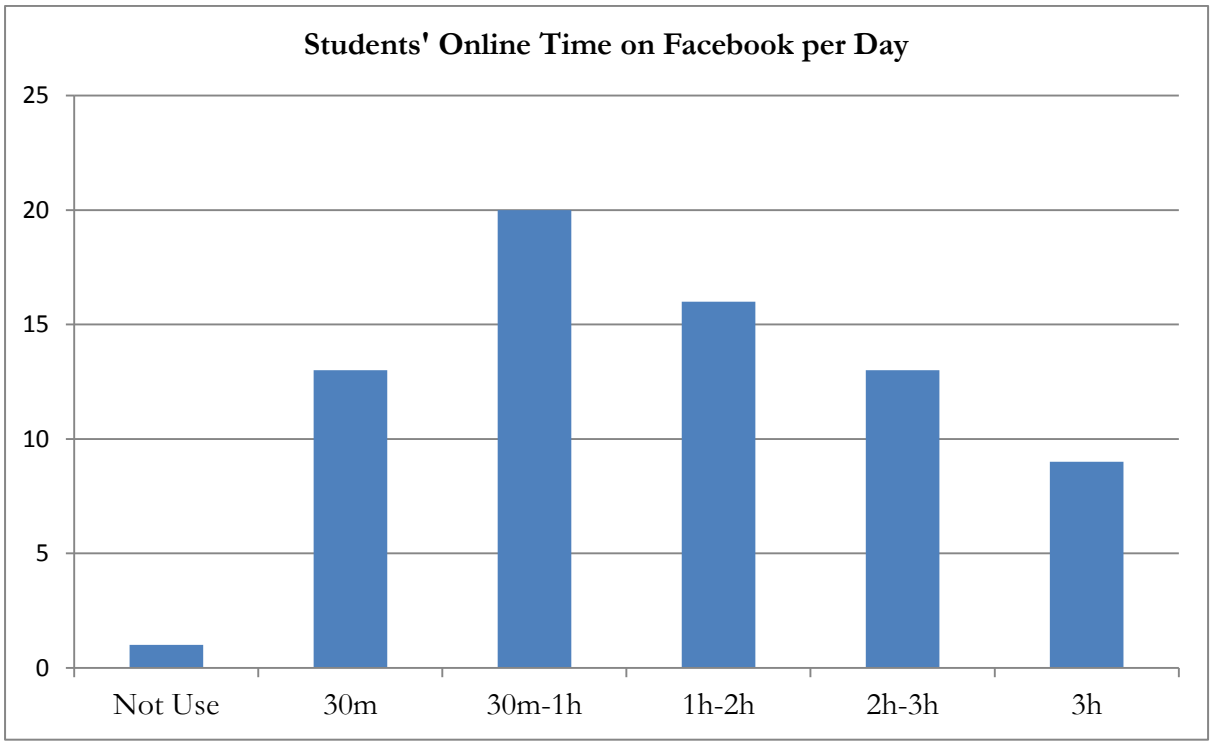

Figure 1 shows the overall online time on Facebook of students per day. Even though there were some students who use Facebook less than 30 minutes, most of the students used Facebook more than 1 hour. By this, we could conclude that Facebook has become very close to students' daily lifestyle.

Figure 2. Time online difference by dorm usage

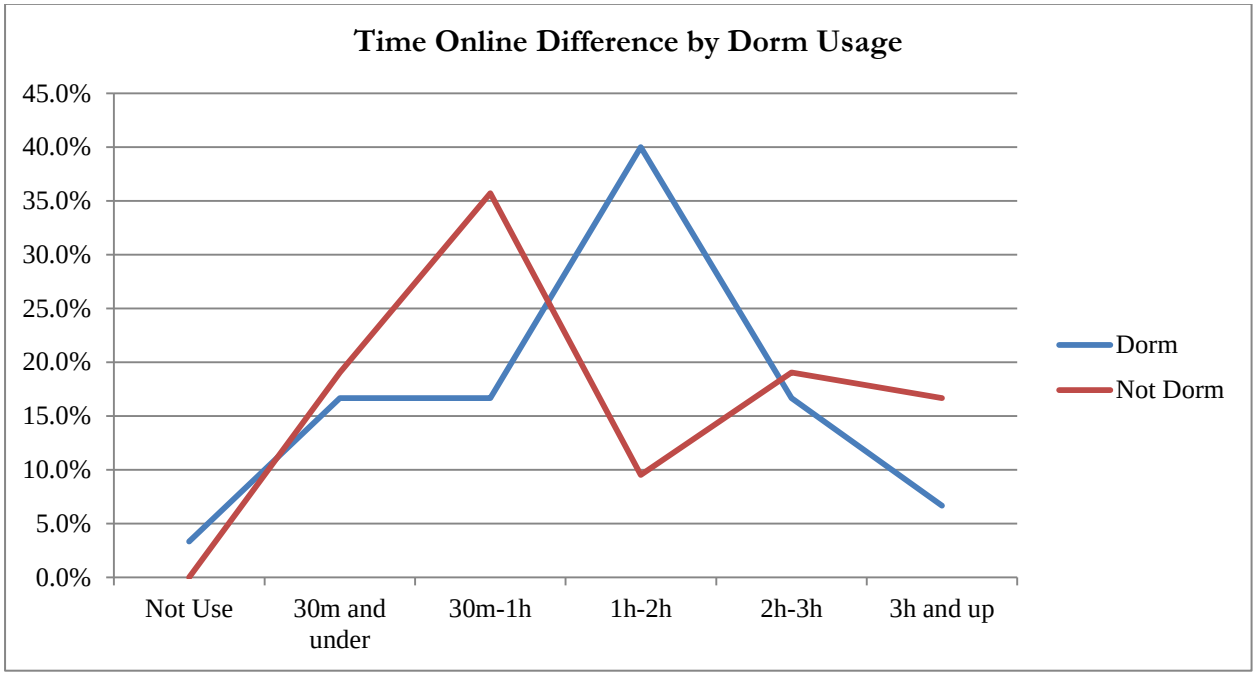

Figure 2 shows the different usage patterns of students differed by whether the students lived in dormitories or not. Schools with dormitories needed more communication with each other, because they had to live 24 hours a day with their schoolmates. Therefore, the amount of announcements was larger than other schools. Therefore, about 40 percent of the students living in dormitories used Facebook more than 2 hours. On the other hand, students in schools not with dormitories, generally used Facebook less than the students in the dormitory, because the schools forced students to turn in their electronic devices during school time, 7:00 AM to 10:00 PM.

Figure 3. Time online by Academic Grade

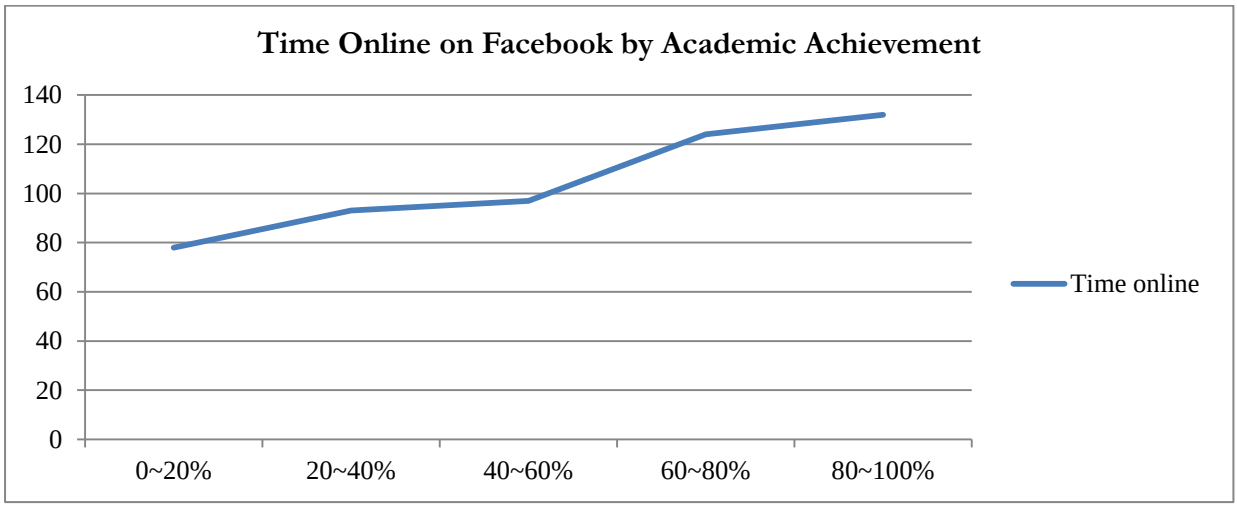

Figure 3 shows the variation of students' time online by academic achievement. The graph's abstract shape shows the slope bigger than 0, which means that students with worse academic

achievement have more time on Facebook. We could assume that students with lower grades take less time for studying and more time on Facebook and communication. Therefore, we can find the correlation of academic achievement and Facebook online time.

3) Students' Addiction on Facebook

Figure 4. Addictions on Facebook

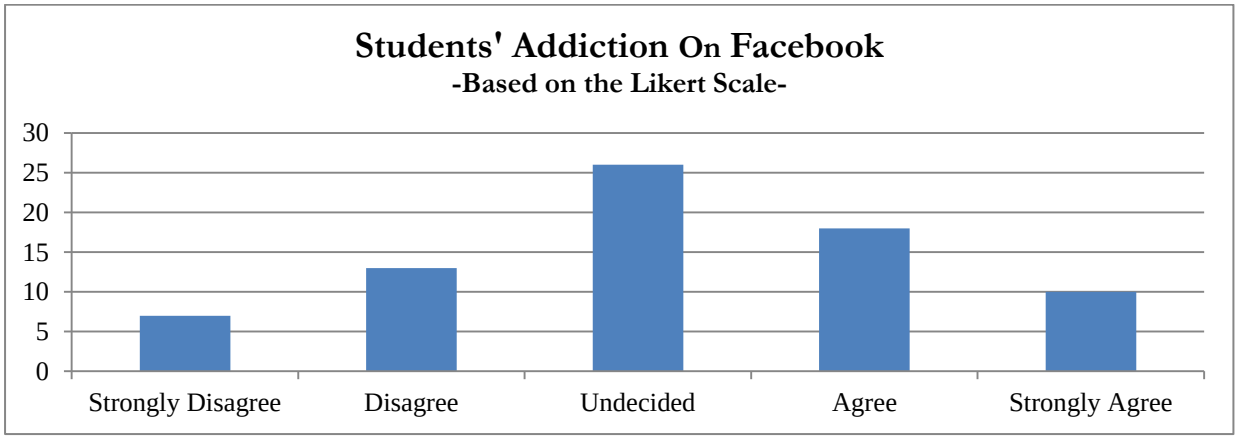

Figure 4 is based on the second part of the survey, which found about students' addiction to Facebook. The survey was done in Likert's scale. According to the survey, the addiction graph was in a shape of normal distribution. Also, this graph is slightly similar to that of total students' online time on Facebook. To conclude, we were able to find the correlation between addiction and usage time of Facebook, which is obvious.

3) Students' Amour-Propre on Facebook

By the survey, we could find out that amour-propre is felt because of the mind to be better and superior of others. When people post pictures of food they were eating and goods they buy, they feel superiority of other people, and feel happy.

Figure 5. Emotion of Amour-Propre Felt by Students

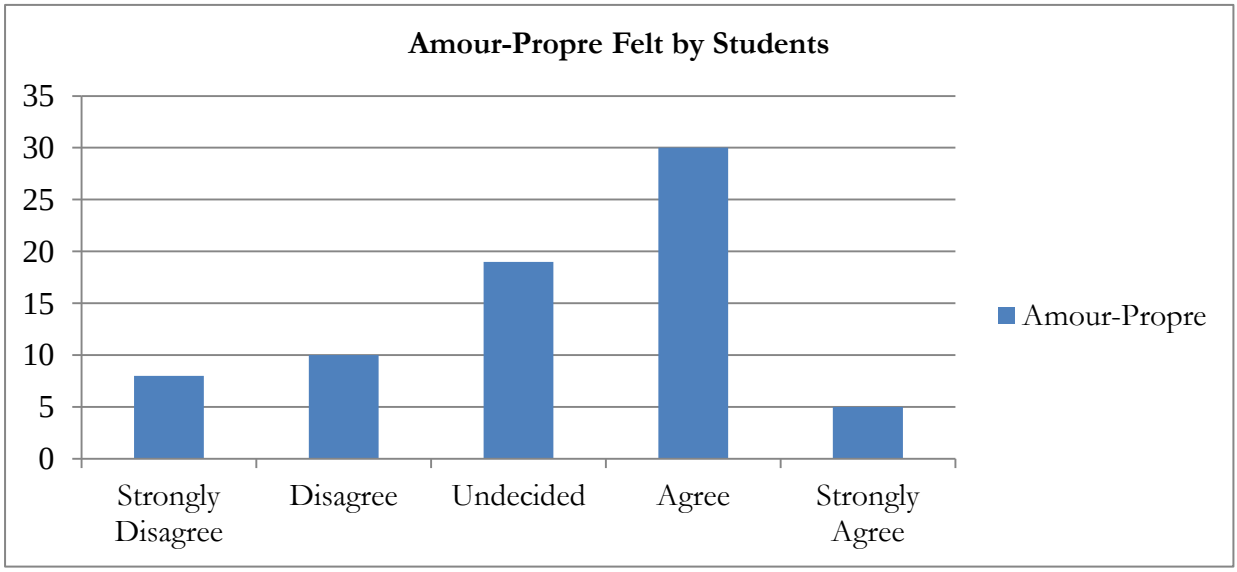

Figure 5 is the graph of students' emotion of amour-propre when getting Likes on Facebook. Our research team explained amour-propre in different examples to the respondents, and they showed positive reaction to the question if they had some kind of amour-propre due to Facebook. Almost 50% of the respondent answered agree or strongly agree on the survey, and only 25% answered a negative answer. Therefore, we could find out that amour-propre is a dominant and obvious result in mankind's life.

Figure 6. Difference between Wanted and Real Likes being clicked on one's post

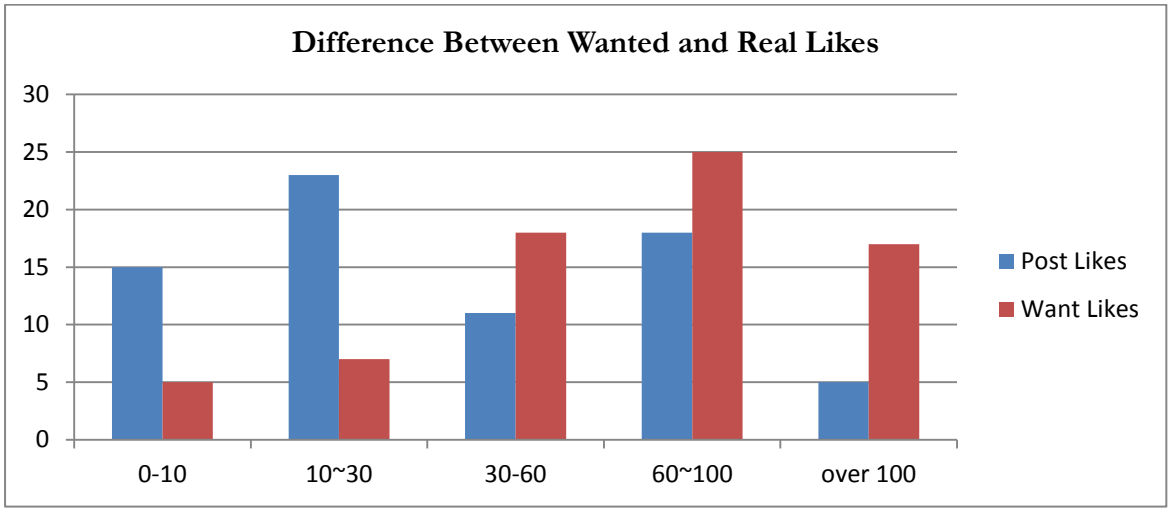

Figure 6 shows the gap between real amount of Likes on the post and amount of Likes wanted by students. According to the survey, there were many posts with Likes between 0 to 10, or 10 to 30. However, people who wanted Likes less than 30 were very scarce. On the other hand, there were not many people who have Likes over 60 or more. However, there were many people who wanted more than 60 Likes per post. To add on, there were less than 5 people who had more than 100 Likes in reality. However, more than 15 people out of 72 wanted 100 Likes or more. Therefore, Figure 6 was the most relevant and powerful evidence to prove that amour-propre exists, and people actually crave for more Likes.

Figure 7. Relations of Grades and Amour-Propre in Facebook

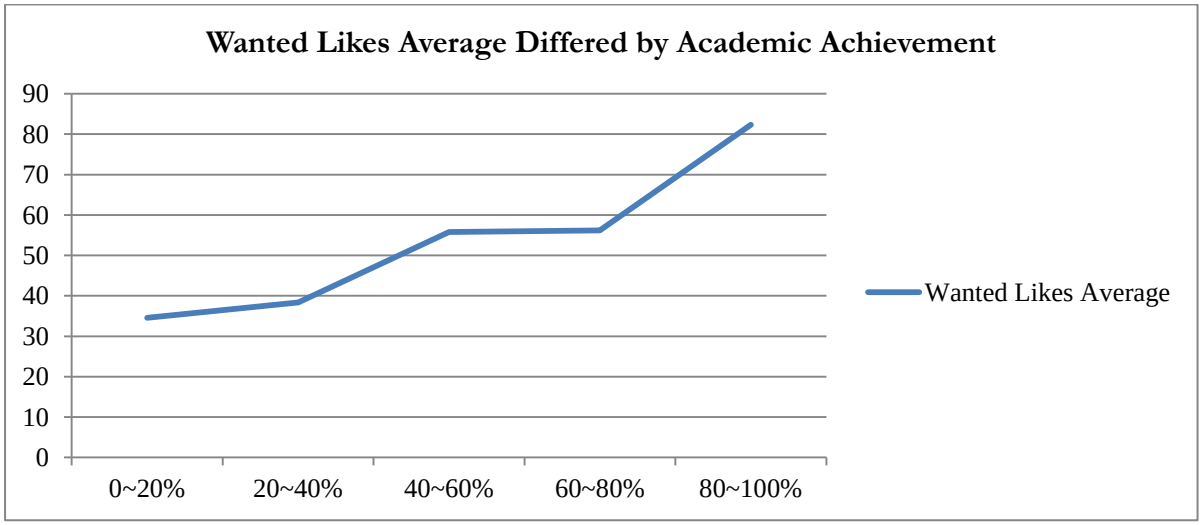

Figure 7 was the graph to see the amount of Likes craved in relevance with academic grades. In the graph, it seemed very similar to figure 3, which showed online time based on academic achievement. The slope was bigger than 0, showing that when academic grades declined, the number of Likes students craves increased. Also, we could imply that students with lower grades craved more for amour-propre than students with high grades. To add on, students who were online on Facebook more were afflicted to amour-propre caused by Likes on Facebook.

5. Discussion

1) Summary of the result

Amour-propre is a main part of students' emotion in Facebook, which can be seen in the action of craving Likes. The study aimed to analyze students' different usage patterns on Facebook, prove the existence of amour-propre of students' in Facebook Likes, and the relations with other factors. The result below was deducted by the survey done by our research team, mainly based on Likert's Scale. First, students mostly used more than one hour of Facebook per day. This proved the fact that Facebook has become one of the most important factors in students' lives; giving more conviction to the fact that amour-propre caused by Likes exists. Also, we found out that academic achievement and residential changes between home and dormitory can make a difference in the usage patterns of Facebook. Second, students were aware of themselves being addicted to Facebook, and addiction rate of students correlated with the factor of time online on Facebook. Lastly, amour-propre actually existed in students' minds. Also, we found out that people crave Likes for amour-propre they feel. Furthermore, students with lower academic achievement tended to crave more amour-propre based on Likes than students with comparatively better grades.

2) Significance and implication of study

The study on amour-propre's relation with Facebook Likes and students' psychologic traits had its significance in the point because it showed the relation of amour-propre and the circulated action of craving Likes.

3) Limitation and direction of study

The limitation of the study was that we were just able to imply that amour-propre exist by analyzing data based on a survey. We should have done some kind of an interview of students with a specialist in psychology to find the focal point of the emotion amour-propre. Moreover, we were only able to have 72 subjects involved in the study, only inside Republic of Korea. We should have had more samples in number, and more diverse samples. In the future, we would have to propose a specialist in psychology to check the real reason of amour-propre people feel. Also, we would have to analyze more Rousseau's works to find more specified information about amour-propre, which will clarify the study. Lastly, the survey should be held in a larger group of samples, minimum of 500. Also, more diverse samples of respondents were needed, including diverse nationalities and academic achievement, and social environments.

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Distinction of Living Status and Social Activity Participation among Different Social Classes in Macao

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ABSTRACT

Social class is an important factor to know distribution of social resources. In Macao, it is a controversial issue. Regarding most of the definitions of social class structure groups, people only took economic factors into account (e.g. available resources, wealth and income). However, the economic-factor-based social class division has its limitation which cannot give a holistic picture for one person.

This study employed CATI (Computer-assistant Telephone Interview) to collect data from the general public by random sampling. In the study, multi-dimension factors were taken into account to define social class and explore its characteristics. Two-step cluster analysis was used to analyze the factors of job status, monthly income and the length of educational time. Four social classes (the Wealthy, Sandwich Class, Vulnerable Class, and New Force Youth) and eleven subgroups were derived. People in different social classes showed different living status (e.g. consumption and entertainment habit) and social activities participation. This study proposed a novel definition of social class and subgroups in Macao based on above-mentioned multi-dimension factors. The findings captured their different status of social properties and specific characteristics.

Keywords: Social classes, subgroups, Macao, cluster analysis, characteristics

INTRODUCTION

Social class has many competing definitions, models, and even disagreements over its very existence. Karl Marx is a scholar making great impact on social class and proposed the frameworks of social class. Marxian Class Theory took personal income as an indicator to classify people into three social classes: capitalists, landlords and workers (Chan, 2000). Max Weber's ideas of social class focused on wealth/income, power, and reputation (Weber, 2009). The sociologist, Émile Durkheim, emphasized individual internal power and considered that social class originated from different individual occupation and skill acquisition (Palumbo & Scott, 2005). Talcott Parsons argued that people in the same hierarchy of social class were with same values (Merton, 1968).

Social Class in Chinese Context

Historically, the prevalent social class structure in China Mainland consisted of worker class, the peasantry and the intelligentsia (Lu, 2001). To meet the social changes, "Ten Hierarchy Social Class" proposed by Lu (2001) is one of the theories to define social class nowadays, which uses occupation status as an indicator. Based on this social classification, the structure of the whole society is like a shape of "olive", suggesting that there are a relatively few people in the upper class (e.g. managers of the country) and in the lower class (e.g. unemployed people) but many in the middle class. However, Li (2005) held a different view that Chinese social class structure was similar as an upside-down Chinese character "丁" rather than a "olive" because there were a large number of people with low economic status in the lower social class, just as the downside part of "一", while the rest of people in different social class consisted of "丿".

More recent study about social classification in Hong Kong can be dated back to 1989. Based on occupation status, Lui and Wong (1993) put forward three hierarchy of social class (from top to bottom): Service Class, Middle Class and Worker Class. There were 40.6% people in Worker Class while only 19.9% of people were in Service Class and the rest were in the Middle Class at that time. From a Portuguese colony to the Chinese Special Administration Region, Macao has similar society changes as Hong Kong. Prior studies regarding social class in Macao have been predominately on Middle Class (Association of Macao New Vision, 2010; Lau, 2011; Ho, 2011). Most of these studies took economic status (e.g. income) as a primary indicator to define Middle Class. There were even some researchers in support of income as a single indicator when classifying Middle Class (e.g. Tang, 2011). Apart from economic factors, other factors, such as social participation, education level and housing, were also employed in a handful of studies (Lau, 2011; Ho, 2012).

Distinction among Social Class

To well understand people in different social class, previous researches have been conducted to investigate their specific characteristics from various perspectives, such as living status and social activities participation.

Class and Consumption Habit

Consumption behavior, as an everyday behavior, is one of important indicators reflecting people living status. Moreover, some sociologists even employed people's consumption habits as criteria to define social class. Fisher (1987) found out that there existed a relationship between

social class and consumer behavior. Further, social class more positively associated with food and durable products than any other kind of products (Foxall, 1975). Myers, Stanton and Haug (1971) compared the effect of social class and income specifically on low-price household products. The findings showed that, rather than income, social class had a greater association with the products' expenditure. Another evidence showed that both social class and income affect buying behavior but in different kind of products (Mihić & Čulina, 2006): social class was attached more importance on in buying products which implied people's living style and social status, such as wine and automobiles; Income influenced more in buying products without much social symbols (e.g. insurance). According to a statistics from U.S, regarding with housing expense, the lower class spent most it and the upper class spent least (Al-modaf, 1999). Tian (2011) documented that among ten hierarchies social class in China Mainland, private entrepreneurs achieved highest rate in consumption level. Toward consumption structure, food expenditure was large for Peasantry. It was an upward tendency of clothing consumption when the social class was from lower to upper. Xia and Yao (2005) specifically explored consumption behavior of the white collars, who were recognized as the Middle Class. The result showed that their daily necessities buying still occupied a considerably high proportion of their total expenses compared with other kinds of consumption.

Class and Leisure Activities

Leisure activities have also been investigated in the study of Xia and Yao (2005), and reading was reported as the major leisure behaviors of the white collars in daily life. The number of white collars who chose travel as leisure behavior was relevantly low, only occupying 13.7%. Further, Luo (2008) reported that there was significant difference in tourism consumption among people with different occupation. Most of businessmen in the upper class went to travel for vocation or business issue whose travel consumption was higher than any other groups of people, followed by those working in government organization (e.g. civil servant, teachers). They went to travel with aims for leisure and local culture. Students, workers and farmers were in lowest economic status and they spent least money on traveling. In this case, it is necessary to find out specific travelling patterns of different social class to catch up the economic development and social changes.

Class and Social Activities Participation

Another factor interested by scholars to understand characteristics of social class is people's social activities participation. An evidence illustrated that the higher the social class was, the more positive and voluntary attitude for social participation that people held (Phillips, 1969). Besides, Kraus, Anderson and Callaghan (2015) found that people's individual perceptions toward social class rank could have impact on their social participation (political participation specifically). There was a tendency that political participation would decrease as the perceptions of social class lowered. Two studies upon only one indicator of economic status found that people with higher income were more likely to engage in social activities (Foskett, 1955; Mather, 1941). In Chinese context, a study highlighted frequent political and social activities participation behavior among the people in the top and bottom of social class (Yin, 2007). Meanwhile, it was documented that the Middle Class showed negative attitude toward political participation (Li, 2014).

In conclusion, some definitions of social class looked only at numerical measures such as wealth or income while others took into account some qualitative factors, such as education, culture, and social status. Multi-dimension factors were employed in this study. Further, empirical results were assumed that social stratification has still, to some extent, effect on living status (e.g.

consumption and leisure activities) and social activities participation. This study aimed to 1) determine social class based on multi-dimension factors; 2) find out their specific characteristics of living status (consumption and leisure activities) and social activities participation. It was hypothesized that social class significantly differed on the aspects of living status and social activities participation.

METHODS

Sampling

The data of this study was collected by using telephone research method. The survey was conducted from 25th July to 1st August, 2014, with 1,015 qualified respondents who are Macao citizens aged 18 or above.

After dialing a random-ordered number and confirmation of household via Computer-assisted telephone interviewing (CATI) system, the next-birthday method is used to sample qualified respondents. During this survey, interviewers dialed 38,705 calls with 11,367 randomized telephone numbers in total. The average time of an interview is eighteen minutes. In total, 1,015 people aged 18 years old have been successfully interviewed.

According to the U.S. AAPOR (American Association for Public Opinion Research), this study employed the formula 3 with RR3 of 39.7% and CR3 of 80.9%. The sampling error is ±3.14% at the confidence level of 95%. The data were weighted in accord with the latest Macao Population Census Estimates, in terms of cross-distribution of age and gender.

Measures

The questionnaire consisted of four parts: the measures of consumption, traveling patterns, social activities participation and demographic information. Consumption was measured by consumption structure in this study. Respondents were required to indicate the money they spent on different daily aspects, for example, the water supply fee and housing rent fee. Traveling pattern was used to measure respondent's leisure activities: respondents were asked to give the places they have been to in the last twelve months. Social activities participation was about the experience of engagement in certain social activities held by social associations in last one year. Respondents reported on the question, "Have you ever engaged in the activities held by social associations?" Some certain activities, for example, community volunteer, were given for respondents to choose. Demographic information about gender, occupation, education level, monthly income and newly employed status was collected as well.

RESULTS

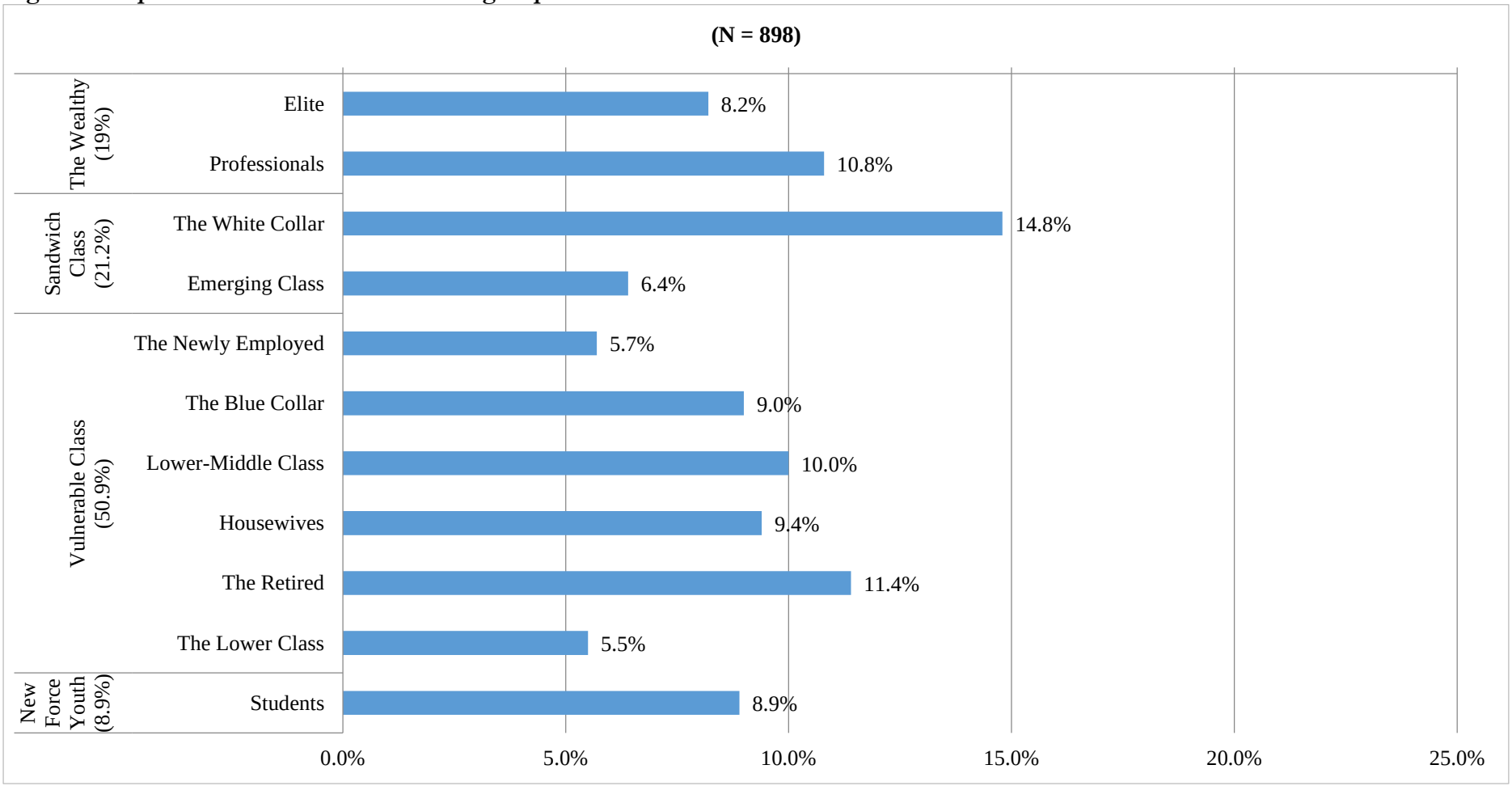
Social Class

In preliminary test, a stable social class has been derived from the demographic factors including monthly income, age, and education level and job status. The Macao residents can be classified into four hierarchies of social class: the Wealthy, Sandwich Class, Vulnerable Class, and New Force Youth. At the same time, the result also showed that the employed made up the Wealthy and Sandwich Class while the Vulnerable Class was a group of retired people and housewives as well as some of the employed. The New Force Youth were all students. Based on the preliminary findings, in order to subdivide the social class, two-step cluster analysis was conducted to classify the employed by monthly income, the period of education, and full-time employment in recent year. Finally, the four hierarchies of social class were subdivided into eleven subgroups. Table 1 briefly identified these four social classes and eleven subgroups, and figure1 listed the proportion of respondents who fit into these.

Table 1 Four Social Classes and Eleven Subgroups in Macao

Social Class	Subgroups	Identity	Occupation	Newly Employed	Income (MOP)		Education Level	
					Average Monthly Income	Median of Average Monthly Income	Education Level (The highest proportion)	Period of Education (Year)
The Wealthy	Elite (N=74)	Employed	Legislators, senior officials in public administration; community leaders; enterprise leaders and managers; self-employed with employees; self-employed without employees	No	35974	30000	Undergraduate	13.5
	Professionals (N=97)	Employed	Professionals; technicians and assistant professionals	No	24259	22000	Undergraduate	14.4
Sandwich Class	The White Collar (N=133)	Employed	Clerk	No	20369	19500	Undergraduate	14.5
	Emerging Class (N=57)	Employed	Dealer	No	18160	18000	Senior High School	11.5
Vulnerable Class	The Newly Employed (N=51)	Employed	Legislators, senior officials in public administration; community leaders; enterprise leaders and managers; self-employed without employees; professionals; technicians and assistant professionals ; industrial artisans and craft workers; unskilled people; employees in the industry of service and sales; clerk; dealer	Yes	13365	13500	Undergraduate	14.4
	The Blue Collar (N=80)	Employed	Skilled agricultural and fishery worker; industrial artisans and craft workers; machine operators; drivers and assemblers; unskilled people	No	12908	13000	Primary School/ Junior High School	8.8
	Lower-Middle Class (N=90)	Employed	Employees in the industry of service and sales	No	14808	12000	Senior High School	10.3
	Housewives (N=84)	Housewives	/	/	5617	0	Primary School or below/ Junior High School	9.7
	The Retired (N=102)	The Retired	/	/	3166	0	Primary School or below/ Junior High School	9.1
	The Lower Class (N=49)	Unemployed	/	/	2669	0	Senior High School	11.3
New Force Youth	Students (N=80)	Students	/	/	3861	1500	Undergraduate	14.8

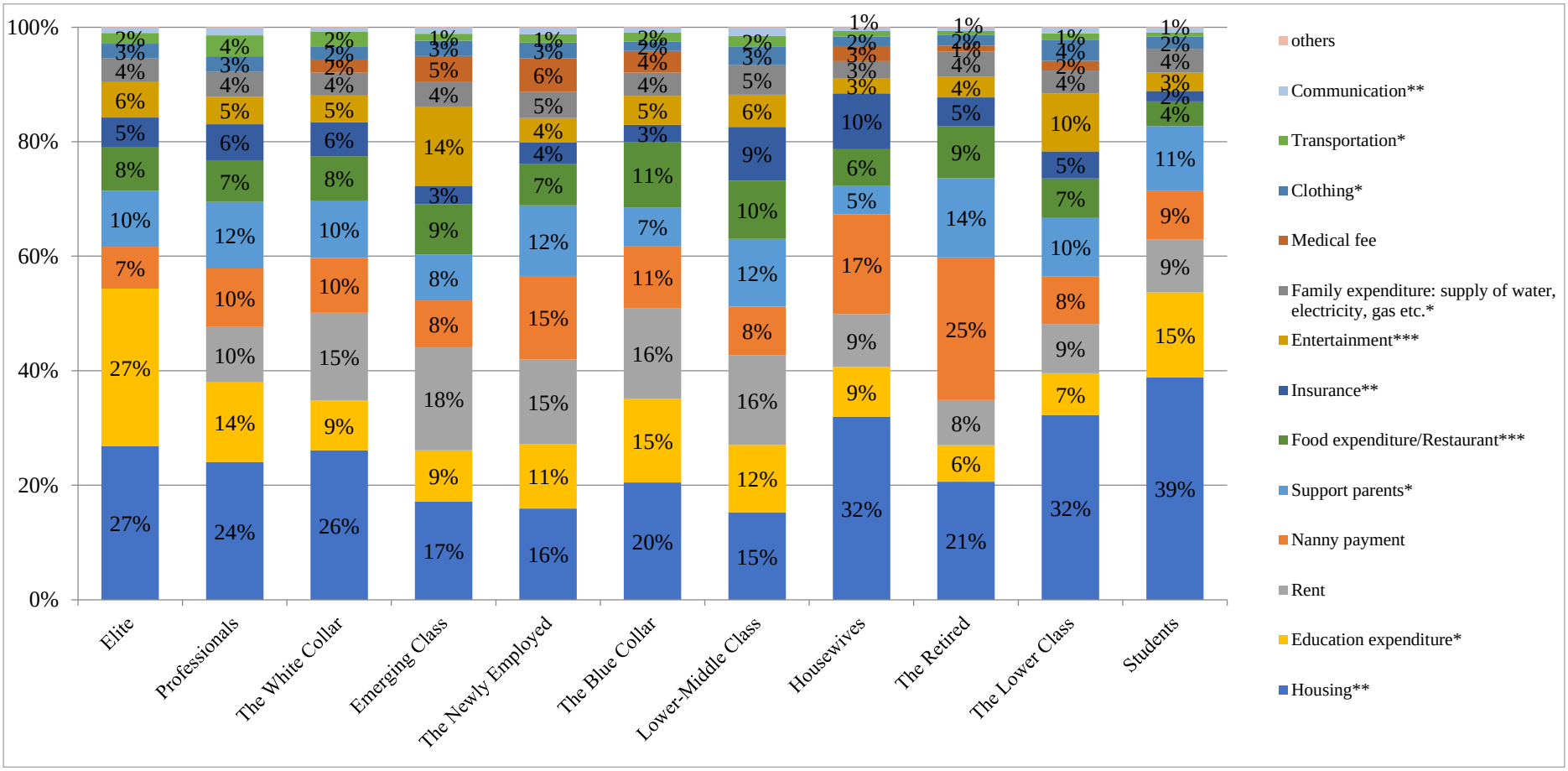
Figure 1 Proportion of Social Class and Subgroups



Social Class and Consumption Structure

Figure 2 demonstrated the consumption structure of eleven subgroups. There were significant differences of the subgroups' rating on housing, education expenditure, support parents, food expenditure/restaurant payment, family expenditure, insurance, entertainment, clothing, communication, and transportation ($p < .05$). Compared to other subgroups, the Elite had relatively high education expense, occupying 27% of total expenses; while the Retired spent 25% of their total expenses on nanny payment, which was bigger than any other subgroups. The highest insurance payment appeared among the Housewives.

Figure 2 Consumption Structures of Eleven Subgroups



***$p < .001$, **$p < .01$, *$p < .05$

Social Class and Leisure Activities

Significant differences among the eleven subgroups concerning traveling destination in the previous year were seen (Table 2). 57.2% of the Housewives and 57.0% of the Lower Class stating that they have not gone traveling in recent one year. With regard to tourist destinations, on the whole, China Mainland, Taiwan and Southeast Asia were the most popular ones for the respondents. The number of Elite who have been to Southeast Asia was the largest. There were 33.2% of the Retired and 29.0% of the White Collar traveling to China Mainland. The Professionals preferred to travel to Japan, Korea and Europe while the Newly Employed was most likely to go to Taiwan.

Social Class and Social Activities Participation

Different subgroups reported significant difference on participation of social activities: the Professionals (47.3%) and Students (44.8%) got higher rate than any other subgroups in social activities participation and only 19.2% of the Blue Collar had experience of social activities (Table 3). The social activities of sports, culture, arts and academy were welcomed by the Professionals, the Retired and Students. It was notable that the Emerging Class, the Newly Employed and Students who participated in politically relevant activities occupied high participation rate of 24.4%, 19.9% and 21.4% respectively. Generally, Students' social activities participation was more diverse than any other subgroups.

Table 2 Traveling Patterns of Eleven Subgroups

Social Class	Subgroups	Without Travelling in Recent One Year	China Mainland	Hong Kong	Taiwan	Southeast Asia	North America	South America	Europe	Japan	Korea
			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
The Wealthy	Elite (N=74)	25.1%	23.4%	5.5%	16.1%	32.5%			3.2%	7.9%	4.3%
	Professionals (N=97)	23.2%	19.6%	11.8%	22.5%	23.6%	1.3%	1.3%	6.7%	10.7%	7.7%
Sandwich Class	The White Collar (N=133)	15.8%	29.0%	16.5%	21.9%	20.5%	/	1.0%	4.7%	5.4%	8.7%
	Emerging Class (N=57)	42.2%	23.2%	5.8%	18.4%	13.6%	/	2.2%	/	5.1%	7.5%
Vulnerable Class	The Newly Employed (N=51)	37.0%	18.7%	4.8%	31.0%	13.6%	1.1%	/	2.2%	3.8%	6.2%
	The Blue Collar (N=80)	50.4%	25.0%	0.8%	14.7%	12.5%	/	/	/	2.1%	/
	Lower-Middle Class (N=90)	49.6%	25.0%	2.3%	11.7%	14.1%	/	1.1%	3.8%	7.3%	5.5%
	Housewives (N=84)	57.2%	23.7%	8.4%	4.8%	12.2%	/	/	0.7%	6.6%	0.7%
	The Retired (N=102)	51.4%	33.2%	4.8%	5.6%	9.4%	1.9%	/	1.5%	1.3%	2.1%
	The Lower Class (N=49)	57.0%	18.5%	2.5%	11.5%	7.3%	2.3%	/	6.6%	6.0%	1.5%
New Force Youth	Students (N=80)	33.8%	24.0%	10.2%	18.1%	13.1%	2.5%	/	7.8%	5.2%	6.7%

Table 3 Social Activities Participation of Eleven Subgroups

Social Class	Subgroups	Social Activities				
		Participation in Social Activities	Community Volunteer	Sports, Culture, Arts, or Academy	Assistance to Disadvantaged Group	Political Activities (e.g. demonstration)
The Wealthy	Elite (N=74)	31.6%	6.8%	14.1%	10.6%	13.7%
	Professionals (N=97)	47.3%	10.4%	21.9%	11.4%	14.6%
Sandwich Class	The White Collar (N=133)	34.7%	9.1%	14.4%	8.3%	15.0%
	Emerging Class (N=57)	34.2%	4.8%	10.7%	3.7%	24.4%
Vulnerable Class	The Newly Employed (N=51)	35.2%	4.1%	14.1%	7.6%	19.9%
	The Blue Collar (N=80)	19.2%	5.3%	3.6%	1.2%	7.6%
	Lower-Middle Class (N=90)	24.2%	8.2%	8.0%	6.4%	10.1%
	Housewives (N=84)	26.6%	5.4%	8.9%	3.2%	4.1%
	The Retired (N=102)	29.4%	10.9%	21.4%	10.9%	2.6%
	The Lower Class (N=49)	35.6%	13.3%	12.9%	8.4%	12.2%
New Force Youth	Students (N=80)	44.8%	14.6%	22.5%	16.7%	21.4%

DISCUSSION AND CONCLUSIONS

In conclusion, this study proposed a novel definition of social class and eleven subgroups in Macao based on demographic factors of identity, occupation, the newly employed status, monthly income and education level. The Macao residents can be classified into four hierarchies of social class: the Wealthy, Sandwich Class, Vulnerable Class, and New Force Youth. People in the Vulnerable Class took up the largest proportion. The employed people were in all the hierarchies of social class except the New Force Youth while the unemployed got across two hierarchies of the Vulnerable Class and the New Force Youth.

The findings in this study also captured their specific characteristics of consumption structure, leisure activities and social activities participation. On the whole, mortgage and rental payments occupy the greatest proportion of spending on housing for people in all the hierarchies. This is a reflection of the inflation or the rise in housing prices in recent years. Among other expenditure, percentage of spending by the Wealthy and Sandwich Class on food remained rather stable (7-9%) while there was greater differentiation for the Vulnerable Class (6-11%). The Blue Collar was seen to spend a greater proportion on food which was 11%; the percentage for Housewives being 6% which was relatively low.

As for spending on education, the Elite and the Wealthy Class tended to spend much more than the other classes which showed that such class comprised mainly people of higher levels of education. This also reflected their emphasis on the importance of learning and education.

With regard to traveling patterns, over 70% of Elite, Professionals and White Collar have travelled at least once in the previous year; the percentage being the highest among all the groups. The Housewives and the Lower Class, however, rarely stated that they have travelled in the recent year. Thus, differences in level of income accounted for the differences in the frequency of traveling.

In general, China Mainland, Taiwan and Southeast Asia remained the most popular destinations for traveling among respondents. Most of the Elite went to Southeast Asia in the previous year. China Mainland was welcomed by the Retired and the White Collar. The

Professionals preferred traveling in Japan, Korea and Europe while the newly employed were most likely to go to Taiwan.

In addition, the Professionals and Students got higher rate than any other subgroups in social activities participation and the Blue Collar got the least. The Professionals preferred participating in the social activities of sports, culture, arts and academy. It was notable that the Emerging Class, the Newly Employed and Students who participated in politically relevant activities (e.g. demonstration) occupied high participation rate. Results showed that students' social activities participation was more diverse than any other subgroups.

This study aims to make contribution on the comprehensive examination of social class in Macao and have a general understanding of the characteristics of each hierarchy, especially in the aspects of living status (consumption and leisure activities). Future studies can be expanded to explore the characteristics of social class in terms of education, cultural capital, media usage and so forth.

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A Survey of a Business Operation of the Local Cable TV in Thailand

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ABSTRACT

This study aimed to find a baseline data on the business operation of the local cable television venture in Thailand. In particular, the study investigate a development, an administration of the operation as well as law relating to control an operation of local TV business in Thailand. The research data were gleaned from transcription of in-depth interview from 7 CEO/manager of the cable TV operators, news clips from newspapers using content analysis technique. The findings were as follow.

1. The local cable TV was first operated in 1983 to fill the gap of a weak television broadcasting signal to viewers' home. To avail a viewers' chance to view television at home in the out of signal perimeter area, the local cable TV installed poles to receive TV signal and re-distribute a signal to members' home TV using a coaxial network and upgraded to fiber optic network switching for better service.

2. There are 355 registered operators in Thailand and mostly operated as a small and medium businesses. Its revenues come from membership fees in the service area. Each operator carried approximately 60-80 of the free TV channels, satellite TV as well as there own TV channels depending on the geographical area and the number of members. Membership fee was charged range from 300 to 500 baht. There own production channel usually broadcast local news to local audiences.

3. There are two laws promulgated to control operating of cable TV, The Operation of Broadcasting Business Act 2551 and The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010), respectively. These two acts could not effectively facilitate cable TV operation therefore the cable TV operators request the government to issue a proper law for cable TV business and a cable TV commission to supervise business operation of local cable TV.

Keywords: Cable TV; Cable TV law

INTRODUCTION

Cable Television or CT is first created in the United States of America. Its alternative media of community where can't receive television signals. The first service is free charge, and then, it has many people would like to use it. Therefore, it has charged for using a cable line to transmit television signals to the other place where are so far. It because a small business media in community. Its new name is Community Antenna Television or CATV.

In the United States of America have basic channels what're CBS (CBS Broadcasting Inc.), ABC (The American Broadcasting Company) and NBC (The National Broadcasting Company). This system is cutting annoying signal in normal television signal, and converting signals is clearest for transmitting to a member's house. Cable TV can send full signal and it can take channels to use and to product their TV program for broadcasting in their community.

In Thailand, Cable TV is first created in 1980 at Chanthaburi by Mr. Chalet Worachat who is Honorary Advisor chief of the Thailand Cable TV Association. It can help people in this place to receive television signals because in this place, it has wind is so strong, and it makes television antenna. When it's complete system, it became small business media. After that, this system is expanding to the other place in Thailand such as Chiang Mai, Chiang Rai, Mae Hong Son, Chon Buri and Nakhon Ratchasima.

However, cable TV has any problem both of agency administration and sending signal such as trapping a signal, overlaying a signal, issuing a license about legally broadcasting or Advertising on TV. However, it has expanded nationwide of Thailand.

The cable TV owner is clustered together, and created Cable Television Club in 1993. Nowadays, it has changed Thailand Cable TV Association in 2002, and it has support cable TV owner about administration, TV program or legally.

In 2015, broadcasting system in Thailand has changed television system transition from analog systems to a digital system. This television is changing, has effect to both media owner and people, especially cable TV and satellite owner because it has many channels for watching about 48 channels without to pay for expenses. It's one of television media development in Thailand.

The study is based on a transcription of in-depth interview from the CEO / manager of the cable TV operators about business operation, news clips from newspapers using content analysis technique. Finally, I discuss the analysis of the data, and conclude with a discussion of the results.

OBJECTIVE

To study about business operation of cable TV operators from 1980 and in currently about business operation, development, cable TV administration, and law enactment or legalization of the cable TV operation.

METHODOLOGY

The researcher is studied by using the research data were gleaned from transcription of in-depth interview from 7 CEO/manager of the cable TV operators, news clips from newspapers using content analysis technique.

The data for this study were collected in three parts which comprised of 1) business operation, development, 2) cable TV administration, and 3) enactment about the cable TV operation.

RESULTS

1. Business operation, development of Cable TV

Cable TV is created for solving television broadcasting signals in Free TV that's clearer. Because of it happened from weather in some place has windy such as seaside, and from landscape in some place has a lot of mountains, and it is shaded television broadcasting signals. Therefore, a person who is wealthy for buying television broadcasting antenna that's so strong, and durable, and they're used coaxial line and system to neighbor.

Then, it has also some people would like to receive television broadcasting signals. The cable TV owner has installed the amplifier system for increasing the power of a signal. At the same time, a video tape was popular media, but it's so expensive for someone. The cable TV owner was taken it to mix with cable TV, and it has a service charge around 300-500 Baht for connecting. It became cable TV business in small countries.

Next, coaxial line and the system have a weakness because the coaxial line isn't quite strong line, and sometime signal was loose. Therefore, it changed from coaxial line to fiber optic and network system that's more efficient.

2. Cable TV administration

Cable TV was started from a person who is wealthy for buying television broadcasting system in their community until it became a media business in the area. At the present, there are 355 registered operators in Thailand and mostly operated as a small and medium business. Its revenues come from membership fees in the service area.

Table 1: The table below suggests a number of cable TV owner in Thailand.

No.	Areas	Number of cable TV owner
1	Bangkok and greater metropolitan	62
2	Upper Central Provinces	33
3	Lower Central Provinces	32
4	Eastern Provinces	41
5	Western Province	22
6	Northern Provinces	29
7	Upper Northeastern Provinces	42
8	Lower Northeastern Provinces	40
9	Southwestern Provinces	16
10	Southeastern Provinces	38
Total		**355**

: Thailand Cable TV Association, 2013.

TV Channels are carried approximately 60-80 of the free TV channels, satellite TV as well as their own TV channels depending on the geographical area and the number of members.

Local Cable TV Channels in Analog and Digital system of Charoencabletv Company (limited) : www.charoencabletv.com, 21/09/2015

In addition, there own production channel usually broadcast local news to local audience. Because of Community Antenna Television or CATV system is cutting annoying signal in normal television signal, and converting signals is clearest for transmitting to a member's house. Cable TV can send full signal and it can take channels to use and to product their TV program for broadcasting in their community.

Local Cable TV Channels of chonburichannel Company

The membership fee was charged range from 300 to 500 Baht. All of this, The Thailand Cable TV Association will always check charge range that's fairly for cable TV owner and customer.

3. Law enactment and legalization of cable TV operation.

In 1983, local cable TV is a system that's risky for stability and Thai cultural because it's illegal television broadcasting system. However, local cable TV has nationwide, growing up in Thailand, and it became local media.

Therefore, local Cable TV owners have been forming the Thailand Cable TV Association. Their duty is supported the requirement of local media, and local media channel that's present information from local and government and present information about worldwide. At the same time, Thailand Cable

TV Association complaints with government about broadcasting enactment on television and radio. In 1987 that's General Prem Tinsulanonda time, He looked at this problem and through the cable TV system is useful and new media. He enacted broadcasting enactment of television and radio, and permitted cable television (cable TV) owner can work cable television. In addition, they had set of cable TV regulations to Public Relations Department's Saving Cooperative. Then, broadcasting system is more modernity and it has more media producer. Broadcasting regulations have changed for suitability working.

At present, There are two laws promulgated to control operation of cable TV, The Operation of Broadcasting Business Act 2551 and The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010), respectively. These two acts could not effectively facilitate cable TV operation. Therefore, it is problem effects to local cable owners around 300 places is most difficult about managing their company. From these problems about the broadcasting enactment of cable TV, the Thailand Cable TV Association would like to demand with government about enactment or legally that's lawful and suitability for their work.

DISCUSSION

To study about A Survey of a Business Operation of the Local Cable TV in Thailand has founded for repairing a television broadcasting system isn't completing. This problem was repaired by using a television antenna that's so strong, and cable line for connecting to house. The prominent point of cable TV development is broadcasting line development and broadcasting system technology. It made company to expand their member whose cable TV customer, and there though local cable TV is useful for them that are prominent points of cable TV administration.

The cable TV administration has effected to the cable TV cost because it depends on broadcasting technology, which local cable TV owners is used. When a local cable TV customer would like to use new broadcasting technology and make them to watch TV is clear. Technology development has rapidly developed was effective to control broadcasting, distance of broadcasting, administration and license of local cable TV owners. Local cable TV owners have to develop themselves in their administration and challenging with the other local cable TV or new media at this time such as Satellite, Free TV, and cable TV.

However, development of the local cable TV that's causing their administration and challenging. It has the effect of a broadcasting system without controlling because they would like to attract from the customer for using their cable TV. Technological development of a television broadcasting system was related to the enactment or legally about the cable TV operation. It became problems is exploitation. Therefore, cable TV has the enactment or legally about the cable TV operation to control them, and fairly with them.

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Four Steps for Humanistic Care to Promote Health: Experiences of Nursing Students of Boromarajonani College of Nursing, Phraputtabaht, Thailand [1]

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ABSTRACT

Perceptions of nursing students are very important for instructors to approve an achievement of learning. This study purposed to illustrate nursing students' perceptions to integrate a gender perspective and humanized care for promoting midlife and elderly health. A rapid ethnographic study was conducted among 68 participants, second year nursing students, practicing 2 weeks in health promotion and health prevention disease course of Boromarajonani College of Nursing, Phraputtabaht, Saraburi Province, Thailand, during June- October 2012. Data collected from participation observation, field note during pre-post conference, and focus group discussion after finish course. Thematically analysis qualitative data, rigorous and trustworthiness confirmed with participants.

Findings showed that practicing gender - sensitive health promotion with humanized care were included four steps, made relationship likewise their relative, cautiously approached, reflected and shared knowledge to improve behavioral modification, and promoted gender lens to encourage new health behaviors. Respect and trust of clients were made them very impression. They improved cognitive skills, and were success analytical thinking. Disadvantage was a misconception because, they reflected that gender equality was conducting a similar program for male and female. Moreover, it found that female students difficult to approach male client, particularly sexual health assessment, beside they ignore to approach sexual health issues.

Keywords: practical knowledge, humanized health care, Health promotion, Nursing students

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INTRODUCTION

Practical knowledge is more important than theoretical knowledge recommended by many scientists to produce knowledge, according to Heath (1988), reflected nursing knowledge is coming from practitioner' experiences. Nowadays, be known that the concept should be approved by practice to close gap between theory and practice. In the context of Boromarajonani College of Nursing, Phraputtabaht, Saraburi Province, Thailand, was developed identity of nursing students underpinnings humanized health care concept which consist of three dimensions, service mind, analytical thinking, and participation. Furthermore, cultural care is important to the of ASEAN community' policy while gender was a socially and culturally constructed both men and women for instance World Health Organization (WHO) promote men and women equality.

Humanized care emerged from humanism. Paterson and Zderad (2007) defined that was an interaction between nurse and clients to set mutual goal, respect ways of life, and give the opportunity of clients to choose their ways to deal with health status. Furthermore, Shiau & Chew (2008) indicated that the process of humanized care can change people toward civilization, improve self-esteem, self-healing, and emancipate them. At the same time of caring, health care providers will perceive self-actualized and accomplish self-transcendence. For these reasons nurse instructors should be confronting their students to meet theory, health promotion course by integrating not only gender sensitive care but also humanized care for practicing in a course of health promotion for midlife and elderly.

METHODS

The research project was approved by the ethics committees of the Boromarajonani College of Nursing, Phraputtabaht. Conversation guideline was used to collect data. For examples, questions were included, how do you think about health promotion for people in midlife and elderly, how do you apply the concept of humanized and gender sensitive care in your practice, and what outcome that you achieve in your practice. Participants were learned about humanized care and gender concept in the first year. After a complete course of health promotion theory, they were organized into 7-8 persons per groups and provided orientation about humanized and gender sensitive care before practice. The Heath Promoting Hospital and the primary care unit of Phraputtabaht hospital assigned nursing student to practice. Data were collected from participant observations during practice, focus group discussion after finish course, as well as journal in everyday practice. Researchers were thematically analysis qualitative data through study. Final categories indicated practical knowledge was emerging during gather data and confirmed by all participants.

FINDINGD AND DISCUSSION

1. Steps to Cultivate Practical Knowledge

The four steps of practical knowledge were identified and could be described as follows.

The first step: made relationship similar to relative person

The relationship was the most important starting approach people to provide health promotion. Positive attitudes, first impressions were made nursing students easy to implement. They reflected that first day of practice was a "relationship day". They will ask general questions after that they give an opportunity of clients speaking about something which they are concerned. For example, they explained.

"…I will prepare many questions how to make relationship. I fear that clients will be no time for me and disturb them. They may fear. I said. I'm a nursing student need to study how to improve health status and need to get along with me for two weeks…"

The second step: courteously approached

The most of successful technique for making trust was courteously approached. Thai culture always respects the older person. So, they put their positions like a grandchild and call clients similar to their relative such as uncle, aunt, mom, and dad. For example, nursing student approached midlife women. She said.

"…I said excuse me. I call her "mom" all practices. I belief she need respect like me. I found they practice following I suggested all suggestions. They are complying..".

The third step: reflection and sharing knowledge

Health promotion always associated with behavioral modification, then they used observation and sharing knowledge about health behavior particularly knowledge those clients need to know how to do. For example, a case study of promoting women with obesity, she said.

"…After I made trust, I'm not teaching how to diet, why reduce weight is important. I said. How do you think about your weight? Do you ever diet? How many times you do? Is it success? I shared method how to deal with obesity in many ways, after that give chance for an appropriate technique fitting for daily life…"

The fourth step: used gender lens to encourage health behaviors.

Findings in this study were congruent with the recommendation of World Health Organization (2003) that emphasize on promoting men and women equality to accessibilities. They found that gender role and gender identities were importantly technical success to promote health. They reflected.

"…I have known that women like talk and participate with each other. So, I promoted group exercise. But, for men I persuaded to joking or play soccer. I supported gender role of midlife or elderly women cooked for family member who life with chronic disease. How to choose kind of food, particular techniques for decrease sweet, oil, and salt? It is really success…"

2. Outcome of practice: Advantage & disadvantage

Upon practicing the four humanistic cares, all nurse students reported that their construct trust, cognitive skill and analytical thinking were improved as follows.

Firstly, respect and trust made them highly impression. They said.

"…We are happy. People participate, collaborate, kind, for us. Because of, we give in accordance with their need …"

Finding congruent with the meaning of caring, Watson (1988), reflected caring were a process of self-healing, and transcendence. It means that nursing student perceives self-esteem emerged during they give intervention.

Secondly, they improved how to assess health using gender perspective. For example, they mention.

> *"…I insight during I ask I will be careful sensitive question. For example, do you live alone, do you divorce. I will see her body language during I say…"*

Thirdly, they found that analytical thinking was progressing. They can criticize their weakness particularly knowledge for improving health. They are known that if they have strengthened knowledge of theory, they will highly confide. It means that people will believe them. Moreover they can relevantly promote health for male and female. They said.

> *"…We can generate health promoting programs from a gender perspective. We found that It was congruent with gender role of midlife and elderly, so they can modify healthier behavior..."*

However, disadvantage' perceptions of using a gender perspective was also felt in the case where misconception about gender equality was present. They reflected that gender equality was mean male and female should be pushing the same health plan. Moreover, female students found that they cannot promote health for male particularly in term of sexual health because of Thai culture teach female fell embarrass to talk about sexual issue. One student said.

> *"…I shy to talk or discussion about sexual health. I think male student appropriate for male clients, especially when say about sexual health. Likewise, male students were not appropriate for female clients. They feel difficult to ask or say anything to investigate sexual problems. So, they ignore to approach sexual health assessment…"*

Findings relevant to Magnan & Reynolds & Galvin (2005) stated that nurses should be trained about sexuality programs to ensure improving confidence and comfort to care patient sexuality.

CONCLUSION

Findings recommended that the process of integrating the concept of humanity and gender sensitive approach were beneficial for nursing students to perform promoting health services. Practicing with misconception and sexual health assessment should be prepared in the following program.

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Inspirations through the lenses: The differences Ways of life, Traditions, and Cultures

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Abstract

Photography is a form of communication which inspiration of photographer on cultural experience and thought was intertwined in the processes of photographic creativity. As a picture speaks a thousand words, what's captured through the camera's Len depicted different cultural perspectives and meanings on the eye of the beholders. Two photographs which won the award from the International Exhibition of Photography entitled "Way of Life, Traditions and Cultures on the Differences" were content analyzed based on the concepts of semiotic theory and arts compositions in photography. It was found that although two photos depicted a natural geographic environment, architecture, tradition, rituals, values and behavioral expression of faith differently, however, one common culture of mankind had prevailed, assigning meaning of cultural value in daily living.

Keywords: Cultural photography; Thai traditions and cultures, Thai way of life

Background

Culture derives from one generation passing on its' way of life to generation after generation. It happens in every society long way back in time of each ancestor. Culture gives meaning and value to everything through the traditions, rituals, beliefs, faith, values or ways to make a living. These means are identities demonstrating a root of values which each society accept and pay respect to. Culture is like a river of thoughts, beliefs, and ideologies that has been passed on from one generation to the next ones.

Communication and culture occur alongside since culture is an expression of human beings, and it is something that must be transferred to present social identity through a use of symbols and communication. Thus, learning and understanding in the use of symbols that are expressed as well as transferred with respect to values of thoughts, beliefs, and ideologies by each cultural society is a process of intercultural communication. This process helps people across the world understand each other, which is a way to create peace and brotherhood in globalization.

Photography is one of many ways to express a communicator's point of view influenced by senses, especially seeing. Photography may seem to reflect everything in front of a lens onto a picture frame. However, a photographer's thinking process plays an important role in selecting and positioning a picture to frame a perception of a viewer. Photography can be a vital tool in communicating culture and reflecting several aspects of each culture in a society in terms of people, households, buildings, architectures, and natural geographical features. More importantly, photography can portray cultural expressions through traditions, rituals, values, as well as behavioral expressions that reveal beliefs, faith, and daily lives. These different cultures have one thing in common. It is giving meanings to a value of living.

Thus, telling a story through photos is one method of communications that not only telling a story but also generate emotional effects deriving from perceiving an art of photo. Photography, thus, has become a vital communication tools in an era of visual culture. A visual image is like the world's international language. Audience can perceive denotation from what appears in a photo, and can recognize connotation in terms of culture of giving meanings to things, which each culture has its own unique way to do so.

Objectives of the study

This case study aimed to analyze cultural signification in photographs from cultural tourism under the main concept of "The differences Ways of life, Traditions, and Cultures."

Review of related literature

1. **Meaning deconstruction**

Creating photographs is one type of arts using images to communicate content. Based on the semiotics theory, not only just images per se is used to form the messages but it also focuses on signification of a photograph which plays a role in sign processes, levels of signification and visual elements of a photograph. This photographic work was crated based on the semiotics theory which is an elaboration of several factors which photographer used as creative principles. These include theoretic principle of signification of icon; picture's index; symbolic mode and composition in photography. This framework is also used to guide the deconstruction meaning of the photographs.

Signification of Icon

Peirce (as cited in Chandler, 2002) explained about signification of an iconic mode that in this mode an icon can communicate its meaning because it resembles its signified object and what that signified object refers. Messaris (1997) argued about iconicity of a visual image that a relationship between an image and its meaning in the iconic involves not only content but also quality in the image's elements such as a person or place in an image serves as an iconic element. It also involves elements in terms of forms and stylistic elements. For example, different camera angles are related to experience of how people see a reality, which is one type of imitation or reflection.

However, an image as an icon that imitates physical appearance can signify meaning beyond iconography that depicts what an image portrays. In the study of how images communicate, both arts and art history have turned attention to iconography, focusing on how an image has been created. Its meaning derives from social experience (Bohnack, 2008). It is obvious that the meanings would depend on the communicator's experience as well as the audience's experience.

Pictures' index

According to Peirce, a photographic image has a quality of being an icon because it resembles a signified object. It also an index because its quality that describes elements of an image such as situation, lighting and a story of an image.

Symbolic mode

Symbol is a sign that refers to other things and then decode its meaning by using an appointed rule or a habitual connection (Chandler, 2002). Symbol is an agreement among human being. Therefore, photography can communicate culture and is considered to be a symbolic mode that takes experience of a photographer and audiences to encode and decode meanings of signs appearing in an image. Thus, in this symbolic mode, its meaning is cultural meaning that occurs deeper than iconography. It takes social experience and culture to encode and decode in this mode.

Although a photograph expresses what a photographer is seeing when looking at a situation or an object in front of him or her, what being portrayed is not being expressed in verbatim. Photography is a reflection of the photographer's point of view based on his/her cultural experience and attitude. As such, both a photographer and audience play a role in "constructing the meaning in the photograph because both bring their social position, personality and personal history to the photographic act" (Haper, 1998).

Composition in photography

Photography is a form of arts. To create an aesthetic impact, a photographer must take composition in photography to make its content perfect and beautiful. Composition means organizing elements within a photograph in regard to shape, line, lighting, shadow, distance and colors and giving aesthetic values by creating a center of interest, balance, harmony and contrast. A photograph that processes a right composition is eye-catching and has aesthetic value, being able to convey feelings and emotions of an image (Surapon Manowong, online, accessed from http://suraphon.rmutl.ac.th/E-1.html).

2. Textual analysis

Textual analysis is the way for researchers to gather information to understand the ways in which members of various cultures and subcultures make sense of who they are and of how they fit into the world in which they live. (Mckee, 2003) The purpose of textual analysis is to describe the content, structure, and functions of the text embedded in the source works.

Performing textual analysis, then, is an attempt to gather information about sense-making practices not only in cultures radically different from our own, but also within our own nations. It allows

us to see how similar or different the sense-making practices that different people use can be. And it is also possible that this can allow us to better understand the sense-making cultures in which we ourselves live by seeing their limitations, and possible alternatives to them. (Mckee, 2003)

Stern (1996) propose the three-step textual analysis concept for text close reading in advertising research which comprises the following 3 steps:

1) Identification of Attributes. This step is systematized textual analysis by devising replicable for answering the question, "what kind of text is it?" Their method of identifying attributes and classifying different combination into genres can be used by researcher to identify picture element.

2) Construction of Meaning. This step is reader response to read what and how meaning was construct which in this research is to declare how the picture generates meaning by the production technique and composition technique.

3. Deconstruction of meanings. Deconstruct is the way to understand deep structure of meaning by reading the semiotic structure of the text. In this research is to deconstruct the visual syntax which directed visual signifying.

Method

This case study used two photographs which were selected by expert and eminent committee to display in the International Exhibition of Photography entitled "Way of Life, Traditions and Cultures on the Differences". These photographs were taken by the researcher during October 2015. Textual analysis was used to content analyze the photographs' creativities. The purpose of textual analysis is to describe the content, structure, and functions of the text embedded in those photographs.

In this research the analysis framework for reading and deconstructing the elements in the photographs as a text were 1) creativity of the work which were consist of the image creation technique, image locale, aesthetic approach from art element in photography composition, image inspiration, and 2) the frame used to present the photo meaning in three different modes; icon mode, index mode, and symbol mode, respectively.

Results

The following set of photos is the researcher's means to present a sign of Thai culture through photos under the concept of "The Different Ways of Life, Traditions, and Cultures".

These photographs were taken to express culture in terms of religious rituals based on thoughts, beliefs, and faith. Likewise, they were used to communicate about value and beauty of living and present aesthetic of photographs. The two photographs were created using the same instrument but in different detail. The first photograph, "Hope and Prayer," was captured by a full-frame digital SLR of 35 mm. with an ultra-wide angle 16 mm lens mounted on a tripod. The same technique was used to capture the second photograph ""Essence: Buddha, Dharma, Sangha", but with slightly different angle, an ultra-wide angle 14 mm lens. Both image files were edited to enhance colors and clarity by using Adobe Photoshop.

Creativities of these two photographs and their abilities to communicate the cultural values in different ways were as follow.

1. Photograph No.1 "Hope and Prayer"

1.1 Creativity of the work

Creation technique:

This image was captured by a full-frame digital SLR of 35 mm. with an ultra-wide angle 16 mm lens mounted on a tripod. The image file was edited to enhance colors and clarity by using Adobe Photoshop.

Image locale:

This photo was taken at Lanna Dhutanka, Chiang Mai Province. It depicts the floating lantern in the Lanna Thot Kathin is the annual merit-making ceremony aimed at creating harmony among a community and lighting lanterns for the Buddha on October 10, 2014.

Photography composition:

This photograph shows balance elements, and it follows the concepts of rhythm in placing photo elements in order to show right distances between those lanterns. From the lanterns being lit up to the

ones flying into the skies at different heights, they depict the amazing amount of the lanterns being released to the skies.

Image Inspiration

In the lantern festival (Yi Peng), thousands of paper lanterns are lit up. With the hot air, the glowing lanterns float into the skies. This festival has been a tradition of Lanna people in addition to Loi Krathong, floating flower lanterns in rivers. Lanna people believe that this festival pays respect to Prakatekaewchulamanee in heaven in the night of the full moon of the 12th month in the traditional Thai lunar calendar.

The Yi Peng lantern festival has been passed on from the ancient Lanna to today's generation. The beauty of the glowing lanterns that floats in the skies of the full-moon night attracts both Thai and foreign tourists to join this beautiful and exciting festival with thousands of glowing lanterns flying into the skies at the same time.

A ritual based on the ancient belief of Buddhists has become a ritual of saying prayers and making wishes by tourists who visit Chiang Mai during this beautiful festival. These visitors from many countries release lanterns with hope and prayers written on the lanterns. It is believed that the lanterns are going to holy Gods above. The picture that appears in front of them at that moment is akin to starlight of a hundred thousand prayers of mankind.

1.2 The frame used to present the "Hope and Prayer" meaning

The icon mode

A photograph is visual evidence expressed through a photographer's viewpoint. As such, the photo titled *"Hope and Prayer"* serves as an icon that signifies its meaning and to record any situation that occurs at one moment.

The index mode

A photograph can be interpreted for different levels of meanings, depending on a culture experience of audience. However, the crowd, the lights, the brightness and the floating have positive meanings by nature, corresponding with past experience of the audience to associate the photograph's elements to warmth, security, happiness and celebration.

The symbol mode

Yi Peng Festival has gained its popularity among tourists. Images of the floating lanterns in Yi Peng Festival have been published via several tourism media outlets not to mention the influence of social media. All of these leverage the images of the festival from the icon mode to the symbol of cultural tourism of Chiang Mai. The old signification of the ritual to pay respect to Prakatekaewchulamanee in Buddhism has turned into the ritual for tourists, regardless of their nationality or language, to make wishes.

2. Photographs No. 2 "Essence: Buddha, Dharma, Sangha"

2.1 Creativity of the work

Image creation technique:

This image was captured by a full-frame digital SLR of 35 mm. with an ultra-wide angle 14 mm lens mounted on a tripod. The image file was edited to enhance colors and clarity by using Adobe Photoshop.

Image locale:

Wat Phrathat Doi Suthep, Chiang Mai Province, is the ancient temple that is important and well-known in the Northern region of Thailand. It is an important religious site and a key tourist attraction. The temple is located on Doi Suthep, about 14 kilometers west of the city of Chiangmai. Inside the temple, there is a sacred, Lanna style, golden chedi (pagoda) that enshrines the relic. Many Thai and foreigners come here to pay respect to the chedi. There is a saying that if anyone visit Chiang Mai, but do not come to pay respect to Phrathat Doi Suthep; it means they have not yet actually arrived at Chiangmai.

Photography composition:

The positioning with elements in this photograph frame appears balance, making people to feel calm to look at from the psychological perspective. Furthermore, this photograph is aimed to present the mutual support between monks and Buddhists in maintaining Buddhism. The composition shows the monks on one side of the photograph, while the Buddhists are on the other side.

Image inspiration

Wat Phrathat Doi Suthep is the evidence of strong Buddhist faith of Lanna people. According to the temple's history, the temple was built in the early 13th century (or the 19th Buddhist era). Although it was very difficult to climb up Doi Suthep, determined monks and pilgrims with strong faith travel up to the holy place to worship Buddha and to dwell on his remarks, which has become the way toward the essence of Buddhism, free of burdens, until today.

The frame used to present the photo meaning

1. The photograph in the icon mode

A photograph is visual evidence expressed through a photographer's viewpoint. As such, the photo titled **"Essence: Buddha, Dharma, Sangha"** serves as an icon that signifies its meaning and to record any situation that occurs at one moment.

2. The photograph in the index mode

A photograph can be interpreted for different levels of meanings, depending on a culture experience of audience. The photograph elements in terms of a place, clothing of people in the photograph as well as their manner appearing at that moment can tell a story of monks, rituals and faith of the participants.

3. The photograph in the symbol mode

The architectural element in the photograph is Phrathat Doi Suthep that is the symbol of Chiang Mai province due to its reputation among Thai and Foreign visitors. When this element is composed together with other elements including monks and a number of Buddhists who are paying respect to Phrathat by walking with lighted candles in hand around a temple as the photograph shows. All of these make this photographer appear in the symbol mode that Chiang Mai is the land where Buddhism has rooted deeply in its culture and has become part of people's ways of life.

Conclusion

According to the presentation concept, the researcher went to the real location to take photographs and analyze them based on their signification. Then the researcher selected these two photographs that are appropriate to be analyzed based on the Semiotic theory and the arts elements to be considered for the exhibition titled "The differences Ways of life, Traditions, and Cultures." Both photographs have been selected by the panel of judges comprising of national artists, scholars and professional photographers to be displayed at Bangkok Art and Culture Center from 28 – 30 April 2015.

These demonstrate the function of a photograph in signifying cultural meanings, which is one way to convey photograph content based on its photo elements to audiences. It is also a way of communication that creates art appreciation and delight for audiences. The perception of different modes of signification portrayed by a photograph derives from various cultural experiences.

One thing that could occur without any limit is the art appreciation toward a photograph. The content appreciation can stimulate gratefulness toward art and cultural values that create understandings among human beings, leading to everyone living in this world peacefully together.

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Use of Gender Perspectives and Biomedical Approach in Practice to Promote Health for Woman during Midlife: Thai Undergraduate Nursing Students' Perception [1]

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ABSTRACT

Many nursing scientists recommended that practical knowledge was important for reflecting nursing knowledge. This study aimed to illustrate nursing students' practicing to promote health of midlife women via gender perspective. A rapid ethnographic study was conducted among 68 participants, second year nursing students, practicing 2 weeks in the health promotion and health prevention disease course of Boromarajonani College of Nursing, Phraputtabat, Saraburi Province, Thailand, during June-October 2012. Data collected from participation observation, field note during pre-post conference, and focus group discussion after finish course. Thematically analysis qualitative data, rigorous and trustworthiness confirmed with participants.

Findings showed that nursing students integrated three dimensions of gender analysis into practice. Firstly, gender identity, they found that women like to participation with others group' exercise. Secondly, gender role, they supported role of midlife women to promote health of families' member. Thirdly, gender division of labor, were used dominated to change their behaviors. Secondly, biomedical knowledge of midlife women was used in term of health risk from contraception and hormone change. Finally, aesthetics knowledge was intervening to improve health behavior by local language and peaceful respect likes their daughter.

This study can produced practical guideline for nursing student and novice nurse to approach for promoting health of midlife women.

Keywords: practical knowledge, gender sensitive care, health promotion, midlife, nursing students

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INTRODUCTION

Practical knowledge was defined by Habermas (1981) that knowledge interest emerges from "communicative action" Knowledge should be appropriate for action. This proposition knowledge known are general disciplinary approach. According to the history of nursing knowledge, Schultz and Meleis (1988) suggested that practical experiential knowledge were closed gap between theory and practice. All nursing knowledge derived from many concepts, consequently, nurse scientists were constructed nursing knowledge for feasible to practice in clinical setting not only in the hospital but also in the community. We found that some concept difficult to practice in the real situations because it is very abstract. The concept should be consolidated by further research as practical experiential knowledge which Habermas (1981) claimed as "practical knowledge".

Accordingly to the concept of gender sensitive care, it is very abstract for understanding because it came from social knowledge. Miers (2002) indicated that gender sensitive care involves research context associated with the concept of gender identity, gender role, and gender division of labor. She defined three conceptual meanings which related to the concept of gender sensitive care.

Firstly, gender identity: Ghosh &Pataki (2009) defined as a personal conception of oneself as male or female (or rarely, both or neither). For example, if a person considers himself as a male and is most comfortable referring to his personal gender in masculine terms, he demonstrates typically behavior, dress as male.

Secondly, gender role: it means an obvious expression of gender identity was socialized from their socio-cultural. In general it found that gender identity and gender role is congruous. Finally, gender division of labor defines as tasks that women and men should perform by norms. Socially, it indicates that women and men must fulfill same work norms such as women were complete their household chores, as well as their field and project work. From three aspects gender sensitive care of Miers (2002) who indicated that it was not enough to practice, particularly practicable to promote health of people in midlife who are experiencing a transition period of life (Schultz and Meleis, 1988)

In term of health promotion, Pender (2015) defines the model consist of prior of experiential of individual characteristics relate with behavior such as age, personality structure, race, ethnicity and socioeconomic status and consequent of the perception of behavior- specific conditions leading to the behavior of health promotion including benefits, obstacle, self-efficacy, belief, attitude, and commitment for action, behavioral outcome- health promoting behavior. Based on this meaning, the knowledge for promoting health of midlife women related practice in real situation may be not appropriately. Because of gender concepts from individual characteristics may be promoting or limiting agents to healthiness (Miers 2002).

Based on nursing student practicing in the course of second year nursing students, literatures indicated that they were difficulty to practice. The obstacle to practice for health promoting were including the gaps of knowledge between theory and real practice (Rojo , Bueno & da Silva (2008), the inability used social and economic concepts for practice to improving health of people (Halcomb, 2011), the understanding way of life relevant to health need for promoting health (Mooney, et al., 2011), and the difference culture between nursing students and people (Rash, 2012). Therefore, it can mention that the practical knowledge for nursing very important for nursing students. Subsequent the belief of Habermas (1981), the qualitative study is claimed to retrieve practical experiential knowledge (Rojo , Bueno & da Silva , 2008; Moony, et al., 2011).

In the context of the Bachelor of Nursing Curriculum of Boromarajonani College of Nursing,

Phraputtabaht, Saraburi Province, Thailand, the health promotion and health prevention disease course was study in the second year. Literature reviews in Thailand revealed only few researchers studied on the perception of health promotion (Khampalikit, et al, 2008; Thongsuk, Putawatana & Orathai (2012). Their knowledge was not applicable to cultivating practical knowledge in real situation particularly among women in their midlife. Accordingly, this study is needed to study how nursing students used the gender perspectives in to practice for promoting health.

OBJECTIVE

The study explores the perceptions of nursing students integrating the gender perspectives in promoting healthy women in their midlife.

METHODS

Research designs

A rapid ethnographic study was used, based on the approval of ethical consideration of the committee of Boromarajonani College of Nursing, Phraputtabat. Participants recruited from nursing students were verbally informed about research project which included the objective the study, how nursing students involved, confidentiality, anonymous issues, and ability to withdraw all times without loss of their benefits.

Participants

As this study explored the practical knowledge of nursing students therefore participants were the second year nursing students in Boromarajonani College of Nursing, Phraputtabat who had 2 weeks practicum in the course of health promotion and health prevention disease. The 68 women aged between 45-59 years participated in this study. The 1:1 pairing between student nurses and patient was achieved in this study. All nurse instructors used pre-post conference by reflecting how nursing students used the methods or techniques were used for midlife to promoting health.

Instruments

The interview guideline for focus group discussion was constructed by researchers. Questions to examine understanding of nursing students included the following: How do you think about the gender sensitivity for promote women in midlife? Why do you think? How do you created the activities for promoting health? Do you use gender issues for promoting health? When did you used it? Why do you used?

Procedure

The methods for collecting data were the focus group discussions, participation observation, and document. The details were described table 1.

Table 1: Research activities, the method for collecting data

Research activities	Methods for collecting data
1. Prepared nursing student: - Divided nursing students for 9 groups. Each group coached by 1 nursing instructor. - Explained the objective of study, reviews the concept of gender studied in the 3th semester of the first year, the course of social for human development. - reviewed the concept of health promotion. - Reflected gender perspective for used to health services.	- Participation observation - Fielded note
2. Clinical teaching: - Assigned nursing students to promote health of midlife women in the primary care unit by home visit. - Researchers as a mentor using observation, reflection during home visit. - Pre-post conference, nursing instructors as the researchers, reflected the experience of using gender sensitive approach for action to promoting midlife women health. - Convinced nursing students to write portfolio about their experiences of health promotion for midlife women.	- Participation observation - Fielded note - Portfolio
3. Conclusion practical knowledge: - Focus group discussion to share their experiences using gender-sensitive care to promote health of midlife women.	- Participation observation - Fielded note

Analysis:

The data analyzed using thematic analysis based on gender perspective, emphasizing on the perceptions of nursing students. Themes were emerged during researcher collected data and confirmed the accurate with all participants in the class room. This method of data analysis was trustworthy and rigorous which was confirmed by Patton (2002). The example of thematic analysis was summarized in table 2

Table 2: Themes of health promotion practice, nursing goal, and output of practice

Themes of health promotion practice	Sub-themes	Content/example
Use gender identity to design health promotion program.	Women like to participation with others.	*"Based on theory. It purposed that women like to participate with others and link to social groups in the communities. This gender identity made me convincing them to exercise with aerobic in their village."*
	Men and women were difference way of exercise.	*"For men, they dislike aerobic exercise. Soccer, weight lifting, and jogging are my advices. But women like to dance, aerobic exercise. It may be apply because they have mainly house hold work, a little free time for exercises."*
	Women like a slim physical, men like strongly body.	*"I knew that Thai women need to slim body, so I try to promote midlife women to use aerobic exercise. Similarly, identities of Thai men prefer masculine, performing sport for drop off abdominal fat."*

FINDINGS AND DISCUSSION

Findings reflected that the nursing students not only used a gender perspective but also a biomedical approach to promoting health of midlife. Themes were emerged in the followings.

1. Use of gender identity to design health promotion program:

Findings showed that the first theme for health promotion practice was convincing gender identity. This finding is consistent with the study of Liimataien, et.al (2001) who found that nursing students used patient-centered approach in health promotion and indicated that nursing students should not make a same program for all clients. They indicated that the concept of health promotion was abroad, abstract, and not practicable. Their nursing students constructed practical knowledge for practice by their experiences. Similar to this study, findings illustrated how nursing students understanding the developing program for promote health appropriating midlife women. It means that nursing students known that social construction for gender identity were influenced on health promotion behavior. Data from focus group discussion confirmed using gender approach made them constructed health promotion services congruent with midlife women. There were examples, they mentioned.

> *"…When I used gender lens for produced program to promote health of midlife, I found, they (midlife) listening, interesting, and accepting our program for practice…"*

2. Set an exercise program relevant to gender division of labor:

Based on the meaning of gender division of labor, male and female have difference works in everyday life particularly among female who usually have many duties. Mainly, times for working of women are household shores while that of men are out-of-home works (Miers, 2002). For this reason, exercise intervention program for women was easily practiced appropriately by nursing students. Example of 2 nursing students described similar experiences below.

"…Midlife women, my case study, were very busy. She is not enough time to exercise, her time very urgency. In the morning, she hurries to pick up her grandchild to school. After that she prepare food for selling in the market during evening, so I apply the easily set of exercise for her to use during free time such as before sleeping or early morning.

"..For my case study, she is seamstress. She sit all day. She told me. I limited time. I created set of exercise program such as the movement of neck, shoulder, arm, leg. She can do it beside her sewing machine. This approach actually congruent gender division of labours"

3. Supported gender role of women to prevent illness of family members:

Nursing students reflected that they can use the concept of gender role of women, socially constructed as a care manager in the family. Example, one nursing student stated that.

"…I found that I was successful for promote one aunt to stimulate her husband to eat ordinary hypertension drug. Her husband dislikes eating hypertension drug and does not want to follow up for continuing cure. I found that they were awareness and concerning to go to the hospital to check the complication of hypertension…"

4. Use of the physiological change of midlife age to promote health:

Basically, knowledge suggests that the midlife women is the period of coping and dealing with any serious situation not only physiological change but also social expectation of the position in their communities. Furthermore, knowledge for health promotion concerned the ability of midlife to stress management, emotional resilience, nutrition with appropriate for midlife, prevention for pain during sexual intercourse. Many nursing student performed these knowledge for practice. Moreover, in the real situation they found that women in this stage of life risk to hypertension from contraception and stress from hormone change. They illustrated that there are very practicable for promote health. Example, she explained below.

"I know, midlife women has duty to work out, I asked about her stress and how to management. Women may be emotional change. They may be not control her moody. I promote the method for relaxation in order to maintain the family status. I know that Thai women afraid and shy to talk about sexual intercourse. I asked her about the pain during sexual intercourse. She does not know to use gel. She told me. Thanks so much. I feel happy to help her…"

Findings indicated the successful of practical knowledge for health promotion in midlife associated with using gender, and biomedical perspective. The findings support Pederson & Greaves & Poole (2014) who stated that health promotion model for action of practice should considered gender sensitivity, but the older health promotion knowledge emphasis on empowerment to coping with stress. The fact of this study improved the detail for practice congruence with live experience of midlife women.

5. Perceived the benefit of gender - sensitive care can promote health:

This theme indicated the outcome of nursing students concluded that if they contributed gender perspective such as the concept of gender identity, gender role, and gender division of labor, they were easily apply health promotion services for midlife women. Nursing students who lack of gender sensitivity mentioned that they feel embarrassingly because of midlife women cannot use their exercise programs. This is an example of their stated.

> *"…We should be known gender difference affected on health promotion. Theory about health promotion which studied in the class room may not relevant way of women life. Once, I prepared the exercise program for midlife women such as, sprawl, straddle, and bestride. It cannot use for her, because she wear sarong. It is not suitable for her. Hence if we used gender lens, we will know gender difference, and how to set health services for their accessibilities…"*

6. Made trust by using local language and do as a daughter were core of successful.

As of experiential health promotion practice of nursing students, findings demonstrated that key success was trust. Initially, nursing students used 2 day for make relationship with middle age women. They used Isan language or northeastern dialect language, to make trust as same as they are closely relationship. Moreover, they acted as a daughter of midlife women. They were extremely impression for this status although, there were temporary relative. This situation of relationship is relevant to Thai culture respect senior persons. In contrast, senior persons welcome and inspect junior persons. These are example of the impressions.

> *"I'm very impression. I ask where you lived. He said. "Isan" (northeast of Thailand). As soon as possible I know I say Isan language with him. She laughs. Since that time feel she was corporately my project, exercise program."*

> *"I call my case study as I call my mother "Maa" (mom). She was excellently looking after me. I was born the same year of her daughter. She was excellently cooperating with my exercise program and practice to improve her health.*

Findings congruent with Khoury & Weisman (2002) who recommended that health care providers should develop health services relevant to gender role particularly, quality of communication concerning the benefit of women.

CONCLUSION AND RECOMMENDATIONS

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Findings from this study illustrated that nursing students constructed practical knowledge by using gender perspectives and biomedical approach in to health promotion practices for midlife women. It reflected that the abstract of health promotion concept needs to be supported with gender analysis to produce appropriated health promoting program.

However, these studies had some limitations. Firstly, the abilities of nursing students improving based on the reflection of nursing instructors. It is not mean purely constructed knowledge by them. Secondly, 2 weeks for practicing in health promotion for midlife women were limit time for studying. However, the model of gender sensitive practice for health promotion of midlife woman could be summarized below. The first basic practice of all nursing students was trust which could be constructed by good quality of communication.

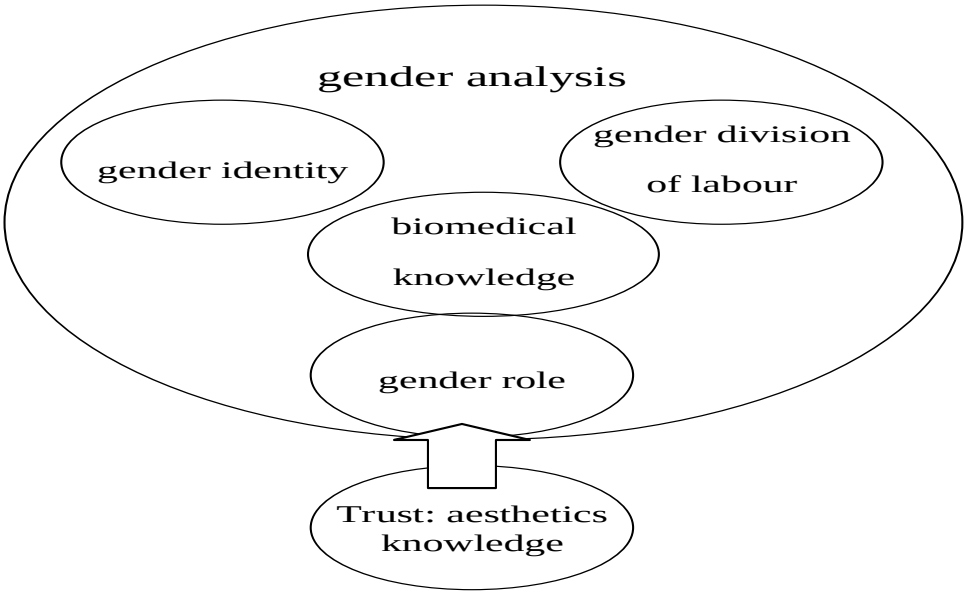

Figure 1: An approach to action of health promotion via gender perspective for care midlife.

Recommendations: this study requires investigation in nurse practitioners, graduated nurses, comparative study with novice nurse to approve this model. It may find new techniques, anesthetic knowledge, for constructing trust, guideline for practice. Furthermore, the future study should increase time for practice to close gab between knowledge and practice for promote health of midlife women.

IMPLEMENTATION

The model of gender sensitive health promotion, nursing instructors can promoting nursing students to use this model as a practical guideline to approach for promoting health of midlife women.

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Model of IQ, MQ and Environmental Education Affecting Environmental Behavior

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ABSTRACT

The objective was to propose the structural model Intelligence Quotient (IQ), Moral Quotient (MQ) and Environmental Education (EE) affecting environmental behavior for global warming alleviation through inspiration of public consciousness.

The populations were 37,101 undergraduate student of Mahasarakham University in second semester of academic year of 2012. The Multi-stage simple random sampling technique was employed to collect the sample for 400 undergraduate students. The research instrument was the questionnaire and it was used for data collecting. LISREL was used for model verification.

Results illustrated that the structural model confirmatory factors of Moral Quotient (MQ), Intelligence Quotient (IQ), and Environmental Education (EE) were able to explain the variation of endogenous factors of Inspiration of Public Consciousness for Environmental Conservation (IPC) to caused Environmental Behaviors for Global Warming Alleviation (BEH) with 93.00 percent. IPC was the highest effect to BEH with 0.66 and subsequences were EE, Consequently, confirmatory factors of EE, IQ and MQ were able to explain the variation of IPC with 87.00 percent. EE had the highest effect to IPC with 0.49 and subsequences were MQ and IQ with effects 0.32 and 0.24 respectively.

Key Words: Model, IQ, MQ / Environmental Education, Affecting, Environmental Behavior

1. INTRODUCTION

Intelligence quotient (IQ) has recognized that it linked to genetic heredity or environment of nurture. IQ is believed that it in a straight line connected to parental heredity. Even though, IQ heritability has been examined for at least a century, however it is still dispute on the significance of heritability and the systems of inheritance (Neisser, et al., 1996; Devlin, et al., 1997; Neisser, 1997; Deary and Batty, 2007; Turkheimer, 2008; Johnson, et al., 2009). Subsequently, Dickens and Flynn anticipated a model for examining numerous undecided conclusions about IQ. In their model, an environmental stimulus show a very vast effect on IQ, even for adults, but this effect also perishes over time unless the stimulus persists. The model also could be modified to contain possible factors, like nutrition during early childhood, which may cause stable effects. IQ modification can be described by a usually exciting environment for all people. (Dickens and Flynn, 2001; Dickens and Flynn, 2002).

Moral Quotient (MQ) is a level of personal ethics and morals that a person is able to control himself and takes a responsibility with honesty and faithfulness to himself, family and society including general and personal ethics based on social norm. MQ must be cultivated since childhood period. MQ would embed in the subconscious level. MQ needs to develop since child age by learning from their parents and teachers; therefore it will be personality development, habit, positive thinking, discipline and morality. Children will live happily in society because they are able to control themselves to perform properly behaviors by doing for the good thing and not doing for the bad things (Antony, 1979; Dictionary.com, 2010; Johnstone, 2008; Stoltz, 1997; Superson, 2009; Wiktionary, 2010).

Environmental Education (EE) is concept of transferring knowledge and understanding on environmental conservation including raising awareness, changing attitude, cultivating consciousness, taking responsibility and practicing to gain more skill for accomplishing better environmental behavior with inspiration of public mind or public consciousness. EE should be integrated into all education systemsof formal, informal, non-formal and lifelong educations (WCED, 1987; Thiengkamol, 2011e; Thiengkamol, 2011f; Thiengkamol, 2011g; Thiengkamol, 2011h; Thiengkamol, 2011i; Thiengkamol, 2011j; Thiengkamol, 2012a; Thiengkamol, 2012b, Thiengkamol, 2012c; Thiengkamol, 2012d).

Thiengkamol discovers from various studies about inspiration of public consciousness or public mind, she claims that it might happen insight of people. Inspiration also occurs from his or her impression on person as role model, event, environment and media receiving; however it is dissimilar from motivation because it needs no any rewards, money and admiration, particularly inspiration of public consciousness for environmental conservation (Thiengkamol, 2009a ; Thiengkamol, 2009b ; Thiengkamol, 2011e; Thiengkamol, 2011f; Thiengkamol, 2011h; Thiengkamol, 2011i; Thiengkamol, 2011;Thiengkamol, 2012cd, Thiengkamol, 2012e, Thiengkamol, 2012f; Thiengkamol, 2012g; Thiengkamol, 2012h).

There is no the research was conducted about IQ, MQ, EE affecting environmental behavior for global warming alleviation through inspiration of public consciousness including person as role model, impressive event, impressive environment, and media perception (Thiengkamol, 2011i; Thiengkamol, 2011j; Thiengkamol, 2013a; Ruboon et al., 2012a; Pimdee et al, 2012a; Gonggool et al, 2012b) when it compared with other aspects of relating factors affecting environmental behavior for global warming alleviation.

Therefore, this research was aimed to study by covering all factors relating as mentioned above, it would be able to develop a model of environmental behaviors for global warming alleviation that are affected by IQ, MQ and EE through inspiration of public consciousness.

2. OBJECTIVE

The objective was to propose the structural model of IQ, MQ and EE affecting environmental behavior for global warming alleviation through inspiration of public consciousness.

3. METHODOLOGY

The research design was implemented in steps by step as follows:

The populations were 37,101 undergraduate students of the second semester in Academic year 2012 at Mahasarakham University. The Multi-stage random sampling was employed to collect 400 students from different faculties of Mahasarakham University. The research instrument was the questionnaire and it was used for data collecting. The content and structural validity were determined by Item Objective Congruent (IOC) with 5 experts in the aspects of environmental education, psychology, social science and social research methodology. The reliability was done by collecting the sample group from 50 undergraduate students of Rajabhat Mahasarakham University which is nearby Mahasarakham University. The reliability was determined by Cronbach's Alpha. The reliability of Moral Quotient (MQ), Intelligence Quotient (IQ), EE (environmental Education) Inspiration of Public Consciousness (IPC), Behaviors for Global Warming Alleviation (BEH), and the whole questionnaire were 0.919, 0.785, 0.972, 0.977, 0.964 and 0.973 respectively.

The descriptive statistics used were frequency, percentage, mean and standard deviation. The inferential statistics used was LISREL by considering on Chi-Square value differs from zero with no statistical significant at 0.05 level or Chi-Square/df value with lesser or equal to 5, P-value with no statistical significant at 0.05 level and RMSEA (Root Mean Square Error Approximation) value with lesser than 0.05 including index level of model congruent value, GFI (Goodness of Fit Index) and index level of model congruent value, AGFI (Adjust Goodness of Fit Index) between 0.90-1.00.

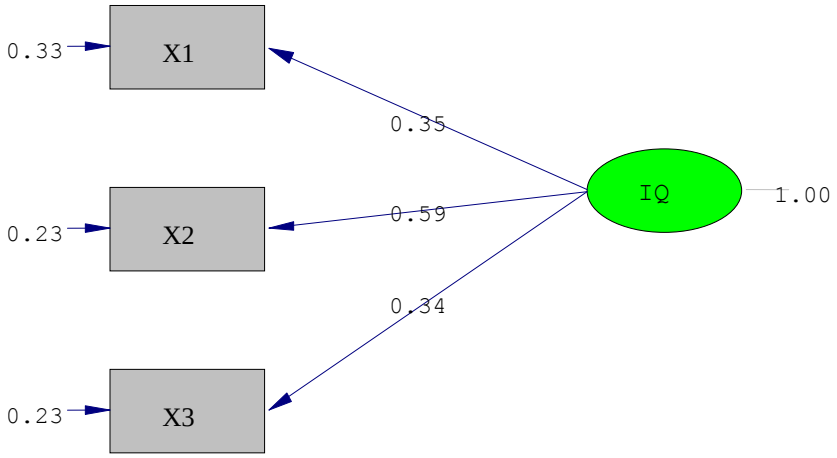
4. RESULTS

4.1 Results of Confirmatory factors of Exogenous Variables

4.1.1 Confirmatory Factors Analysis of Exogenous Variables of Intelligence Quotient (IQ)

Results of Confirmatory Factor Analysis of Exogenous Variables of Intelligence Quotient (IQ) affecting environmental Behaviors for global warming alleviation (BEH) were revealed as followings.

Confirmatory factors of IQ had Bartlett's test of Sphericity of 176.895 statistically significant level of 0.01, and Kaiser–Mayer–Olkin Measure of Sampling Adequacy/MSA of 0.639. This indicated that components of IQ aspect had proper relationship at good level and it can be used for analysis of confirmatory factors as shown in figure 1 and table 1.



Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000

Figure 1 Model of Confirmatory factors of Intelligence Quotient

Table 1 Results of Analysis of Confirmatory factors of Intelligence Quotient

Confirmatory factors of Intelligence Quotient	Weight	SE	t	R^2
X1 Conceptual Creation	0.35	0.04	8.75**	0.27
X2 Talent Expression	0.59	0.05	11.12**	0.60
X3 Relationship Perception	0.34	0.04	9.37**	0.34
Chi-square = 0.00 df = 0 P = 1.00000				
GFI =1.00 AGFI =1.00 RMSEA = 0.000 RMR =0.000				

** Statistically significant level of .01

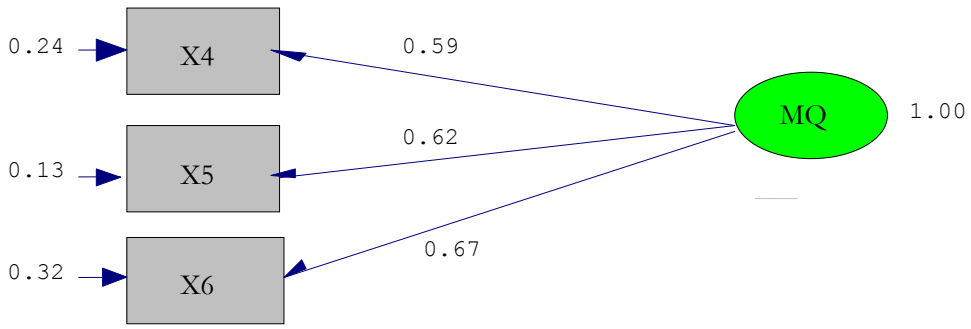
From figure 1 and table 1, results of analysis of confirmatory factors of IQ from 3 observe variables were revealed that the model was congruent to empirical data by considering from 1) Goodness of Fit Index (GFI) equaled to 1.00 and Adjust Goodness of Fit Index (AGFI) equaled to 1.00 2) Root Mean Square Error of Approximation (RMSEA) equaled to 0.035 (RMSEA < 0.05) and 3) Chi- Square value had no statistically significant at level of 0.01, and Chi- Square value was divided by degree of freedom was lesser than or equaled to 5.00 ($\chi^2/df \leq 5.00$).

Considering on loading weight of 3 observed variables in model, it was revealed that observed variables had loading weight with 0.34 to 0.59 and had covariate to model of IQ with 27.00 to 60.00 percent.

4.1.2 Results of Confirmatory Factors Analysis of Exogenous Variables of Moral Quotient (MQ)

Confirmatory Factor Analysis of Exogenous Variables of Moral Quotient (MQ) affecting Environmental Behaviors for Global Warming Alleviation (BEH) was revealed as the followings.

Confirmatory factors of MQ had Bartlett's test of Sphericity of 500.372 statistically significant level of 0.01, and Kaiser–Mayer–Olkin Measure of Sampling Adequacy/MSA of 0.722. This indicated that components of MQ aspect had proper relationship at good level and it can be used for analysis of confirmatory factors as shown in figure2 and table 2.



Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000

Figure2: Results of Analysis of Confirmatory factors of Moral Quotient

Table 2 Results of Analysis of Confirmatory factors of Moral Quotient

Components of Moral Quotient		Weight	SE	t	R^2
X4	General Ethics	0.59	0.04	16.84**	0.60
X5	Personal Ethics	0.62	0.03	19.29**	0.75
X6	Social Norm	0.67	0.04	16.17**	0.59
Chi-square = 0.00	df = 0	P = 1.00000			
GFI =1.00	AGFI =1.00	RMSEA = 0.000	RMR =0.000		

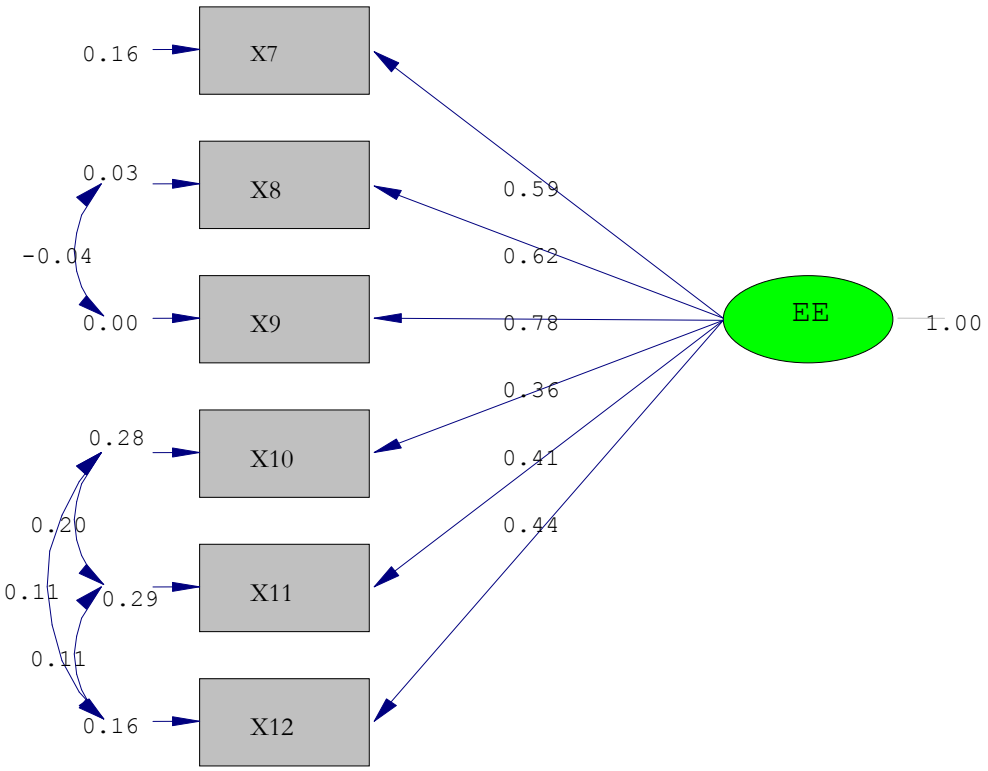
** Statistically significant level of .01

From figure 2 and table 2, results of analysis of confirmatory factors of Moral Quotient (MQ) from 3 observed variables was revealed that the model was congruent to empirical data by considering from 1) Goodness of Fit Index (GFI) equaled to 1.00 and Adjust Goodness of Fit Index (AGFI) equaled to 1.00, 2) Root Mean Square Error of Approximation (RMSEA) equaled to 0.000 (RMSEA < 0.05) and 3) Chi- Square value had no statistically significant at level of 0.01 and divided by degree of freedom was lesser than or equaled to 5.00 ($\chi^2/df \leq 5.00$). Considering on loading weight of observed variables in model, it was revealed that observed variables had loading weight with 0.59 to 0.67 and had covariate to model of Moral Quotient (MQ) with 59.00 to 75.00 percent.

4.1.3 Confirmatory factors Analysis of Exogenous Variables of Environmental Education (EE)

Confirmatory Factor Analysis of Exogenous Variables of Environmental Education (EE) affecting Environmental Behaviors for Global Warming Alleviation (BEH) was revealed as the followings.

Confirmatory factors of EE had Bartlett's test of Sphericity of 2115.466 statistically significant level ($p < .01$) and Kaiser–Mayer–Olkin Measure of Sampling Adequacy/MSA) of 0.860. This indicated that components of EE aspect had proper relationship at good level and it can be used for analysis of confirmatory factors as shown in figure 3 and table 3.



Chi-Square=7.83, df=5, P-value=0.16603, RMSEA=0.038

Figure 3: Model of Confirmatory factors of Environmental Education (EE)

Table 3 Results of Analysis of Confirmatory factors of Environmental Education

Components of Environmental Education		Weight	SE	t	R^2
X7	Knowledge and Understanding	0.59	0.030	19.38**	0.68
X8	Environmental Awareness	0.62	0.026	24.14**	0.93
X9	Environmental Attitude	0.78	0.030	25.70**	0.99
X10	Environmental Skill	0.36	0.030	12.11**	0.31
X11	Environmental Participation	0.41	0.031	13.13**	0.36
X12	Environmental Evaluation	0.44	0.026	16.76**	0.54
Chi-square = 7.83	df = 5	P = 0.16603			
GFI = 0.99	AGFI = 0.97	RMSEA = 0.038	RMR =0.0032		

** Statistically significant level of .01

From figure 3 and table 3, results of analysis of confirmatory factors of EE from 5 observed variables was revealed that the model was congruent to empirical data by considering from 1) Goodness of Fit Index (GFI) Equaled to 0.99 and Adjust Goodness of Fit Index (AGFI) Equaled to 0.97, 2) Root Mean Square Error of Approximation (RMSEA) Equaled to 0.041 (RMSEA < 0.05) and 3) Chi- Square value had no statistically significant at level of 0.01 and divided by degree of freedom was lesser than or equaled to 5 ($\chi^2/df \leq 5.00$).

Considering on loading weight of 6 observed variables in model, it was revealed that observed variables had loading weight with 0.36 to 0.78 and had covariate to model of Environmental Education with 31.00 to 99.00 percent.

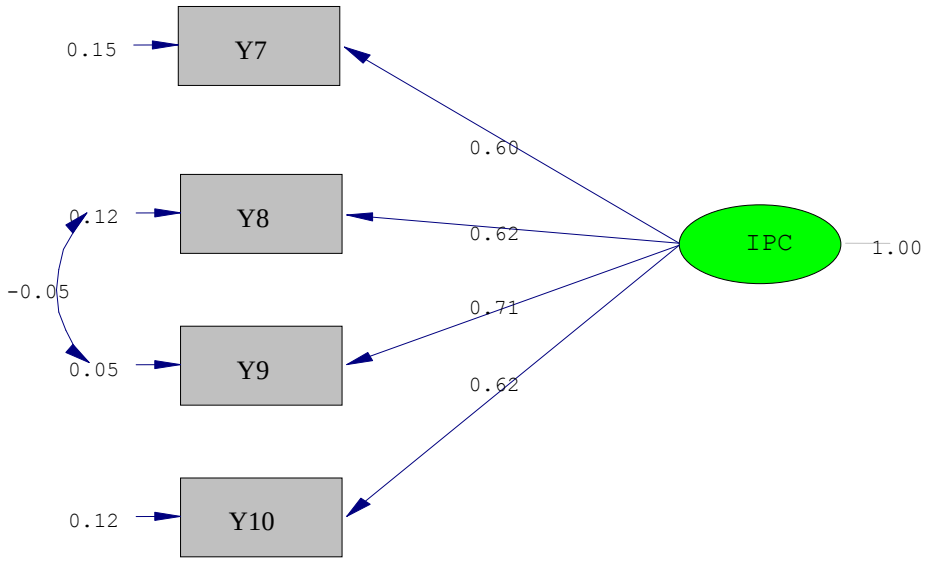
4.2 Results of Confirmatory factors of Endogenous Variables

Results of Confirmatory Factors Analysis of Endogenous Variables of Inspiration of Public Consciousness influencing to Environmental Conservation Behaviors was revealed as followings.

4.2.1 Confirmatory Factors Analysis of Endogenous Variables of Inspiration of Public Consciousness for Environmental Conservation (IPC)

Confirmatory Factors Analysis of Endogenous Variables of Inspiration of Inspiration of Public Consciousness for Environmental Conservation (IPC) to Environmental Behaviors for Global Warming Alleviation (BEH) was revealed as the followings.

Confirmatory Factors of Inspiration of Inspiration of Public Consciousness for Environmental Conservation (IPC) had Bartlett's test of Sphericity of 1280.480 statistically significant level ($p < 0.01$) and Kaiser–Mayer–Olkin Measure of Sampling Adequacy/MSA) of 0.846. This indicated that components Inspiration of Inspiration of Public Consciousness for Environmental Conservation (IPC) aspect had proper relationship at good level and it can be used for analysis of confirmatory factors as shown in figure 4 and table 4.



Chi-Square=1.84, df=1, P-value=0.17496, RMSEA=0.046

Figure 4 Model of Confirmatory factor of Inspiration of Public Consciousness for Environmental Conservation

Table 4 Results of Analysis of Confirmatory factors of Public Consciousness for Environmental Conservation

Confirmatory factors of Public Consciousness for Environmental Conservation	**Weight**	**SE**	**t**	R^2
Y7 Person as Role Model	0.60	0.029	20.39**	0.70
Y8 Impressive Event	0.62	0.030	21.04**	0.76
Y9 Impressive Environment	0.71	0.029	24.80**	0.92
Y10 Media Receiving	0.62	0.028	21.69**	0.76
Chi-square = 1.84 df = 1 P = 0.17496				
GFI = 1.00 AGFI = 0.98 RMSEA = 0.046 RMR = .0030				

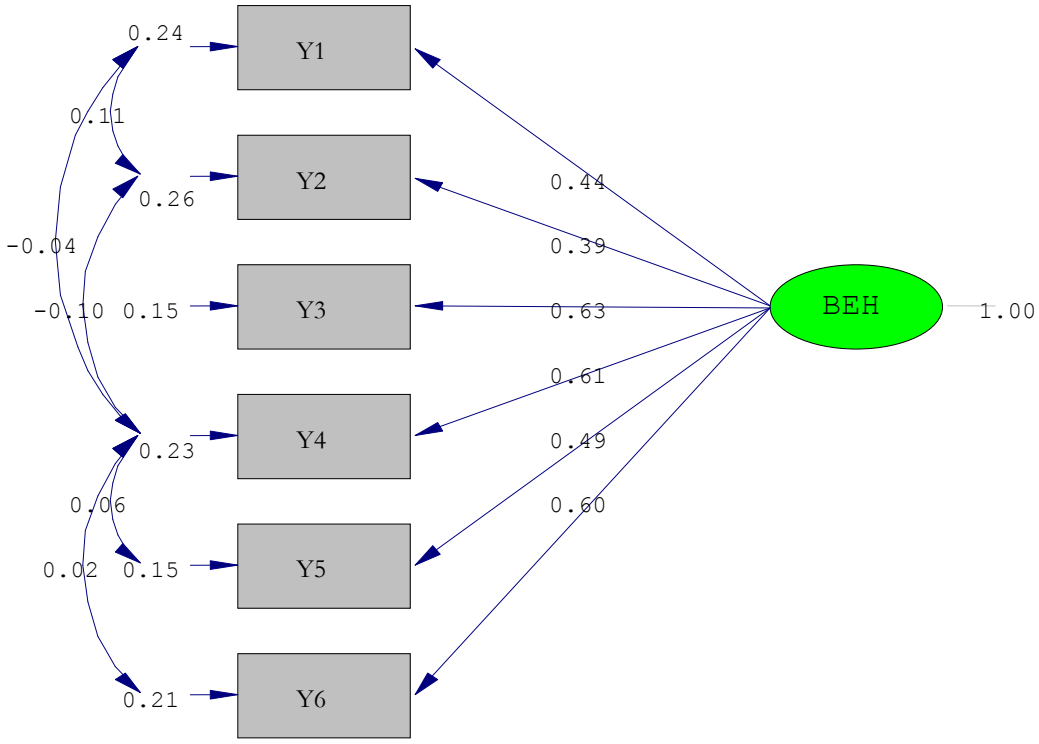
** Statistically significant level of .01

From figure 4 and table 4, results of analysis of confirmatory factors of IPC from 4 observed variables was revealed that the model was congruent to empirical data by considering from 1) Goodness of Fit Index (GFI) Equaled to 1.00 and Adjust Goodness of Fit Index (AGFI) Equaled to 0.98, 2) Root Mean Square Error of Approximation (RMSEA) Equaled to 0.046 (RMSEA < 0.05), and 3) Chi- Square value had no statistically significant at level of .01 and divided by degree of freedom was lesser than or equaled to 5.00 ($\chi^2/df \leq 5.00$).

Considering on loading weight of 4 observed variables in model, it was revealed that observed variables had loading weight with 0.60 to 0.71 and had covariate to model of Inspiration of Public Consciousness for Environmental Conservation (IPC) with 70.00 to 92.00 percent.

4.2.2 Confirmatory Factors Analysis of Endogenous Variables of Environmental Behaviors for Global Warming Alleviation (BEH)

Confirmatory Factors of Environmental Behaviors for Global Warming Alleviation had Bartlett's test of Sphericity of 1409.304 statistically significant level ($p < 0.01$) and Kaiser–Mayer–Olkin Measure of Sampling Adequacy/MSA) of 0.833. This indicated that components of BEH aspect had proper relationship at good level and it can be used for analysis of confirmatory factors as shown in figure 5 and table 5.



Chi-Square=4.94, df=4, P-value=0.29356, RMSEA=0.024

Figure 5 Model of Confirmatory factors of Environmental Behaviors for Global Warming Alleviation

Table 5 Results of Analysis of Confirmatory factors of Environmental Behaviors for Global Warming Alleviation

Confirmatory factors of Environmental Behaviors for Global Warming Alleviation	**Weight**	**SE**	**t**	R^2
Y1 Consumption Behavior	0.44	0.031	14.21**	0.45
Y2 Energy Conservation Behavior	0.39	0.031	12.70**	0.37
Y3 Recycling Behavior	0.63	0.031	19.89**	0.73
Y4 Waste Management Behavior	0.61	0.036	16.78**	0.62
Y5 Travelling Behavior	0.49	0.028	17.52**	0.61
Y6 Knowledge Transferring for Environmental Conservation	0.60	0.0.8	18.00**	0.63
Chi-square = 4.94 df = 4 P = 0.29356				
GFI = 1.00 AGFI = 0.98 RMSEA = 0.024 RMR = 0.0055				

** Statistically significant level of .01

From figure 5 and table 5, results of analysis of confirmatory factors of Environmental Behaviors for Global Warming Alleviation from 6 observed variables was revealed that the model was

congruent to empirical data by considering from 1) Goodness of Fit Index (GFI) Equaled to 1.00 and Adjust Goodness of Fit Index (AGFI) Equaled to 98, 2) Root Mean Square Error of Approximation (RMSEA) equaled to 0.000 (RMSEA < 0.05) and 3) Chi- Square value had no statistically significant at level of 0.01 and divided by degree of freedom was lesser than or equaled to 5.00 ($\chi^2/df \leq 5.00$).

Considering on loading weight of 6 observed variables in model, it was revealed that observed variables had loading weight with 0.39 to 0.63 and had covariate to model of Environmental Behaviors for Global Warming Alleviation (BEH) with 37.00 to 73.00 percent.

4.3 Results of Effect among Variables in Model in Terms of Direct Effect

1) Confirmatory factors of Intelligence Quotient (IQ), had direct effect to Inspiration of Public Consciousness for Environmental Conservation (IPC) and Environmental Behaviors for Global Warm 0.26 and 0.25. Moreover, model Intelligence Quotient (IQ), had indirect effect to Environmental Behaviors for Global Warming Alleviation (BEH) with statistically significant at level of 0.05 with effect of 0.16.

2) Confirmatory factors of Moral Quotient (MQ) had direct effect to Inspiration of Public Consciousness for Environmental Conservation (IPC) and Environmental Behaviors for Global Warming Alleviation (BEH) with statistically significant at level of 0.01 with effect of 0.34 and 0.32. Moreover, confirmatory factors in aspect of Moral Quotient (MQ) had indirect effect to Environmental Behaviors for Global Warming Alleviation (BEH) with statistically significant at level of 0.01 with effect of 0.21.

3) Confirmatory factors of Environmental Education (EE) had direct effect to Inspiration of Public Consciousness for Environmental Conservation (IPC) and Environmental Behaviors for Global Warming Alleviation (BEH) with statistically significant at level of 0.01 with effect of 0.45 and 0.42. Moreover, confirmatory factors in aspect of Environmental Education (EE) had indirect effect to Behaviors for Global Warming Alleviation (BEH) with statistically significant at level of 0.05 with effect of 0.28.

4) Confirmatory factors of Inspiration of Public Consciousness for Environmental Conservation (IPC) had direct effect Environmental Behaviors for Global Warming Alleviation (BEH) with statistically significant at level of 0.01 with effect of 0.62.

5) Considering on structural model confirmatory factors of Intelligence Quotient (IQ), Moral Quotient (MQ) , and Environmental Education (EE) were able to explain the variation of endogenous factors of Inspiration of Public Consciousness for Environmental Conservation (IPC) to caused Environmental Behaviors for Global Warming Alleviation (BEH) with 95.00 percent as following in Equation (1).

$$BEH = 0.32*MQ+0.25*IQ +0.42*EE+ 0.62 *IPC \quad ..... (1)$$
$$(R^2 = 0.95)$$

Equation (1) factors that had the most effect to Environmental Behaviors for Global Warming Alleviation (BEH) was Inspiration of Public Consciousness (IPC) with effect of 0.62 and subsequences were Environmental Education (EE), Moral Quotient (MQ) and Intelligence Quotient (IQ) with effect of 0.42, 0.32, and 0.25 respectively. These were able to explain the variation of Environmental Behaviors for Global Warming Alleviation (BEH) with 95.00 percent.

Consequently, confirmatory factors of Environmental Education (EE), Intelligence Quotient (IQ), and Moral Quotient (MQ) , were able to explain the variation of confirmatory factors of Inspiration of Public Consciousness for Environmental Conservation (IPC) with 86.00 percent. Therefore, the Equation can be written as following Equation (2).

$$IPC = 0.45*EE+0.34*MQ + 0.26*IQ \quad .....(2)$$
$$(R^2 = 0.86)$$

Equation (2) factors that had the most effect to Inspiration of Public Consciousness for Environmental Conservation (IPC) was Environmental Education (EE) with effect of 0.45, subsequences were Moral Quotient (MQ) and Intelligence Quotient (IQ), with effect of 0.34 and 0.26. These were able

to explain the variation of Inspiration of Public Consciousness for Environmental Conservation (IPC) with 86.00 percent.

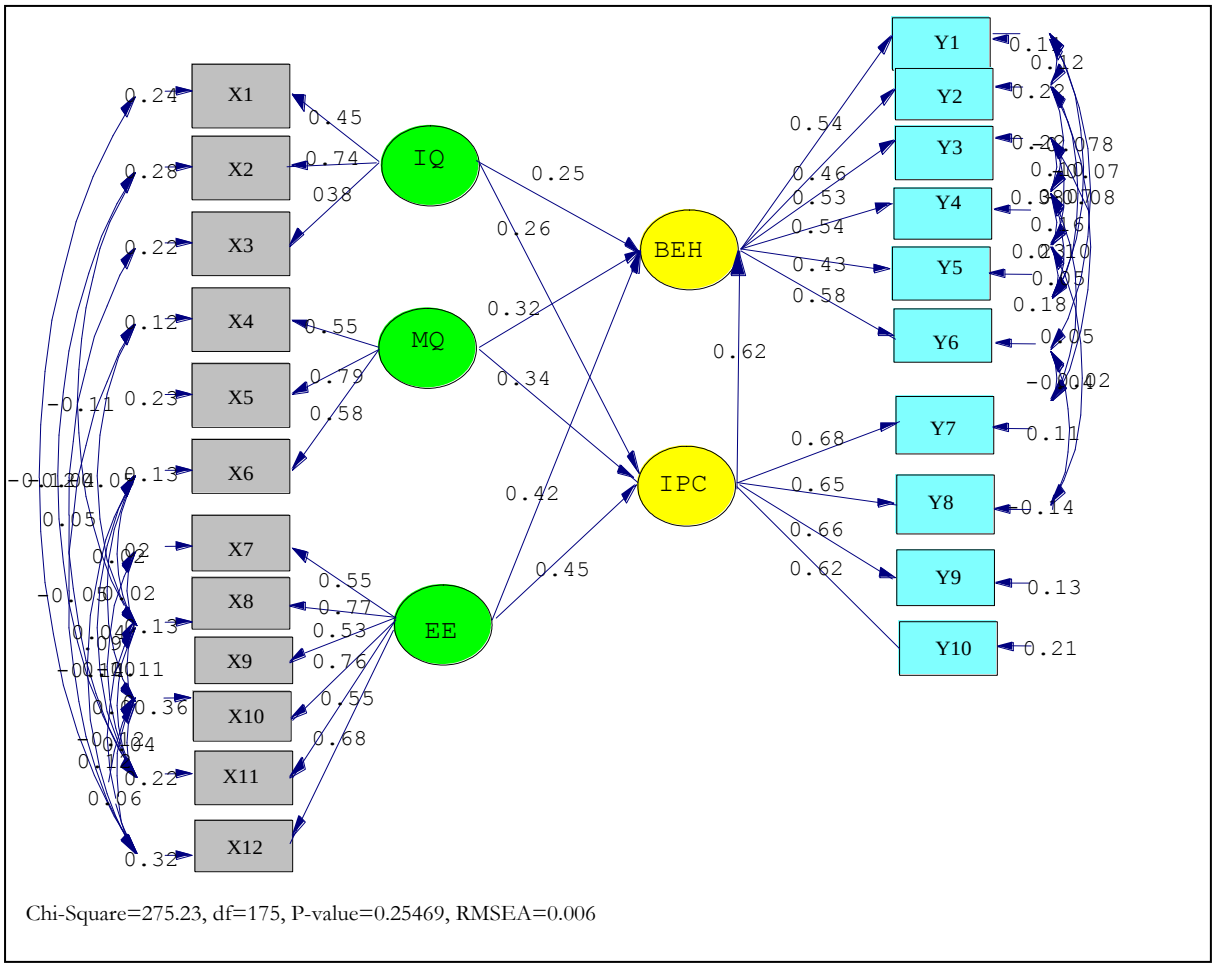


Figure 5 Model of Direct and Indirect Effect of IQ, MQ and EE Affecting BEH through IPC

5. DISCUSSION

The results was revealed that confirmatory factors of Intelligence Quotient (IQ) had direct effect to Environmental Behaviors for Global Warming Alleviation (BEH) with statistically significant at level of 0.01 with effect of 0.25, and had indirect effect to Environmental Behaviors for Global Warming Alleviation (BEH) with statistically significant at level of 0.05 with effect of 0.16. Furthermore, Intelligence Quotient (IQ) had direct effect to Inspiration of Public Consciousness (IPC) with statistically significant at level of 0.01 with effect of 0.24

It is evidently that Intelligence Quotient (IQ) Conceptual Creation (X1), Talent Expression (X2) and Relationship Perception (X3) affecting Environmental Behavior for Global Warming Alleviation (BEH) through Inspiration of Public Consciousness (IPC) composing of Person as Role Model (Y7), Impressive Event (Y8), Impressive Environment (Y9), and Media Receiving (Y10), therefore the results of this study are harmonious to various studies of Thiengkamol and her colleagues (Thiengkamol, 2011i; Thiengkamol, 2011j; Thiengkamol, 2012c; Thiengkamol, 2012d; Thiengkamol, 2012e; Donkonchum, et

al., 2012a; Gonggool, et al., 2012b; Morrasri, et al, 2012b; Ruboon, et al., 2012a; Udonboon, et al, 2012b; Waewthaisong, et al., 2012a) .

Concurrently, the results found that confirmatory factors of Moral Quotient (MQ) had direct effect to Environmental Behaviors for Global Warming Alleviation (BEH) with statistically significant at level of 0.01 with effect of 0.32, and had indirect effect to Environmental Behaviors for Global Warming Alleviation (BEH) with statistically significant at level of 0.01 with effect of 0.21. Moral Quotient (MQ) had direct effect to Inspiration of Public Consciousness (IPC) with statistically significant at level of 0.01 with effect of 0.34.

It is obviously seen that Moral Quotient (MQ) composing of General Ethics (X4), Personal Ethics (X5) and Social Norm (X6) affecting Environmental Behavior for Global Warming Alleviation (BEH) through Inspiration of Public Consciousness (IPC) composing of Person as Role Model (Y7), Impressive Event (Y8), Impressive Environment (Y9), and Media Receiving (Y10), therefore the results of this study are harmonious to various studies of Thiengkamol and her colleagues (Thiengkamol, 2011i; Thiengkamol, 2011j; Thiengkamol, 2012c; Thiengkamol, 2012d; Thiengkamol, 2012e; Thiengkamol, 2013a; Donkonchum et al., 2012a; Gonggool et al., 2012b; Morrasri et al., 2012b; Ruboon et al., 2012a; Udonboon et al., 2012b) .

The exogenous factors of Intelligence Quotient (IQ), Moral Quotient (MQ) and Environmental Education (EE) were able to explain the variation of endogenous factors of Inspiration of Public Consciousness (IPC) to caused Environmental Behaviors for Global Warming Alleviation (BEH) with 95.00 percent.

Moreover, Environmental Education (EE) had direct effect to Environmental Behaviors for Global Warming Alleviation (BEH) with statistically significant at level of 0.01 with effect of 0.42, and had indirect effect to Environmental Behaviors for Global Warming Alleviation (BEH) with statistically significant at level of 0.05 with effect of 0.28. Furthermore, Environmental Education (EE) had direct effect to Inspiration of Public Consciousness (IPC) with statistically significant at level of 0.01 with effect of 0.45.

Therefore, it is evidently that Environmental Education (EE) composing of Knowledge and Understanding (X7), Environmental Awareness (X8), Environmental Attitude(X9), Environmental Skill (X10), Environmental Participation (X11), and Environmental Evaluation (X12) affecting Environmental Behavior for Global Warming Alleviation (BEH) through Inspiration of Public Consciousness (IPC) composing of Person as Role Model (Y7), Impressive Event (Y8), Impressive Environment (Y9), and Media Receiving (Y10), therefore the results of this study are harmonious to various studies of Thiengkamol and her colleagues (Thiengkamol, 2011i; Thiengkamol, 2011j; Thiengkamol, 2012c; Thiengkamol, 2012d; Thiengkamol, 2012e; Donkonchum et al., 2012a; Gonggool et al., 2012b; Morrasri et al, 2012b; Ruboon et al., 2012a; Udonboon et al., 2012b).

The model of IQ, MQ and EE affecting BEH through IPC was verified the proposed model was fitted with all observe variables according to criteria of Chi-Square value differs from zero with no statistical significant at 0.05 level or Chi-Square/df value with lesser or equal to 5, P-value with no statistical significant at 0.05 level and RMSEA (Root Mean Square Error Approximation) value with lesser than 0.05 including index level of model congruent value, GFI (Goodness of Fit Index) and index level of model congruent value, AGFI (Adjust Goodness of Fit Index) between 0.90-1.00.

Therefore, it might be concluded that IQ, MQ and EE play very important roles to create the environmental behavior of consumption behavior, energy conservation, waste management, travelling behavior, recycling behavior, and knowledge transferring and supporting for environmental conservation, therefore Four Nobel Truths should be reintroduced again in the school. However, IQ and MQ are significant factors for undergraduate students to have environmental conservation behavior for global warming alleviation through public consciousness to meet sustainable development. These results were congruent to concepts proposed by Thiengkamol (2009a, 2009b, 2011e, 2011f).

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The Effects of Using the Elderly Promoting Program on Quality of Life among the Elderly: A Case Study of Phukrang Sub-district, Phraputthabat District, Saraburi Province, Thailand

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Abstract

The Phukrang sub-district, Phraputthabat district, Saraburi province, Thailand has high number of elderly people. The previous research showed low scores of quality of life among elderly group. Therefore, it is important to increase quality of life among this group. This quasi experimental research aimed to study quality of life of elderly people before and after participating in the program.

The samples of the quasi experimental research were 248 orderly people in Phukrang sub-district, Phraputthabat district, Saraburi province. The intervention program included rehabilitation, entertainment, vocational training, and exercise. The research instrument was the quality of life questionnaire. Descriptive statistics consisted of frequency, percentage, mean, standard deviation, and the paired *t*-test.

The results found that after implementation the program elderly people significantly increased the score of quality of life at the level 0.001.

Keywords: elderly, health promotion, quality of life

BACKGROUND OF THE STUDY

Health is the most an important inspiration for quality of life among individual family and other people (Chontisa Nammanee, 2555). In addition, Dr.Phavat Wasri explained that promoting health to increase capacity of the community include safety food, decrease health risk factors which impact on strengthen community. In community, there are children, adolescents, adult, and elderly people who decrease both physical and mental health. Among the community members, elderly people have many problems such as chronic disease, depression, dependence, and low social warfare. Therefore, health promotion in elderly is needed (Pantip Sengphaserd, 2554).

The changes in elderly people include mental, emotion, and society (Neningnud Senban,2557). Physical change of system such as skin which include dry, low resistance, and low sweet grand that impact on uncontrolled temperature. In addition, sensory motor is not good such as loss of visual acuity, low visual views, loss of hearing, loss of olfactory and low movement, loss of memory, loss of teeth, low intestinal movement, low calcium and risk to facture of bone, and respiratory tract infection.

Physical health and role of elderly people is clearly changed but the mental is not necessary change with physical condition. (Benjamas Nakwijit, 2551) stated that the brain of function of elderly people is low but the ability of adjustment with the other changing is good. It make elderly people accept the changing with other people and make them happy and independence because the emotion and mental of elderly depended on the development of personal characteristic in childhood.

In aging process, changes in emotion and mental status due to the reaction of decreasing physical health result to increasing dependence and low power in job, and low social role. Those factors impact with the emotional and mental health of elderly people that caused to mental health problem such as loss of couple, friends, son and relatives. Furthermore, psychosocial problem caused from social change, job of role, leader of family effect to loss of power, dependence, increase of loneliness and depression.

Quality of life in elderly people include four factors which include: 1) Psychological well-being that assessment of impact of happiness level in life, 2) Behavior competence consist of ability of people, physical function, perception and social behavior, 3) Perceived of quality of life include self-assessment, mental health well-being and environment, and 4) Objective environment. In term of environment, it includes five elements namely physical environment which include weather, and house; important people which include family members; general people who have interaction with elderly people; social status such as age, religion and economic and social and culture in community.(Neangnud Senban,2557).

The Phukrang sub-district, Phraputthabat district, Saraburi province, Thailand have 655 of elderly people (Personal information of Phraputthabat district, 2557). The majority of occupation in elderly people were agricultural and employees. Elderly people faced with health problems such as living with chronic disease, unhealthy with food consumption, depression and dependence. Therefore, this study aims to development of elderly promoting program on the quality of life among elderly people in der to improve the quality of life among elderly people in community.

OBJECTIVE OF THE STUDY

1. To study the effect of using the elderly promoting program on the quality of life among elderly in the Phukrang sub-district, Phraputthabat district, Saraburi province, Thailand.

2. To compare the quality of life among elderly people in the Phukrang sub-district, Phraputthabat district, Saraburi province, Thailand.

METHODOLOGY

Population and samples

This study was a Quasi-experimental research and the population was 650 of elderly people in the Phukrang sub-district, Phraputthabat district, Saraburi province. The sample comprised of 248 people and the simple random sampling was used to draw the samples. The period of study started from March to October, 2558.

Research instruments

The research tools consisted of two parts as following

Part 1: the bio-social questionnaire included gender, age, educational level, occupation, income and participation in program.

Part 2: the quality of life questionnaire developed by research based on the literature reviews. It included 26 items with five rating scale and 22 of positive items and 4 of negative items. The questionnaire was test the content validity by three experts and was tested the reliability with 30 elderly in other community. The result of Cronbach alpha coefficient was .84.

Data collection

This research has the process of data collection as follows:

1. Inform the objectives and activity and inform consent for the sample
2. Sampling the participants in the Phukrang sub-district, Phraputthabat district, Saraburi province and pretest the bio-social questionnaire and quality of life of questionnaire.
3. Providing the elderly promoting program on the quality of life among elderly in the Phukrang sub-district, Phraputthabat district, Saraburi province. The activity of program included:

3.1 Development of the rehabilitation center included health consultation, caring dependence, meeting, and relaxation,

3.2 Entertainment included sing a song, and playing game,

3.3 Training vocation included food, cookie, handicraft,

3.4 Exercise 3 times per weeks at five pm – six pm on Monday, Wednesday and Friday during March to September, 2558.

4. Test the posttest after implementation of the program

Data analysis

This study analyzed the statistics by using the SPSS v. 16 as the follows:

1. The descriptive statistics was used the bio-social questionnaire included number, percentage, mean, and standard deviation.

2. The comparative testing of quality of life was used paired *t*-test

RESULTS

The result of this study included two parts as follow:

Part 1 Bio-social factors of the participants

Most of the elderly people in the Phukrang sub-district, Phraputthabat district, Saraburi province were female (60%) more than male counterparts (40%). Majority of the sample age between 65-69 years (51.2%), 70-79 years (24.0%) and more than 80 years were 12.0%. Majority of the sample (76.4%) finished primary schools, most workOccupation included agricultural were 41.6%, employees was 14.8%, Government officers was 18.0%, no occupation was 22.8%, and seller was 2.8%. Income included less than 10,000 baht was 61.6%, 10,001- 20,000 baht was 34.8%, 20,001 -30,000 baht was 2.4%, 30,001-40,000 baht was 1.2%. The participation of program level was 62.4% included rehabilitation was 41.2%, entertainment was 14.8%, training vocation was 34.0% and exercise was 10.0%.

Part 2: Quality of life among elderly in the Phukrang sub-district, Phraputthabat district, Saraburi province

The result of quality of life among elderly in the Phukrang sub-district, Phraputthabat district, Saraburi province after implementation was moderate level (mean = 3.27:S.D. = 0.81) and after implementation was (mean = 4.20:S.D. = 0.63).

Part 3: The compare ration of quality of life among elderly in the Phukrang sub-district, Phraputthabat district, Saraburi province.

3) Table showed the comparison of the quality of life among elderly people in the Phukrang sub-district, Phraputthabat district, Saraburi province before and after implementation.

Quality of life	Before		After		t
	$\bar{X}$	SD	$\bar{X}$	SD	
	3.27	.81	4.20	.63	-15.541***

The result of comparison of quality of life among elderly people found that after implementation of program, the means score of quality of life among elderly in the Phukrang sub-district, Phraputthabat district, Saraburi province differed from after implementation program with the level of statistic at p-value 0.001.

Discussion

Elderly people in the Phukrang sub-district, Phraputthabat district, Saraburi province after implementation was high level because they have much opportunity access the health care service and social warfare that make the relationship with the same group, learning self-care, and increasing income. It concordance with the study of Phuritchaya Tepsiri(2555) indicated that quality of life in elderly people in moderate level. In addition, the study of Tharin Sukanun and teams (2554) found that the quality of life among elderly in Bangsean minacity, Chonburi have moderate level. However, this study was no concordance with the study of Wirot Sukloa (2553) and Neangnud Senban(2557) show that the quality of life among elderly people have good level.

The result of comparative of quality of life among elderly people in the Phukrang sub-district, Phraputthabat district, Saraburi province before and after implementation found that after implementation program elderly people have high score of quality of life after implementation with statistics significant at p-value .001. This result explained that access the health care service and social welfare, self-health group, leaning self-care, and increased income resulted to the increasing awareness of health modification change with the same group which consistence with the study of Tharin Sukanan(2554) showed that the development of the quality of life result in physical, mental and environment of elderly people that increase the quality of life form moderate to high level. On the other hand, this result is not support the study of Thanakamon Ritsuk(2552) showed that it is not differ the quality of life among elderly people before and after implementation program with statistical significance level p-value 0.05.

Recommendations

1. It should be educated the self-care and promote the network of elderly people for development of the promoting health.
2. It should be continually planed the supporting activity of elderly people center such as health promotion and entertainment in order to promote the strengthen activity and capacity building of elderly association center.

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Public speaking: The anxiety and confidence deficiency of Thai students

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ABSTRACT

Public speaking is one of the activities in university, including class presentation and project proposing. Effective speaking refers to the way speaker can appropriately convey message and feeling to listeners. It is widely known that not everyone is successful in speaking and presentation. For those who lack self-confidence, class speaking and presentation is a critical trouble. It was found that most Thai students are anxious speaking to public. In term of psychology, public speaking affects mental conditions, including self-esteem. Anxiety being publicly focused and criticized is a common problem of all speakers. Mistakes of speaking causes concern of speakers as they feel that audiences make fun of their speaking; some suffers from accumulated anxiety and become psychologically sick, so called social phobia or anxiety to involve in social gathering, presentation, or public exposure. Patients are likely to concern about making mistakes, speak brokenly or weakly, show symptoms of muscle contraction, blush, shaking or palpitation. Such phobia causes sadness and social depression, thus negatively influencing career and social participation in the future.

Keywords: Public speaking anxiety, Fear of public speaking, Confidence deficiency

INTRODUCTION

Being able to communicate effectively is one of the most important life skills. Competence in communication includes speaking skills which play an essential role in everyday life. Having good speaking skills is the key to success personally and professionally and to improve speaking skills involves self-determination and practices. Therefore, providing speaking training courses to Thai students will not only benefit them academically but practically as well.

Public speaking can be used to inform, persuade or even entertain. It allows the speaker to demonstrate knowledge and shows confidence through the given speeches and creates chances of gaining popularity among the audience. According to "Personality development in public speaking for 6-12 year-old Thai children" (Watjanapukka P., 2004; Wongsasuluk P., 2004 and Sirisawad A., 2004), adults with poor speaking skills experienced speech problems such as cluttering, stuttering or articulation disorders in childhood but failed to treat them appropriately so the existed problems turned into habits. Speech problems can also emerge from low self-esteem and a lack of confidence in speaking to others caused by taunting or harsh criticism, which triggers negative attitude towards public speaking and provokes public speaking anxiety (Pull C. B., 2012.). Fear of public speaking arises from self-doubt and negative expectation and can affect a person's ability to speak (Anderson, P. L., Zimand, E., Hodges, L. F., and Rothbaum, B. O. 2005). Several studies have indicated that a person with Glossophobia or the fear of public speaking tends to have panic attacks, high levels of distress or excessive tension which cause emotional disturbance and physical disorientation (Anderson, P. L., Zimand, E., Hodges, L. F., and Rothbaum, B. O., 2005; Botella, C., et al., 2007; Botella, C., Hofmann, S. G., and Moscovitch, D. A., 2004; Carlbring, P., and Anderson, G., 2006).

The researcher aims to study behavior status and attitude towards public speaking of Thai students. The findings will enhance comprehensive understanding of an inability to speak in public that it is not permanent incompetence but it is a specific state of mind and can be overcome by practicing and using the right approach.

OBJECTIVE

This research aimed to study behavior status and attitude towards public speaking of Thai students.

RESEARCH METHODS

Data were collected from a total of 1,000 students, both male and female, from universities across the country during May 2015 to August 2015. Students participated in this study must have taken public speaking course or have had experience in public speaking such as speaking in front of

a class.

Quantitative and qualitative approaches were used in this study. The data were collected by means of a behavior status and attitude towards public speaking of Thai students' questionnaire from 1,000 students. Qualitative approach was conducted through in-depth interviews with 10 selected students from Bangkok-based universities whom identified by their teachers as having public speaking struggles.

Data gathered from questionnaires consist of general information of the participants and data on behavior status and attitude towards public speaking of Thai students were analyzed using descriptive statistics. Data obtained from in-depth interviews with 10 selected students were analyzed using a qualitative approach.

RESULTS

1. Sample group's profile

According to the study result, 53% of Sample student are female. Most of the Sample student has the age range between 21 – 23 years and 50% are at their senior year. 46% of the sample student attended the class related to public speaking. One of the students attended over 10 classes. 20% of the sample student are trained/had experiences about public speaking apart from the class study. 93% of the sample student experienced in public speaking only in class and 7% has experience in public speaking in a wider area.

2. Speaking Behaviors

According to the study result, the top three behaviors and opinions that occur to the sample group are 1) 98% are worrying if they would struggling while speaking in public or in front of people, 2) 88% worry about making mistake and embarrassed if they couldn't answer some random questions and 3) 86% feel inferior about the ability to speak in public and think that their speech is boring and not attracted to the audience.

It was also found that 78% of the sample was worry when they knew that they have to speak in public and will be less worrying if the audience is inferior to them. Seventy three percent of the students were frustrated while preparing to give a speech in public. Sixty-eight percent of the sample felt uncomfortable if they have to be on a target sight/ (in a spot) and afraid of being criticized by the audience and ashamed if they cannot perform well. Stress and anxiety affected the performance of sample group. Sixty two percent of the student were disgrace and disappointed when they cannot carry out their public speaking successfully in spite of a well preparation. Forty three of the sample students found that audience was the biggest obstacle, 14 % have a long anxiety ahead of time before given a public speech and 11% of the sample student show that how much they try they will never accomplish

However, the study found that only 7% of the sample student always avoids speaking in

public and give up on trying to adjust their weakness, 93% believes that Practicing regularly will certainly improve the public speaking skill.

CONCLUSION

Speaking ability is very important skill to our life. Successful people always have very effective speaking skills. Speaking ability is vital and implemented to our social skill. The person who can communicate well will lead to a successful life (Dwyer K. K. and Davidson M. M., 2012). People always want to be with the person who has a proper mannered and also know exactly when to speak, where to speak and how to speak effectively. In public speaking, the speaker needs to pay attention to audience's reaction while speaking both verbal and nonverbal communication. Public speaking will broaden the chance of the speaker to show their capability. Public speaker needs to practice their speaking, only gifted cannot help. By practicing, people will improve their whole personality and become a good and very skilled public speaker.

Anxiety in public speaking or being afraid to speak in front of many people is a state that happens to many people. Fear or scare makes people suffer and feel inferior and devalue ourselves (Dwyer K. K. and Davidson M. M., 2012). Supports the survey results showed that students feel nervous every time when talking to strangers or accidentally wordless while talking even though it is a matter of manner but you still cannot hold your anxiety. They worry and afraid to be criticized, anxious ahead of time when need to be in public or speak in public and worried about being embarrassed and afraid that others will notice that you are nervous.

Psychologists said that the fear of public speaking will lead to social phobia (Finn A.N., Sawyer C. R. and Behnke R. R., 2003). Many research (King P. E., Young M. J. and Behnke R. R., 2000; McCullough S. C., Russell S. G., Behnke R. R., Sawyer C. R. and Witt P. L., 2006) showed that the cause of social phobia may related to the raising of the family but there is still no scientific prove on that, in some cases, it only happen to one person in the family moreover, the cause of the phobia could related to brain system, gene, the ability to evaluate their own action and response to others including the experience in the past (Smith, C. D. and King P. E., 2004). Social phobia can occur to anybody at every age but it would be very noticeable at young age to teenage especially teenage that will gradually start to interact with social more (Behnke R. R. and Sawyer C. R., 1999). In addition social phobia tend to have inferiority at first then, devalue themselves automatically and at the end, become a social phobia person. The emotional state will affect our improvement; lose a chance to learning new things, meeting with new people and many other good opportunities which is yet to come.

Self-confidence depends on the preparation of public speaking (Dwyer K. K. and Davidson M. M., 2012). If well prepared is ready, it will have a high confidence in speaking to a little trepidation. Students should explore their public speaking; improve the weak and keeping

things as well. Students are encouraged to develop their own personality. People with good character will be recognized by others. People with the ability to adapt well will be successful in life than those who are not good personality. Public speaking, as science and art can be learned and practiced skill. If students practiced more, skilled in public speaking more developed respectively.

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Knowledge of Stroke Risk Factors and Warning Signs Among Undergraduate Nursing Students in Thailand, Indonesia and Myanmar[1]

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ABSTRACT

Background: Stroke is the most significant cause of disability and death worldwide. It is categorized as the critical condition and required alerting nursing care. Nursing students who will graduate and provide care should be prepared about knowledge of stroke.

Purpose: This study aims to evaluate the level of knowledge of risk factors and knowledge of Stroke warning signs among undergraduate nursing students in Thailand, Indonesia and Myanmar.

Methods: This study was conducted in January - June 2015 using an online survey. Participants were 2,063 the 1st to 4thyear nursing students who enrolled in the nursing institutes from three countries in Southeast Asia including Thailand, Indonesia and Myanmar. Descriptive statistics were calculated.

Results: Nursing students from all three countries performed at a high level of knowledge on stroke's risk factors (M= 36.65, S.D. = 9.94) and warning signs (M= 4.11, S.D.= 2.08) . Considering the knowledge level on stroke' risk factor in each person, most students (7.1%) can get scores at high level 20.7% of those at moderate level 20.7% of those were at moderate level and only 9.2 % of those were at mild level. Furthermore, details of knowledge on warning signs. the results showed that most nursing students can answer that weakness/numbness of any parts of body was reported at the highest score(75.4%), Furthermore, sudden onset of severe headache(69.7%), and face asymmetry(68.8%) were reported as the second and third rank. However, nursing students recognized the suddenly blurred and double vision or loss of vision as a warning sign at the lowest level (62.2%). Comparing among three countries, average scores of all three countries were in the moderate level. Average scores of Thai and Indonesian students were not much different; however, the average score of Myanmar nursing students was tend to lower than other countries. It may due to cultural and contextual differences.

Conclusions and Recommendations: This study provides information about knowledge levels of nursing students among three countries on risk factors and warning signs of stroke. These issues will be taken into consideration to arrange for knowledge improvement program which can be integrated into the curriculum or extra curriculum of nursing students at undergraduate level. This improvement may improve nursing students' knowledge and may affect the quality of care for stroke prevention or early detection in the future.

Keywords: Stroke, Risk Factors, Warning Signs, Nursing Students

BACKGROUND OF THE STUDY

Stroke is the most significant cause of disability and death worldwide (World Health Organization, 2014), South East Asia regions and Thailand. Stroke is a medical emergency condition that occurs when interrupting blood flow to an area of the brain from thrombosis, embolism or hemorrhage. Stroke health promotion, prevention and early detection can reduce disability. If stroke occur, it may result in a loss of his abilities to control speech, movement, and memory (Acker JE III, Pancioli AM, Crocco TJ, et al. 2007). To prevent disability, medical emergency responses or Stroke Fast track was recommended. Stroke fast track aims to help patients to receive the effective stroke treatment as fast as

they can, for instance, starting medication at emergency room and there is a short time to manage or provide care for possible after warning signs of stroke occur (Kernan et. Al.,2014). As a result, knowledge and observation for stroke warning signs should be alerted by health profession and caregivers. The stroke's warning signs can be easily recognized using "FAST" acronym. Details of each letter are described that the letter F stands for facial weakness on the one side of the body, A stands for weakness/numbness of arm or leg any part of the body, S stands for speech difficulties, and T stands for time or duration that stroke occurs. (Flaher ML, Klindorfer, Kissela BM, 2004).

Reducing the time from stroke onset to hospital and improving control of stroke risk factors depend on knowledge of health care providers on stroke's risk factors and stroke's warning signs, particularly, the knowledge of nursing students who will be the frontline health care providers . However, there is a lack of evidence about knowledge of nursing students at undergraduate level on stroke's risk factors and stroke's warning signs. Therefore, researchers paid attention to the knowledge of nursing students at undergraduate level. Moreover, Thailand and other countries will join the Association of South East Asia (ASEAN) community and nursing will be one occupation which can flow independently, so basic knowledge regards stroke's risk factors and warning signs among nursing students from three countries; Thailand, Indonesian and Myanmar should be addressed. These results may help educational sector to understand an overview regards knowledge on stroke's risk factors and warning signs and use this information to set up the policy to improve quality of care, especially, improving the quality of nursing profession.

PURPOSE OF THE STUDY

This study aims to evaluate the level of knowledge of risk factors and knowledge of Stroke warning signs among undergraduate nursing students in Thailand, Indonesia and Myanmar.

METHODS

Design:

Descriptive research: cross-sectional surveying was used in this study.

Sampling:

This study was conducted in January - June 2015 using an online survey. The Cluster sampling was used, therefore, undergraduate nursing students from three countries in South East Asia including Thailand (1,367 students), Indonesia (376 students) and Myanmar (320 students) were 2,063 nursing students on the 1st to 4th year recruited to the study.

Instruments:

The three part- questionnaires for this study: personal information, risk factors of stroke and stroke warning signs that was developed by The American Health Association and the National Institute of Neurological Disorders and Stroke (American Health Association, 2012; National Institute of

Neurological Disorders and Stroke, 2009) were used in this study:

1. Personal information. The 4 items were age, gender, year in educational program and school location.

2. Risk factors of stroke knowledge. The 9 items included tobacco smoke, high blood pressure, dyslipidemia, Parents or brothers/sisters had a stroke disease, diabetes, obesity, lack of exercise, alcohol and stress.

3. Stroke warning signs knowledge. The 6 items included Sudden onset of face asymmetry, weakness/numbness of arm or leg any part of the body, Sudden difficulty in speaking or understanding, Suddenly blurred and double vision, or loss of vision, Sudden onset of severe headache, and sudden onset of dizziness or vertigo.

The reliability of these questionnaires of the risk of factors stroke was 0.897 and the stroke warning signs 0.867

Data collection:

Three main steps were undertaken:

1. After the approval on Ethical consideration of this study was obtained from Boromarajonani College of Nursing, Saraburi which is one significant center of this study, the link of online invitation letter which explained about the project in terms of activities, harm and benefit and right of the participants were posted in the nursing or public health colleges' website.

2. When the proposed participants agreed, they answered the online questionnaires from the link assigned.

3. All participants were able to withdraw from the study when they are uncomfortable or any reasons without any negative impact.

Data analysis:

Descriptive statistic was used for frequency, percentages, means and standard deviation.

RESULTS

There were 3 parts of the results:

Personal information

Most participants were female (91.5%). Considering the detail of genders of nursing students in each country, differences were found that most Thai nursing students which are the biggest group were (66.3%). However, in Myanmar and Indonesia were found that most of them were (18.3 % and 15.5%) respectively.

Age of participants were varied and ranged from 16-52 years old. The mean age was 20.13 year (S.D. = 2.898).

Most participants were the third year students (33.8%) the second year (28.1%) the first year (20.9%) and the fourth year (17.2%).

Knowledge of stroke risk factors

For knowledge of stroke risk factors, the mean score was 36.65 (S.D. = 9.94) from total score 45 points. Most of participants were high score)31-45 score) 70.1%, median level (16-30 score) 20.7% and low level (0-15 score) 9.2%.

Stroke risk factors knowledge (Table 1), stress ($\bar{x}$ =3.86 S.D.=1.389) high blood pressure ($\bar{x}$ =3.80 S.D.=1.681) tobacco smoke ($\bar{x}$ =3.76 S.D.=1.247) were three highest level. The lowest level stroke risk of factors knowledge was Parents or brothers/sisters had a stroke disease ($\bar{x}$ =3.32 S.D.=1.447). Furthermore, the total score of knowledge level of stroke risk factors were mostly high level except parents or brothers/sisters had a stroke disease was moderate level.

Table 1 knowledge of stroke risk factors from nursing students of Thailand, Indonesia and Myanmar (N=2063)

Risk factors of Stoke	Thailand		Indonesia		Myanmar		Total		Level
	$\bar{x}$	S.D	$\bar{x}$	S.D	$\bar{x}$	S.D	$\bar{x}$	S.D	
Tobacco smoke	3.96	1.123	3.87	1.213	2.76	1.316	3.76	1.247	High
High blood pressure	4.38	.938	4.49	.952	.54	.888	3.80	1.681	High
Dyslipidemia	4.29	1.037	3.26	1.653	1.73	1.389	3.71	1.543	High
Parents or brothers/sisters had a stroke disease	3.27	1.465	3.41	1.624	3.40	1.104	3.32	1.447	Moderate
Diabetes	3.74	1.194	3.70	1.354	2.44	1.426	3.53	1.346	High
Obesity	3.96	1.121	3.96	1.208	1.68	1.279	3.60	1.425	High
Lack of exercise	3.86	1.086	3.97	1.179	1.73	1.297	3.55	1.379	High
Alcohol	3.94	1.126	3.98	1.300	1.17	1.185	3.52	1.543	High
Stress	4.26	.967	4.19	1.135	1.79	1.363	3.86	1.389	High

Knowledge on stroke warning signs

For knowledge stroke warning signs (Table 2), the three highest knowledge of stroke warning signs were weakness / numbness of any part of the body (75.4), sudden onset of severe headache (69.7%)and face asymmetry(68.8%).The lowest warning sign was the suddenly blurred and double vision or loss of vision **(**62.2%).Considering each country found the lowest stroke warning sign knowledge were Thailand had suddenly blurred and double vision or loss of vision(67.5%), Indonesia had suddenly blurred and double vision or loss of vision knowledge (75.3%)**,** and Myanmar had sudden difficulty in speaking or understanding (8.1%)

Table 2 knowledge on stroke warning signs (N=2063)

Stroke warning signs	Thailand		Indonesia		Myanmar		Total	
	Yes N(%)	Don't Know N(%)	Yes N(%)	Don't Know N(%)	Yes N(%)	Don't Know N(%)	Yes N(%)	Don't Know N(%)
face asymmetry	1096 (80.2)	271 (19.8)	289 (76.9)	87 (23.1)	34 (10.6)	286 (89.4)	1419 (68.8)	644 (31.2)
weakness/numbness of arm or leg any part of the body	1174 (85.9)	193 (14.1)	349 (92.8)	27 (7.2)	32 (10.0)	288 (90.0)	1555 (75.4)	508 (24.6)
Sudden difficulty in speaking or understanding	1044 (76.4)	323 (23.6)	344 (91.5)	32 (8.5)	**26 (8.1)**	294 (91.9)	1414 (68.5)	649 (31.5)
Suddenly blurred and double vision or loss of vision	**923 (67.5)**	444 (32.5)	**283 (75.3)**	93 (24.7)	78 (24.4)	242 75.6	**1284 (62.2)**	770 (37.8)
Sudden onset of severe headache	1062 (77.7)	305 (22.3)	314 (83.5)	62 (16.5)	61 (19.1)	259 (80.9)	1437 (69.7)	626 (30.3)
sudden onset of dizziness or vertigo	1017 (74.4)	350 (25.6)	295 (78.5)	81 (21.5)	55 (17.2)	265 (82.8)	1367 (66.3)	696 (33.7)

DISCUSSION

This study is the database survey for evaluated the Level of Knowledge of stroke risk factors and knowledge of stroke warning signs among Undergraduate Nursing Students in Thailand, Indonesia and Myanmar.

Nursing students from all three countries performed at a high level of knowledge on stroke's risk factors (M= 36.65, S.D. = 9.94). Considering the knowledge level on stroke' risk factor in each person, most students (7.1%) can get scores at high level, 20.7% of those at moderate level and only 9.2 % of those were at poor level.

This may result from the significant health problems of all three countries are stroke, therefore, all nursing students is required to understand the risk factors of stroke. This knowledge may be provided by extracurricular activities or extracurricular activities of the nursing course.

Furthermore, stress, high blood pressure and tobacco smoking were recognized as the first three risk factors for stroke. This phenomenon was similar to the study report of Michigan adults hypertention which listed as higher common risks of stroke patients which may lead to burden (Reeves, Hogan &Rafferty, 2002).

However, the lowest score of risk factors was Parents or brothers/sisters had a stroke disease which was at moderate level. The reason that most students did not recognized that the family history

was a risk factor of stroke because it can be a risk factor of young or early onset stroke (age < 55 years old) (Thijs, & et al., 2015), whereas, most common stroke patients in all three countries usually was the normal onset or older aged group. Therefore, it may be a reason to support this phenomenon.

Knowledge of stroke warning signs among nursing students is important due to they would be health professionals who could care for prevent stroke and medical emergency response for patients to receive the effective stroke treatment. The results of knowledge stroke warning signs, found the three highest knowledge of stroke warning signs were weakness / numbness of any part of the body (75.4), sudden onset of severe headache (69.7%) and face asymmetry (68.8%). However, the lowest warning sign was the suddenly blurred and double vision or loss of vision (62.2%). Considering detail from each country, the result showed that the lowest stroke warning sign of Thailand and Indonesia was the same warning sign which was suddenly blurred and double vision or loss of vision (67.5% and 75.3%). Nevertheless, the lowest score from Myanmar nursing students was having sudden difficulty in speaking or understanding (8.1%). However, the studies of Stroke awareness in the United States, Europe, and Asia found that majority of people did not recognize stroke warning signs. The most people recognized were acute or severe headache, weakness on one side of the body or arm, and dizziness (Flaher, M.L.,Klindorfer, D., Kissela, B.M.: 2004; Mano, H:2009). So, it may lead to the lowest scores that they ranked for warning signs.

CONCLUSION AND RECOMMENDATIONS:

Results of this study illustrated that the nursing students in three countries had a high level of knowledge of stroke risk factors. However, lack of knowledge as the family history such as parents or brothers/sisters had a stroke disease were found for nursing students in these three countries. it may be the need for educational program to address this knowledge gap and improve their knowledge in the future.

As well as, the results of knowledge stroke warning signs found a lack of knowledge of stroke warning signs such as suddenly blurred and double vision or loss of vision and Sudden difficulty in speaking or understanding.

This study provide basis information for improvement and integrating of issues in risk factors of stroke and stroke warning signs in undergraduate learning of nursing program for early detection and effective prevention.

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Saving and Making Life Insurance of People in Bangkok

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ABSTRACT

The research entitled the study of saving and making life insurance behaviors of people in Bangkok for 449 persons is divided its study into 3 parts; the first part; it is about general information on the population characteristics and population economic states, the second part; it is about saving behaviors, and the third part; it is about the behaviors of making life insurance of population. For money saving, most of the studied people save their money as property collection in the saving account, and the second is saving money in the fixed deposit account. The sample group has the saving between 1,001-5,000 baht per month, which is the highest proportion. For the survey of motivational factors of saving, it is found that the factors which highly affect include the prevention of inflation problem, and saving for future expenses. The expectation of the savers is about increasing the property values, requiring the quick compensates, and better life living. For the reasons of saving is that the concern of sufficient income after retirement, and the possible risks. A few incomes and financial plan skills are considered as the obstructions through saving. For the last part, 47% of the sample group makes life insurance. The making life insurance are mostly managed as paying by installments in accordance with the due time, or Endowment Life Insurance. The life insurance premium of the insured is mostly between 4,000 and 20,000 baht. The factor affects the making life insurance is the need of security for themselves and their family. The increased incomes make the life insurance purchase increases, which is the same as the saving. When considering the insurance premium, it is found that when the educational level is higher, the sample group makes the policy which has higher insurance premium. This is in accordance with the income level. The study results of insurance premium gives the same results as the study of the policy as a whole.

Keywords: Endowment Life Insurance;

INTRODUCTION

Currently, several countries all over the world realize the increase of a number of the elderly populations, such as England, Germany, and Japan, etc. The elderly populations in the retirement age of these countries have been increasing. Moreover, the countries are considered as the developed countries and have high welfares. Therefore, the governments have to carry the increasing expenses in various matters, such as pension, social security, etc. In addition, because of the world economic conditions, the governments of these countries have to adjust themselves by cutting off several parts of expenses, including the money which will give to the retired persons.

For Thailand, it has more realization about the elderly population numbers because the elderly population in Thailand has been increasing numerously and quickly. Most of the populations are from baby boom period according to their birth at that time which had a lot of babies born. Moreover, Thailand now is encountering the problem of population structural change, consequently, while the birth ratio is decreasing. At the present time, the populations rate in Thailand is decreasing, this is because the birth rate is decreasing while the elderly rate and death rate is increasing (it is referred by the year 2013, there were around 66.7 million populations, and in 2014, there were around 67.0 million population, therefore it can be estimated that the population numbers are increased 0.5% per year, or around 300,000 populations, National Statistical Office, 2015). If the Thai populations are more or less increased, or even stable, it can be clearly seen that the age structures will be changed. This might affect the increasing rate through Thai populations which will be slower and lower. However, people have longer age which affects the elderly rate in this present time and in the future which will be increased continuously. Therefore, it can be suggested that in the future, the Thai society might become the society of elderly.

Today, Thai government realizes the situation of changed population structures, and prepares to deal with the increasing problem of the elderly numbers in the country. Hence, Thailand has determined a strategy in the Second National Economic and Social Development Plan by doing the plan preparation for the elderly (B.E 2545-2564). The government has to determine the plan related to the elderly formally because the population structures change clearly shows that Thailand is encountering the quickly increased situation on the elderly populations (60 years old up). The increased estimation of the elderly populations done by the United Nations Organization between B.E. 2533and B.E. 2593 suggests that when comparing a number of all Thai populations in B.E. 2523, the increased percentage of the elderly populations was at 47% in B.E. 2533, and will be increased around 770% in B.E. 2593. Hence, it is necessary to prepare for the readiness the same as the family plan family planning in order to enter into the social change which has to plan about various living in every aspect, such as economy, society, and burdens. A good plan will help the burdens towards the family members and society as a whole occur the least. Thus to prepare for the readiness before entering into the elderly age or retirement should be focused on especially for the people who are during the working age, the government and people have to extremely realize and emphasize the saving and making life insurance, in order to support the retirement age. The government should push and support the people of working age to save their money at the

beginning of working, as a plan and preparation for the readiness to let people have money enough to pay when the time of retirement age or elderly age comes.

For the last part, the making life insurance is also regarded as a crucial factor towards the financial plan of the planner in the retirement age because this will help protect the incomes and save money which has the interest to the insured. Moreover, making life insurance can reduce the social burden if there is an accident or danger towards the insured. It is also used to reduce the Personal Income Tax. Hence, the government realizes the importance of making life insurance of people. The savers who are at the working age have planned their insurance, when the time of policy period of life insurance is on due date, they will receive the money to use at their retirement age. Moreover, this will help the retirement age people have enough money to pay for their life living if they have already prepared for the readiness well. Thus, the researcher conducts this research in order to study the planning behaviors of people about their readiness to enter into the retirement life, and to support the risks of debts, future expenses requirement, better life living of themselves and their family. The government can bring this information to apply for the benefits of public and private organizations to help people have better abiding life and living.

Thai population profile

Currently, Thai government realizes the situations of changing population structures, and prepares the readiness to deal with the problem of increasing numbers of the elderly in Thailand; therefore the government has determined a strategy in the Second National Economic and Social Development Plan by conducting the plan to prepare for the elderly (B.E. 2545-2564). The government has to determine the plan for the elderly because of the change through population structures of the country. This clearly indicates that Thailand is encountering the quickly increasing situations of the elderly populations (60 years old up). The increase estimation of the elderly populations done by the United Nation Organization between B.E. 2533 and B.E. 2593 suggests that when comparing a number of all Thai populations in B.E. 2523, the increased percentage of the elderly populations was at 47% in B.E. 2533, Hence, it is necessary to prepare for the readiness the same as the family planning in order to enter into the social change which has to plan about various living in every aspect, such as economy, society, and burdens. A good plan will help the burdens towards the family members and society as a whole occur the least.

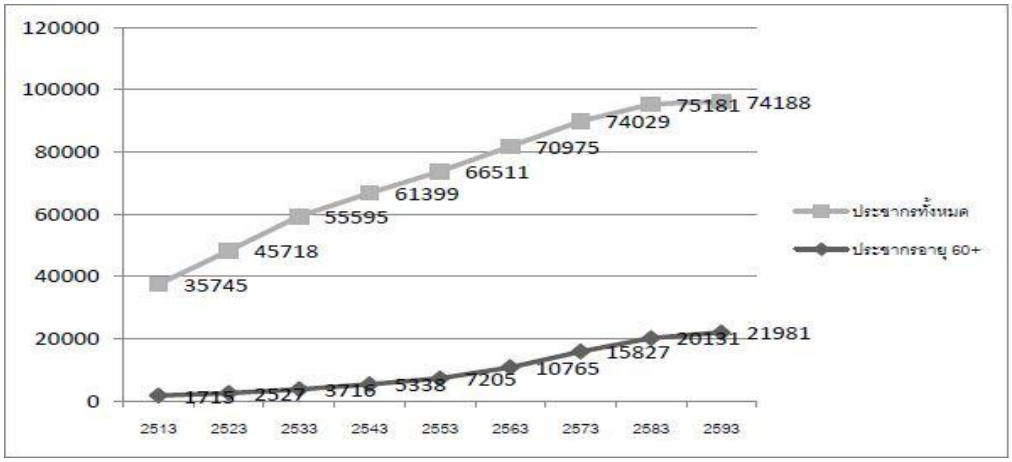

Figure 1.1 The graph indicates a number of all populations and the elderly populations between B.E. 2513-2593

Source: College of Population Studies, Chulalongkorn University (Unit: a thousand persons)

Hence, the preparation for the readiness before entering into the elderly age or retirement age is considered as the crucial matter for people who are during the working age since the present time. The government and people have to extremely realize and emphasize the saving and making life insurance, in order to support the retirement age. The government should push and support the people of working age to save their money at the beginning of working, as a plan and preparation for the readiness to let people have money enough to pay when the time of retirement age or elderly age comes.

RESEARCH METHODOLOGY

The populations of this research are the people who have the residents or work in the city areas of Bangkok province. The sample group includes the populations in the Bangkok areas, or has the work place in the Bangkok areas. Questionnaire was distributed to 400 respondents. The questionnaire is divided into 3 sections as follows:

Section 1: The questionnaire about population, economic states of the samples, which include, gender, age, marital status, educational level, current career, total monthly income, and property values, 7 items of question, totally.

Section 2: The questionnaire about the behaviors of saving for 17 items, which include the purposes of saving, types of saving, average saving money per month, and the 4 aspects of behavioral factors, which include, motivation, expectation from the saving, security caused by the saving, and limit of the saving.

Section 3: The questionnaire about the behaviors of life insurance of population, which includes whose the existed policy is, what kind of the existed policy is, total premium of the policy, face amount of total policy, and factors affecting the selection of making life insurance.

RESULTS

Respondents' profile

The general data about population characteristics and economic states of population are divided as follows:

Gender: according to the study of the saving behaviors on total 449 samples, it is found that male saves money for 238 persons (53%), and female saves money for 211 persons (47%). It can be seen that male saves money more than female.

Age; concerning the study of the saving behaviors on total 447 persons, it is found that the samples whose age less than 20 years old save money for 80 persons (17.9%), age between 20 and 25 years old save money for 168 persons (37.6%), age between 26-35 years old save money for 72 persons (16.1%), age between 36-45 years old save money for 49 persons (11.0%), age between 46-55 years old save money for 52 persons (11.6%), age between 56-60 years old save money for 17 persons (3.8%), and age of 60 years up save money for 9 persons (2.0%). This can be suggested that the age range between 20-25 years old has a number of saving the most, secondly is the age range less than 20 years old, 26-35 years old, 46-55 years old, 36-45 years old, 56-60 years old, and 60 years old up have the least numbers.

Marital status; Regarding the study of the saving behaviors for total 449 samples, it is found that the samples who have the single marital status save money for 321 persons (71.5%), married for 86 persons (19.2%), widow for 18 persons (4.0%), divorced for 12 persons (2.7%), and separated for 12 persons (2.7%). This identifies that the single marital status has the most numbers of saving, secondly is widow status, and divorced and separated has the least numbers of saving.

Educational level; According to the study of the saving behaviors for all 449 samples, it reveals that the primary school level has the saving for 9 persons (2.0%), secondary school level is 70 persons (15.6%), vocational level is 29 persons (6.5%), bachelor's degree level is 288 persons (64.1%), higher than bachelor's degree level is 53 persons (11.8%). This can indicate that the bachelor's degree level has the most numbers of saving, secondly is secondary school level, and higher than bachelor's degree level, vocational level, and the least saving is primary school level, respectively.

Career; Regarding the study of saving behaviors for all 445 samples, it is found that the career of civil servants/ state enterprise employees has the numbers of saving for 58 persons (13.0%), private employees for 56 persons (12.6%), students for 210 persons (47.2%), househusband/housewife for 26 persons (5.8%), private business/selling for 44 persons (9.9%), freelance for 20 persons (4.5%), others for 31 persons (7.0%). This can be suggested that the students have the saving numbers the most, and the freelance has the saving the least.

Total incomes per month; According to the study of saving behaviors for all 430 samples, it is found that the persons whose their income is less than 10,000 has the saving for 177 persons (41.2%), income between 10,001-30,000 baht has the saving for 177 persons (41.2%), 30,001-50,000 baht for 39

persons (9.1%), 50,001-70,000 baht for 25 persons (5.8%), 70,001-100,000 baht for 6 persons (1.4%), and more than 100,000 baht for 6 persons (1.4%)

It can be seen that the income lower than 10,000 baht and between 10,001-30,000 baht has the most saving numbers, and the income between 70,001-100,000 baht and more than 100,000 baht has the least saving numbers.

Saving and Life Insurance Behaviors of Population

Purposes of saving; According to the study of saving purposes of all 353 persons, it is found that the persons who save money by property collection are total 273 persons (77.3%), investment in the business for 41 persons (11.6%), loan payment for 7 persons (2.0%), salary account for 24 persons (6.8%), and others for 8 persons (2.3%) as shown in Table 1.

Table 1 Purposes of saving

Purposes of Saving	A number of Responders	Percentage
Property collection	273	77.3
Investment in business	41	11.6
Loan payment	7	2.0
Salary account	24	6.8
Others	8	2.3
Total	353	100.0

This suggests that people usually save money for property collection the most, and for loan payment the least.

Concerning the saving types from all 352 persons, it is found that the saving type is done by 284 persons (80.7%), fixed deposit is 48 persons (13.6%), current account is 8 persons (2.3%), life insurance by property collection is 8 persons (2.3%), and other types are 4 persons (1.1%).

Table 2 Type of savings

Type of Saving	A number of Responders	Percentage
Saving	284	80.7
Affixed deposit	48	13.6
Current account	8	2.3
Life insurance in terms of property collection	8	2.3
Others	4	1.1
Total	352	100.0

It was seen that the majority of the respondents 284 (80.7 %) want to save their money by depositing in the saving account, followed by depositing in the affixed deposit account and other bank account at the least (4, 1.1%).

The existing policy of the insured belongs to whom; concerning the study from all samples who have the policies of 204 persons, the persons who make a life insurance for themselves are 75 persons (36.8%), for parents and relatives for 79 persons (38.7%), spouses for 1 person (0.5%), children for 41 persons (20.1%), others for 8 persons (3.9%). It is found that the making life insurance of parents and relatives are the most, and for the spouse is the least.

The general information about population characteristics and economic states of the people affecting the purposes of saving

Gender; According to the study of the saving and making life insurance behaviors for all 449 persons, there are the responders of survey form through the purposes of saving for 352 persons (78%), divided into male and female. It is found that male who has the saving are total 177 persons, with the purpose of property saving is the most for 135 persons, secondly is from investment in the business for 21 persons. The female who has the saving are total 175 persons, with the purpose of property saving the most for 138 persons, secondly is from investment in the business for 20 persons. Both male and female mostly have the purposes of saving money.

Age; Concerning the study of the saving behaviors for all 449 persons, the responders of the saving purposes are total 351 persons (78%), divided into age found that the responders whose ages are less than 20 years old have all saving for 63 persons, with the purpose of property saving the most for 60 persons, the secondly is saving for investment in business for 2 persons, the age between 20-25 years old persons have the saving money for 124 persons, with the purpose of property saving the most for 106 persons, the secondly is for investment in business for 10 persons, the age between 26-35 years old persons have the saving money totally for 59 persons, with the purpose of property saving the most for 45 persons, the second is for investment in business, and salary account. There are 6 persons who are in the equal proportion, age between 36-45 years old persons have the saving money totally 46 persons, with the purpose of property saving the most for 31 persons, the secondly is for investment in business for 7 persons, age between 46-55 years old responders have the saving money for 38 persons, with the purposes of property saving the most for 19 persons, the secondly is for investment in business for 10 persons, age between 56-60 years old responders have the saving money for 14 persons, totally, with the purpose of property saving the most for 8 persons, the secondly is for investment in business and salary account in the equal proportion for 3 persons, and age 60 years old up responders have the saving money for 7 persons, totally, with the purpose of property saving the most for 3 persons, and for investment in

business for 3 persons, in the equal proportion. Most of the populations have the purposes of saving for property saving much.

Conclusion and Recommendation

According to the study to answer those questions, it is found that 1) the factors affecting the saving of populations in Bangkok areas include the democratic characteristics consisting of age, gender, educational level, and marital status, as well as necessities related to the general life, and factors of risk fear of population, while 2) the populations have the abilities to save money and make a life insurance at the low level. This is because some groups who can save money and make life insurance are mostly have good financial states, and have monthly income at the high level, the property quantity is much, and the debt is at a low level. While the populations group with bad status has the monthly income at the low level, or have the debts at a high level, and cannot have the saving at a sufficient level, as well as not being able to build their insurance for life by making the life insurance.

The research results in terms of the purpose 1) the behaviors of plan for saving and making life insurance are found that the democratic characteristics affect the plan of saving and making life insurance. The responders are mostly male, 449 responders have the saving money. For democratic characteristics of people, most of the responders are male (53%), the age of responders are between 20-25 years (37.6%), the secondly is less than 20 years old (17.9%), and between 26-35 years old (16.1%), single status (71.5%). The responders mostly graduate at Bachelor's Degree level (64.1%), the secondly is secondary school level (15.6%), be the students (47.2%), the secondly is employees of private sectors (12.6%), the economic status of populations mostly has averagely total income lower than 10000 baht, and between 10000 and 30000 baht (41.2%), most of the populations have properties lower than 50000 baht (43.6%) and 50000-100000 baht (27.0%).

For the purpose 2) the ability of saving and making life insurance, it is found that the samples have the purposes of saving money (77.3%), the secondly is for investment in business (11.6%), and the money remaining in the salary account (6.8%). The samples have saving money in the saving account (80.7%), the secondly is in the fixed account (13.6%), in the current account and saving life insurance in the same quantity at 2.3%. The ability to saving of the samples is between 1,001-5,000 baht per month, which is the highest proportion at 41.7%, the secondly is having saving money less than 1,000 baht (29.9%). From the questionnaire of samples for 449 persons, it is found that the persons who have ability to do the insurance are 204 persons (4.5%). For these numbers, 38.7% makes the life insurance for their parents and relatives 36.8% makes the life insurances for themselves, and 20.1% makes the life insurance for the children. Moreover 43.2% is the life insurance in a type of paying by installment according to the time period or life insurance as money saving as the most proportion, the secondly is the long life for 31.2%. The most of life insurance premium of the insured is between 4,000-20,000 baht per year (47.1%), the secondly is the life

insurance premium less than 4,000 baht per year. The life insurance of sample populations has the face amount at the level between 100,001-400,000 baht (51.3%), the secondly is the premium less than 100,000 baht (18.2%), and more than 1,000,000 baht (11.2%). The research results indicate that the ability of money saving and life insurance of populations are not rather high.

The purpose 3) the factors affecting the saving and life insurance, it is found that the plan of saving and life insurance for the sample group in the survey found that the factor of motivation of saving much affects the prevention of inflation problem, and saving for future expenses, while the privileges got from saving affect at the moderate level. The expectation of saving is that the increase of property values and needs to get the quick compensates and better life living at the much level. Whereas the populations view that the saving is done because of the concern about the sufficiency of incomes after retirement, and the concern about risks which might be happened are the factors affecting the saving of populations of the sample group. Whereas the sample group views that having a few funds are the limitation of the saving at a much level, having debts are the limitation of the saving at the moderate level, and the skills of financial plan is the limitation at a much level. This is the same as the news and information follow about the saving, the samples both male and female in every group of ages and education saves money in the saving account the most, the secondly is saving for investment in business. When the populations have more ages, the proportions of populations who save money are also increased. This is from the level of income increased according to the age of population. The quantity of saving is in accordance with the increased incomes and ages. If considering the factor of occupation, it is found that the civil servants and private sectors have the proportion of saving at the high level less than the salesperson or private business. The educational level which is increased makes the proportion of saving is increased either. The factors affecting the life insurance at the much level is to need the security for themselves and family, credibility of company, reliability in the type of insurance management, the insurance can reduce the tax, and having the nursing welfare, whereas the life insurance from the data can be analyzed as follows: the policy insured is male and will make the policy for themselves as the main, while female make the policy for their parents and relatives. If considering the age, it is found that the samples whose ages are less than 35 years old, the policy is usually decided by making for themselves, parents and relatives, but for the samples who have the older ages, it is found that the policy is done for their children increasing by statistical significance. The occupations of policy holder affect the decision making towards the beneficiary, the career of civil servants/state enterprise employees have the proportion of buying the policy to themselves, and parents and relatives more than the career of trade which has the proportion of policy buying to the children. The increased income makes the samples buy the insurance for their children increasingly either. When considering the insurance premium, it is found that when the educational level increases, the samples of premium which has the increased premium. This is in accordance with the level of income. The study results of this premium is the same as the premium as a whole.

Recommendations for the further research

1. Similar study on different group in other provinces should be conducted to compare the characteristics of saving and life insurance of people

2. Mixed method research using qualitative and quantitative approaches should be conducted to triangulate the viewpoints concerning saving and making insurance.

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Influencing factors toward gambling behaviors of the students and anti-gambling communication campaign in the universities in Thailand

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ABSTRACT

The objective of this survey is to examine media exposure, attitudes and gambling behaviors of university students in Thailand, which are important baseline information in designing anti-gambling communication plan for the universities in Thailand. Questionnaires from 900 students were analyzed using percentage, mean, standard deviation, product moment correlation coefficient and an independent-samples t-test.

It was found that a positive attitude towards gambling and exposure to information about gambling from friends, television and websites were important factors leading to gambling behavior among university students. Gender, type of university, and average monthly income were found to be encouraging factors that get students into gambling activities. Friends' network and new media such as website and Facebook were effective channels to disseminate anti-gambling messages to the students. Peer network was found to be one of the most effective personal media in persuading the others to stop gambling habits. It should be noted that gambling is not a new phenomenon. Gambling is already existed in their daily lives. They can easily find gambling information, learn gambling techniques, and get into gambling activities at earlier ages. Therefore, avoiding presenting negative gambling contents, playing methods, gambling odds, etc., may not be an effective measure to reduce or stop gambling behavior among university students.

Keywords: Gambling, Anti-gambling, Gambling Activities

INTRODUCTION

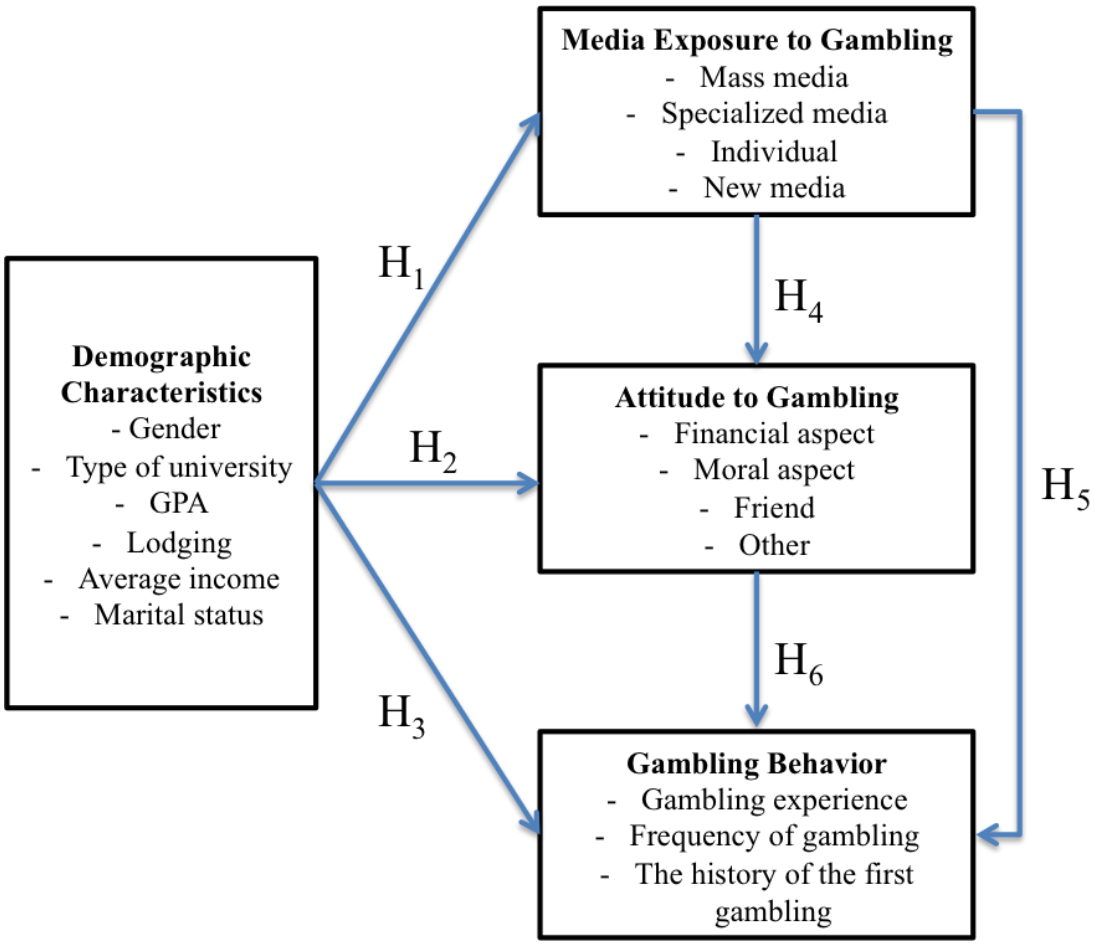
The degeneration of people, the raise of capitalism and the development of modern technology made possible for gambling businesses to enter the lifestyle of Thai students and being exposed as key business target. The media exposure to gambling contributes to the gambling problem of Thai students. This is because the access to media can be transferred to every part of the world within a short time as it has limit on distance and location (Inna, 2006). News reporting of competition events and sports including the statistics and analysis of the match such as in television, newspaper and magazine also contributed to gambling problems. Additionally, the invitation of the reporting by the news media also often ask the audience to participate in predicting the results with strong financial incentives by way of asking the audience to reply with SMS messages. Therefore, it is undeniable to state that the media are also the caused leading to the gambling problem. To solve this gambling problem cannot be realized without recognizing the family background of the students, which form significant role in crafting the social development and the behavior of the student. With this in mind, it is therefore important to change and adapt the attitude through the communication and the media exposure.

The objective of this research is to study the media exposure, attitude and gambling behavior among Thai student as well as to examine the relationship between these three variables. The researcher has developed a questionnaire and analyzed the result based on 1) The concept of gambling behavior and risk factors leading towards addicted gamblers, 2) The theories on demographic characteristic of audience, 3) The theories on media exposure, 4) The theories on the relationship between knowledge, attitudes and behavior (KAP), 5) The theories on the media effect, and lastly 6) The theories on adolescence development. This study does not result only in connecting a cognitive link between the problem of gambling exposure, attitude and behavior among students in academic institutions; it also aims to find solutions and proposals for future policy development.

HYPOTHESIS

1. The different in demographic characteristics of students in higher education institutions across the country resulted in different media exposure on gambling.
2. The different in demographic characteristics of students in higher education institutions across the country resulted in different aptitude on gambling.
3. The different in demographic characteristics of students in higher education institutions across the country resulted in different gambling behavior.

4. Media exposure on gambling of students in higher education institutions across the country is relevant to gambling attitude.
5. Media exposure on gambling of students in higher education institutions across the country is relevant to gambling behavior.
6. The gambling attitude of students in higher education institutions across the country is relevant to the gambling behavior



RESEARCH METHODOLOGY

This research entitled – "Influencing factors toward gambling behaviors of the students and anti-gambling communication campaign in the universities in Thailand" – is a qualitative research utilizing surveying technique by using questionnaire as mean of data collection. The details of the methodology could be outlined as follow:

Population and Sample Size

The target population of this research is the undergraduate students, who are studying in the higher education institutions throughout the country – North, Northeast, East South and the

Central region as well as Bangkok and its vicinity. The accessible population has also been selected from higher education institutions that the faculty members or the lecturers are member of Mass Communication Lecturers Network For Gamble-Free Progressive Society, which is also representing different regions across the country, including nine institutions namely:

1. Payap University
2. Rajabhat University Chiang Rai
3. Burapa University
4. Walailak University
5. Kasetsart University Kamphaeng Saen Campus
6. Ramkhamhaeng University
7. Chandrakasem Rajabhat University
8. University of the Thai Chamber of Commerce

The total number of students registered at the nine universities amounts to 409,413 students. This research applies Taro Yamane formula to calculate the sample size (Katesing, 1998) at the reliability rate of 99 percent and error rate of 5 percent, which resulted in population size of 900 samples.

Sampling

This research applies non-probability sampling. Firstly, it applies quota sampling by allotting 100 samples to be collected from the nine universities. This is because the researcher stresses the need to compare data from the variables than from the whole population. It then applies accidental sampling within the university in order to distribute the questionnaires thoroughly to collect the whole 900 samples.

Validity Test of the Research Tool

As this research utilizes questionnaire as data collection tool, the researcher conducted a content validity under the revision of an external expert. The following points have been check: 1) Structure of the questionnaire, 2) Completeness of questions, and 3) Proper use of language. This is to ensure that the questionnaire is clear and comprehensive and would deliver the research objective.

The reliability of the questionnaire has also been tested. A pre-test has been conducted with 30 samples, which share great similarity to the sample population. The reliability test has

been conducted on the rating scale. The result exhibits high reliability, in particular, the question on the media exposure on gambling resulted 0.865, attitude on gambling resulted 0.848, and gambling behavior resulted in 0.936.

RESULTS OF HYPOTHESIS TESTING

Hypothesis 1

It has been found that demographic characteristics: 1) gender, 2) type of university, 3) GPA, 4) lodging, 5) average income and 6) marital status of students in higher education institutions across the country exhibit no different in the frequency of media exposure to gambling.

Hypothesis 2

It has been found that different demographic characteristics: 1) gender, 2) type of university, and 3) average income of students in higher education institutions across the country exhibit different attitude to gambling.

Hypothesis 3

It has been found that different demographic characteristics: 1) gender, 2) type of university, and 3) average income of students in higher education institutions across the country exhibit different gambling frequency and behavior.

Hypothesis 4

The result has shown that media exposure to gambling among students in higher education is relevant to the attitude on gambling with a positive correlation ($r = 0.218$). This means students in higher education institutions that have high media exposure to gambling will also have high attitudes on gambling. Students with low media exposure on gambling will also have low attitude on gambling.

Hypothesis 5

The result has shown that media exposure to gambling among students in higher education is relevant to the gambling behavior with a positive correlation ($r = 0.210$). This means

students in higher education institutions that have high media exposure to gambling will also have high gambling behavior. Students with low media exposure on gambling will also have low gambling behavior.

Hypothesis 6

The result has shown that attitude on gambling among students in higher education is relevant to the gambling behavior with a positive correlation (r = 0.557). This means students in higher education institutions that have high attitude to gambling will also have high gambling behavior. Students with low attitude to gambling will also have low gambling behavior.

RESULTS AND DISCUSSIONS

Upon considering the demographic characteristics of the sample population, it exhibits 51.8 percent are female, 44.4 percent are male and 3.8 percent are of LGBT. The majority of the sample populations (63.4 percent) are registered at a public university. The majority of the sample populations (66.0 percent) have GPA between 2.01 and 3.00. The majority of the sample populations (35.2 percent) live with friends. The majority of the sample populations (34.8 percent) receive an average income between 2,001 and 5,000 Thai Baht. And lastly, the parents of the majority of the sample populations (77.7 percent) live together and remained in legal bonding.

The research findings will be presented alongside a discussion as follow:

1. Media Exposure to Gambling Among Students in Higher Education

The results showed that the highest exposure to gambling is from friend with an average of 3.66 times per month, followed by the exposure from television with an average of 3.27 times per month. The exposure from websites resulted to an average of 2.93 times per month. The exposure from the newspaper and is similar, with an average value of 2.78 and 2.75 times per month, respectively. Based on the findings, it could be concluded that friend is the biggest channel of media exposure to gambling. Television is among the mainstream media to be relevant. Website and Facebook are new type of media, which will play important source.

Table 1 Media exposure to gambling among students in higher education

Rating	Media type	Mean	S.D.	Interpretation
1	Friend	3.66	1.165	High
2	Television	3.27	1.260	Average
3	Website	2.93	1.346	Average
4	Newspaper	2.78	1.127	Average
5	Facebook	2.75	1.253	Average
6	SMS	2.58	1.206	Low
7	Relative	2.50	1.345	Low
8	Magazine	2.48	1.090	Low
9	Radio	2.45	1.048	Low
10	YouTube	2.36	1.192	Low
11	Leaflet	2.27	1.097	Low
12	Lover	2.12	1.158	Low

Friends have been acting as the main role contributing to gambling as "*gambling narrator*" rather than family (parents and siblings) or lover. This is because the social development of the teenager base on the influence significantly by his or her peers. It represents a form of recognition value (Apinuntavech, 2012). Therefore, hearing – such bad thing as gambling – can thereby fulfill the confidence and avoid uneasiness of "*The cognitive dissonance*" (Festinger, 1962). As for television, the outstanding properties of the television in communicating to a large audience at a simultaneously time as well as the ability to transmit images, sound and motion made television a significant media to transmit gambling media exposure to the students. This transmission can be both positive and negative.

The researcher suggests that the new medias such as websites and Facebook play an increasing role in the gambling problem. This is because the ability to access at the convenient time and mean to interact (Suwanwajokkasikit, 2004). The ease of access and transfer data in a short time without a limit on distance and location is also the driving force (Inna, 2006). This is in accordance with the personality of students who understand and use technology becomes an independent computer user (Kunpitiwan and Mongkol, 2005). So it is not surprising if problem gambling among college students is continuously deteriorating.

2. The Attitude on Gambling Among Students in Higher Education

Most respondents have a positive attitude toward gambling question, "*Thai People like to gamble most*" with a mean of 4.20. Followed by a negative attitude towards gambling perspective,

"*Nobody could be successful from gambling*", "*Gambling is a bad thing. It will bring hardship to themselves and their families*" and "*It's not easy to get money from gambling*" representing a mean of 3.86, 3.84 and 3.82, respectively. One could observe and conclude that the students do realize gambling is a bad thing and nobody will success by way of gambling, but the students continue to gamble.

However, when considering the factors that contribute to positive attitudes towards gambling. The researcher suggests that the reason why students enter to the gambling cycle, despite knowing the result and consequence, is due to the common believe deeply engrained in the Thai society. Therefore, as long as the notion "*Thai People like to gamble most*" remained relevant in the believe of the Thais, no policy or plans to improve gambling problem in Thailand can be achieved without dealing first and foremost the notion.

3. Gambling Behavior Among Students in Higher Education

The results exhibit that the most students experience or encounter gambling before. 76.5 percent of students who experience or encounter gambling before are male. 67.6 percent of students who experience or encounter gambling before are LBGT. Lastly, 58.2 percent of students who experience or encounter gambling before are female. The reason why male enter into the whirlpool of gambling over other genders is probably because of the pattern and method of gambling to take chance. This is consistent with the character and mentality of the men, who love fun and excitement (Apinuntavech, 2012).

Another interesting feature of the result found from this research is the high percentage of the LGBT in the participation to gambling activities. It could be suggested that they want to be seen as part of the society. The chance to take part in the gambling activities could be a venue for them to shine out among friends. This is consistent with the research conducted by Punnahitananda (Punnahitananda, 1988) that being put under pressure or disappointment on important matter in life is among the crucial factor for teenager to be aggressive and may express this in form of gambling.

The students at university may have plenty of reasons to gambling such as fun or simply finding activities to do while waiting or simply of curiosity, but the researcher believes that the real cause derives from "the want to take chance". This is consistent in line with the findings on attitudes toward gambling "*Thai People like to gamble most*". Gambling in various forms has long been part of the life of the Thai people (Piriyarungsan, Sangsit, 2003). The word "*bet*", "*handicap*", and "*odds*" linguistically mean gambling, but have now changed and seen as a positive vocabulary – at least in a less strict sense than "*Panan*" or gambling. This lead Thais to gambling behaviors by default.

4. The Relationship Between Media Exposure to Gambling, Gambling Attitude and Gambling Behavior

This study found an association between media exposure, attitudes and behavior of gambling. Through repeatedly exposed to gambling though various media often leads to a positive attitude towards gambling and the gambling behavior. According to Zimbardo (1977: 49-53), attitudes will change based on knowledge and once the attitude changes, the behavior will inevitably changes. The source of knowledge occurs when a person is exposure to media (Atkin, 1973: 208).

From this research, friend and television is the primary medium in convincing male students, who study at private universities, holding GPA of 1.01 to 2:00, receiving an average income per month between 20,001-30,000 Thai Baht. These are the profiles of person who is vulnerable to gambling behavior.

CONCLUSIONS

Gambling behavior among students in higher education institutions throughout the country is as a result from media exposure of various types of media. Friends, television and new media such as websites are among the dominating channel of communication in the delivery of positive attitude and persuasion leading eventually towards gambling.

The problem of gambling is among the big social problems that must be dealt with urgency and with cooperation from every sector. It must therefore encounter firstly starting at the level of family. This is because the family will be a role model for the younger generation to follow. The university being an academic institution must also take an active role in raising this awareness to reduce and prevent gambling at least within the university.

Government agencies like the Ministry of Education should be a basis for further learning and protecting the gambling problem already at the early schooling of a child. This could be done through the raising awareness of the media literacy associate both directly and indirectly with gambling. As to the Ministry of Information and Communication Technology and the Royal Thai Police, they could further develop and implement a kind of protection nets as measures of surveillance to prevent and control gambling websites.

An active role and action from private sector or NGOs are still needed as a mechanism of monitoring and evaluation of governmental projects and activities to campaign against gambling of various forms. The mainstream media must take into account in their work to refrain from directly or indirectly promoting gambling.

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Effect of Health Education on Reproductive Health Care on Knowledge of The Female Students In The Junior High School Islamic Tarbiyah Of Tilatang Kamang District, Year 2014

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ABSTRACT

Health education is defined as health education activities carried out by spreading the message and instill confidence. Although people lack knowledge but are willing and able to perform health-related suggestions. This study aims to determine the effect of health education on reproductive health care to young girls in the students dormitory, Tarbiyah Islamic School Distric of Tilatang Kamang year 2014.

The study design was used Quasi Experimental. With one group pretest and posttest. This research was conducted in the students dormitory, Tarbiyah Islamic School of Tilatang Kamang, these study held by December to January 2014, with 35 female students as participant. The analysis in this study using univariate and bivariate analysis, univariate are shown as average values and bivariate analysis using computerize analyze with the T-test.

The results showed knowledge before intervention with mean value was 43.31 (CI: min 39.53 - max 47.09). Knowledge after intervention with mean value was 74.34 (CI: min 70.82 – max 77.87) . From the results of this study showed there was significant difference before and after the intervention with p value (0.0005).

Can be concluded that there is significant different between Students knowledge before and after health education on reproductive health care to the young girls girls in the students dormitory, Tarbiyah Islamic School Distric of Tilatang Kamang. Young girl are expected to be able to apply the information that has been obtained in these research and to the Schools recommended in order to enhance the activities related to disseminate information on reproductive health care and counseling through school counseling, book, curriculum of the school, social media such as brochures, posters, leaflets.

Kewords : Health Education, Knowledge of Reproduktive Health Care, Students dormitory, Tarbiyah Islamic School.

Background

Healthy is one of the basic human rights, it is also a crucial factor in the development of Human Resources (HR), which together with education and economic factors which influence and determine the index (development) Human Resources (Pulpit, 2011, p.2) , According to WHO reproductive health is a state of complete physical, mental, and social whole, not just freedom from disease or disability more then health in all aspects related to the reproductive system. (Riskesdas 2010).

Teeneger, there is a change in physical organs (organobiologik) quickly, and the change also by psychiatric (mental emotional) changes . The general changed could be accour confusing adolescents who experience it. In this case the experts in this field, see the need to be understanding, guidance and support from the surrounding environment, so that the system changes occur growth and healthy development in a way that later the teenager into an adult human healthy physically, spiritually and social (Widyastuti 2009, p.11).

To increase knowledge of personal hygiene specially on genital health, education on health promotion is needed. As stated of Anwar (1983) in the conception of general health, health promotion is defined as health education activities that are being done with how to spread the message and instill confidence on the audience. Thus, people are not aware, know, and understand, but is also willing and able to perform health-related advice (Maulana 2009, p.137).

Based on preliminary studies that researchers had conducted in Students dormitory at Tarbiyah Islamiah, Tilatang Kamang District, 10 female students are given questions about how to care of reproductive, 7 students do not know how to care of the reproductive organs to be done, such as how to care of reproductive organs during menstruation, and lack of availability thing of female students of reproductive health care in the students dormitory, such as shop provider of sanitary napkins, the availability of water is not enough to held daily activity.

This shows a lack of information, infrastructure and incorrect assumptions concerning on how to care of reproductive organs, receive less guidance and educatiom among the students who stay in the dormitory. This case was opposite with the female students who do not live in students dormitory, because they have chance to obtain information related to reproductive care, for example from parents, friends, neighbors, television, etc. Based on the description above, the research to determine the effect of health education on knowledge of reproductive health care is needed. Thus this research aimed to study the effect of health education to the knowledge of reproductive health care for young girls in the Junior High School Tarbiah Islamic Tilatang Kamang District was conducted in the year 2014.

RESEARCH METHODOLOGY

The design study is Quasi-Experimental approaches One group pretest posttest that a review of the influence of one variable with other variables that determine the effect of education on reproductive

health care before and after the intervention to increase knowledge of female students related to reproductive health care in The Junior High School Islamic Tarbiyah school year 2014. On this design there is no comparison group (control), it is only measuring knowledge of female students before given information and health education perticularly reproductive health care and measuring knowledge after the interventions. population of this study was female students of Junior high school Islamic Tarbiah and the sample was female students who live s in students dormitory which amount of sample 35 people, total sampling method was used. This study conduct in December to January 2014 to the questionnaire form was use as tools of research to collect data in this study.

Pretest	Interventions	*Posttest*
01	X	02

Notes:

01: Before Intervention

X : Intervention

02 : After Intervention

RESULT

Knowledge of reproductive health care of the respondent

Table 1 Distribution Average Respondent Knowledge Intervention In The Junior High School students Islamic Tarbiyah Islamic At School Year 2014

Variable	Mean	SD	Min – Max	95%CI
Knowledge Before Intervention	43.31	11.005	28 – 67	39.53 - 47.09
Knowledge After Intervention	74.34	10.258	50 – 89	70.82-77.87

Table 2 Distribution Average Respondent Knowledge Before and After Intervenstion In The Junior High School studentsOf Tilatang Kamang Tarbiyah Islamic At School Year 2014

Variabel	Mean Difference	SD	T	N	Sign. (2-tailed)
Knowledge Before and After	-31.029	13.661	13.438	35	0.0005

The sample in this study comprised of 35 female Junior High School Islamic Tarbiyah students who stay in the student dormitory. It was found that the mean average of the knowledge of health education realted reproductive health care on female students during the pretest was 43.31 (95% CI: 39.53 - 47.09), with a standard deviation of 11 005. Lowest knowledge 28 and the highest knowledge 67. From the estimation interval can be concluded that 95% believed that the average knowledge before intervention is between 39.53 to 47.09. The posttest revealed that the average mean score of the knowledge of female Junior High School Islamic Tarbiyah students was 74.34 (95% CI: 70.82-77.87), with a standard deviation of 10 258. Lowest knowledge 50 and the highest knowledge 89. From the estimation interval can be concluded that 95% believed that the average knowledge after the intervention is between 71.49 to 79.93.

The result of comparison between the pretest and posttest average mean score using the t test dependent indicated the significant statistical difference of the before and after intervention with standard deviation is -31 029 13 661. Statistical test results obtained value of 13 438 t (t table 1.69092) where t count > t table and the significant value of 0.0005. It can be concluded that there is a significant difference between knowledge before and after given health education.

DISCUSSION

The promotion of reproductive health in adolescents often connoted as sex education in which some of the people in Indonesia specially in rural area still felt taboo with it. It is also happen to the students who go to Islamic School, beacuse they do not have a chance to learn it clearly in the curriculum.. In fact there are some formal secondary schools are still hesitant to implement reproductive health education for their students.

As described earlier, adolescence transition period marked by great curiosity about something, including reproductive health issues or sexuality. Nevertheless, it is precisely knowledge of adolescents about reproductive health that is actually still limited. In addition, parents should be the first agent of socialization and the main (primary) often even reluctant to discuss issues related to sexuality and reproductive health in a transparent manner because it is still considered taboo. However, too many parents who just do not know and understand the kind of information on reproductive health (Imron, 2012, p.114).

According to the assumptions of researchers, many female students at the Junior High School Students at Tarbiah Islamiah School shown low knowledgeable about reproductive health care prior to the extension that researchers do because of the students dormitory and at school Tarbiah Islamic still taboo to know transparan about reproductive health education. This is evident from the student dormitory at Junior High School Students at Tarbiah Islamiah School more focused religious instruction given to female students, compared with general subjects, particularly on the issue of adolescent reproductive health, for example by providing counseling or medical seminar on organ intervention of

reproductive system, and also the absence of means of media resources such as posters or banners can be as a source of additional information for female students on reproductive health care and meeting the needs of female students in the availability of reproductive health care, such as shop provider of sanitary napkins, and other reason such as the water is not enough, etc.

After intervention by doing health education show the results from 35 respondents in Junior High School Tarbiyah Islamic school of tilatang kamang district year 2014, the average obtained knowledge after intervention with mean value was 74.34, highest knowledge with score 50 while the lowest is the highest knowledge is 89 score.

According to the assumptions of researchers, many female students at the Junior High School Students at Tarbiah Islamiah School knowledgeable enough on reproductive health care after the intervention, subsequent to the extension that researchers do because of the extension of the respondents to obtain in-depth information about reproductive health, and the respondents to obtain information directly with their senses, namely through the presentation supported with pictures, leaflets and videos.
This research are related to research which conducted by by Fristhian Lies Dwiyanti on comparative studies of high school science class XI before and after health education on adolescent reproductive health in high school N 4 Purwokerto, 2012, with the result before being given health education on adolescent reproductive health amounted to 61.61.

Similar findings to this research was found by Irmawati (2011) on who study the effect of reproductive health education to the knowledge of the treatment of external genital organs in Muhammadiyah Senior High School Gubug district. Gubug Grobongan Regency year 2011, the sample in this study there were as many as 44 people from 80 populations, with the result after a given health education on adolescent reproductive health amounted to 84.1.

From the results of a study of 35 respondents in Junior High School Tarbiyah Islamic school of tilatang kamang district year 2014, the average obtained knowledge before intervention with mean value was 43.31 and the average knowledge after intervention with mean value was 74.34 average gap of knowledge before and after the intervention was increased and around 31 029, from statistical test results obtained p value 0.0005 means there is the influence of knowledge before and after intervention.

Intervention on this study is emphasized on health education. According to Anwar, health education health education activities, conducted by spreading the message, instill confidence so that people are not only conscious, know, and understand, but are also willing and able to perform health-related advice (Maulana 2009, p.12).

Increased knowledge of students specially female students after doing counseling or health education on reproductive health can also be supported because the female students in listening kefokusan counseling, and the absence of female students who out during the counseling takes place. According to the assumptions of researchers, after counseling on reproductive health care, counseling affected the respondents' knowledge, because this extension to provide information directly to the respondents and supported by media such as leaflets and videos. Therefore, participants were more

focused or more interested to see the presentation delivered researchers. This is evident from the extension participants better understand the problems of reproductive health care and visible from the positive response and the respondent time extension can also be seen from the results of the questionnaire respondents were given after counseling.

Although there are some female students who do not have increased so good, it could be due to several factors, for example, in terms of female students not focuss on to the presentation, the presentation time at recess female students, or there are other internal factors that can disrupt the concentration of female students.

The results this study related to the research conducted by Irmawati on Effect of reproductive health education to the knowledge of the treatment of external genital organs in Muhammadiyah Senior High School Gubug district, Gubug Grobongan regency year 2011 found no effect subsequent to the extension where the p value is 0.0005.

CONCLUSION

From the results of a study of 35 female students at the student dormitory Islamic Tarbiah School year 2014 on the effect of health education on reproductive health care for young women to the knowledge student dormitory Tarbiah Islamic boarding school Princess Gobah V Surau, it could be concluded that the average knowledge of young girls about reproductive health care before being given counseling reproductive health care where the average is 43.31, average knowledge of young girls about reproductive health care is given counseling after reproductive health care where the average is 74.34, the average difference in knowledge of young women about reproductive health care before and after counseling with the value t 0.0005.

This study was useful to incraeasing knowledge of the female students in the Junior High School Islamic Tarbiyah, because of the students got clear and distinct inforamtion particularly of reproductive health care of young female students. Before this intervention the female students only received general information related to reproductive health care although some of them already got information from their parents or other media.

RECOMMENDATION

Based on the research results and conclusions presented above there are some suggestions that researcher want to convey, among others, for the Junior High School Islamic Tarbiah Islamiah school instituition should make collaboration with health care services instituition in order to improve the activities of disseminating information on reproductive health care through counseling, discussion, brochures, posters and facilitate health seminars concerning reproductive health care. Institutional Health Services Expected to local health care institution in order to pay attention to the problems that exist in

the region works, particularly adolescent reproductive health care issues. By doing counseling on adolescent reproductive health. Minimal done once a month. Education instituition have to increase the methode to implemented of the health students knowledge and their skill in order to increasing community knowledge included reproductive health care and other system of the body. For the future researcher should conduct the research which use larger sample in the largest and various area.

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Physical Risk Factors and Health Behaviors for Metabolic Syndrome among Youth Studying in Vocational Colleges[1]

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ABSTRACT

Objective: To survey the physical risk factors to metabolic syndrome and health risk behaviors to metabolic syndrome among Thai youth.

Design: Descriptive research

Implementation: The sample consist of 377 youth aged 15-24 years olds studying in two Vocational colleges in Muang District, Saraburi Province, Thailand. Data were collected during September 2014 to December 2014. The research instrument consisted of (1) demographic data, (2) physical risk factors to metabolic syndrome and (3) health risk behaviors to metabolic syndrome. The data were analyzed using descriptive statistic.

Results: The findings of the study are as follow: For the demographic data, 57.8% of sample were male, and 42.2 % of sample were female. The subject average aged was 17.33 year (SD 1.57). The physical risk factors for metabolic syndrome data were collected by measuring height and weight, waist circumference, blood pressure, body mass index (BMI), 26.8 % of the sample were having excess BMI or ≥ 22.9, 28 % of the sample were having waist circumference ≥ 90 cm, 23.1 % of the sample were having systolic blood pressure ≥ 130 mmHg, 26.3 % of the sample were having diastolic blood pressure ≥ 85 mmHg, and 21 % of parents and/or grandparent's sample had been diagnosed diabetes mellitus. Concerning the health risk behaviors factors for metabolic syndrome, 46.7% of the sample were current drinking alcohol, 21.2 % of the sample were current smoking, 21.7 % of the sample rarely eat vegetable, 22.5% of the sample eat fatty food meal 6-7 day/week, 62.1% of the sample always taken sweet carbonated beverage and sweet snack, 82.3 of the sample lack of physical exercise or playing sport. The results may be used to guide the development of health prevention intervention programs, increase awareness of physical risk factors and health behaviors factors for metabolic syndrome.

Keyword: Metabolic syndrome, Physical risk factors for metabolic syndrome and Health risk behaviors for metabolic syndrome

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INTRODUCTION

Metabolic syndrome considered as a clustering of multiple related metabolic irregularities including abdominal obesity, hyperglycemia, insulin resistance, hypertension and dyslipidemia (1). The underlying causes of metabolic syndrome include overweight and abdominal obesity, physical inactivity and genetic factors. Metabolic syndrome, the serious health conditions are now both a public health and a clinical health problem in Thailand. The warning about increasing trends of overweight and obesity among Thai adults need to concern and have to receive public attention. According to the Fourth Physical Examination Survey, the year 2009 Report, indicated that 45 percent of the Thai women and 19 percent of Thai men were diagnosed abdominal obesity (waist circumference of 90 cm or above in men, and 80 cm or above in women), 43.5 percent of the Thai women and 30.8 percent of the Thai men were diagnosed overweight (body mass index (BMI) 25 kg/m^2 or above) (2). Alarmingly, metabolic risk factors are serious health conditions and place adults to a higher risks of cardiovascular disease, stroke, diabetes and other health problems related to fatty buildups in artery walls, The National data revealed the prevalence of diabetes, hypertension, heart disease among obese people when compared with non-diabetes people and reported that obese people have diabetes 1.4-3 times higher than non-diabetes people, have hypertension 1.5-2.5 times higher than non-diabetes people, and have heart disease 1.3-2.4 times higher than non-diabetes people ((3,4, 5).

The factors related to obesity and overweight among adolescence population are also critical and in need of risk factors management urgently. The National Statistics Bureau, 2010 report the survey on the nutritional behaviors of the popularity that the eating habit, resulted in worrying overweight and obesity situation among Thai youth populations aged 15-24 year-olds and showed that 21 percent of Thai youth drunk carbohydrate beverage and sweet drunk daily, 12.3 percent of them ate snack daily, and 9.2 percent ate fatty food daily (6). Overweight and obesity are the factors related to metabolic syndrome among youth. Likewise, youth with metabolic syndrome are at increased risk of meaningful cardio-metabolic outcomes in adulthood and could predict cardiovascular morbidity and diabetes mellitus later in their life (7,8). The other underlying causes of metabolic syndrome are physical inactivity and genetic factors also greater attention. The genetic factors cannot modify, but physical inactivity is a modifiable risk factor. Sadly, three fourth of Thai youth have sedentary lifestyles. According to the National Statistics Bureau, 2011 report the survey on the playing sport and physical activity behaviors of the popularity, and showed a high prevalence

of risk factors to metabolic syndrome that 72 percent of Thai youth populations aged 15-24 year-olds were physical inactivity behaviors (9).

Nowadays, current situation of physical risk factors and health behaviors for metabolic syndrome among youth in Saraburi province are needs to be identified. Health promotion and health prevention among them for improving health must begin early, preventing, altering and reducing the physical risk factors and poor health behaviors for them are essential. Early awareness of physical risk factors and health behaviors for metabolic syndrome and identification the physical risks will decrease morbidity and mortality of diabetes, hypertension, cardiovascular disease, stroke and its adverse impact in the future.

At the clinical diagnostic level, criteria for clinical diagnosis of the metabolic syndrome defined by the International Diabetes Federation (IDF) and the American Heart Association/National Heart Lung and Blood Institute (AHA/NHLBI) indicated as follow 1) elevate waist circumference 90 cm or above in men, and 80 cm or above in women (Asian) 2) Triglyceride level of 150 milligrams per deciliter of blood (mg/dL) or greater. 3) HDL cholesterol of less than 40 mg/dL in men or less than 50 mg/dL in women 4) Systolic blood pressure (top number) of 130 millimeters of mercury (mm Hg) or greater, or diastolic blood pressure (bottom number) of 85 mm Hg or greater and 5) Fasting glucose of 100 mg/dl or greater (10). However, this survey studied the two of five risk factors constitute a diagnosis of metabolic syndrome, waist circumference and Systolic blood pressure and diastolic blood pressure and called them "the physical risk factors". Furthermore, youth health risks behaviors that contributing to metabolic syndrome were also studied, eating and drinking behaviors and sedentary lifestyles.

OBJECTIVE

To identify the physical risk factors and health risk behaviors to metabolic syndrome among Thai youth studying in the vocational school.

METHODS

Research Instruments

The research instrument consists of questionnaire to collect data on demographic profile and eating and drinking behaviors and physical activity behaviors of the participants. Equipment to assess the physical risk factors of the participants include tape measure for measuring waist circumference, mercury sphygmomanometer for measuring blood pressure and weight meter for measuring weight, and calculator for calculating body mass index (BMI).

Data were collected between during September 2014 to December 2014. The Waist Circumference was measured to the nearest 0.1 cm at the level of the iliac crest with standard protocols. The SBP and DBP were recorded as the average of 2 or 3 measurements with a mercury sphygmomanometer and standard protocols. The data were analyzed using descriptive statistic.

Sample and setting

The samples consist of 377 students studying in two vocational colleges, Muang district, Saraburi province, Thailand.

Ethical consideration

Data collection procedure was designed to cover all aspect of protection of the right of human subjects. Data collection commenced following approval by Boromarajonani College of Nursing, Saraburi. Researcher requested vocational college director for approval to conduct a study. The sample (377 students) was informed about purposes of the study, participations requirement. Upon getting full information of the study all eligible samples agreed to participate in this study.

RESULTS

Participants' profile

For the demographic data, results showed that 57.8% of samples were male, and 42.2 % of samples were female. The subject average aged was 17.33 year (SD 1.57) and 98.7% was single Details are shown in Table 1.

Table 1 Demographic profiles of the participants (n=377)

Personal data		**Frequency**	**Percent**
Gender	Male	218	57.8
	Female	159	42.2
Age	14-16	130	34.5
	17-19	210	55.7
	20-24	37	9.8
Marital status	Single	372	98.7
	Married	5	1.3

The physical risk factors for metabolic syndrome

The physical risk factors for metabolic syndrome data were collected by measuring height and weight, waist circumference, blood pressure, body mass index (BMI). The results showed that 28 % of the sample were having waist circumference ≥ 90 cm, 23.1 % of the sample were having systolic blood pressure ≥ 130 mmHg, 26.3 % of the sample were having diastolic blood pressure ≥ 85 mmHg, and 21 % of parents and/or grandparent's sample had been diagnosed diabetes mellitus, 26.8 % of the sample were having excess BMI or ≥ 22.9. Data are shown in Table 2.

Table 2 Physical risk factors contributing to metabolic syndrome

Physical Risk Factors Contributing to Metabolic Syndrome	**Frequency (n=377)**	**Percent**
Waist circumference ≥ 90 centimeters (Male)	31	14.2
Waist circumference ≥ 80 centimeters (Female)	22	13.8
Systolic Blood Pressure ≥ 130 mmHg	87	23.1
Diastolic Blood Pressure ≥ 85 mmHg	99	26.3
Parent and/or grandparent were diagnosed diabetes mellitus	79	21
Diagnosis diabetes mellitus	2	0.5
Diagnosis Hypertension and received hypertensive drug treatment	5	1.3
Body Mass Index: BMI ≥ 22.9	101	26.8

The health risk behaviors factors to metabolic syndrome

The results of health risk behaviors factors for metabolic syndrome revealed that 46.7% of the sample were current drinking alcohol, 21.2 % of the sample were current smoking, 21.7 % of the sample rarely eat vegetable, 22.5% of the sample eat fatty food meal 6-7 day/week, 62.1% of the sample always taken sweet carbonated beverage and sweet snack, 82.3 of the sample lack of physical exercise or playing sport. Data are shown in Table 3.

Table 3 Frequency and percent of health behaviors contributing to metabolic syndrome (n=377)

Health Behaviors Contributing to Metabolic Syndrome	Frequency	Percent
Current alcohol drinking	176	46.7
Cigarette smoking	80	21.2
Eating and drinking behaviors		
Drink sweet carbonated beverage and sweet snack everyday	243	62.1
Never eat vegetable and eat only 1 meal per day	82	21.7
Eat fatty food meal 6-7 days per day	85	22.5
Physical inactivity behaviors		
Never move ≥ 6-12 hours per day	166	44.1
Taken physical exercise 10-30 minute per time 1-2 times per week but discontinuous	144	38.2

DISCUSSION

The survey results similar to the study related to the long term to attributable to individual risks to metabolic syndrome in youth population (11, 12). The metabolic syndrome is a complex and interrelated risk factors. The results showed that around one third of students had large waistline, one fourth of them had high blood pressure, and almost one fourth of them had parent or grandparent diagnosed diabetes mellitus. Moreover, health risk behaviors factors among youth in Saraburi province including smoking habit, alcohol drinking, high calories diet intake (carbohydrate) and low physical activity were all found in this survey.

However, metabolic syndrome considered as a clustering of multiple related risk factors. Youth who presents with the risk factors together, the chances for future cardiovascular problems are greater than any one factor presenting alone. While the presence of abdominal obesity is more highly correlated with the metabolic risk factors, but some youth who have raised waist circumference and also have strong genetic contribution (parent and/or grandparent were diagnosed diabetes mellitus) can develop multiple metabolic risk factors more than adolescents who not have raised waist circumference. Furthermore, overweight and obesity are associated with insulin resistance and the metabolic syndrome. At the same time, high blood pressure alone is a serious risk factor, but when youth had high blood pressure along with high fasting glucose levels and abdominal obesity, this youth be diagnose with metabolic syndrome. There is a greater chance this youth will have cardiovascular problems (13). The best approach for youth who have one or

multiple risk factors have to changes in lifestyle

LIMITATION

This survey studied only two factors constitute a diagnosis of metabolic syndrome, waist circumference and systolic blood pressure and diastolic blood pressure.

At the clinical diagnostic level, criteria for clinical diagnosis of the metabolic syndrome defined by the International Diabetes Federation (IDF) and the American Heart Association/National Heart Lung and Blood Institute (AHA/NHLBI) indicated 5 factors constitute a diagnosis of metabolic

CONCLUSION

The survey of physical risk factors and the health risk behaviors factors contributing to metabolic syndrome among youth studying in vocational college. The results may be used to guide the development of health prevention intervention or programs for increasing awareness of the health risk behaviors factors for metabolic syndrome among youth in Saraburi province. To lower the long term risks attribute to metabolic syndrome, the lifestyle modification focusing on physical activity and eating behaviors considerations are needed in children and youth. Health prevention and health promotion during childhood is a key to the huge impact on adult health at the population level. Results support the need to engage adolescents in healthful dietary practices and in regular physical activity and to prevent overweight. Monitoring and managing blood glucose, blood cholesterol, and blood pressure are benefit to youth who have physical risk factors and poor health behaviors.

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Factors Related to Medication Adherence Among Hypertensive Patients in Muara Enim, Indonesia

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ABSTRACT:

Background: Hypertension is a common non-communicable disease. Uncontrolled hypertension can lead to many undesirable consequences including: poor quality of life, complications to a number of human organs, the need to draw on healthcare resources, the economic burden and the eventual death. The World Health Organization (WHO) has identified inconsistent adherence to medication as the most important cause of uncontrolled blood pressure. The number of medication non-adherence on people with hypertension is increasing worldwide, including Indonesia. In 2014 the prevalence of hypertension in Muara Enim, Indonesia was 9,097 cases and out of these hypertension cases, only 12.1 % were identified to be adherent to medication, this represented a decline by 30% compared to medication adherence recorded at 15.7% in 2013. Many factors are thought to be the cause of many patients' lacking discipline in taking their medication, these are: age, knowledge, perceived susceptibility and perceived severities. Previous studies showed that medication adherence significantly related to hypertension. Hence, in this study, it is important to identify factors related to medication adherence to decrease the prevalence of the hypertension in Muara Enim, Indonesia.
Method: A cross-sectional survey design with multi stage sampling technique and a simple random sampling method was used. Data were collected by using a self-administered questionnaire from 266 of hypertensive patients at four Public Health Centers (PHCs) in Muara Enim, Indonesia. Descriptive statistics, Point biserial correlation coefficient were used for data analysis.
Result: The average age of the participants was 55.15 years and almost half of participants (40.6%) were from 51-61 years old. The study revealed that there were significant correlations between medication adherence and age ($r = 0.381$, $p < 0.01$), knowledge ($r = 0.784$, $p < 0.01$), perceived susceptibility to develop complication of hypertension ($r = 0.836$, $p < 0.01$), and perceived severity of hypertension complication ($r = 0.845$, $p < 0.01$).
Conclusion: There was still hypertensive patients in Muara Enim had poor knowledge about hypertension with respect to the complications, and management of hypertension (40.2%), perceived lowly susceptible to develop complication of hypertension (47.7%), and had moderate perception about severity of the complication of hypertension (62.4%). Therefore, medication adherence needs to be improved and health education programs should focus on how to change the perception of hypertensive patients, in term of perceived susceptibility and severity.

Keywords: medication adherence, hypertensive patients

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INTRODUCTION

The number of people with the hypertension is on the increase worldwide. Over a quarter of the world's adult population have hypertension. According to World Health Organization (WHO) in 2013, hypertension is estimated to cause 7.5 million deaths annually, which represent 12.8% of total death (WHO, 2013). Hypertension deaths in Indonesia in 2007 represented 6.7% of all deaths in the country and the third leading cause after stroke and tuberculosis (MoH, Indonesia, 2007). The World Health Organization (WHO) has identified inconsistent adherence to medication as the most important cause of uncontrolled blood pressure and has estimated that 50-70% of people do not take their medication for hypertension as prescribed by their physicians (WHO, 2003 as cited in Mant and McManus, 2006). In Indonesia, according to statistic of the Department of Health, Muara Enim had the highest number of disease among all the districts, with 9,097 cases of hypertension on record in 2014. The prevalence of hypertension among its population aged 40 years and older was 2.4% and out of these hypertension cases, only 12.1 % were identified in 2014 to be adherent to medication, this represented a decline by 30% compared to medication adherence recorded at 15.7% in 2013 (DoH, Muara Enim District, 2014).

Many factors are thought to be the cause of many patients' lacking discipline in taking their medication, include age, knowledge, and health perception which include perceived susceptibility and perceived severities (Mokoagow, 2014). Majority of the population living in Muara Enim still carry the perception of hypertension not being a serious medical condition, and would only visit their local Public Health Center when there is already an onset of signs and symptoms of hypertension (DoH, Muara Enim District, 2014).

Several studies were conducted with the aim of identifying factors relating to medication adherence among hypertensive patients. The findings from these previous studies were inconsistent. The previous studies revealed that younger people who have not retired adhere less to medication because they still work and focus more on providing for their families. On the other hand, elders frequently less adhere with medication, because they do not have sufficient income, are not able to work and, subsequently, cannot afford to buy high quality medicine (Li *et al.*, 2012). Furthermore, elders also might have more than one disease due to age-related reasons and therefore become tired of using many medicines, which may finally cause them to cease taking their medicines (Joho, 2012).

Knowledge of the complication stemming from hypertension had shown to have affect on medication adherence (Hashmi *et al.*, 2007). The better knowledge helped the hypertensive patient to use the medication and to understand the nature of the disease, the prescription, and drug administration; hence, they would take the medicine correctly in terms of type, dosage, and time (Naewbood, 2005). Providing relevant knowledge of the disease would make the patients becoming more concerned of their health (Osomor and Owumi, 2011). On the other hand, another study found no association between knowledge and medication adherence (Wood *et al.*, 2004).

Perceived susceptibility refers to the patients' own perception about their chances of developing complications from their hypertension, such complications like: stroke, kidney failure, heart disease, blindness, and the others. Previous study indicated that patients perceiving very high susceptibility factor showed good adherence to medication (Li *et al.*, 2012; Kamran *et al.*, 2014; Venkathachalam *et al.*, 2015).

Another factor affecting medication adherence would be perceived severity, which refers to patients' perception of how severe the complications stemming from uncontrolled hypertension could be. These severities include their inability to work, becoming bed-ridden for a long period of time, enduring

the long-lasting affect of the disease, rendering their career in jeopardy, suffering with the downside of social relationship, and becoming a burden to their family. Patients perceiving very high severity factor showed good adherence to medication (Ramli *et al.*, 2012; Kamran *et al.*, 2014; Venkathachalam *et al.*, 2015). The findings from these previous studies were inconsistent. Therefore, this study was conducted to identify factors related to medication adherence in Muara Enim.

The Health Belief Model was used as the framework of this study to explain factors related to medication adherence among hypertension patients in Muara Enim, which includes perceived susceptibility to develop complication of hypertension, and perceived severity of hypertension complication (Becker, 1974; Glanz *et al.*, 2008). The result of this study will be useful in guiding the intervention to motivate people to adhere with their medication, and consequently, reduce hypertension cases in Muara Enim, Indonesia.

MATERIAL AND METHODS

Study population

A cross sectional survey method was used in this study. Probability proportional to size was used to estimate the number of the samples; multi stage sampling technique in district level, and simple random sampling method in Public Health Centers level was used to identify the samples. The data were collected from 266 hypertensive patients at four Public Health Centers (PHCs) in Muara Enim, Indonesia. The participants voluntarily participated in this study, all of whom met the inclusion criteria which included age 40 years and older, diagnosed with hypertension at least 6 month, having started hypertension medicine at least 3 month, registered in the PHC in Muara Enim, Indonesia, could read and write in Bahasa (primary Indonesian language), willing to take part in the study and sign the consent form. Whereas, who had suffer from severe complications of hypertension that was diagnosed by physician, having a psychiatric illness that was diagnosed by physician, suffer from cognitive impairment diagnosed by physician, and hospitalized during data collection were excluded from this study.

This study was approved by the Ethics Review Board Committee for Research Involving Human Research Subjects, Boromarajonani College of Nursing Nopparat Vajira (ERB NO.17/2015). Participants were assured for willingness to participate in the study was voluntary; the participants also had the rights to refuse or withdraw from the study at any time.

Data Collection

The data were collected by using self-administered questionnaires, which was given to the participants in their home. Before filling out the questionnaire, the participants were given the information about the background, objective, procedure, benefit of the study, and they were joining the study voluntarily with signed the informed consent. The data collection was taken during August-September 2015.

Measurement tool

The self-administered questionnaire includes 8 parts translated into Bahasa Indonesia language and was used to collect the necessary data in this study. Initially this questionnaire was developed in English version based on the literature review on factors related to medication adherence and reviewed and validated by five experts, two from Thailand and three from Indonesia, who are specialized in hypertension, family and community health science with content validity index for scale (S-CVI) for all parts were 1.0 which was considered as valid (Polit, 2006). Those questionnaires as follows:

1. Data Demographic of participants in Muara Enim, Indonesia.
2. Knowledge Questionnaire. The reliability with Kuder and Richardson-20 (KR-20) was 0.864.
3. Perceived susceptibility questionnaire was developed by Rakinaung (2015). The reliability with Cronbach's alpha was 0.814.
4. Perceived severities questionnaire was developed by Rakinaung (2015). The reliability with Cronbach's alpha was 0.867.
5. Medication Adherence questionnaire was developed by Knobel *et al* (2002) and modified based on the characteristics of hypertensive patients in Muara Enim. The reliability with Kuder and Richardson-20 (KR-20) was 0.838.

Statistical analysis

The Statistical Package for the Social Sciences (SPSS Student Version 22.0) for Windows was applied to analyze the data. Point biserial correlation coefficient was used to identify the relationship between aged, knowledge, perceived susceptibility, perceived severity, and medication adherence. The Cronbach's alpha coefficient and Kuder-Richardson 20 were used to examine the reliability of the instruments.

RESULTS

Socio-demographic characteristics

The demographic characteristics of the hypertensive patients were shown in the table 1. A total of 266 participants were included in the analysis. The average age of the participants was 55.15 years with a standard deviation of 9.00. Almost half of participants (40.6%) were from 52 to 57 years old (table 1).

Table 1 Number and percentage of demographic characteristics of participants (n=266).

Demographic characteristics	Number	Percentage (%)
Age (years)		
40-50	94	35.3
51-61	108	40.6
62-72	56	21.1
>73	8	3.0
Mean ± S.D = 55.15 ± 9.001		
Min-Max = 40 - 75		

The knowledge of the participants ranged from 0-10 out of the total score of 10, with the mean score of 6.00 and standard deviation of 2.941. The knowledge score was classified into: good, fair, and poor using cut off points 80% and 60% of total score, respectively (Bloom, 1956). Almost half of participants had a poor level of knowledge (40.2%) and followed by good level of knowledge (34.2%) (Table 2).

Table 2 Number and percentage of levels of participants' knowledge about hypertension with respect to the complications, and management of hypertension (n=266).

Knowledge	Number	Percentage (%)
Good	91	34.2
Fair	68	25.6
Poor	107	40.2
Mean ± S.D = 6.00 ± 2.491		
Min-Max = 0 – 10		

Out of total score of 16, the scores of perceived susceptibility of medication adherence ranged from 4-14 with the mean score of 9.94 and a standard deviation of 2.992. The perceived susceptibility of medication adherence was classified into three levels: highly, moderately and lowly, using cut off points at 80% and 60% of total score, respectively (Bloom, 1956). Table 3 shows that almost half of participants (47.7%) perceived they were lowly susceptible to develop complication of hypertension and one third of participants (32.0%) perceived highly susceptible to develop the complication.

Table 3 Number and percentage of levels of participants' perceived susceptibility to develop complication of hypertension (n=266).

Perceived susceptibility	Number	Percentage (%)
Highly	85	32.0
Moderately	54	20.3
Lowly	127	47.7
Mean ± S.D = 9.94 ± 2.992		
Min-Max = 4 - 14		

The twelve items were used to measure perceived severity of the complication of hypertension, out of total score of 48, the scores of perceived severity of medication adherence ranged from 21 – 42, with the mean score of 32.98 and a standard deviation of 4.598. The perceived severities of medication adherence were classified into three levels: highly, moderately and lowly, using cut off points at 80% and 60% of total score, respectively (Bloom, 1956). Table 4 shows that the majority of participants (62.4%) were classified as having moderate perceptions about the severity of the complication of hypertension and only 16.2% of participants had lowly perceived about severity of the complication.

Table 4 Number and percentage of levels of participants' perceived severity of the complication of hypertension (n=266).

Perceived severity	Number	Percentage (%)
Highly	57	21.4
Moderately	166	62.4
Lowly	43	16.2
Mean ± S.D = 32.98 ± 4.598		
Min-Max = 21 - 42		

The medication adherences were classified into two levels: adherence and non-adherence. Table 5 shows that the majority of the participants were non-adhere with their hypertension medication (68.0%).

Table 5 Number and percentage of levels of medication adherence (n=266).

Medication adherence	Number	Percentage (%)
Adherence	85	32.0
Non-adherence	181	68.0

Table 6 shows a statistically significant correlation between aged, knowledge, perceived susceptibility to develop complication of hypertension, perceived severity of complication of hypertension and medication adherence.

Table 6 The correlations between aged, knowledge, perceived susceptibility, perceived severity and medication adherence (n=266).

Factors	Medication Adherence	
	r	*p*-value
Age	0.381	< 0.01
Knowledge	0.796	< 0.01
Perceived susceptibility	0.836	< 0.01
Perceived severity	0.845	< 0.01

** *p*-value < 0.01 indicate significance

DISCUSSION

This study shows that age had significant relationship with medication adherence. This finding is supported by a previous study that explained that the younger patients who had not retired yet were more likely to non-adhere to medication. This happened because the participants were busy and paid more attention to their work and their responsibility to provide for their families (Li *et al.*, 2012; Yue *et al.*, 2015).

The current study also showed that one quarter of hypertensive patients had a poor level of knowledge about management of hypertension, including take the medicine when the patients feel ill and sustainable of medication consumption. However, more than one-third of participants agreed that hypertension medicine is needed for hypertension patients and also had a good knowledge about several complications of uncontrolled blood pressure. Knowledge has significant relationship with medication adherence. This result finding is supported by a previous study that explained that the better and specific knowledge helped the hypertensive patient to use the medication and to understand the nature of the disease, the prescription, and drug administration; hence, they would take the medicine correctly in terms of type, dosage, and time (Naewbood, 2005). Providing more knowledge often empowers patients and increased their concern about their health (Osomor and Owumi., 2011).

This study also showed the significant relationship between perceived susceptibility and medication adherence. Almost half the participant perceived lowly susceptible to develop complication of the hypertension, including stroke, heart disease, blindness and kidney failure. The participants still carry the

perception that hypertension is not being a serious medical condition, and they only would visit the local Public Health Center when there is already an onset of signs and symptoms of hypertension. Previous study indicated that patients perceiving very high susceptibility factor showed good adherence to medication (Li *et al*., 2012; Kamran *et al*., 2014; Venkatachalam *et al*., 2015; Yue *et al*., 2015). It means that patients will adhere to medication, if they know that the medicine prevents the development of complications.

The results showed that medication adherence have a significant relationship with perceived severity. The majority of the participants were classified having moderate perceptions about the severity of hypertension complication. The participant agreed that the severity of complication hypertension, including stroke, heart disease, kidney failure, and blindness were life threatening, costly to treat, and loss of social function. These results are consistent with previous studies that explained that A higher level of perceived severity often indicated higher of medication adherence (Li *et al*., 2012; Ramli *et al*., 2012; Kamran *et al*., 2014; Venkatachalam *et al*., 2015; Yue *et al*., 2015).

STRENGTH AND LIMITATIONS

This study using a questionnaires with acceptable standard of reliability and was designed to be appropriate to cultural value of Indonesian people. Although the objective of the study had been met but there still found some limitations. This study only used medical records from Public Health Centers (PHCs) in Muara Enim, Indonesia, without involved private hospital and clinics. Most of the people who have moderate to high income prefer to visit private hospital when they have health problem. Therefore, for the further research should be conducted in several health care providers that used by the community in Muara Enim to make the data more representatives.

However, the data revealed that participants in this study are similar to the general data survey of demographic characteristics of people in Muara Enim, which indicates that participants in this study are representative hypertensive patients in Muara Enim, Indonesia.

CONCLUSION

This study purposed to identify factors related to medication adherence in Muara Enim, Indonesia, which included aged, knowledge, perceived susceptibility, and perceived severity. The results revealed that medication adherence had a significant relationship with aged, knowledge, perceived susceptibility and perceived severity. The result of this study can be used as evidence to develop intervention programs to improve medication adherence among hypertensive patients in Muara Enim, and hopefully, it could lessen the adverse impact of hypertension and its complication, improve quality of life of the patients, and lastly, lower the cost burden to individual patient as well as to the country.

CONFLICT OF INTERESTS

There was no conflict of interest from this study.

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Exploring Stroke Risk Factors and Knowledge of Warning Signs among Nursing Students in Thailand, Indonesia and Union of Myanmar

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ABSTRACT

Two third of people affected with stroke live in developing country. Knowledge of risk factors and warning symptoms can lower disease severity and disability. This study investigates relationships between stroke risk factors and knowledge of warning signs among nursing students' characteristics related to age, gender, years in nursing program, clinical training experienced, and previous stroke information received. Participants were 2,063 nursing students in Thailand, Indonesia, and Union of Myanmar. The 15 questions to assess stroke knowledge were administered through online survey in January to May 2015. Results showed the moderate level of stroke risk factors (mean = .73, S.D = .22) and low level of stroke warning sign knowledge (mean = .68, S.D = .35) of overall nursing students. Comparison of stroke warning signs knowledge according to student characteristics found that male nursing students, previous hospital training experiences, and received stroke information were found to have knowledge of stroke risk factor and warning sign significantly higher than the counterpart. This study is useful for planning to improve stroke risk factors and warning sign knowledge among nursing students in ASEAN countries.

Keywords: Stroke, risk factors, warning signs, nursing student

INTRODUCTION

Stroke or Cerebrovascular disease is an important public health problem worldwide as the second leading cause of death among population older than 60 and the fifth leading cause of death among population age 15-59. Stroke affected 15 million population a year which 2/3 live in developing country. Ten million were left with disability and the estimation of deaths is six million I 2015 (World Stroke Organization, 2013). Stroke occurs from decreased blood circulation to the brain result in lack of oxygen. These may cause by a blockage of blood vessel in the brain or neck or bleeding inside the brain. The blockage of a blood can stem from formation of blood clot (thrombosis), the movement of a clot from another part of the body(embolism), or narrowing of brain artery (stenosis).

Strokes are preventable if the risk factors are managed appropriately. The seven identified major risk factors for stroke were hypertension, diabetes mellitus, hyperlipidemia, smoking, family history of stroke, heavy alcohol consumption, and obesity (CDC, 2014: the National Institute of Neurological Disorders and Stroke, 2014). Hypertension is considered the most common single risk factor for stroke and may lead to atrial fibrillation or abnormal heart beat. The meta-analysis of 22 population-based studies conducted on 30,406 Westerns and Asians participants identified seven risk factors affected the incidence of stroke among Asian participants included BMI, systolic blood pressure, hypertension, diabetes, cardiac causes, smoking and alcohol (Chen et al, 2014).

Awareness of warning signs and symptoms of stroke and fast treatments can save life and recovery of the affected patient. The most effective treatments are only available within 3 hours of the first stroke symptoms. The American Heart Association lists 5 stroke warning signs ("suddens") that should be recognized among general population are 1) sudden numbness or weakness in the face, arm, or leg, especially on one side of the body, 2) sudden confusion, trouble speaking, or difficulty understanding speech, 3) sudden trouble seeing in one or both eyes, 4) sudden trouble walking, dizziness, loss of balance, or lack of coordination, and 5) sudden severe headache with no known cause (NINDS, 2014). In addition, another message called FAST (face, arm, speech, time) could be easier to remember, but it does not contain as many stroke symptoms. The study conducted in emergency department found that the FAST message identified 88.9% of stroke and transient ischemic attack (TIA) patients than for hemorrhagic stroke. There

were missing 8.9% of the ischemic strokes and 8.2% of the TIAs, versus 30.6% of intracerebral hemorrhage/subarachnoid hemorrhage cases. Case-fatality in patients missed by FAST was similar to patients with FAST symptoms (9.0% versus 11.6%, P=0.15). Whereas 0.1% had presenting symptoms not included in the suddens. The steps to lower severity, risk of death, and disability from stroke are to control stroke's risk factors and improve knowledge of stroke's warning signs. Promoting knowledge of risk factors and warning symptoms of stroke in nursing students will benefit their future role in reducing stroke incident among general population.

OBJECTIVE

This study investigates relationship between age, gender, years in study program, clinical training experiences, stroke information received and stroke knowledge related to risk factors and warning signs among undergraduate nursing students enrolled in Thailand, Indonesia, and Union of Myanmar.

METHODS

Participants

This study was an online survey to assess stroke risk factors and warning sign knowledge. Participants were the convenient sample of undergraduate nursing students enrolled in Thailand, Indonesia, and Union of Myanmar. The survey link was sent to 4 participated nursing colleges in Thailand, 2 nursing colleges in Indonesia, and 1 university of nursing in Union of Myanmar. It remained open for access from January to May 2015. There were 2,063 nursing students at undergraduate level responded to the survey. The IRB approval was obtained from Boromarajonani College of Nursing Saraburi, Thailand.

Instruments

1. Personal information includes age, gender, years in nursing program, clinical training experiences, and previous stroke information received.

2. Stroke risk factor knowledge was measured by 9 items about risk factors include alcohol/cigarette use, family history with stroke, high blood pressure, high cholesterol, diabetes, obesity, lack of exercise, and stress. Score range from low, moderate, and high. Scale reliability was .91 in this study.

3. Stroke warning sign knowledge was measured by 6 items about stroke warning signs (FAST symptoms) include sudden onset of face asymmetry, weakness/ numbness of arm or leg any part of the body, sudden difficulty in speaking or understanding, blurred/loss of vision, sudden onset of severe headache, and sudden onset of dizziness, or vertigo. Score range from low, moderate, and high. Scale reliability was .84 in this study.

RESULTS

Participant characteristics

Out of 2,063 students were 1367 Thai, 376 Indonesia, and 320 Myanmar. Majority was female (91.5%). Proportion of students in each year spent in nursing program ranged from 17.2% of fourth year to 33.8% of third year. For nursing practicum experiences were 55.3% of hospital setting and 63.7% of community setting. Proportion of students who ever received stroke related information was 64.8%. Results are shown in Table 1.

Table 1 Characteristics of students in this online survey study

Characteristic	Number	Percent
Country		
Thailand	1367	66.3
Indonesia	376	18.2
Myanmar	320	15.5
Gender		
Male	176	8.5
Female	1887	91.5
Years in nursing program		
1st	432	20.9
2nd	579	28.1
3rd	698	33.8
4th	354	17.2
Nursing practicum experiences		
Hospital	1141	55.3
Community	1314	63.7
Stroke knowledge received	1337	64.8

2. Stroke risk factor knowledge

Table 2 showed knowledge scores of stroke risk factor among overall nursing students (mean = .73, S.D = .22) and in Thailand (mean = .79, S.D = .17), Indonesia (mean = .77, S.D = .18), and Union of Myanmar (mean = .77, S.D = .18) at moderate level. For Thai nursing students, the lowest mean knowledge score was item related to have family with stroke (mean = 65, S.D = .29) and the highest was hypertension (mean = .87, S.D = .19). For Indonesians, the lowest was item related to high cholesterol (mean = .65, S.D = .33) and the highest was hypertension (mean = .90, S.D = .19). For Myanmar, the lowest was item related to high cholesterol (mean = .65, S.D = .33) and the highest was hypertension (mean = .90, S.D = .19).

Table 2 Knowledge scores of stroke risk factor among nursing students

Risk Factors	Thailand (n=1,367)		Indonesia (n=376)		Myanmar (n=320)		Total (N = 2,063)	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
1. Tobacco use	.79	.22	.77	.24	.77	.24	.75	.25
2. Hypertension	.87	.19	.90	.19	.90	.19	.76	.34
3. High cholesterol	.86	.21	.65	.33	.65	.33	.74	.31
4. Family with stroke	.65	.29	.68	.32	.68	.32	.66	.29
5. Diabetes	.75	.24	.74	.27	.74	.27	.71	.27
6. Obesity	.79	.23	.79	.24	.79	.24	.72	.29
7. Lack of exercise	.77	.22	.79	.24	.79	.24	.71	.28
8. Alcohol use	.79	.23	.80	.26	.80	.26	.70	.31
9. Stress	.85	.20	.84	.23	.84	.23	.77	.28
Overall	**.79**	**.17**	**.77**	**.18**	**.77**	**.18**	**.73**	**.22**

Level: Low <.69, Moderate = .70-.79, High ≥ .80

3. Stroke warning sign knowledge

Average mean score of stroke warning sign knowledge among overall nursing students was at low level with mean score .68 (S.D = .35) and in Thailand (mean = .77, S.D = .28), Indonesia (mean = .83, S.D = .24), and Union of Myanmar (mean = .15, S.D = .18) as showed in Table 3. For Thai nursing students, the lowest mean knowledge score was item related to sudden blurred/double vision/loss of vision (mean = 67, S.D = .47) and the highest was weakness/numbness of arm/leg/part of body (mean = .86, S.D = .35). For Indonesians, the lowest was the item related to sudden blurred/double vision/loss of vision (mean = 75, S.D = .43) and the highest was weakness/numbness of arm/leg/part of body (mean = .93, S.D = .26). For Myanmar, all mean item score of stroke warning sign knowledge were at low level range from (mean = .08 - .25).

Table 3 Mean knowledge score of stroke warning signs among nursing students (N = 2,063)

Risk Factors	Thailand (n=1,367)		Indonesia (n=376)		Myanmar (n=320)		Total (N = 2,063)	
	Mean	**S.D**	**Mean**	**S.D**	**Mean**	**S.D**	**Mean**	**S.D**
1. Sudden onset of face asymmetry	.80	.40	.77	.42	.11	.31	.69	.46
2. Weakness/numbness of arm/leg/part of body	.86	.35	.93	.26	.10	.30	.75	.43
3. Sudden difficulty in speaking/understanding	.76	.43	.91	.28	.08	.27	.68	.47
4. Sudden blurred/double vision/loss of vision	.67	.47	.75	.43	.25	.43	.62	.49
5. Sudden onset of severe headache	.78	.42	.84	.37	.19	.39	.70	.46
6.Sudden onset of dizziness, or vertigo	.74	.44	.78	.41	.18	.38	.66	.47
Overall	**.77**	**.28**	**.83**	**.24**	**.15**	**.18**	**.68**	**.35**

Level: Low <.69, Moderate = .70-.79, High > .80

4. Mean score comparison

In Table 4, mean score of stroke risk factor and warning sign knowledge were compared according to nursing student characteristics. Findings showed that nursing students had moderate level of stroke risk factor knowledge across different gender, years in nursing program, clinical practicum experienced. Nursing students in Thailand and Indonesia were found to have stroke risk factor knowledge at moderate level.

Table 4 Comparison of stroke risk factor knowledge according to student characteristics

Characteristic	Mean	SD	F	P- value
Country				
Thailand	.79	.17	802.17	.000
Indonesia	.77	.18		Thai > Myanmar
Myanmar	.38	.13		Indo > Myanmar
Gender				
Male	.77	.18	8.87	.003
Female	.72	.22		
Years in Nursing program				
1st	.72	.19	3.09	.03
2nd	.72	.22		
3rd	.75	.23		
4th	.73	.22		
Clinical experienced				
Hospital setting				
Yes	.74	.23	11.94	.001
No	.71	.21		
Community setting				
Yes	.71	.23	13.65	.000
No	.75	.19		
Stroke knowledge previous received				
Yes	.76	.21	103.38	.000
No	.66	.23		

Comparing mean score of stroke warning signs according to student characteristics revealed that male, have clinical practicum experience in hospital setting, and ever received stroke information were found to have stroke warning sign knowledge at moderate level (Table 5).

Table 5 Comparison of stroke warning sign knowledge according to nursing student characteristics

Characteristic	Mean	SD	F	P- value
Country				
Thailand	.77	.28	807.15	.000
Indonesia	.83	.24		Th > Myanmar
Myanmar	.15	.18		Indo> Myanmar
Gender				
Male	.74	.31	5.49	.019
Female	.68	.35		
Years in Nursing program				
1st	.66	.32	4.99	.002
2nd	.67	.34		
3rd	.72	.35		3rd > 1st and 2nd
4th	.66	.38		
Clinical experienced				
Hospital setting				
Yes	.70	.36	7.51	.006
No	.66	.33		
Community setting				
Yes	.65	.37	24.62	.000
No	.73	.30		
Stroke knowledge received				
Yes	.76	.31	183.78	.000
No	.55	.36		

DISCUSSION

Stroke risk factor knowledge

Stroke risk factor knowledge of nursing students in Thailand, Indonesia, and Union of Myanmar was at moderate level. The highest was risk factor from hypertension and the lowest was item related to family with stroke and high cholesterol. However, survey in 1, 238 Chinese found respondents with positive household history of stroke provided better knowledge of potential risk factors (Cheung et al, 1999) but a study of 606 stroke patients and 4000 people who accompanied the patients indicated poor knowledge of stroke risk factors (Das, Mondal, Dutta, Mukherjee, & Mukherjee, 2007). In Brazil the three most frequent recognized stroke risk factors were high blood pressure, tobacco use, and dyslipidemia. The factors listed included high blood pressure, aspirin use, alcoholism, physical activity, tobacco use, obstructed veins, obesity, dyslipidemia, arrhythmia, myocardial infarction, age, and osteoporosis (Falavigna et al, 2009). Our study found male students had higher knowledge score of stroke risk factor which different from a systemic reviewed that reported better knowledge in women compared with men (Stroebele et al, 2011).

Stroke warning sign knowledge

Stroke warning sign knowledge of nursing students in this study was at low level. For Thai and Indonesian nursing students, the lowest score of stroke warning sign was on item related to blur or vision loss and the highest score was item related to weakness/numbness of arm/leg/part of body. These findings similar to the result from random telephone survey conducted in 1, 238 Hong Kong Chinese, better stroke warning signs recognition was on sudden unilateral limb weakness (Cheung et al, 1999) and in Brazil (Falavigna et al, 2009). Others most recognized of stroke warning signs in Hong Kong were sudden speech and language disturbances, and sudden vertigo and clumsiness than other symptoms of stroke (Cheung et al, 1999). Whereas in Brazil, the others recognized signs and symptoms of stroke were deviation of the mouth, visual alterations, trouble speaking, dizziness, and acute headache. List of others non-stroke signs and symptoms were nasal bleeding, chest pain, irradiating pain to the left arm, sweating, vomiting, lowering of the blood pressure, lowering of the consciousness level, trouble breathing, fever, and jaundice (Falavigna et al, 2009). For nursing students in Myanmar, all mean item score of stroke warning sign knowledge were at low level similar to a study in general population and in stroke survivors which also found poor knowledge of warning symptoms of stroke (Das et al, 2007; Parahoo et al, 2003).

CONCLUSION

This study reveals moderate level of knowledge of stroke risk factors and poor level of warning symptoms knowledge among overall subjects. Male nursing students, previous hospital training experiences, and received stroke information were found to have better knowledge of stroke risk factor and warning symptoms of stroke. There is a need to develop education modules or programs to improve the awareness of stroke risk factors and warning signs both at the beginning and later years in nursing program. It is recommended that a similar study among others ASEAN countries can be replicated so that the findings can be better generalized.

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Breast Self-Examination in Thai Female Undergraduate Health Science Students [1]

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ABSTRACT

Breast self-examination is an effective way to help women fight against breast cancer. The purpose of this study was to examine practices of breast self-examination (BSE) among Thai female undergraduate health science students. Data were collected by a questionnaire regarding demographic data and the practice of breast self-examination steps. One-hundred thirty seven female students from a college of medicine and a college of nursing in the central part of Thailand participated in the study. The mean age of the participants was 21.18 (SD = 1.06). Out of the total, 35% participants were practicing on monthly basis. The most frequently endorsed step was examining one breast at one time (72.3%). The least frequently endorsed step was examining breasts while lying down, place a towel or pillow under shoulder before examining breast on that side (11.7%). The findings of this study indicate the need for instruction regarding the steps of BSE in their college curricula and motivated throughout their study in order to transfer their knowledge and behavior to their patients.

Keywords: Breast cancer, breast self-examination, health science student, Thailand

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INTRODUCTION

Breast cancer in young women has significantly increased. According to the United States National Cancer Institute Surveillance, Epidemiology, and End Results (SEER) database, it was estimated that approximately 14.4% of 25-to 39-year-old women. The women with breast cancer in the age group tend to experience more advance disease and have lower survival rates (Johnson, Chien, & Bleyer, 2013).

In Thailand, the incidence rate of breast cancer is the leading cause of cancer death in women. The total number of women with newly diagnosed breast cancer makes up 39.74% of all new cancer patients (National Cancer Institute – Thailand, 2012). Although advances in curative treatment for breast cancer are increasingly successful, early detection is critical in reducing mortality rates. Breast self-examination (BSE) is one of three screening methods recommended by the American Cancer Society for early detection of breast cancer (ACS, 2015).

Unfortunately, previous studies in many countries have reported that cultural attitudes make women feel uncomfortable to learn the look and feel of their healthy breast. A majority of the women does not regularly carry out BSE and does not even know how to do a BSE (Al-Foheidi, Al-Mansour, & Ibrahim, 2013; Juanita, Jittanoon, & Boonyasopun, 2013).

As a role model in health promotion, health science students must be informed in detail about BSE and perform BSE correctly. Especially, female health science students are able to educate other women after graduation on how to perform BSE correctly (Ayed et al., 2015; Kara & Acikel, 2009). There are limited data regarding BSE practice of Thai health science students. Therefore, the purpose of this study was to examine the BSE practice among Thai female undergraduate health science students.

METHODS

A descriptive survey design was carried out from October to December 2014. All female undergraduate health science students aged 20 years and above were recruited from a college of medicine and a college of nursing in the central part of Thailand. Two hundred and sixty students who are studying in the colleges met the inclusion criteria.

Sample

The sample size was basically determined according to Krejcie and Morgan's (1970) table. The required sample size was estimated at 155 students. Determination of appropriate sample size in survey research is to collect data representative of a population (Kotrlik & Higgins, 2001).

Using a list of all 260 students, the researchers divided the students into subgroups by classes. A stratified proportionate random sampling was used to select the target participants. The total sample size included 111 nursing students from different levels and representing the total population as 81% from the college of nursing.

Instruments

The instruments used in the study included the questionnaire regarding the BSE practice questionnaire (Alsaif, 2004), and a demographic questionnaire.

The BSE practice questionnaire is a 12-item scale rated on 0 (never perform) and 1 (perform) (Alsaif,

2004). The English version questionnaire has been translated into Thai by the principal investigator and then a Thai nursing expert translated it back to English. Three experts in the field of nursing had been utilized for content validity of the questionnaire. A pilot study was carried out with a convenient sample of 30 female nursing students to assess reliability of the questionnaire. The Cronbach's alpha coefficient was 0.75.

Ethical consideration

The study was approved by the Ethic Committee of the institution where work was undertaken. Participants were informed about standard principles of protection of human subjects.

Data collection and analysis

Participants were given the questionnaires once for approximately 10-15 minutes. Data were analyzed by using descriptive statistics.

RESULTS

Demographics profile

One-hundred thirty seven female students participated in the study. Response rate is 88% from the total health science students. The mean age of the participants was 21.18 (SD = 1.06, Range 20-24). More than 50% of the participants had a calculated body mass index (BMI) within the normal range (18.5-22.9 kg/m^2). High proportion of the participants belonged to the category 21 years of age accounting for 41%. Only 5% of the participants were having a family history of breast cancer (Table 1).

Table 1 Characteristics of participants (n = 137)

Characteristics	Frequency	(%)
Age (years)		
Mean age = 21.18, SD =1.06		
20 years	39	28.5
21 years	56	40.9
22 years	27	19.7
23 years	9	6.6
24 years	6	4.4
Body Mass Index (BMI, kg/m^2**)**		
Underweight (< 18.5)	20	14.6
Healthy weight (18.5-22.9)	103	75.2
Obesity I (23-24.9)	9	6.6
Obesity II (25-29.9)	4	2.9
Extreme obesity (≥ 30)	1	0.7
Family history of breast cancer		
Having	7	5.1
Not having	130	94.9

The practice of breast self-examination

Participants Table 2 shows the frequency and percentage distribution of the practice of the recommended BSE steps. The majority of the participants reported that they did not examine the breasts regularly (65%). The most frequently endorsed step was examining one breast at one time (72.3%). The least frequently endorsed step was examining breasts while lying down, place a towel or pillow under shoulder before examining breast on that side.

Table 2 Percentage of practicing participants performing correct steps of breast self-examination

Breast self-examination step	Perform		Not perform	
	Frequency	(%)	Frequency	(%)
Examine your breasts after every menstrual period	48	35.0	89	65.0
Look at breasts in mirror with arms at side	63	46.0	74	54.0
Look at breasts in mirror raised over head	55	40.1	82	59.9
Look at breasts in mirror with hand on thighs	51	37.2	86	62.8
When looking at your breasts in mirror, looking for swelling, dimpling of skin, or changes in nipples.	71	51.8	66	49.2
Examine breasts while lying down, place a towel or pillow under shoulder before examining breast on that side.	16	11.7	121	88.3
Examine breasts while lying down, place hand above head before examining breasts on that side.	69	50.4	68	49.6
Use right hand to examine left breast and left hand to exam right breast.	81	59.1	56	40.9
Examine one breast at a time.	99	72.3	38	27.7
Examine breasts in a circular, clockwise motion moving from outside in.	86	62.8	51	37.2
When examining breasts, feel for lumps, hard knots, or thickening.	17	12.4	120	87.6
Squeeze the nipple of each breast to look for discharge.	49	35.8	88	64.2

DISCUSSION

Breast cancer is not possible to primary prevention. Early detection of breast cancer remains the first priority for women. Thus, breast self-examination is recognized as a screening behavior to lower the risk for death from breast cancer. Women are more likely to detect a lump in the early stage of breast cancer

development and to yield early treatment leading to a better survival rate (Smith et al., 2015).

The results of the study provide preliminary support suggesting that the health care professions must learn BSE steps initially. In the present study, 35% of the participants were practicing BSE on monthly basis. The finding is not consistent with a recent study in health science students (Alsaif, 2004). This percentage is not quite good as compared to the study in which it has been reported that 66% of participants performing BSE. This might be explained by the fact that the students at this age usually have different priorities.

With regard to BSE steps, the data showed that the majority of participants did not perform correctly the recommended steps. This finding is consistent with the findings previous studies (Al-Azmy et al., 2013; Alsaif, 2004), which reported that many women perceive that the procedures they follow in performing BSE are correct but most women are not correctly performing the BSE technique. The participants are leaving out some or most of the critical steps. Particularly, the least frequently endorsed step was examining breasts while lying down, place a towel or pillow under shoulder before examining breast on that side. The breasts are best examined while lying down. This position spreads the breast tissue over the chest and makes it easier to feel for lumps (Smith, et al., 2015). In addition, this finding might be explained by the fact that although the participants are studying in health science fields, they lack in their awareness of the BSE practice.

This study has several limitations. The sample was recruited from two colleges in the central part of Thailand and may not be representative of a national sample. The participants were more likely to possess unique characteristics. The present study has not examined concerning factors that could affect the practice of BSE.

CONCLUSION

The results suggest that all undergraduate health science students need to be instructed information regarding the steps of BSE in their college curricula and reinforced about the subject throughout their study in order to transfer their knowledge and behavior to their patients. Therefore, teaching and learning activities relevant to the skill in the performance of BSE should be fostered during academic studies.

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Factor Relating Physical Activity among Adolescents in Kudus, Central Java, Indonesia

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Backgrounds: Physical activity is part of crucial healthy behaviors. Insufficient physical activity has been reported as a major cause of obesity, diabetes, cardiovascular disease, osteoporosis, and chronic illnesses. World Health Organization (WHO) has suggested the guideline for adolescent to perform at least 60 minute of moderate to vigorous physical activity (MVPA) per day. However, adolescents still have not met the recommendation for doing physical activity. Moreover, previous studies have also shown relationship between personal factors, perceived benefits, perceived barriers, and physical activity. The result of this study will be beneficial for the local health care providers, family and nursing community to promote the physical activity. This study was designed to identify factors relating to physical activity among adolescents in Kudus, Central Java, Indonesia. A cross sectional design was used in this study. A total of 273 adolescents, aged from 14 until 19 years old were required with multi-stage random sampling used in Kudus, Central Java, Indonesia. The instruments were personal factors questionnaires, the Physical Activity Questionnaire for Adolescents (PAQ-A), Perceived Benefits of Physical Activity (Adolescents Version), and, Perceived Barriers of Physical Activity. Pearson correlation coefficient and Point Biserial correlation coefficient were used for analyzing the data. The result of this study showed that perceived benefits ($r = .168$, $p < .05$) was positive significant correlations with physical activity. Perceived barriers ($r = -.166$, $p < .05$) was negative significant correlations with physical activity. Age, gender, and grade were not associated with physical activity.

Keywords: Factor relating, Physical activity, Adolescents.

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I. INTRODUCTION

Physical activity is part of crucial healthy behaviors. Insufficient physical activity has been reported as the major cause of obesity, diabetes, cardiovascular disease, osteoporosis, chronic illnesses, disabilities, and even death (Zanher et al., 2006). The increased frequency of having physical activity for an individual is related to better health outcomes and it can reduce risks to cardiovascular diseases, stroke, diabetes type 2, and breast cancer. Therefore, physical activity is important to prevent diseases and promote health in all age groups. For adolescents, physical activity can prevent the chronic disease in the future adulthood. Physical activity is also reported to effectively prevent risks of mental health, and injuries (Dambros et al., 2011).

During the last decade, insufficient physical activity has become a major risk factor for the increasing of non-communicable diseases such as obesity, hypertension, diabetes, and cardiovascular disease. Based on a report by Ministry of Health, the prevalence of hypertension in Indonesia in 2013 was 25.8%. Moreover, the prevalence in Central Java in 2013 was hypertension (26.4%), diabetes (1.9%), heart disease (1.4%), and stroke (12.3%) (Ministry of Health of Republic Indonesia, 2013). Despite the presence of promotions to increase physical activity in general population, only minor number of adolescents and children in developed countries have used physical activity in the degree of sufficiency to increase health and physical as well-being (Zanher, 2006).

Physical activity is important for adolescents' period to maintain growth and development. Regular physical activity in adolescent has significantly reduced risk of health problem such as reduction in blood glucose level and triglyceride, decrease resistant of insulin, and control blood pressure or decreased hypertension. Physical activity decreases blood pressure by increasing elasticity of vascular into the blood vessels who distributed oxygen and nutrient for the body (Todd, 2014).

Adolescence is a transition period between childhood and adulthood. During adolescence, life can be influenced by several factors such physical, psychological and social. This transition period is important to promote acquisition of healthy behavior (Dambros et al., 2011). Enhancing physical activity in adolescents, thus, can highly increase the probability of becoming an active adult. Insufficient physical activity of adolescents could affect their physical, mental and sociological growth (Zach et al., 2013).

The result will be beneficial for the local health care providers, family and nursing community to promote the physical activity among adolescents in Kudus district, Central Java Province, Indonesia.

II. METHODOLOGY

This study was cross-sectional design conducted among adolescents in public junior high schools and public senior high schools Kudus, central Java Indonesia during September – October 2015. Independent variables, including age, gender, grade, perceived benefits, and perceived barriers. Whereas, the dependent variable was physical activity among adolescents. The hypothesis of the study were there

were relationships between age, gender, grade, perceived benefits, perceived barriers and physical activity among adolescents in Kudus, Central Java, Indonesia.

The sample size of the study was 273 adolescents. This study used multistage sampling method for the sampling technique. This study used multistage sampling method for the sampling technique. Kudus district is geographically divided into three community areas; the North, the center and the South. The sample for this study was selected based on two main criteria: inclusion and exclusion criteria. The inclusion criteria included those who were: a). students of public junior high schools and public senior high schools in Kudus District, b). aged from 14 to 19 years old, c). able to understand Indonesian language d). voluntarily participating the study and e). obtaining permission from the parent or guardian. Further, exclusion criteria for the study were students who have disability, hearth disease, epilepsy, kidney disease and have sickness such as viral infection, diarrhea, influenza and high fever in the last week.

In this study, physical activity among adolescents was divided into two categories. The lower level of physical activity score was 0-19 means low physical activity and 20-40 means high physical activity. Age of adolescents was ranging from 14-18 years old. Grade was divided junior high school and senior high school. Physical activity was classified into three categories. The categories of physical activity were low physical activity (1.13 – 1.64), moderate physical activity (1.65 – 2.61) and high physical activity (2.62 – 3.52).

The data were collected by the researcher and trained health assistants who previously were trained about data collection procedures. This study used self-administration report to collect the data from the participants. Participants were asked to read the information sheet and sign an agreement consent form. Participants were given time about 40-50 minutes to complete the questionnaires. The instruments were personal factors questionnaires, the Physical Activity Questionnaire for Adolescents (PAQ-A), Perceived Benefits of Physical Activity (Adolescents Version), and, Perceived Barriers of Physical Activity.

Students who interested to participate in the study were asked to give parent/guardian permission letter from their parent/guardian to sign. The students were asked to return the parent/guardian permission letter and signed assent form before participating in the study. The researcher then met the participants in their house after the school time and assured that the participants were not leaving their lessons in the normal classroom.

The questionnaires were prepared consistently with the objective of this research and three experts (1 from Thailand and 2 from Indonesia) validated the content of the questionnaires. The reliability of the questionnaires were assessed to physical activity among adolescents, perceived benefits of physical activity and perceived barriers of physical activity. The Cronbach's alpha of physical activity was 0.853. The Cronbach's alpha coefficient were 0.853, 0.825 and 0.823.

After that, the data were coded, validated and analyzed by using SPSS (version 20). Descriptive statistics were used to measure the contribution of socio-demographic data. Pearson correlation coefficient, and Point-Biserial correlation coefficient were used for analyzing the data.

The study has received the approval of the Research Committee of the Ethical Review Board for Research Involving Human Research Subject, Boromarajonani College of nursing Nopparat Vajira (ERB-BCNNV).

III. RESULTS

This part explains the general characteristics of the participants including age, gender, grade, perceived benefits, perceived barriers and physical activity among adolescents.

Table 1 Number and percentages personal factors data of participants (N=273)

Characteristic		Number	Percent (%)
Age			
Mean = 15	Min = 14 Max = 18		
Range = 4	SD = 1.15		
Gender	Male	125	45.8
	Female	148	54.2
Grade			
	7	33	12.1
	8	48	17.6
	9	49	17.9
	10	42	15.4
	11	57	20.9
	12	44	16.1

Table 1 showed that Participants of this study were age range from 14 to 18 years old (SD = 1.15), mean 15, with 45.8 % male and 54.2 % female. Most of the participants were grade 11 (20.9%) followed by grade 3 (17.9%).

Table 2 Number and percentages of physical activity (N=273)

Physical activity		Number	Percentage (%)
Low	(1.13 – 1.64)	44	16.1
Moderate	(1.65 – 2.61)	186	68.1
High	(2.62 – 3.52)	43	15.8
Mean = 2.13 , SD = .49			
Range = 1.13 – 3.52			

Table 2 Majority of the participants were moderate physical activity (68.1%) followed by low physical activity (16.1%). Mean some of the physical activity score was 2.13 (SD = .49).

Table 3 Number and percentages perceived benefits of participants (N=273)

Perceived Benefits	Number	Percentage (%)
Poor (1.89 - 2.94)	46	16.8
Fair (2.95 – 4.45)	180	65.9
Good (4.46 – 5)	47	17.2
Mean = 3.70 , SD = .76		
Range = 1.89 - 5		

Table 3 showed that most of the participants of perceived benefits were at a fair level (65.9%) follow by at a good level of perceived benefits (17.2%) . Mean score of the perceived benefits of physical activity was 3.70 (SD = .76).

Table 4 Number and percentages perceived barriers of participants (N=273)

Perceived Barriers	Number	Percentage (%)
Poor (1 – 2.43)	42	15.4
Fair (2.44 – 3.86)	182	66.7
Good (3.87 – 5)	49	17.9
Mean = 3.15 , SD = .87		
Range = 1 – 5		

Table 4 showed that Based on the results showed that perceived barriers were at a fair level (66.7%), follow by good level of perceived barriers (17.9%). Mean of the perceived barriers of physical activity score was 3.15 (SD = .87).

Table 5 The correlation between age, gender, grade, perceived benefits, perceived barriers and physical activity among adolescents.

Factors	Physical activity	
	r	*p-value*
Aga	-.046	.451
Gender	-.107	.077
Grade	.064	.293
Perceived Benefits	.168	.005**
Perceived barriers	-.166	.006**

**. Correlation is significant at the 0.01 level (2-tailed).

The result of this study showed that perceived benefits ($r = .168$, $p < .05$) was positive significant correlations with physical activity. Perceived barriers ($r = -.166$, $p < .05$) was negative significant correlations with physical activity. Age, gender, and grade were not associated with physical activity.

IV. DISCUSSION

Physical activity is important for adolescents' period to maintain growth and development. Regular physical activity in adolescent has significantly reduced risk of health problem such as reduction in blood glucose level and triglyceride, decrease resistant of insulin, and control blood pressure or decreased hypertension. Physical activity decreases blood pressure by increasing elasticity of vascular into the blood vessels who distributed oxygen and nutrient for the body (Todd, 2014). Physical activity refers to any body movement produced by skeletal muscles that result in expenditure of energy includes occupational, leisure-time, and routine daily activities. The regular physical activity maintenance is based on personal and social motivation in the environment. Family, peers, and community has played a crucial role in encouraging physical activity in adolescents (Pender et al., 2011).

The results of the current study showed that age was no associated with physical activity among adolescents. This result was consistency with Junior et, al (2011) that found no significant difference between age and physical activity among adolescents. Previous a study by Sanaeinasab., et al (2013) found that age not related with physical activity among adolescents. The result can be explained the age with younger participants being more active than older adolescents. This finding might be caused by the participants were adolescents which had same characteristics in terms of physic. Hence, the physical activity of adolescents was not significantly different from each other. Therefore age needed to control their physical activity, but in this study age was found not has relationship, this result could be happen due to there is not much variation of age in this study, the mean of the participants were 15 years old. This result can be explained by the characteristic of the sample that majority were 15 years old. This condition was different with the characteristic of adolescents in Kudus, where their age, from junior high school and senior high school. Therefore, the difference of physical activity level among adolescents can be seen). Pender et al., (2011) explained that physical activity could be age appropriate and enjoyable and should include variety of physical activity.

The result showed that half of the adolescents in Kudus, Central Java, Indonesia had moderate physical activity (68.1%). This result can become new information to Department of Health in Kudus to promote physical activity among adolescents. Perceived benefits and perceived barriers were associated with physical activity among adolescents. Previous studies found that perceived benefits associated with physical activity among adolescents. Perceived benefits positive correlated with physical activity (Park and Kim, 2008). Perceived benefits of physical activity were the positive belief about the reasons to engage with physical activity, which could influence physical activity participation. Perceived benefits expressed a belief that physical activity would make an individual feel better, more relaxed, and energetic (Standiford,

2013). Perceived barriers refer to any obstacles that influenced health practice to prevent health problems. A previous study found perceived barriers were significantly related to physical activity (Hsu, 2011). The barriers of physical activity among adolescents were included lack of time, lack of information to perform physical activity, and less support from family and peers (Musaiger et al., 2013). Moreover, studies found time constrains was also one of the barriers to physical activity in adolescents (Dawer et al., 2006; Kelly et al., 2012). This may be because adolescents were busier with their preparation for school and more intensely involved with technology (Dambros et al., 2011).

V. CONCLUSION

This study focused on physical activity among adolescents. It presented that perceived benefits and perceived barriers were associated with physical activity among adolescents. However, age, gender and grade were not associated with physical activity among adolescents. The result will be beneficial for the local health care providers, family and nursing community to promote the physical activity among adolescents.

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The Relationship between Personal Factors and Attitudes toward Older Adults among Nursing Students of Thailand, Indonesia, and Myanmar

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ABSTRACT

The purposes of this study were to determine the relationship between personal factors and attitude toward older adults. Nursing students from Thailand (1367, 56.4%), Myanmar (322, 13.3%), and Indonesia (736, 30.4%) were main participants. The 34-item questionnaire was used online for data collection.

The results revealed that most of them were female (2115, 87.2%), fourth year students (496, 20.5%), having experience in wards (1405, 57.9%) and in community (1499, 61.8%), having older adults in families (1336, 55.1%), and had positive attitude toward older adults (1,865, 76.9%). Cultural differences, level of study, gender, practicum in wards and communities, training knowledge, and age were significantly related to attitudes toward older adults at the level of .05. However, having older adults in families was not related to attitudes toward older adults. The study suggests that research results should be used for teaching on caring for older adults. Also, it should be developed the training course for older adults among caregivers.

Keywords. Attitude, Older Adult, Nursing,

BACKGROUND

Worldwide, people aged 65 years and older were estimated to be 506 million in 2008 and may reach 1.3 billion in 2040 (Kinsella & He, 2009). Older adults often have deterioration of physical functioning because of chronic disease and the aging process (Klingman, 2008). Most of them usually have at least one chronic illness (Klingman, 2008) and approximately 30% of older adults have three or more chronic illnesses (American Geriatrics Society Foundation, 2005). These problems may lead older people admitted in hospital and need more nursing care. Nurses as provider need to provide quality of care for older adult and nurse should have positive attitude toward older adults which is important for healthcare provider. However, attitude toward older adults may relate several factors especially personal factors that is important for provide nursing care, it is need more investigation.

PURPOSE

The aim of this study was to investigate the relationship between personal factors and attitude towards older adults among nursing students in three countries including Thailand, Indonesia, and Myanmar.

METHODS

Design

This study used descriptive and cross-sectional design to determine attitude towards older adults of nursing students from the three countries through online survey.

Participants

Participants of this study were 2425 nursing students studying year 1-4 from three countries. Thai nursing students recruited to be participants were 1367 students from four Boromarajonani Colleges of Nursing (BCN) including BCN Chakriraj, BCN Nakhon Ratchasima, BCN Bangkok, and BCN Saraburi. The number of 736 Indonesian nursing students was recruited from four institutions; 1) Stikes Mataram, Lombok, 2) Stikes Bali, 3) Stikes Hang Tuah, Tanjung Pinang, and 4) STIKES Fort De Kock Bukittinggi West Sumatra. Moreover, 322 Burmese students were recruited from University of Nursing, Rangoon and University of Nursing, Mandalay. The participants participated in online survey on their institution's website. Data collection was started after the study was reviewed and approved from the Ethical Review Committee (ERC) for Research in Human Subjects of Boromarajonani College of Nursing, Saraburi (BCNS)

Instrument

The instrument used for this study was the questionnaire on attitudes towards the elderly and uses of media among the nursing students in Thailand, Indonesia and the Republic of the Union Myanmar. There were two main sections of the instrument employed to collect data as followed:

Section I, This section is personal data including age, being a student in which year, gender, experience of nursing practicum in community and ward, experience of training about older adults, and having older adults in hours.

Section II, this section is measuring attitudes toward elderly was translated from the Kogan's Attitude toward Old People (Kogan's OP) by Rungkawatt (2011). This questionnaire consisting of 34 items and 7 point Likert scale ranged from 1 = strongly disagree to 7 = strongly agree. Total mean score can ranges from 1 to 7 and this score be categorized as negative attitude (mean = 1.0-4.0) and positive attitude (mean = 4.01-7.00). The reliabilities of the questionnaires tested twice in Thailand were 0.70 and 0.73, respectively.

Data Analysis

The SPSS version 18 was used for data analysis. Descriptive statistics were employed to analyze sample personal factors and the level of attitude towards older adults. The Chi-square was utilized to determine the relationship between the personal factors and attitude towards older adults.

RESULTS

Personal factors

Participants' personal factors including nationality, age, gender, being a student in which year, experience of nursing practicum in community and ward, experience of training about older adults, and having older adults in hours are present in Table 1.

Participants of this study were nursing students from Thailand (1367, 56.4%), Indonesia (736, 30.4%), and Myanmar (322, 13.3%). Age of the participants ranged from 16 to 52 year old with a mean age of 20.13 (*SD* = 2.718). Main participants were female (2115, 87.2%), fourth year students (496, 20.5%), having

experience in wards (1405, 57.9%) and in community (1499, 61.8%), and having older adults in families (1336, 55.1%).

Table 1 Frequencies and Percentages of Personal Factors (N = 2425)

Personal factors	Number	Percentages
Nationality		
Thailand	1,367	56.4
Indonesia	736	30.4
Myanmar	322	13.3
Age (year)		
16-20	1,634	67.4
21-52	791	32.6
Gender		
Male	2,115	87.2
Female	310	12.8
Being a student in which year		
First year	432	17.8
Second year	679	28.0
Third year	818	33.7
Fourth year	496	20.5
Experience of nursing practicum		
Ward		
Yes	1,406	57.9
No	1,020	42.1
Community		
Yes	1,499	61.8
No	926	38.2
Experience of training about older adults		
Yes	1,206	49.7
No	1,219	50.3
Having older adults in hours		
Yes	1,336	55.1
No	1,089	44.9

Attitude towards older adults

Majority of nursing students in this study had positive attitude towards older adults (1,865, 76.9%), whereas the number of nursing students having negative attitude toward older adults was 560 (23.1%) students as showed in Figure 1.

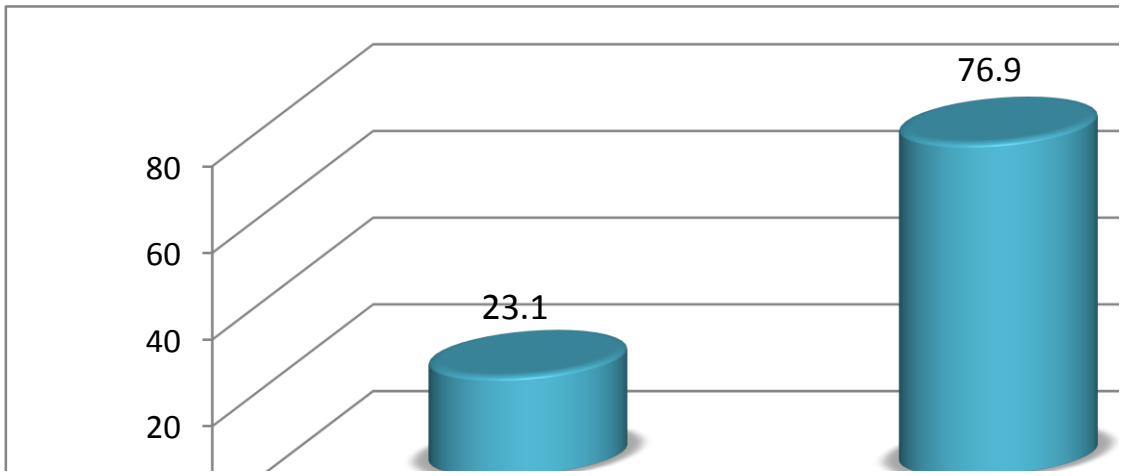

Figure 1 Percentage of attitudes toward older adults of nursing students

Criteria: negative attitude = 1.0-4.0; positive attitude = 4.01-7.00

The relationship between personal factors and attitudes toward older adults

The findings revealed that personal factors including nationalities, gender, being a student in which year, experience of nursing practicum in ward, and experience of training about older adults were significant relationship with attitude toward older adults at a level of .01, whereas age group and experience of nursing practicum in community were significantly related to attitude toward older adults at a level of .05. Moreover, there was no significant relationship between having older adults in hours and attitude toward older adults at a level of.05. Data are shown in Table 2.

Table 2 The Relationship between Personal Factors and Attitudes toward Older Adults

Personal factors	Attitude toward older adults			Chi-square
	Negative attitude n (%)	Positive attitude n (%)	Total n (%)	
Nationalities				192.77**
Thailand	173 (12.7)	1,194 (87.3)	1,367 (56.4)	
Indonesia	274 (48.9)	462 (28.8)	736 (30.4)	
Myanmar	113 (35.1)	209 (64.9)	322 (13.3)	
Age group (year)				5.43*
16-20	400 (24.5)	1,234 (75.5)	1,634 (67.4)	
21-52	160 (20.2)	631 (79.8)	791 (32.6)	
Gender				
Male	118 (38.1)	192 (61.9)	2,115 (87.2)	44.86**
Female	442 (20.9)	1,673 (79.1)	310 (12.8)	
Being a student in which year	70 (16.2)	362 (83.8)	432 (17.8)	44.46**
First year	198 (29.2)	481 (70.8)	679 (28.0)	
Second year	167 (20.4)	651 (79.6)	818 (33.7)	
Third year	125 (25.2)	371 (74.8)	496 (20.5)	
Fourth year				
Experience of nursing practicum				14.09**
Ward	286 (20.4)	1,119 (79.6)	1,405 (57.9)	
Yes	274 (26.9)	746 (73.1)	1,020 (42.1)	
No				7.26*
Community	319 (21.3)	1,180 (78.7)	1,499 (61.8)	
Yes	241 (26.0)	685 (74.0)	926 (38.2)	
No				
Experience of training about older adults				15.9**
Yes	237 (19.7)	969 (80.3)	1,206 (49.7)	
No	323 (26.5)	896 (73.5)	1,219 (50.3)	
Having older adults in hours				2.25
Yes	324 (24.3)	1,012 (75.7)	1,333 (55.1)	
No	236 (21.7)	853 (78.3)	1,089 (44.9)	

*p < .05, **p < .01

DISCUSSION

Finding of the relationship between nationalities, age group, gender, being a student in which year, experience of nursing practicum in ward and community, and experience of training about older adults were significant relationship to attitude toward older adults. The results were similar to previous studies. Age group was related to attitude toward older adults. Participants of age ranged 21-52 had positive and negative attitude approximately 79.8% and 20.2% respectively, whereas participants of age ranged 16-20 had approximately 75.5 % of positive and approximately 24.5 % of negative attitude towards older adults. Older students have more knowledge about older adults and experience to contact and provide nursing care for

them, therefore this reason may lead positive attitude towers older adults to older students. The finding was congruent with other studies. The previous studies investigated attitudes towards older people among nursing students in New Zealand (Stewart et al., 2005) and in Canada (Holroyd et al., 2007) The finding of these previous studies demonstrated older students likely had more positive attitude towards older adults (Holroyd et al., 2007; Stewart, et al., 2005).

The study found the significant relationship between experience of nursing practicum in ward and community and experience of training about older adults and attitude toward older adults among nursing students. The finding demonstrated that nursing students having experience of nursing practicum in ward and community and having experience of training about older adults had positive attitude. Nursing students who have these experiences may have more knowledge and more understanding about older adults that lead them have positive attitude towards older adults. Similarly, other studies found that education and experience regarding older adults (Beling, 2004; Fusner & Staib, 2004) affect positive attitude toward to older adults. This finding was also supported by a study that found students who had experience with well older adult reported significant positive attitude toward older adults (Dacey, Vail, & Tataronis, 2007). Moreover, this finding of the study was supported by another study that found gender was significant related to students' attitude toward older adults (Holroyd et al., 2007)

CONCLUSION AND RECOMMENDATION

Attitude towards older adults among nursing students is important for provide nursing care for older adults. However, there are several personal factors related to their attitude that should be concerned. The finding of this study should be used for teaching nursing students on caring for older adults. Also, it should be developed the training course for older adults among caregivers.

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Coproduction by Local Government Public Relations

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ABSTRACT

Several evaluation models of Public Relations (e.g. PII Model, Yardstick Model, and Pyramid/Macro Model) have been raised, in Public Relations study. However, especially in terms of local government Public Relations, how should we evaluate the change of citizen's attitude or awareness as OUTCOMES?

Recently, "Basic Ordinance for the Enhancement of Cities" has been adopted in many local governments in JAPAN. It shows the policy of resident autonomy. The number of it was 320 in 2014. In that background, local governments have to provide many types of public services, more than ever, with limited budget and low revenue. Therefore, in terms of local government Public Relations, "Coproduction" between the government and citizen has been drawn attention. Local governments need coproduction and civic participation. In this study, "the awareness of coproduction" among citizens is set as common OUTCOMES index of local government Public Relations. What has to be noticed is deference between Coproduction and Civic Participation. Matsushita (2013) divided them by whether citizens have initiatives for community. "Civic Participation" is participating of citizens to a framework whose initiative was taken by the government. On the other hand, the equal relationship whose initiative is taken by both citizens and the government is called "Coproduction". In Japanese community management, more active and voluntary Civic Participation as taking initiatives is required.

What is the way to improve the awareness of "coproduction" by Public Relations? In previous research, "Social Capital" and " Sense of Community" is the key concept. Social Capital has positive correlation toward civic participation (Japanese cabinet office, 2003). Sense of community (Sarason,1974; McMillan and Chavis,1986) also showed positive correlation with Civic participation in many studies.

This study conduct civic survey in Niseko town, Hokkaido prefecture, Japan, using Sense of community, Social capital, and Coproduction. Then, I will attempt to modelize Coproduction in local government public relation. Furthermore, I will discuss how to realize civil autonomy by local PR to promote citizens' coproduction.

Keywords: Public Relations, local government, community

INTRODUCTION

In Public Relation (PR) study, several evaluation models of Public Relations (e.g. PII Model, Yardstick Model, and Pyramid/Macro Model) have been raised. These model focus on change of citizen's attitude or awareness. In Public Relations study, main study is corporate communication study and a great deal of research has been conducted. However, few study of evaluation of Public Relations examined "in local government area". It should also be added that there are few quantitative research in this area. How should we evaluate local government Public Relations? This study is intended as an evaluation of local government Public Relations. In addition to this, which citizen's attitude or awareness should be adopted as OUTCOMES evaluation?

Recently, "Basic Ordinance for the Enhancement of Cities" has been adopted in many local governments in JAPAN. It shows the policy of resident autonomy. The number of it was 320 in 2014. In that background, local governments have to provide many types of public services, more than ever, with limited budget and low revenue. Therefore, in terms of local government Public Relations, "coproduction" between the government and citizen has been drawn attention. Local governments require coproduction and civic participation.

In this study, "the awareness of coproduction" among citizens is set as common OUTCOMES index of local government Public Relations. The goal of this study is to examine whether local government Public Relations can be effective for the awareness of coproduction. In this study, civic survey has been conducted to examine it in Niseko town, Hokkaido prefecture, JAPAN. The effect of Public Relations is discussed statistically, based on this civic data.

LITERATURE REVIEW

How to measure Public Relations

In Public Relation study, several evaluation models of Public Relations (e.g. PII Model, Yardstick Model, and Pyramid/Macro Model) have been raised. These all models adapt 3 level evaluations. For example, in Pyramid Model (Macnamara, 2002), First model is called INPUTS level. This level means formative research (e.g. to evaluate Quality of message presentation, Appropriateness of message content, Appropriateness of the medium selected). The second level is called OUTPUTS level. This level means process & program evaluation (e.g. to evaluate Number who understand messages, Number who retain messages, Number who consider messages). The

third level is called OUTCOMES level. This level means functional & organizational evaluation (e.g. to evaluate change behavior or attitude).

In evaluation of Public Relations, many PR officers confuse OUTOCOMES with OUTPUTS. They tend to evaluate Public Relations, not by OUTCOMES level by OUTPUTS level, even final evaluation. This is called "substitution game" (Watson & Noble, 2007) .The final goals of Public Relations are to change the attitude, behavior or awareness.

This study divides OUTCOMES from OUTPUTS definitely. This study evaluates degree of media use as OUTPUTS, and also evaluates to change awareness of Coproduction as COUTCOMES.

Coproduction

The term "Coproduction" is the key concept, and it means OUTCOMES evaluation level in this study. Coproduction is defined as "delivering public services in an equal and reciprocal relationship between professionals, people using services, their families and their neighbors. Where activities are co-produced in this way, both services and neighborhoods become far more effective agents of change"(NESTA, 2009). However, there are several definition, this is not an exception in JAPAN. In Japanese contexts, Coproduction sometimes means the partnership between local governments and citizens. This study also focuses on this type of relationship. Recently, in Japan, not citizens' side, but local government's side especially requires coproduction in terms of limited budget, low revenue and ideal resident autonomy.

This study adapts "Coproduction Scale for Local Government" to evaluate the citizen's coproduction awareness (Kotani & Nakamichi, 2006). They conducted civic survey by questionnaire to measure it. This index consists of 4 citizen's attitude (monitoring government, Communication to government, civic participation, collaboration with government). There is correlation between Coproduction awareness and 'Community Emotion' in Japan by their data. Their Community Emotion means citizen's emotion for community they live. Their Community Emotion consist of 4 factors, especially, "membership" is effective for Coproduction awareness. In addition, quantity of citizen's "Community Network" has correlations with Coproduction awareness. In other words, the citizens have more friends or acquaintances, the citizens have positive Community Emotion. Such is an outline of Coproduction awareness.

Judging from the above, this survey adapts the concept of "Social Capital" and "Sense of

Community (Community Consciousness)" as more concrete concept. Detailed account of these theories is given below.

Difference between Coproduction and Civic Participation

In Community Psychology and Social Psychology study, term 'Civic Participation' is a common concept. In these studies, many researchers investigate how to improve Civic Participation. What has to be noticed is deference between Coproduction and Civic Participation. Matsushita (2013) divided them by whether citizens have initiatives for community. "Civic Participation" is participating of citizens to a framework whose initiative was taken by the government. On the other hand, the equal relationship whose initiative is taken by both citizens and the government is called "Coproduction". Namely, Coproduction means "one form of Civic Participation". In Japanese community management, more active and voluntary Civic Participation as taking initiatives are required.

Social Capital

Putnam (1993) describes the performance of regional Italian administrations through the distance between administration and citizens. This Governance performance shows a strong relation between citizens and their connection to the region. Putnam calls this (Putnam, 1993, p. 167) "social capital" refers to features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit. Putnam (2001) suggests Social Capital consists of 3 factors, Trust, Interaction, Civic participation. In 2003, 2005 and 2007, the Japanese Cabinet Office and the Japan Research institute carried out a nationwide survey with Putnam's framework. Their data show there is positive correlation between Social Capital and Civic Participation. This survey also adapts their questions. In addition, Kotani & Nakamichi(2006) also suggest quantity of citizen's 'Community Network' has correlations with Coproduction awareness. Social Capital, namely, interaction among citizens can be effective for Coproduction.

Sense of Community

Sense of Community is essential concept in this Coproduction theory. First, Concept of Sense of Community was raised by Sarason(1974). After that, McMillan & Chavis (1986) re-defined sense of community as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together."

Sense of Community consists of 4 factors; Membership, Influence, Integration and Fulfillment of Needs, Shared Emotional Connection. This concept can be applied to not geographic community, but the several type of community (e.g. organization, company, online community). Over the past few decades a considerable number of studies have been made on sense of community. The effects of Sense of Community across various contexts have highlighted positive associations with empowerment within organizational settings (Hughey et al. 2008), social cohesion (Wilkinson 2007), Place attachment (Long and Perkins 2007), sense of safety (Zani et al. 2001). In addition, Sense of Community contributes to increases in the quality of life and enhances well-being and life.

Especially, this study would like to emphasize relations between Sense of community and Community Participation. Talo & MAnnarini & Rochira (2013) conducted Meta-analysis about Sense of community and Community Participation. The 34 data from 1980 to 2012 show Sense of community has positive correlation toward Community Participation. The importance of sense of community leaves no room for doubt in community management.

Community Consciousness Scale in JAPAN

Japanese Community researchers have worked from a slightly different angle. They discuss the awareness in a limited geographical sense. They call it "Community Consciousness" in Japan (Okuda, 1971; Tanaka & Fujimoto & Uemura, 1978). This was different process from Sense of Community. Recently, much attention has been paid to "Community Consciousness Scale" (Ishimori, 2010). Japanese characteristic features were added to this scale. In addition, this scale is only used in geographic community context. Community Consciousness scale as well as sense of community consist of 4 subscales. It includes "Solidarity", "Self-determination", "Attachment", "Dependency on others". The core part of Community Consciousness Scale and Sense of Community is common (Uemura & Sasao ,2007). Judging from the adobe, this survey adapts the peculiarly Japanese scale; Community Consciousness Scale.

METHODOLOGY

Research design & Research Question.

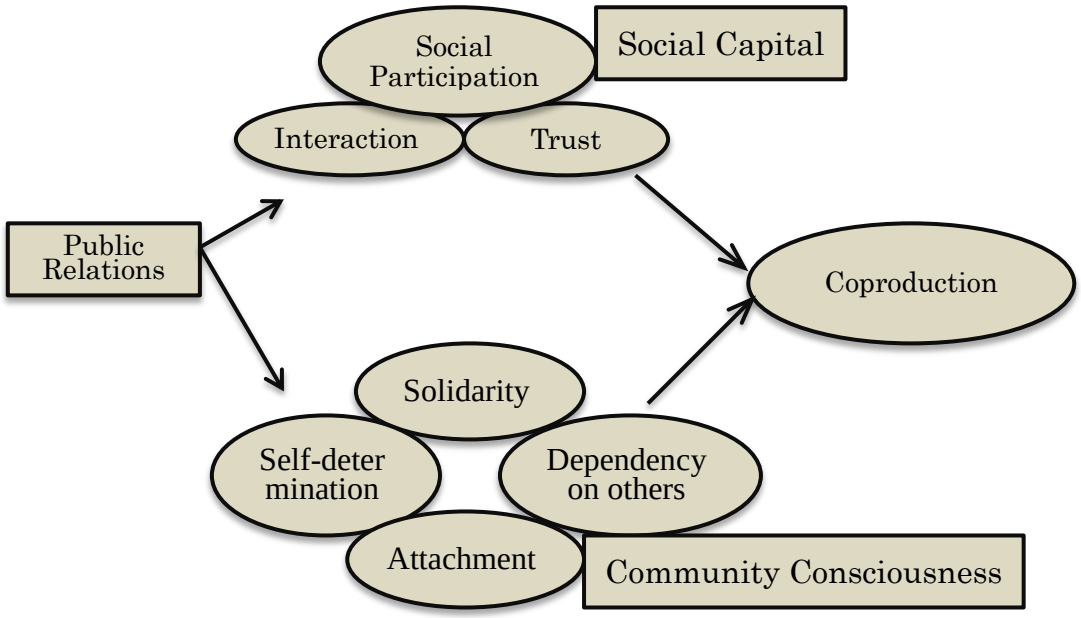
Based on above previous study, here is a figure 1 which shows research design. Figure 1 indicates relation between Social Capital, Community Consciousness, Coproduction, and Public

Relations. The research question is as below.

RQ: Does Local government Public Relations improve Coproduction awareness through Social Capital and Community Consciousness?

Based on above previous study, Social Capital and community Consciousness are effective elements. Community Consciousness (especially, attachment factor) is logically essential to Coproduction. It is assumed that Social Capital, namely, bonding or interaction of citizens are foundation of Coproduction.

Figure 1 Research design



Measurement

Coproduction Scale for Local Government

Adopted from Kotani & Nakamichi's(2006) measurement, five items were used to represent Coproduction awareness. Coproduction awareness is made from monitoring government, Communication to government, civic participation, and collaboration with government.

Social Capital

Social Capital was measured by the Japan Research institute's(2007) scale which includes two items representing "general trust", three items representing "specific trust", four items representing "interaction among community" and three items representing "social participation".

Community Consciousness

Community Consciousness scale was measured by Ishimori's (2010) scale. This scale consists of four subscales. It includes "Solidarity (three items)", "Self-determination (three items)", "Attachment (three items)", "Dependency on others (three items)".

Public Relations

Public Relations were measured by degree of PR tools use. PR tools are Local community FM broadcasting, Mass media, PR Magazine, Event by town office, Event by citizens, Official web site by town office, SNS(Facebook,Twitter) by town office.

All items were rated on a 5-point Likert scale (1=*strongly disagree* and 5=*strongly agree*).

Niseko town in Japan

This survey was conducted in Niseko town, Hokkaido prefecture, Japan. The population is about 4800 people. The main industry is agriculture and winter resort. The reason for selecting Niseko town is that this town is the first city to enact the Basic Ordinance for the Enhancement of Cities in Japan. The ordinance was enacted in 2003. As a result, it is assumed that citizens have higher Coproduction awareness than other places. Another reason is that increasing population of Niseko town. Despite many municipalities population has decreased in Japan, Niseko town is one of a few towns where population is increasing (3.3% rise in 5 years). Therefore, Niseko town is likely to keep a high Social Capital and Community Consciousness than others. This survey select Niseko town as an ideal community case, where resident autonomy is effective and citizens has much Social Capital, Community Consciousness, Coproduction awareness.

Data collection

This study has conducted questionnaire survey to target specific citizens of more than 20 years. Data was collected during Aug. 25 to Aug. 31 2015 from citizens in Niseko Town, Hokkaido Prefecture, Japan. A total sample size is 233 people. 52 % (*N*=109) of the participants are male, 48 %(*N*=98) are female. This survey collect the about 5 % samples of over 20 age citizens (*N*=4015). Survey questionnaires were distributed to citizens in some places of the Niseko town (e.g. company, housing, and community center), according to 2010 national census. Sample characteristics show at table 1 & 2.

Table 1 Gender and age of the samples

	male		female	
	national census	this survey	national census	this survey
20's	10.7%	4.6%	7.9%	8.2%
30's	18.7%	15.6%	18.3%	10.2%
40's	17.1%	22.9%	14.7%	22.4%
50's	17.3%	19.3%	16.3%	16.3%
60's	16.4%	20.2%	16.2%	25.5%
over 70's	13.0%	17.4%	13.4%	17.3%
total	100.0%	100.0%	100.0%	100.0%

Table 2 Industrial structure of the samples

	Industrial structure of over 20 age			
occupation	national census		this survey	
	N	%	N	%
primary industry	491	12.2%	36	16.2%
secondery industry	226	5.6%	13	5.9%
tertiary industry	1 592	39.7%	101	45.5%
pension, unemployed, house wife, etc	1 706	42.5%	72	32.4%
total	4 015	100.0%	222	100.0%

In this survey, it is assumed that gender, age and occupation are important variables to Social Capital, Community Consciousness, and Coproduction. Each percent made accordance with 2010 national census, as possible. In this sampling, large error cannot be found.

RESULTS

Difference in PR tools use

Table 3 shows differences in PR tools in Niseko town. This means the degree of PR tools use. Mass media and PR Magazine is important source of information for citizens. Especially, PR magazine (M=3.88, SD=1.06) contains several types of town information (new town policy, problems town facing, request from town office, event information, etc.), and are distributed to all

housing in town. The following media is mass media (M=3.55 SD=1.22), Event by citizens (M=3.18, SD=1.25), Event by town office (M=2.70, SD=1.24), Local community FM broadcasting (M=2.68,SD=1.36). On the other hand, few people use official web site (M=2.40, SD=1.40), and SNS (M=2.00, SD=1.25).

Table 3 Difference in PR media use

PR tools	M	SD
Local community FM broadcasting	2.68	1.36
Mass media （TV,News paper, Magazine, oter Radio）	**3.55**	**1.22**
PR Magazine by town office	**3.88**	**1.06**
Event by citizens	3.18	1.25
Event by town office	2.70	1.24
Official web site by town office	2.40	1.40
SNS(Facebook,Twitter) by town office	2.00	1.25

Niseko town is now aging society, and 25.9% of citizen is over 65 ages. The number of Internet users is limited in Niseko town. PR magazine can be a key PR tool.

Factor Analysis about Community Consciousness Scale

Table 4 is a result of exploratory factor analysis (maximum-likelihood method, promax rotation) on 12 items in Community Consciousness scale. Previous study showed 12 items 3 factor models: “Solidarity”, ”Self-determination”, “Attachment”, “Dependency on others. However, the factor analysis resulted in 11 items, a three factor model: Ⅰ Solidarity-Self-determination factor, Ⅱ Attachment factor, ⅢDependency on others factor, namely Solidarity factor and Self-determination factor are bonded in this study.

Table 4 Exploratory factor analysis (maximum-likelihood method, promax rotation) in Community Consciousness scale

	Ⅰ	Ⅱ	Ⅲ
7-3 I would like to enrich my quality of life by participating in some activities with people in Niseko town.	**.86**	.00	.10
7-2 I would like to participate in community activities to build more confortable town.	**.81**	-.06	-.10
7-1 I waould like to participate in community's activities ,such as volunteer service.	**.70**	.02	-.20
7-4 Establishing equal relationship between town office and the citizens is necessary to work on problem in Niseko town	**.66**	-.02	.09
7-5 The local government ough to cooperate actively to citizens' activities to enrich Niseko town.	**.51**	.07	-.02
7-6 The citizens themselves has to have power of decision to enrich Niseko town.	**.46**	.16	.06
7-7 I feel attachment or pride to Niseko town.	.01	**1.00**	.02
7-8 I live in Niseko town by chance,therefore I do not feel attachment or interest to Niseko town.	.01	**-.88**	.01
7-9 When I hear people criticizing Niseko town, I feel as if I am criticized.	.07	**.41**	-.04
7-11 I leave the activitiies,which enrich Niseko town, to other comitted people.	.09	-.02	**1.04**
7-12 I leave enviromental arrangement to the local government.	-.06	.01	**.73**

	Ⅰ	Ⅱ	Ⅲ
Ⅰ	—	. 43	−. 52
Ⅱ		—	−. 13
Ⅲ			—

It may be derived from community size. Ishimori (2010) used this scale in relatively large town, or medium-sized city (population: 40,000 people and 137,000 people), on the other hand, in this case, Niseko town is only 4,800 people. The much small town like Niseko town may have high level of Community Consciousness, so that the town has different structure of awareness for community.

Effect of Social Capital and Community Consciousness on Coproduction

This survey conducted multiple regression analysis to effect of Social Capital and Community Consciousness on Coproduction. Table 5 reports the results of multiple regression analysis that explore the effects of Social Capital (General trust, Specific trust, Interaction among community, and Social participation), Community Consciousness (Solidarity-Self-determination, Attachment, Dependency on others).

Table 5 Result of multiple regression analysis of predicting coproduction

The dependent valiable : Coproduction Scale for Local Government		
	β	p
General trust	.09	
Specific trust	**-.18**	*
Interaction among community	.17	
Social participation	-.08	
Solidarity-Self-determination	**.58**	***
Attachment	.07	
Dependency on others	-.08	
adj.R^2 = .44		

***p<.001 *p<.01* p<.05

From this analysis, Solidarity-Self-determination is most effective for coproduction awareness (β=.58***). On the other hand, Social Capital cannot improve coproduction, Specific trust may decrease Coproduction awareness (β=-.18*). In this survey, Specific trust means trust on friends, neighborhood and relatives. Too much trust on around people means dependency on others, and it can disturb Coproduction awareness.

How to improve the Coproduction by Public Relations

The result of multiple analyses, only Solidarity-Self-determination has positive effect on Coproduction. As another way, there is a way to decrease Specific trust. However, Specific trust has useful roles, for example psychological well-being. Therefore, this survey examines the way to improve Solidarity-Self-determination by Public Relations.

Table 6 reports the results of multiple regression analysis that explore the effects of Public Relations (PR tools are Local community FM broadcasting, Mass media, PR Magazine, Event by

town office, Event by citizens, Official web site by town office, SNS)

Table 6 Result of multiple regression analysis of predicting Solidarity-Self-determination

The dependent valiable : Solidarity-Self-determination		
	β	p
Local community FM	.04	
Mass media	.10	
PR Magazine	**.31**	***
Event by citizens	-.06	
Event by town office	**.27**	**
Official web site	.08	
SNS	-.01	
adj.R^2 = .27		

***p<.001 *p<.01* p<.05

This analysis suggest that PR magazine and Event by town office, are effective PR tools to enhance Solidarity-Self-determination (PR magazine:β=.31***, Event by town office:β=.27). Especially, PR magazine are distributed to all housing in town. Namely PR magazine has enough effect, and big reach to citizens. On the other hand, Event by Citizens has low reach, but it is face-to-face communication between citizens and government officer. The Face-to-face communication can lead them to deeply understand each other. And it leads to coproduction consequently.

Based on above results, Public Relations can improve Coproduction through Solidarity-Self-determination.

DISCUSSION

Result of multiple analyses, these data shows importance of Community Consciousness especially, Solidarity-Self-determination factor. Citizens' attitude, which has Solidarity among community, and has awareness to determine community things by oneself, is essential to coproduction. However mere attachment is not effective for Coproduction. Attachment with

solidarity-Self-determination rather than mere attachment is required to coproduction. Actually, study of city design in Japan, the term "Civic Pride" is discussed. According to Ito (2008), "Civic Pride means pride or attachment as citizens to the own city. They are connected by the awareness of being part of the community. In addition, civic pride has awareness to make own city a better place". This survey agrees with this concept. Solidarity-Self-determination is the key concept, and this awareness can be made by Public Relations. The strategies that improve it should be required in public Relations.

Turning now to Social Capital, as result of multiple analyses, Social Capital does not have effect on Coproduction. What is the reason that? It is assumed that Social Capital does not have direct effect on Coproduction, but it can improve Community Consciousness. Actually, "interaction among community factor ($r = .44^{**}$)" and "social participation($r = .41^{**}$)" of Social Capital has positive correlation toward solidarity-Self-determination. Social Capital may have effect on Coproduction through Community Consciousness.

Limitations and Future Study

This survey was conducted in the much small town. Probably, the citizens have higher Community Consciousness than big city. It may lead to this result. As future study, the further survey should be conducted in several type of city (e.g. the case in Metropolitan such as more than 100 million people, or town of the population in decline). As future study, comparisons study is made between different regions. As future study, comparison study will be made among different regions.

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Quality of Life among Persons with Mobility and Physical Disability in Three Sub-districts of Ratchaburi, Thailand

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ABSTRACT

Thai government has continued policies to improve quality of life (QOL) of persons with disabilities for many years but information on QOL of the disabled people in Ratchaburi province that have the highest number of disabled people in central Thailand, was incomplete. This cross-sectional descriptive study examined level of QOL among persons with mobility and physical disability in three sub-districts, Suan Kloai, Wat Pleang, and Wat Yang Ngam in Ratchaburi province. The participants were 118 persons with mobility and physical disability in two sub-districts of Ratchaburi. The instrument used in the study was WHOQOL-BREF-THAI 26 questionnaires, comprised of 5 domains of life; physical, mental, relationship, environment, and health domains. The researchers collected the data between July and September 2015. Frequency distribution and percentages were used to analyze the data. The results showed that most participants (85.42%) rated overall QOL and all domains at moderate level. The percentages of participants rated physical, psychological, relationship, environment, and health domains at moderate levels were 83.66, 91.88, 85.43, 81.96, and 84.22, respectively. The mean score of QOL among the participants was at moderate level ($\bar{x}$ = 78.96, SD.=12.53). The study shed lights on the level of QOL among persons with mobility and physical disability in three sub-districts of Ratchaburi Province, This can be utilized in improving QOL of those disables people in future through policy making, providing services, and developing educational systems related to disabilities.

Key words: disability, quality of life, physical, psychological, relationship

INTRODUCTION

Rationales

In the past decade, Thailand has changed significantly in having disabled people as members of the society. Many activities conducted aiming to improve quality of life (QOL) among people with disabilities living in the communities. For instance, Thai government has continued policies in improving QOL of persons with disabilities for many years. Currently, the government provides pensions to people with disabilities throughout the country. The law regarding fair chance of employment of people with disability in both government and public sectors was enacted. The primary health care units have had policy in providing health care equally and equity to people with disabilities. The audit systems included health assessment of disabled people as criteria. The government offices were designed by using universal model. The Thailand Association of Disabilities has promoted communities to establish the community disability clubs. The members of the Thailand Association of Disabilities acted as mentors in creating the disability clubs in rural areas. The educational systems are more opened for people with disabilities as well as occupational training programs. It can be said that Thailand is moving onward on an attempt to increase quality of life among people with disabilities.

Ratchaburi Province is a medium-sized province with an area of about 5,196 square Kilometres located in central Thailand. It had the highest number of disabled people compared to the others in the central Thailand. Approximately 10 percent of Ratchaburi population was people with disabilities. More than 60 percent of those in Ratchaburi were the persons with physical and mobility disabilities. There was a study conducted in three sub-districts in the rural areas of Ratchaburi in 2012. The findings showed that the people with disabilities rated their quality of life at medium and good level. There were four themes of success factors emerged, individual, family, community, and social. The persons, who lived with disabilities longer, accepted their lives and tried to live independently, reveal that they had good level of quality of life. The family care-givers helped much in living. The community had participation through the government officers, friends, and neighbors. The rural farm surrounding helped in seeking food easily (Meebunmak & others, 2012). However, little is known about current QOL among disabled people in other parts of Ratchaburi. The current study aimed to clarify to what extent of QOL levels perceived by people with mobility and physical disability living in three semi-rural areas, Suan Kloai, Wat Pleang, and Wat Yang Ngam, of Ratchaburi Province.

METHODOLOGY

The study was a cross-sectional descriptive study. The purpose of the study was to examine level of QOL among persons with mobility and physical disability in three sub-districts, Suan Kloai, Wat Pleang, and Wat Yang Ngam.

a. Participants

The population was 130 physical disabled persons. The participants who meet the criteria were 118 persons with mobility and physical disability in two sub-districts of Ratchaburi. The inclusion criteria consisted of having the national disabled ID card and being able to communicate with Thai language.

b. Tools

The instrument used in the study was WHOQOL-BREF-THAI 26 questionnaires. The questionnaires comprised mainly four domains, physical, psychological, relationship, and environmental domain. Additionally, there were two items addressed general health and overall QOL. The physical domain was composed of the

facets of pain and discomfort, energy and fatigue, sleep and rest, dependence on medication, mobility, activities of daily living, and working capacity. The psychological domain assessed the facets of positive and negative feelings, self-esteem, thinking, learning, memory and concentration, body image, and spirituality, religion and personal beliefs. The Social domain comprised the facets of personal relationships, sex and social support. The environmental domain looked at the environment influenced on living e.g., independent living, safety, security, physical environment, pollution, transportation, financial resource, health care, social welfare, transportation, advocacy, recreation and hobby. The WHOQOL-BREF-THAI items are to be answered within a 5-point scale ranging from 1 (very poor/ very dissatisfied/not at all/never) to 5 (very good/very satisfied/extremely/completely). The standardized scores were between 26 and 130. The reliability was .86.

c. Data collection

After getting authorizations from the Ratchaburi Provincial Health Office, cases that met the inclusion criteria were identified. Informed consents were then obtained from people with mobility and physical disability who agreed to participate in the study. The health care providers and village health volunteers (VHVs) working in the communities helped in informed the participants about the research project. The participants delivered the informed consented and were interviewed at homes. The researchers collected the data between July and September 2015.

d. Data analysis

The researchers analyzed the data using descriptive statistics; frequency, percentage, mean, and standard deviation. The researchers counted QOL scores rated by the participants at levels four, good, and five, very good. Also, the researchers analyzed the QOL scores using mean, and standard deviation.

RESULTS

The results showed that most participants (85.42%) rated overall QOL and all domains at moderate or above level. The percentages of participants rated physical, mental, relationship, environment, and health domains at moderate levels were 83.66, 91.88, 85.43, 81.96, and 84.22, respectively. The mean score of QOL among the participants was in moderated level ($\bar{x}$ = 78.96, SD.=12.53) as showed in table 1 and 2.

Table 1: Characteristics of people with mobility and physical disability (n=118)

Variables	Suan Kloai (n= 45)	Wat Pleang (n= 37)	Wat Yang Ngam (n=36)	Three sub-districts (n= 118)	
	Mean (years)	Mean (years)	Mean (years)	Mean (years)	
Age	62.38 (41.78)	60.04 (34.41)	67.55 (27.99)	63.45 (34.72)	
	f	f	f	f	%
Male	16	14	19	49	41.52
Female	29	23	17	69	58.48
Level 1: physical abnormal, can do daily activities	2	1	3	6	5.08
Level 2: movement organ dysfunction, can do daily activities	1	2	1	4	3.38
Level 3: movement organ dysfunction < half of body	8	7	6	21	17.79
Level 4: a half of body organ dysfunction	20	16	18	54	45.76
Level 5: movement organ dysfunction > half of body	14	11	8	33	27.96
Being employed	10	6	9	25	21.18
Being unemployed	35	31	37	103	87.28

Table 2: Mean and standard deviation of QOL scores and frequency and percentage of QOL scores rated in good and very good levels

Domain	Suan Kloai (n= 45)		Wat Pleang (n= 37)		Wat Yang Ngam (n=36)		Three sub-districts (n= 118)			
	mean (SD)	f	mean (SD)	f	mean (SD)	f	mean (SD)	level	f	%
Physical	23.34 (10.22)	40	19.98 (12.44)	27	20.01 (11.02)	32	21.11 (11.22)	moderate	99	83.66
Psychosocial	19.34 (09.66)	42	17.18 (11.22)	33	20.09 (13.54)	33	18.87 (11.47)	moderate	108	91.88
Relationship	10.35 (16.81)	36	11.23 (12.45)	34	10.89 (17.73)	30	10.82 (15.66)	moderate	100	85.43
Environment	26.88 (20.03)	42	21.74 (16.56)	29	25.89 (13.39)	26	24.83 (16.32)	moderate	97	81.96
Overall perception of health and QOL	3.33 (06.66)	38	3.41 (09.87)	29	3.26 (07.43)	32	3.33 (7.98)	moderate	99	84.22
Average		40.4		30.6		30.6	78.96 (12.53)	moderate	100.6	85.42

DISCUSSIONS

The result of the study showed that the mean score of QOL among the participants was at a moderate level ($\bar{x}$ = 78.96, SD.=12.53). Similarly, many studies conducted to identify QOL of people with disabilities found that those with disabilities rated themselves having life quality at moderate levels by using the WHOQOL-BREF 26 items (Rukwong, P, Chirawatkul, S., & Markovic, M., 200&; Dajpratham, P.,et al, 2009; Dajpratham, P., Tantiniramai, S., & Lukkanapichonchut, P., 2011; Piraveja, K., 2014; Taechaboonsermsak, P.,2009; Hirunwatthanakul, P., La Grow, S., Borman, B., & Kanagasingam, Y., 2013; Santos, V. S., 2015). About 91.51 percent of participants (n=108) had limitations in doing daily

activities due to being physical disability. This might be the reasons why they rated their life quality at moderate. The limitations in movement and doing daily activities were factors strongly related to QOL. A study conducted in the Netherlands (Van Son et al, 2014) revealed that Lower extremity dysfunction and Upper extremity dysfunction consequence on all WHOQOL-BREF domains (Van Son et al, 2014). There were 103 participants (87.28%) unemployed. indicated that their physical limitations influenced their unemployment. Also, this may affect on life quality in psychological domain in terms of self esteem. According to Adem Civan (2015), who conducted the study with disabled sportsman, asserted that the life quality levels of the disabled sportsmen spiritually, socially and environmentally were higher than ones without activity(Adem Civan, 2015). Moreover, the current study found that most participants (n=99, 84.22%) perceived general health and overall quality of life at moderate level ($\bar{x}$ =3.33, SD.=7.98). This can be explained that details of QOL rated were varying depending on the person's type of disability or health condition and their relationship with the proxy (Crockera, Smitha, and Skevington, 2015).

RECOMMENDATION AND IMPLEMENTATIONS

The study threw the light in having information regarding to level of QOL among persons with mobility and physical disability in three sub-districts of Ratchaburi Province, Thailand.

The results from the study can be utilized in improving QOL of those disables people in future through policy making, providing services, and developing educational systems related to disabilities.

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What Kind of Activities for Successful Active Aging?: Rakphusungaryu Group in Boromarajonani College of Nursing Nakhonratchasima

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ABSTRACT

Background: Currently, The Thai proportion of elderly population is increasing. Thus, encouraging active ageing among elderly group is important to decrease healthcare cost and to promote quality of life.

Objectives: This research and development aimed to develop a program of active ageing activities for elderly club called "RukPhuSungaryu group" in Boromarajonani College of Nursing, Nakhornratchasima, Thailand.

Method: There were 2 Steps of development of program for active ageing.

Step I: Getting start, program was set up by Boromarajonani College of Nursing, Nakhornratchasima, Thailand, by 2006. At first, the staff from the college and the students volunteered to be member of active ageing activities for elderly club. The elderly near Boromarajonani College of Nursing, Nakhornratchasima was invited to participate to the club activities. Then all the members planned activities for the club focusing on active ageing activities. They organized the activities according to the plan.

Step II: After 2 month after set up the club. This step was program implementation and data collection, the sample was divided into two groups: the entire member from the college (which was 20 who responsible for care of the elderly when the elderly come to participate to the activities), and the elderly. The elderly were aged 60 years and over, 60 elderly were members of the active ageing activities club (namely "Ruk Phu Rung Aryu Group" meaning "devoted to care and socialized with the elderly") at Boromarajonani College of Nursing, Nakhornratchasima. The active ageing program was continued for 6 activities per year (every 2 months). Each activity composed of basic health screen for elderly, health education for elderly health literacy, socialized, elderly health experience sharing, and interaction between participants. Sample was obtained by purposive sampling. Data collection was done during December 2014-August 2015. Data of opinion from participant's reflection on active ageing activities were collected

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by two questionnaires: elderly satisfaction of the new adapted model, and elderly satisfaction of participation in elderly active ageing model. Qualitative data gained by in-depth interviewed, observation, note taking and questions of focus group.

Results:

1. The opinions of those involved with elderly in active ageing program: lecture, staff, nurse student who responsible for elderly, found that the process was at the high level of activities appropriateness, environmental and the sequence implementation.

2. The seniors were most satisfied with the format of the activities of the elderly. These activities were banquet activities, recreational activities. Such activities were appropriated to their ages and physical conditions of the elderly as well as content appropriated with the needs of the elderly.

3. The senior role changed from member to be stakeholder of the club:

3.1 As stakeholders, elderly found that they were responsible for the format of activity for the club.

3.2 Health education activities, the content should provide more knowledge on elderly members' current health issues, such as meaning of abnormal simple screening of blood pressure, self-care activities of physical and mental health care related to the health issue of the member.

Keywords: active ageing, program

Introduction and background

This coming of the 21st century, the number of senior citizen by Thai National Statistic (2014) that Nakhon Ratchasima Province population structure was increased in older population proportion in Thailand. The elderly was 14.9 % of total Thailand population. This address the important for education of health science institute such as nursing college to prepare their roles to cope with new changes that moving forward to ageing society. The role of the preparation both for elderly and for the institution will conduct new knowledge appropriated for elderly care for the near future. The challenge of elderly care was how to provide elderly quality of life feasible for the community in the region. WHO (2002) suggested that elderly quality of life based on 3 factors: 1) elderly was be able to perform self-care, 2) maintained member role of the society, 3) being secured in the society.

Since 2006, Boromarajonani College of Nursing, Nakhonratchasima set up elderly support club project for elderly learning center of the college which elderly, elder family members, lecturers, nursing students can enroll and participate in any kind of the club activities. The club organizer was the club members. This club was central to college staff, nurse students and elderly development through participation for elderly activities such as uncomplicated health care, research, innovation, developed and

constructed new knowledge, and academic knowledge conference. According to Kongmaha, Hansoongnern & Homsombut, (2014) the activity of success active ageing central to: 1) empowerment through social role such as stakeholder of the college, and any event for elderly performance, 2) activities were central to lifelong learning and integrated other age group ideas, 3) activities were motivated varieties of age group to join, 4) the main activities presented believed of self-valued, and being confidence as club member. The evaluation of the elderly capacity building project (Kongmaha, Peansungnern, & Homsombut, 2014) founded that the elderly who joined the project gained benefit both physical and mentally. They felt happiness, gained more knowledge (health literacy) and the knowledge was feasible at the best level.

The above data, development of the activities for elderly was crucial in terms of promoting learning process of elderly and the staff of the college. The learning was changing process through development of elderly care of active ageing model. The experiences of the development would be guideline for institution development of health literacy for elderly care. Such appropriated knowledge contributed to elderly care and quality of life among elderly in particular elderly as an important workforce for the country development.

Objective

This descriptive research aimed to develop a program of active ageing activities for elderly club called "RukPhuSungaryu group" in Boromarajonani College of Nursing, Nakhornratchasima, Thailand.

Method

There were 2 Steps of development of program for active ageing.

Step I: getting start, program was set up by Boromarajonani College of Nursing, Nakhornratchasima, Thailand, by 2006. At first, the staff from the college and the students volunteered to be member of active ageing activities for elderly club. The elderly near Boromarajonani College of Nursing, Nakhornratchasima was invited to participate to the club activities as members. Then all the members plan activities for the club focusing on active ageing activities. They managed the activities according to the plan.

Step II: implement and data collection, after 2 month after set up the club. The implementation of the activities was running from 2006 to 2014. The data collection was from December 2014- August 2015.

The sample was divided into two groups: all the members from the college (which was 20 who responsible for care of the elderly when the elderly come to participate to the activities), and the elderly. The elderly were aged 60 years and over, 60 elderly were members of the active ageing activities club

(namely "Ruk Phu Rung Aryu Group" meaning "devoted to care and socialized with the elderly") at Boromarajonani College of Nursing, Nakhornratchasima. The active ageing programs were 6 activities per year (every 2 months). Each activity composed of basic health screen for elderly, health education for elderly health literacy, socialized, elderly health experience sharing, and interaction between participants. Sample was obtained by purposive sampling. Data of opinion from participant's gained by questionnaire, reflection on active ageing activity model and participation role, were collected by general data recording form in-depth interviewed, observation, note taking and questions of focus group.

Data collection tool had two parts: 1) tool for research conduction of the model active ageing development which adapted from active ageing model of elderly from Kongmaha, Hansoongnern & Homsombut, (2014), and 2) questionnaire of elderly satisfaction 2.1) of the new adapted model, and 2.2) of participation in elderly active ageing model. Descriptive data were analysed by percentage, mean, standard deviation. Qualitative data by in-depth interviewed, participation observation, group discussion were analysed by content analysis.

Results

1. The opinions of those involved with elderly in active ageing program: lectures, staffs, nurse students who responsible for elderly, found that the process of the program was at the most appropriated in activities. In detail, the process had the highest score, environmental factor got the second, and the third was organized of activity.

2. Regarding senior satisfaction, the seniors most satisfaction was the format of the activities of the elderly. These activities were banquet activities, recreational activities. Such activities were both appropriated to the elderly age and physical condition (including content provided during the activities perform), and appropriated to the needs of the elderly.

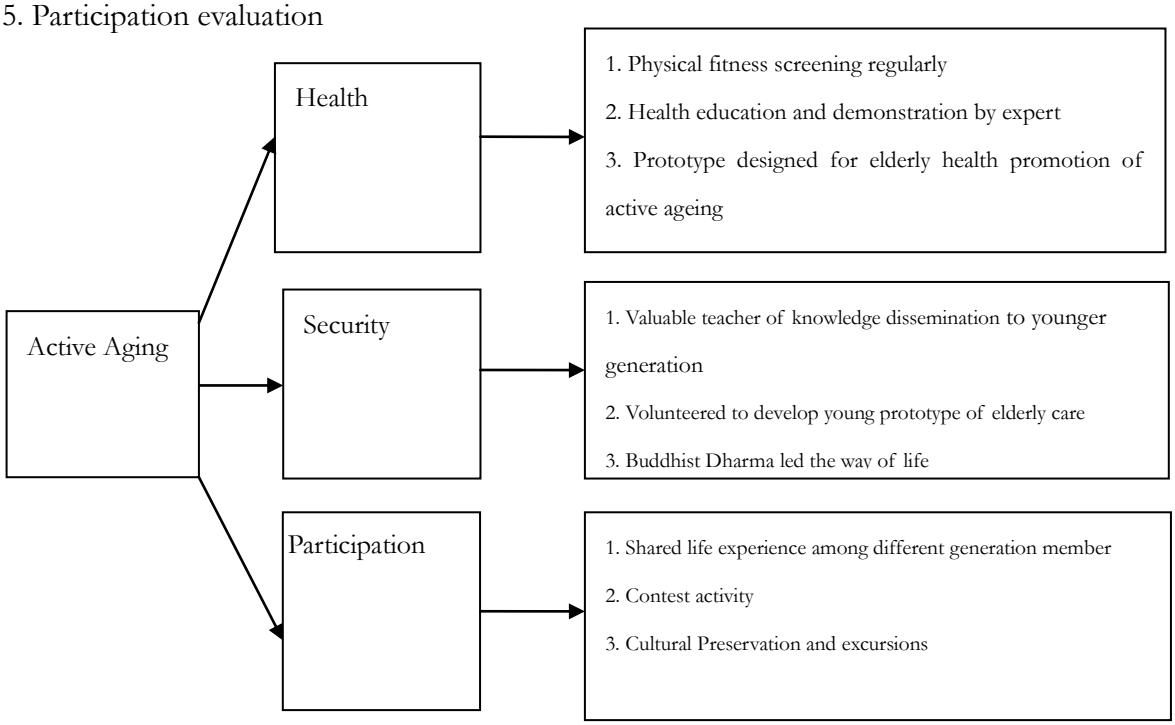
3. The senior role changed from member to be stakeholder of this elderly club:

3.1 as stakeholders, elderly found that they were responsible for the format of activity for the club.

3.2 Health education activities, elderly wanted more updated knowledge on elderly member health issue currently, such as meaning of abnormal simple screening of blood pressure, self-care activities of physical and mental health care related to the health issue of the member.

Design of Participatory Activity Program (5 Steps)

1. All age group participated in all process: analysis, plan, design, implementation, and evaluation
2. Participant were elderly and other age groups
3. All activities format were based on recreation.
4. All members were self-design to volunteer to participate in activities
5. Participation evaluation



Discussion

This study aimed to develop a program of active aging model for elderly at Boromarajonani College of Nursing, Nakhoratchasima, which had three critical elements.

1) Activity organized success of active ageing based on 3 elements: a high level of satisfaction, based on process (recreation), environment, and operation. As elderly founded that all three elements were bridging toward outcome of elderly participation as stakeholder. The activities were occasion to present the contents and activities that was feasible for elderly. That was, the elderly had chances to learn new knowledge from other members both from other elderly and younger ages which came up during activities proceeding.

2) Elderly satisfaction of activities organized was found at a high level. Focusing on detail, they liked recreation the most. During the recreation, they were motivated by recreation process, content,

and staff (who were part of the function and the objective of activities). This was supported by Saymarmorn (2013) that elderly had a lot of free time, thus socialization filled up their needs. The recreation as the "Ruk Phu Rung Aryu Group" was one of socialization action. Such recreation led to changes toward new role of elderly in order to adjust elderly to cope, and to accept the new health situation occurred according to continuous physical degenerated process. That was an preparation of gradually ageing need 2 elements: supported by health issue acceptations and readiness of coping. The activity raised satisfaction of self- care by address elderly self- capacity for social expectation, and any ready for coping with ageing challenged of physical, mental and social. Moreover, such activities subsided elderly depression brought up happiness feeling, supported by Karchu (2008) that recreation activity was solution for minimize elderly depression through socialization.

The recreation as the "Ruk Phu Rung Aryu Group" had variety of opportunity providing for elderly to participate in socialization (Kongmaha & Homsombut, 2014). They were 9 sub-activities: 1) Physical fitness screening regularly, 2) Health education and demonstrated by expert, 3) Prototype designed for elderly health promotion of active ageing, 4) Valuable teacher of knowledge dissemination to younger generation, 5) Volunteered to develop young prototype of elderly care, 6) Buddhist Dharma led the way of life, 7) Shared life experience among different generation member, 8) Content activity, 9) Cultural Preservation and excursions.

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Factors Related to Diabetes Self-management Among Adults With Type 2 Diabetes Mellitus in Malang City, East Java, Indonesia

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Abstract

Backgrounds: The number of people with diabetes mellitus is increasing worldwide and particularly in Indonesia. Therefore, to prevent the number of complications related to diabetes mellitus, a stable blood glucose level is required. To achieve this goal, it is important to promote diabetes self-management. Basic diabetes self-management includes healthy eating, physical activity, monitoring blood glucose level, taking medication, and foot care. Identifying the factors relating diabetes self-management is a prerequisite to improve diabetes self-management.
Purpose: to identify the factors related to diabetes self-management among adults with type 2 diabetes mellitus in Malang City, East Java, Indonesia.
Methods: A cross sectional design was used in this study. A total of 127 adults with type 2 diabetes mellitus, aged from 20-59 years were recruited. Multi-stage random sampling used in five Public Health Centers of Malang City. Instruments included personal factors, the general diabetes knowledge questionnaire, Beliefs of Treatment Effectiveness questionnaire, Self-Efficacy for Diabetes scale, and the Summary of Diabetes Self-Care Activities (SDSCA). Pearson product moment correlation and Point biserial correlation coefficient were used for analyzing data.
Results: The results showed that diabetes knowledge ($r=.260$; $p<0.01$), Perceived benefits ($r=.183$, $p<.05$) and perceived self-efficacy ($r=.308$, $p<.01$) were significantly associated with diabetes self-management. However, gender, age, and income were not significantly associated with diabetes self-management.
Conclusion and recommendations: Diabetes self-management can be improved by enhancing diabetes knowledge particularly about understanding that diabetes cannot be cured by treatment and encourage perceived benefits and perceived self-efficacy in term of healthy diet and exercise regularly among adults with type 2 diabetes mellitus.

Keywords: related factors, adults with type 2 diabetes mellitus, self-management, Indonesia

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INTRODUCTION

Diabetes mellitus is a common chronic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both (Mertig, 2012). High blood glucose levels can be occurred and lead to serious complication such as cardiovascular disease, blindness, kidney failure, lower limb amputation and pregnancy complications (International Diabetes Federation, 2014). Worldwide, diabetes caused 5.1 million deaths in 2013; in other word, a person dies from diabetes every six seconds. Moreover, diabetes mellitus caused at least USD 548 billion in health expenditure in 2013, amounting to11% of total health spending on adults (International Diabetes Federation, 2013). According to Indonesia's Ministry of Health (2014), the prevalence of diabetes in 2007 in Indonesia was 1.1% of the total population aged 15 years and over, increasing to 2.1% in 2013.

Indonesia was included top 10 countries for number people with diabetes mellitus aged 20-75 years old (International Diabetes Federation, 2013). Therefore, to prevent the number of complications related to diabetes mellitus, a stable blood glucose level is required. To achieve this goal, it is important to promote self-management adherence. The management of diabetes is focused on self-direction, in that individuals are responsible for the day-to-day decisions related to controlling their disease (American Association of Diabetes Educator, 2010). Diabetes self- management led to glycemic control in diabetic patients, which in turn led to better health outcomes (Center for Disease Control and Prevention, 2003).

Improving diabetes self-management in Indonesia particularly in Malang City East Java is still needed. A cross sectional study by Rahayu (2014), found that type 2 diabetes sufferers in both urban and rural areas in Malang, Indonesia showed less than optimal level of diabetes self-management behaviors. Several studies have been conducted to investigate factors that predict successful diabetes self-management in patients with type 2 diabetes mellitus. However, some studies showed inconsistent findings. A Previous study found that elderly patients showed better self-management behavior than younger patients (Huang, M. *et al.*, 2014). In contrast, Berhe *et al.* (2013) found that younger respondents are significantly more likely to adhere to proper diabetic foot care practice. When comparing gender, Bai *et al.* (2009) reported that males had higher self-care behavior than females, whereas a different study by Berhe *et al.* (2013) showed that females were more likely to implement diabetes self-management practices. A study by Rahayu (2014) found that diabetes knowledge was the strongest predictor in diabetes self-management among community diabetes patient in Indonesia with $r = 0.33$. In contrast, a study by Abubakari *et al.* (2011) found that the contribution of knowledge to self-management practice was not significant among adult patients of African-European-origin. Didarloo (2012) found that self-efficacy was the strongest predictors of intentions among Iranian women with type 2 diabetes.

Health Promotion Model (HPM) by Pender et al. (2011) was used as a guideline in this study to identify factors related to diabetes self-management. Therefore, this study will be focused on investigating the relationship among personal factors, diabetes knowledge, perceived benefits, and perceived self-efficacy to diabetes self-management among adults with type 2 diabetes mellitus in Malang City, East Java, Indonesia

METHOD

A. Design

Cross-sectional study design was used.

B. Sample

Multi-stage sampling technique was used to recruit the participants. Data were collected from 127 adults with type 2 diabetes mellitus from five Public Health Centers (PHCs) in Malang City, East Java,

Indonesia. Data were collected from participants who met the following inclusion criteria: (a) age 20-59 years old, (b) have diagnosed type 2 diabetes (for at least 6 months based on PHC's medical records), (c) have blood glucose level between 70mg/dl and 300mg/dl, (d) are willing to participate in this study, and (e) are able to read and write Bahasa Indonesia. The exclusion criteria are as follows: (a) suffer from impaired vision such as blindness, (b) have a psychiatric illness that was diagnosed by physician, such as schizophrenia or hallucinations, (c) suffer from cognitive impairment diagnosed by physician , and (d) are hospitalized during the data collection period.

C. Data Collection

After gaining an approval from the Ethical Review Board (ERB) committee of Boromarajonani College of Nursing Nopparat Vajira (BCNNV-Bangkok Thailand) and permission letter from the Health Department (HD) Malang City, data collection were started. The researcher met nurses who had responsibilities to take care adults with diabetes mellitus in Public Health Center, explained purpose, benefit, and plan of study and asked for help to recruit participants. Participants who were willing to participate in this study were asked to sign informed consent forms and informational sheet. The questionnaires were completed by self-administered questionnaire and required approximately 60 minutes of his/her time. After that, the researcher checked the complement of the questionnaire and saved in sealed envelope. Data were collected on August - September, 2015. A total of 127 questionnaires were obtained.

D. Measurement Tools

Data were collected using 5 questionnaires which were translated into Indonesian language including:

1. Personal Factors: Demographic Data Survey Form was used to assess personal data that includes, gender, age and income.

2. Diabetes Knowledge: Diabetes knowledge was measured by the general diabetes knowledge questionnaire developed by Wattanakul (2012). The instrument consists of 21 items with response type of "yes," "no" and "do not know." The questions ask about general knowledge related to diabetes (5 items), risk of diabetes complications (5 items), self-care on a daily basis and on sick days (6 items), and medication use (5 items). The score range from 0-21. A higher number indicates higher diabetes knowledge. The reliability with KR20 was .77.

3. Perceived Benefit: Perceived benefit of diabetes self-management was measured by the Beliefs of Treatment Effectiveness questionnaire that was developed by Xu (2005). This questionnaire contains 9 items. The instrument had a 5-point Likert scale from 1 (not important) to 5 (extremely important). The score range from 9 to 45. Higher scores indicate greater perceived benefit that diabetes self-management could control diabetes and prevent diabetic complications. The reliability with Cronbach's alpha was .740.

4. Perceived Self Efficacy: Perceived self-efficacy was measured by the Self-Efficacy for Diabetes scale that was developed by the Stanford Patient Education Research Center (2009). The scale is a self-administered questionnaire containing 8 items to determine how confident the individual is in performing certain activities related to the self-management of diabetes mellitus. The score in this scale is the mean of the 8 items. A higher number indicates higher self-efficacy. The reliability with Cronbach's alpha was .777.

5. Diabetes Self –Management: Diabetes self-management was measured by the Summary of Diabetes Self-Care Activities (SDSCA). The SDSCA is a brief self-report questionnaire about diabetes self-management behaviors, which has adequate internal consistency and test-retest reliability (Toobert *et al.*, 2000). In this study will use the revised SDSCA including 15 items and assesses aspects of healthy eating activities (5 items), physical activity (2 items), medication adherence (1 items), blood glucose testing (2 items), and foot care (5 items). The SDSCA is a Likert-type scale in which participants recall how often

they performed diabetes self-management during the past 7 days and answers range from 0 to 7 days. The reliability with Cronbach's alpha was .720.

E. Ethical Approval

Approval to conduct the study was granted by Ethics Review Board Committee for Research Involving Human Research Subjects, Boromarajonani College of Nursing Nopparat Vajira. The researcher will clearly inform participants about the purpose, benefits, and method of the study based on the information sheet that will be provided to them. Participants were given the opportunity to ask questions relating to the study. Participants having agreed voluntarily to participate in this study were given an information sheet and an informed consent form, both documents having been translated into Indonesian language by a competent translator. In addition, they could withdraw from this study at any time without need to provide reason and consequences. Participant's anonymity and confidentiality would be kept. Result of this study was provided as total picture. A personal computer that is protected by a password was used to analyze the data and maintain its security. Files of hard copy documents were securely kept in a filing cabinet, and only the researcher and advisors could reach. After 2 years, the data sheets will be destroyed. If the participants felt tired during the data collection, the researcher would provide time t take a rest.

F. Data Analysis

Data analysis used Statistical Package for the Social Sciences (SPSS Version 16.0) for Windows. Descriptive statistics were used to characterize the sample and to examine the distribution properties of the variables. Cronbach's alpha coefficient was used to examine the reliability of the measurement tools. Pearson product moment correlation and Point biserial correlation coefficient were used to identify the relationship between independent and dependent variable.

RESULT

A. Demographic Characteristic of the Participants

Table 1. Number and percentage of demographic characteristics of participants (n=127)

Demographic characteristics	Number (n)	Percentage (%)
Age (years)		
20 - 30	2	1.6
31 - 40	3	2.3
41 - 50	26	20.5
51 - 59	96	75.6
Median = 55		
Min-Max = 23 - 59		
Gender		
Male	38	29.9
Female	89	70.1
Income/month (IDR)		
<1.500.000	28	22
1.500.000-2.499.999	36	28.3
2.500.000-3.500.000	37	29.1
>3.500.000	26	20.6
Median = 2.300.000		
Min-Max = 200.000 – 10.000.000		

A total of 127 participants were included in the analysis. The most of the participants (70.1%) were female. The median age of the participants was 55 years. The majority of age of the participants (75.6%) ranged from 51 to 59 years old. The median income per month of this group is IDR 2.300.000.

B. Diabetes Knowledge among Adults with type 2 diabetes mellitus

Table 2 Number and percentage of levels of participants' knowledge of diabetes (n=127)

Knowledge	Number	Percentage
Good	27	21.3
Fair	60	47.2
Poor	40	31.5
Mean ± S.D = 13.75 ± 3.59		
Min-Max = 2 - 21		

Table 2 showed that the diabetes knowledge of the participants ranged from 2-21 out of the total score of 21, with the mean score of 13.75 and standard deviation of 3.59. Around 47% of participants had a fair level of knowledge, followed by poor level (31.5%), and good level (21.3%).

The diabetes knowledge questionnaire in details showed that some questions were answered correctly by less than 50%. These questions included the diabetes mellitus is likely to be cured by treatment (32.3%) and where the insulin is produced (18.9%). However, most of the participants had good understanding about stress causes blood sugar levels to increase (84.3%) and good blood sugar control usually reduces or delays occurrence of diabetes complications (85%).

C. Perceived benefits among Adults with type 2 diabetes mellitus

Table 3 Number and percentage of levels of participants' perceived benefits of diabetes self-management (n=127)

Perceived benefits	Number	Percentage
High	59	46.5
Moderate	65	51.2
Low	3	2.4
Mean ± S.D = 34.9 ± 4.89		
Min-Max = 24 - 45		

Based on table 3, the scores of perceived benefits of diabetes self-management ranged from 24-45 with the mean score of 34.9 and a standard deviation of 4.89. About half of participants (51.2%) were classified as moderate perceptions of the benefits of diabetes self-management.

D. Perceived Self Efficacy among Adults with type 2 diabetes mellitus

Table 4 Number and percentage of levels of participants' perceived self-efficacy in diabetes self-management (n=127)

Perceived self-efficacy	Number	Percent
High	31	24.4
Moderate	84	66.1
Low	12	9.4
Mean ± S.D = 3.60 ± 0.53		
Min-Max = 2.00 – 4.90		

Table 4 showed that the mean score of participant's perceived self-efficacy ranged from 2.0.-4.90 with the mean score of total participants of 3.60 and a standard deviation of 0.53. Approximately 67% of the participants had a moderately confident of perceived self-efficacy in diabetes self-management.

The perceived self-efficacy questionnaire in details showed that more than half of participants were confidently in knowing what to do when blood sugar evel goes higher or lower (61.4%), Judging whe should visit the doctors (63.8%), and control the diabetes (55.1%). However, approximately 8 % of participants were not confident to follow their diet when prepare and share food with other people who do not have diabetes. About 7% of participants were not confident to exercise 15 to 30 minutes (4 to 5 times a week).

E. Diabetes Self-Management among Adults with type 2 diabetes mellitus

Table 5 Number and percentage of levels of diabetes self-management (n=127).

Diabetes self-management	Number	Percent
Good	6	4.7
Moderate	40	31.5
Poor	81	63.8
Mean ± S.D = 3.81 ± 1.08		
Min-Max = 1 - 7		

Based on table 5, the diabetes self-management mean scores ranged from 1-7 with the mean score of total participants of 3.81 and standard deviation of 1.08. More than half of participant's diabetes self-management (63.8%) was poor levels.

E. Correlation between Diabetes Self-Management and Its Factors

Table 6 Correlation between gender, age, income, diabetes knowledge, perceived benefit, perceived self-efficacy with diabetes self-management (*n*=127)

Factors	Diabetes Self-Management	
	r	*p*
Gender	.021	.811
Age	-.024	.791
Income	.078	.381
Diabetes knowledge	.260	.003**
Perceived benefit	.183	.039*
Perceived self-efficacy	.308	<.001**

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

According to table 6, the variables including age, gender, age, and income were not statistically significant associated with diabetes self-management. Other variables including diabetes knowledge (r=.260, p<.01), Perceived benefits (r=.183, p<.05) and perceived self-efficacy (r=.308, p<.01) were statistically significant associated with diabetes self-management.

DISCUSSION

This study highlights the importance of factors that associate with diabetes self-management among adults with type 2 diabetes mellitus in Malang City, East Java Indonesia. Gender is one of a factor related to the self-management of diabetes mellitus (Bai *et al.*, 2009). Whereas, a different study showed that females were more likely to implement diabetes self-management practices in adults (Berhe *et al*, 2013). However, findings of the current study reported that gender was not statistically significant associate with diabetes self-management. This finding was different from previous study that stated there was a significant difference in diabetes self-management behavior between females and males (Rahayu, 2014). This result might be caused both male and female had more concern and awareness doing diabetes self-management to prevent the complication.

The current study showed that age was not related to diabetes self-management. This result had consistency with Rahayu (2014) that found no significant difference between age and diabetes self-management behavior among community diabetes patients in Indonesia. In contrast, Berhe et al. (2013) found that younger respondents in Ethiopia were two times more likely to engage in diabetic foot care practices than their older counterpart. This finding might be caused by the participants in the same characteristics and perceptions. Therefore in the productive age, they were not only concern their health but also the financial. Then, this current study, diabetes self-management also not related with income. In contrast, a previous study had reported that income is related to diabetes self-management. People with low income have significantly poorer self-care behavior than people with high income among older people with type 2 diabetes mellitus (Bai, *et al.*, 2009). This finding might be caused by participants who had low and high income aware to do diabetes self-management to improve quality of life and the government also support the health program to enhance diabetes self-management.

The factors that had association with diabetes self-management among adults with type 2 diabetes mellitus were diabetes knowledge and perceived self-efficacy. Individual has potential for self-directed change due to their ability for self-knowledge, self-regulation and decision making (Pender, 2011). This finding supported by Rahayu (2014) that found the diabetes knowledge is the strongest predictor of diabetes self-management in Indonesia. A study by Xu *et al.* (2008) found that knowledge affected diabetes self-management indirectly through beliefs and self-efficacy in China. The finding showed that approximately 47% of participants had a fair level of knowledge. These questions included the diabetes mellitus is likely to be cured by treatment (32.3%) and where the insulin is produced (18.9%). This result indicated that the information about understanding that diabetes cannot be cured by treatment and need modified life style is required. That knowledge can improve diabetes self-management among adults with type 2 diabetes mellitus.

Moreover, Self-efficacy is a central role in personal change and the foundation of human motivation and action (Bandura, as cited in Pender, 2011). Sonsosa J., B. (2014) found that higher self-efficacy score had a significant relationship in the diabetes self-management of Filipino Americans with Type 2 diabetes mellitus. Sharoni *et al.* (2011) reported that positive relationship between self-efficacy and self-care behavior in patient with type 2 diabetes in the Malaysian. Approximately 67% of the participants in this study had a moderately confident of perceived self-efficacy in diabetes self-management. The perceived self-efficacy questionnaire in details showed that approximately 8 % of participants were not confident to follow their diet when prepare and share food with other people who do not have diabetes. About 7% of participants were not confident to exercise 15 to 30 minutes (4 to 5 times a week). This result indicated that the participants can improve their ability to do healthy diet and exercise regularly.

Perceived benefit of diabetes self-management had association with diabetes self-management among adults with type 2 diabetes mellitus. This finding was consistent with Mohebi *et al.* (2013) that found 61% of the empirical support for the importance of perceived benefits was to influence health

behavior. People need good perception about benefit of diabetes self-management to encourage doing diabetes self-management.

CONCLUTION

This result of study supported Pender et al. (2011) that health behavior, especially diabetes self-management was influenced by diabetes knowledge, perceived benefits and perceived self-efficacy. Reporting diabetes knowledge, perceived benefits and perceived self-efficacy were strongly association with diabetes self-management. However, some variables including age, gender, and income were not associated with diabetes self-management. Therefore, it is importance to improve diabetes knowledge, perceived benefit of diabetes self management and perceived self-efficacy to support sustainability of diabetes self-management.

RECOMENDATION

The findings of this study could be as references to implement strategies to improve diabetes self management among adults with type 2 diabetes mellitus in Malang City, East java, Indonesia. The findings provided guiding evidence of how to conduct intervention program to improve diabetes knowledge such as campaign about managing diabetes with modified lifestyle and not focus only in the treatment. Also enhancing perceived benefits an perceived self efficacy in term of healthy diet and exercise among adults with type 2 diabetes mellitus.

LIMITATION

The majority of age in this study were middle adults. This finding may not be representative of all adults with type 2 diabetes knowledge. The cross sectional design of this study does not allow for causal interpretations of the findings.

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Needs Assessment on Reproductive Health Services of Adolescents in Educational Place, Thailand [1]

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ABSTRACT

Aim: This study to explain the needs of reproductive health services among the adolescents at Phetchaburi Province is located in the western region of Thailand.
Method: A qualitative research design was used because the strength of this approach was its ability to provide complex textual descriptions of participants' experience. Participants were 15 adolescents, aged between15 and 19 years in educational system at the high school, college, and university levels and semi- structured in-depth interviews, a recorder, field notes was used as the main technique of data collection. Data was analyses using the process of manifest content analysis.
Results: Five themes, 15 categories, 29 subcategories emerged from the analysis. The themes were: (a) consulting services, (b) knowledge dissemination, (c) unsuitable working hours for the adolescents, (d) inconvenient location of service, and (e) insufficient public relations.
Conclusion: It was found that special location of consulting service should be arranged in separation from other patients, which is easily accessible with simple processes and in a separate area from other patients. It is recommended that a one stop service characterized by knowledge, good attitude that is friendly sincere and relaxed be offered to the adolescents. The service should be private with the personnel capable to accommodate 24-hour services, especially telephone-based service provision. In addition to improvements of consulting services on the internet especially, knowledge of contraceptive method and prevention of pregnancy and service without cost.

Keywords: Adolescents, Manifest content analysis, Needs assessment, Reproductive health services

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BACKGROUND

Reproductive health refers to the physical and mental well-being and strength, which is the result of the perfect reproductive functions of men and women throughout a lifespan and is a concept that ensures the enjoyment of a happy life in society (Deerasamee, 2012). In addition, the reproductive health also includes the rights of men and women at any age to make informed decisions and to receive information on reproductive health and to fully access to the reproductive health services (Bureau of Reproductive Health Department of Health Ministry of Public Health, 2011). In particular, the reproductive health of adolescents is important due to their physical and mental transition from childhood to the adult age. Therefore, the provision of health care services is a key for health promotion and disease prevention from the young age so that they can enjoy good health conditions. However, the problems of the adolescents' reproductive health in Thailand are aggravated by the impacts of economic changes, social values, culture, lifestyle and communication-based globalization leading to other health problems (Phaisarn-achaphong, Ketpradit, Kaewdamkoeng & Suthatworawuth, 2012).

The reproductive health conditions of adolescents in Thailand are also changing as they enter the reproductive age earlier (Bureau of Reproductive Health Department of Health Ministry of Public Health, 2010). Meanwhile, higher teen pregnancy rates are attributable to the adolescents' involvement in sexual risk behaviours. This conforms to the findings of the Thai Medical Society for the Study of Sexually Transmitted Diseases. It is found that the delivery rate in the female population at the age of 15-19 years tends to be higher from 50.3 per 1,000 persons in 2005 to 54.9 per 1,000 persons in 2011. Despite the fact, at this age, the adolescents should be in the schools unintended pregnancy is a growing problem in Thailand. Research indicated that the average age of the first sexual intercourse in Thailand tends to be younger with the average age being 15-16 years, less than 50% of the adolescents use condoms during their first sexual intercourse. Moreover, according to the Bureau of Epidemiology Ministry of Public Health found that unintended pregnancy and sexually transmitted disease rate in the adolescents and youth at the age of 15-24 years is higher from 41.5 per 100,000 populations in 2005 to 79.8 per 100,000 populations in 2010 (Bureau of Epidemiology Department of Disease Control, Ministry of Public Health, 2010).

With regard to the above statistics adolescents' reproductive health is one of the important problems for the Thai society and public health because the associated health issues impact not only the adolescents themselves but also their family, society and country as a whole. Sexual and reproductive health is a sensitive problem for oriental cultures and society. Health care providers have to provide adolescents with support and opportunities to: live in a safe and supportive environment,

acquire accurate information about their health and development needs, build the life skills they need to protect and safe guard their health, obtain counselling services, and have access to health services (WHO, 2001).

With respect to the above statistics, the adolescents' reproductive health is one of the important problems for the Thai society and public health. Youth Friendly Health Services (YFHS) is one the possible solutions. YFHS has be implemented in Thailand since 2009 with a particular focus on the development of the potentials of health service providers from all hospitals under the auspice of the Ministry of Public Health . This is to enable them to provide youth-friendly health and reproductive health services (Pounkom, 2009). Thailand has many the services YFHS but why the rate of pregnancy, HIV to the increase in adolescent and did not research on the need assessment of adolescents to reproductive health services from the perspective. So need assessment of adolescents to access reproductive health services. It is essential to help adolescents who are experiencing problems. It is also a challenge for all health care providers to find out how to help adolescents meet their health care needs.

Reproductive health service for the adolescents refers to the provision of knowledge, understanding and advice with a particular focus on the physical and emotional changes, social adaptation, deportment and association with the opposite sex, body care for men and women, life skills, birth control, and responsible and safe sexual intercourse for the prevention of unintended pregnancy and of sexually transmitted diseases (Bureau of Reproductive Health Department of Health Ministry of Public Health, 2009) The assistance for adolescent to access to public health services, especially sexual health is thus crucial. A study on the access to the reproductive health data and services among the adolescents in Ubon Ratchathani Province, In the North East of Thailand reveals that 84.2% of the sample group need knowledge on sexuality and reproduction health in light of birth control, pregnancy prevention methods and sexually transmitted diseases (Huannaklang et al., 2011).This reflect the lack of the access to reproductive health services among the adolescents; therefore, the need for assessment on adolescents' access to reproductive health services is indispensable. The study is conducted in Phetchaburi Province in the western region of Thailand in which the pregnancy rate among the women at the age below 20 years is 20.08%, which is the second highest of the provinces in the western region (Health promotion Center Region 5, 2011).

AIM OF THE STUDY

This study aimed at understanding the needs assessment on reproductive health services of adolescents in educational system at Phetchaburi Province, Thailand

RESEARCH METHODOLOGY

Qualitative research is an exploration of the perspectives and life world of human beings and the meanings they give to their experience and the goal is to develop a rich understanding of a phenomenon in the real world of individual perspectives (Hollowey & Wheeler, 2010). Therefore, the aim of this study is to describe experiences and understand the phenomenon from the individual perspective of consulting on reproductive health services. Thus, qualitative research methodology was selected for this study because the strength of this approach was its ability to provide a complex textual description of the participants' experience (Polit & Beck, 2008).

Research setting

The criteria for inclusion of this study's participants involved selecting a sample that were 15 to 19 years of age during study at school or college in Phetchaburi Province, who have a direct experience in attending services of reproductive health of adolescents, and were willing to participate in the study. The participants were recruited by two sampling techniques. The first technique was a purposive sampling; participants who have a direct experience in attending services of reproductive health of adolescents should be selected through purposive sampling. Secondly, snowball sampling was used, in which new participants referred other adolescents to the study who were willing to participate (Hollowey & Wheeler, 2010). Further, sample size was determined on the basis of theoretical saturation. Saturation refers to no new information being obtained while collecting data (Morse, 1995).

Research procedure

After the participants had decided to participate, the researcher contacted by telephone them to set up an interview in a private room at school or at a place of their choosing to assure confidentiality. The participants received information of the purpose, method, risks, benefits, and rights to participate in this study. All participants were free to make a decision whether to participate, and ask any questions or raise any concerns about participating in this study. In this process, a semi-structured interview guide was developed. The interview guide developed by the researcher was validated by a supervisor and three experts in the field of qualitative research and midwifery.

Moreover, to ensure confidentiality, permission for tape recording was obtained from the participants. A recorder was used to record the interviews for verbatim transcription and detailed analysis. Field notes were written to record situations, observations, and critical insights that occurred

during the interview. These were kept in a locked cabinet in a safe place. Participants had the right to stop or withdraw from the interview whenever they wanted without any condition.

Data analysis

The data analysis is based on guidelines from Graneheim and Lundman (2004). Manifest analysis which deals with what is visible in the text and deals with interpretation was used to analyse the data. As interpretations vary in depth and levels of abstraction (Down-Wamboldt, 1992) this process was parallel with data coding in order to create the categories that fit with the participants' experience. The categorized development process and naming categories were discussed with the advisor. Similar categories were constructed into concept of theme or core category. The concept of theme has multiple meanings and creating themes to link the underlying meaning together in categories. The analysis process involved back and forth movements between the whole text, the meaning units, codes, subcategories, categories and themes.

Ethical considerations

Ethical approval was obtained from the Human Research Ethics Committee of Phachomklao College of Nursing, Phetchaburi Province. The participants were provided with both verbal and written information about the study. The description included an explanation that the participants could choose to skip any questions that they did not feel comfortable answering or talking about and they could change their mind later and withdraw from the study at any time. Moreover, the participants could choose the time and place of the interview at their convenience and they were ensured privacy to decide a place by themselves. The interview, which was recorded by a recorder, would be destroyed after the interviews were analyzed. The confidentiality of participants was guaranteed. Moreover, they had an opportunity to ask questions before submitting a signed consent form that was retained by the researcher.

RESULTS

The five main themes that emerged from the analyses were: (1) consulting services, (2) knowledge dissemination, (3) unsuitable working hours for the adolescents, (4) inconvenient location of service, and (5) insufficient public relations.

Theme 1: Consulting services

According to the study, the adolescents have defined reproductive health services as the provision of advice on the association with opposite sex and negotiation skills about consent in sexual intercourse. The advice enables them to learn, acquire self-understanding and understand their own

problems. They can then make the decisions on their won and choose the solutions that best suit them. As one participant complained that:

"…When I have a problem with my boyfriend, especially the jealousy, he sometimes breaks things. Actually I do not like that but I love him. I sometimes need the advice on what to do. Should I continue my relationship with him? I am afraid of sorrow because he is my first boyfriend…" (Information no.1)

Another participant said that:

"…My boyfriend always asks me for the sexual intercourse. When I deny, he say that I do not love him. I am afraid of being pregnant. I do not want to end my relationship with him because of such matter…" (Information no.2)

It was also revealed in the study that most of the adolescents' reproductive health problems derive from the need of males to have sexual intercourse. Although the females know that they should deny because they are still young and afraid of being pregnant they are fearful of relationship termination. Some of them have never had boyfriends before so they do not how to associate with the opposite sex and are afraid of sorrow. As a result, they have no choice but to have sexual intercourse with their boyfriends and to continue the relationship even though they dislike their boyfriends' personal behaviours.

Theme 2: Knowledge Dissemination

All of the participants were concerned that the adolescents need the knowledge on safe sex in order to prevent unintended pregnancy and sexually transmitted diseases. One participant described the following:

"…I do not take any contraceptive pills. My boyfriends do not want to use condoms too. He says to me that we are boyfriend and girlfriend so the use of condoms is unnecessary. The condoms are used when having sexual intercourse with other persons. As a result, I want to know about other birth control methods for pregnancy prevention after sexual intercourse…" (Information no.3)

Another participant said that:

"…When we have sexual intercourse, he does not want to use condoms. I am also afraid of sexually transmitted disease infection, especially when I have the excessive leucorrhoea what is this? As a result, I want to know about the symptom of the sexually transmitted disease…" (Information no.5)

Nonetheless, some adolescents knew about the birth control because they had learnt from their teachers in the sex education class. They are knowledgeable about the use of contraceptive pills and the impacts of each kind of contraceptive pill. On the contrary, most of them cannot choose the suitable birth control method so they usually take the emergency contraceptive pills. Regular intake of such emergency contraceptive pills causes severe side effects such as headache, nausea, and vomiting, small amount of bloody discharge and higher risk of ectopic pregnancy. Therefore, the emergency contraceptive pills should be used when necessary and taken not over than 4 pills or 2 boxes per month. This is a fact that is unknown to the adolescents. One participant reflected:

"…I have an emergency contraceptive pill after having the sexual intercourse with my boyfriend because it is easy. I do not need to take it every day so I will not get fat…" (Information no.7)

Another participant said that:

"…I have taken 28-day contraceptive pills but I vomit every day so I stop taking them. I take the emergency contraceptive pills now for 5-6 months, 4-5 boxes per month. It is easy and convenient. I only take 2 pills or 1 pill every 12 hours…" (Information no.4)

Theme 3: Unsuitable working hours for the adolescents

Most adolescents want the hospital's reproductive health clinic to provide the after-hour services because they are school age and it is inconvenient for them to come during school hours. Furthermore, the after-hour services are more convenient without long waiting queue because of a fewer number of clients. Some of them say that the school's reproductive health clinic should also provide the after-hour services. Despite the fact that is opens at noon, it is still inconvenient because of limited time. They may be looked negatively if they are found by their friends when visiting the clinic. One participant expressed:

"…In my school, it opens at noon but I do not to go there. It is shameful. My friend will embarrass me for sure. Sometimes they may ask about my boyfriend but I do not dare to answer. The time is also limited, only 1 hour. If it opens on Saturday and Sunday, it will be great…" (Information no.8)

Another participant said that:

"…I want the clinic in the hospital to open on Saturday and Sunday. I need to attend the classes from Monday to Friday. I am busy. The after-hour service will be very convenient for me. There are a fewer number of clients. The queue is shorter and I do not need to wait for a long time…" (Information no.6)

Theme 4: Inconvenient location of service

The reproductive health clinic for the adolescents should have a separate and private service area with the confidentiality policy. According to the research results, all adolescents need the consulting room, which is located in separation from other clinics for keeping the privacy and preventing the shame when they are looked by the other patients. One participant described the following:

"…The room must be private. If it is only a table in an open space, I will not enter. It is shameful…" (Information no.11)

Another participant said that:

"…I want a room in separation from other clinics. It will better if the room is located in the rear of the hospital. It will not be shameful to the other patients who visit the hospital…" (Information no.12)

Furthermore, an important factor that may enhance the adolescents' access to the services is the availability of such services in the community. The respondents want a clinic to be opened in the community because it is close their home, easy to commute and familiar with the officers. One participant expressed:

"…I want this kind of clinic to be opened at the Sub-district Health Promoting Hospital because it is convenient and does not need to commute for a long distance…" (Information no.13)

"…My house is very far from the hospital so it costs me a lot to go to there. I would like to have a clinic like this at the Sub-district Health Promoting Hospital near my home because it will be convenient for me to seek advice when I face the problems…" (Information no.10)

Theme 5: Insufficient Public Relations

All of the interviewed adolescents reported that it is very important to publicize the availability of services in the educational institutes, establishments, places of amusement, communities or websites, especially the public relation regarding the websites or 24-hour hotline. This is due to the fact the 24-hour hotline is needed by the adolescents, either live talk or message leaving for later reply. Unfortunately, most adolescents do not know that the government has provided them with a range of 24-hour hotline such as Department of Mental Health Hotline and 1417 Hotline for the adolescents. One participant described the following:

"…I want to seek advice by phone but I do not know the number. Do I need to call the hospital before I press the extension numbers?" (Information no.9)

Another participant said that:

"…Are the 24-hour consulting services really available? I have never known about it before. What number is it? I want it to be widely publicized through the websites or billboards in the shopping malls or schools so that more people will know about it…" (Information no.14)

"…I know about these services but I do not what website I can visit or what hotline number I can call. I would suggest the public relations in such regard should be made through many channels such as television, radio, news ticker in the websites of the hospitals or other public health service units or stickers placed in schools…" (Information no.8)

"…I would like to have a website where I can leave a message and the officer replies as soon as possible. Then, I can read the reply at any time I want…"(Information no.15)

In conclusion, the reproductive health services as defined by the adolescents concern the association with the opposite sex, the negotiation skills about the consent in sexual intercourse and knowledge dissemination, particular safe sex from pregnancy and sexually transmitted diseases. Meanwhile, time, place and public relations are the obstacles to the access to those services.

DISCUSSION

According to the research results the adolescents' reproductive health services as defined by the adolescents concern not only the consulting services on the association with the opposite sex and the negotiation skills about the consent in sexual intercourse but also importantly the knowledge dissemination on safe sex from pregnancy and sexually transmitted diseases. The findings of this study correspond to a study of the Reproductive Health Division Department of Health Ministry of Public Health (2012) which reveals that the knowledge provision services on sexual and reproductive health problems and personal consulting services are the first two services that the adolescents use most.

Besides, confidentiality being ensured, the location of reproductive services should be local. The said location should be private and easily accessible with simple processes and separate room from other patients. They need 24-hour phone or internet-based consulting service, while the public relations should made through a range of media such as the television and websites. Most importantly, all respondents say that those services should be free of charge. It can thus be argued that the adolescents' services should be based on the concept of 'prevention better than care. Nonetheless, there are two implications arising out of the fact that a small number of adolescents

receive reproductive health services when compared to the other services. On the one hand, it may likely imply that such services are unnecessary anymore because the adolescents have the good skills of reproductive health so they take the responsibility on their own without the assistance of reproductive health services centres. On the other hand, it may reflect that the available services are insufficient so the adolescents access to the other services, which are unknown because of the lack of the relevant data. A study on the adolescents' receiving of services that most adolescents access to after-hour services because of their need to attend classes and it is inconvenient for them to receive such services during the official working hours (Huannaklang et al., 2011). Meanwhile, there are fewer patients during the after-hour services too. This conforms to the study of by (Phaisarn-achaphong, Ketpradit, Kaewdamkoeng & Suthatworawuth (2012) who find that the adolescents need the services requiring no patient card and no waiting queue. It is one stop service and ensures the confidentiality and privacy with convenient commuting.

LIMITATIONS

Limitation of this study is that results might different from the results of other adolescent in other provinces of Thailand where different social norms and contexts might exist.

CONCLUSIONS

According to the research results, the adolescents' concerns about reproductive health services can be as defined by the adolescents concern to access consulting services on information regarding the association with the opposite sex and the negotiation skills about the consent in sexual intercourse and also, importantly, the knowledge dissemination on safe sex from pregnancy and sexually transmitted diseases. With respect to the access to the reproductive health services, they need after-hour services the location of services should be within a convenient commuting distanced. The said location should be private and easily accessible with simple processes and separate room from other patients. They need 24-hour phone or internet-based consulting service, while the public relations should made through a range of media such as the television and websites. Most importantly, all respondents say that those services should be free of charge.

IMPLICATIONS

Special location of service should be arranged in separation from other patients, which is easily accessible with simple process and separated area from other patients. It is one stop service. Furthermore, if the location of service provides clear services attention and attracts the adolescents.

The timely access to the services will then enhance the prevention the aggravation of ailments. In addition to, the personnel who provide the services for the adolescents should be specifically trained to perform this task in order to enhance the quality of service provision.

In addition to the proper knowledge, the personnel's good attitude, friendly sincere and relaxed to the adolescents. The service should be private with the personnel capable to accommodate 24-hour services, especially telephone-based service provision and service without cost.

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Factors Associated With Physical Activity Among Older Adults in Salatiga City, Central Java Province, Indonesia*

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ABSTRACT

Regular physical activity as a core component of a healthy life plays an important role for living well and living long among older adults. Although evidence has shown great benefits of physical activity, many older adults remain physically inactive and sedentary. The purpose of this cross-sectional study was to examine the factors associated with physical activity among older adults in Salatiga City, Central Java Province, Indonesia including age, gender, BMI, educational level, perceived benefit of physical activity, perceived barrier of physical activity, perceived self-efficacy on physical activity, and neighborhood environment and facilities. The theoretical frame work was based on the Pender Health Promotion Model. Multi-stage random sampling was use to obtain a sample 114 older adults. The structured interview was employed with five questionnaires including: the demographic questionnaire, the Modified Physical Activity Questionnaire, Exercise Benefit/Barrier Scale (EBBS), Physical Activity Self-Efficacy questionnaire, the Neighborhood Environment Scale (NES). Mini Mental Status Examination (MMSE) used for cognitive function test. The data were analyzed by descriptive statistic, Point-biserial correlation and Pearson Product Moment correlation.

Most of subject were female (77.2%) with an average age of 72±7.6 years. Two-third of them was normal weight (63.2%) and elementary school (49.1%). Half of them reported having high perceived benefit of physical activity (53.5%), majority of them reported having low barrier (97.4%), two-third of them having high confident in physical activity (62.3%),and more than half of them having high favorable in neighborhood environment and facilities(59.6%). Additionally, two third the older adults engaged in adequate activity (64.9%).

The finding revealed that, age ($r = -.374$, $p<.01$), Body Mass Index ($r = .165$, $p<.05$), educational level ($r = .412$, $p<.01$), perceived benefit ($r = .271$, $p<.01$), perceived barrier ($r = .192$, $p<.05$), and perceived self-efficacy ($r = .238$, $p<.01$). However, there were some factors that were no correlation with physical activity including gender and neighborhood environment and facilities.

The finding suggests that enhancing perceived benefit, perceived self-efficacy, overcome the barrier in physical activity can increase physical activity in this population. The knowledge gained from this study will provides a better understanding of factors associate with physical activity among older adults which can be used to develop an effective health promoting physical activity by considering age group, BMI, educational level. This finding can use as an initial data for further study.

KEY WORDS: FACTORS/PHYSICAL ACTIVITY/ OLDER ADULTS/ SALATIGA CITY

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Introduction

Globally the population of people aged over 60 years is growing faster than any age group. Based on WHO(WHO, 2014), the world's population of people 60 years of age and older has doubled since 1998 and is forecasted to reach 2 billion by 2050. In Indonesia this age group is predicted to reach 28.68% in 2050, which is still higher than the predicted average in Asia (27.5%) and globally (25.07%) (Ministry of Health Indonesia, 2013). Based on the Statistic Central Committee of Indonesia, the percentage of older adults in Central Java province is 10.34% (Ministry of Health Indonesia, 2013). Salatiga City was 10.74% (17,904 people) from total population 192,291 people. The percentage of older adults was increased 7% in 2011(Dinas Kesehatan Salatiga, 2013).

Regular physical activity as a core component of a healthy life play an important role for living well and living long (Health Promotion Board, 2011). Regular physical activity decreases the risk of premature death, cardiovascular disease, metabolic disorders, cancers, weight gain, depression, and accelerated functional decline. A sedentary lifestyle, on the other hand, would increase that risk. The Health Promotion Board stresses the importance of a physically active lifestyle (Health Promotion Board, 2011).

Physical activity is defined as "bodily movement produced by skeletal muscles that result in expenditure of energy and include a broad range of occupational, leisure-time, and routine daily activities" (WHO, 2011). In order to achieve health benefits, WHO recommended to people aged 65 years and above a minimum level of physical activities of 150 minutes per week and advised to perform at least moderate-intensity physical activity for a minimum of 30 minutes (in ≥ 10 minute bouts) on at least 5 days weekly (CMO, 2004; Panttecos and Taket, 2011; WHO, 2011).

The benefit of physical activity for older adults is well documented as means of preventing chronic diseases (Pender *et al.*, 2011), enhancing mood and general well-being (Pathumarak, 2005),decrease in falling (Blumenthal, 1999), emotional health and maintaining functional performance (Resnick, 2000), reduce need for health care (Boyette *et al.*, 2002b), and physical and psychological benefits (Conn *et al.*, 2003).

Although evidence has shown great benefits of physical activity, many older adults remain physically inactive and sedentary. Globally physical inactivity 31%, moreover, it is estimated that in Asia about 31% of older adults were insufficiently engage in physical activity. Unfortunately, the inactivity of older adults in Indonesia is worse as 31.9% of the male and 27.9 % of female population do not engage sufficiently in physical activity (Rahajeng and tuminah, 2009).

Personal factors in this study consist of age, gender, BMI and education level. Age had negative relationship with physical activity (Poolsawat, 2006) and the same line with another study in Indonesia (Santoso, 2014) . Gender, reported the inconsistent result (Willey *et al.*, 2010) In contrast , the study reported that gender was not statistically correlated with physical activity among older Thai adults

(Asawasuwikrom, 2001,) and Santoso (2014). Hammer *et al* (2013) reported that BMI as indicator can be as factor related to physical activity. Contrary, BMI were not correlated with physical activity (Santoso, 2014) and physical activity generally decreases with increasing the age, contrarily with study by Conn (2003). Education is important factor (Boyette *et al*., 2002b) and statistically had positive relation with physical activity (Santoso,2014). Contrarily, education were not significant correlation (Asawasuwikrom, 2001).

The perceived benefit consistently related to the executed physical activity (Asawasuwikrom, 2001; Poolsawat, 2006) and moderate correlation (Conn ,2003). Contrary, perceived benefit was not related at all to the physical activity (Mielenz *et al*, 2013). The barriers commonly are emotional and physical aspect (Findorff *et al*., 2009; Greene *et al*., 2006; Iversen *et al*., 2004; Maly *et al*., 2007). Perceived barrier often are a relevant element in explaining health behavior (Asawasuwikrom, 2001; Fuchs *et al*., 2012; Lee, 2006; Pathumarak, 2005). Contrarily, the study by Conn (2013) reported that exercise barrier were generally moderate correlated with exercise behavior. Direct relation between self-efficacy and physical activity (Santoso, 2014), contrary with a study by Green (2006) showed a negative association with physical activity. According to(Duncan and Mummery, 2005), the environment and facilities within individuals' neighborhoods were determinants of individual involvement in physical activity . The neighborhood environment and facilities may as stressors that can affect one's mood, as source of performance and physiology, safety, as potential danger, as well as providers of health resources (Kraithaworn *et al*., 2011). However, the attention paid by researchers to effect of neighborhood environment and facilities in physical activity is still limited.

The Health promotion Model used to guide the current study. As previous studies investigated physical activity among older adults in either rural settings (Asawasuwikrom, 2001) or urban settings (Chinuntuya, 2001; Kraithaworn *et al*., 2011) in Thailand and several Western countries, little is known about populations living in combined urban and suburban settings like Salatiga City. This study focused on factors associated with physical activity.

AIMS

The aim of this study was to assess factors associated with physical activity among older adults.

METHOD

Study Design

This study was conducted by a cross-sectional design.

Sample

Multi-stage sampling technique was used to obtain 114 participants from four Primary Health Center (PHCs). The inclusion criteria set are: a) age above 65 years old, b) no cognitive impairment, and c)

willingly to participate in this study. While, the exclusion criteria set are: a) hospitalized or institutionalized b) severe cognitive impairment.

Instruments

1. The Demographic Data Survey Form was developed by the researcher.

2. The Modified Physical Activity Questionnaire consisted of 42 items. The Cronbach's Alpha was 0.98. This instrument was modified by Kraithaworn (2011)

3. Modified Exercise Benefit/Barrier Scale (EBBS) developed by Pender et al (1987). The 29- items benefits scale has a standardized alpha of 0.954, and the 14-item barriers scale has standardized alpha 0.866.

4. Physical Activity Self-Efficacy questionnaire was modified by Kraithaworn (2011).

5. Neighborhood Environment Scale (NES) was modified by Kraithaworn (2011). The scale comprises 22 items. The reliability testing found the Chronbach's alpha coefficient was 0.77.

Data collection

Data was obtained after gaining an approval letter from by the Ethical Review Board (ERB) committee of Boromarajonani College of Nursing Nopparat Vajira,Thailand and the approval letters from Department of Health of Salatiga. Researcher explained to Head of PHCand community nurses about plan of study. The data obtained in elderly club, cognitive test done prior informed consent forms signed. Data obtained by interview about 45 minutes. Missing data checked immediately. Data were collected on September, 2015.

DATA ANALYSIS

Data analysis used Statistical Package for the Social Sciences (SPSS Student Version 16.0). Descriptive statistics was used to describe characteristics of participants. Pearson's Product-moment-correlation-coefficient and point-biserial correlation coefficient were used to examine the relationship between age, gender, BMI, educational level, perceived benefit, perceived barrier, perceived self-efficacy and neighborhood environment and facilities and physical activity.

RESULT

1.Descriptive statistic

Participants of this study were male 22.8% and female 77.2%. Half of the participants were 65-70 years old (52.6%) followed by age 71-75 years old (23.7%). Half of the participants' educational level was elementary school (49.1%) and a quarter was no school (26.3%). Moreover, more than half of participants had body mass index in normal weight category (63.2 %) and underweight (24.6%).

Table 1 Number and percentage of participants by demographic characteristic (n=114)

Characteristic		Number(n)	Frequency (%)
Age	65-75	60	52.6
	71-75	27	23.7
	76-80	11	9.6
	81-85	10	8.8
	86-90	4	3.5
	>90	2	1.8
Gender	Male	26	22.8
	Female	88	77.2
BMI	Underweight	28	24.6
Mean ±SD=20.76±3.42	Normal weight	72	63.2
Min-Max=12.89-31.25	Overweight	12	10.5
	Obese	2	1.8
Educational level	No school	30	26.3
	Elementary	56	49.1
	Junior high school	15	49.1
	Senior high school	11	9.6
	Diploma/college	2	1.8

Levels of perceived benefit score was classified into: high, moderate, and low using cut off points 80% and 60% of total score, respectively. Half of participants had perceived benefit in high level (53.5%), followed by moderate level (45.6%), and only .9% in low level.

Table 2 Levels of perceived benefit of the participants (n=114)

Perceived benefit	Number	Percentage (%)
High	61	53.5
Moderate	52	45.6
Low	1	.9
Mean ±SD=95±11.3 Min-Max=69±116		

Table 3 shows perceived barrier in physical activity classified into three levels: high, moderate, and low. The majority of the participant perceived low barrier to physical activity.

Table 3 Levels of participants' perceived barrier (n=114)

Perceived barrier	**Number**	**Percentage (%)**
High	0	0
Moderate	3	2.6
Low	111	97.4
Mean ±SD=28.08±3.33Min-Max= 0-45		

Table 4 shows that two-third of participants had high perception of physical activity one-third of participants had moderate perceived self-efficacy of physical activity.

Table 4 Levels of participant' perceived self-efficacy in physical activity (n=114)

Perceived self-efficacy	**Number**	**Percentage (%)**
High	71	62.3
Moderate	40	35.1
Low	3	2.6
Mean ±SD=86.4±24.3,Min-Max=25-120		

Table 5 shows about 60% had high favourable to neighbourhood environment and facilities, followed 40.4% was moderately favourable.

Table 5 Levels of participant' neighbourhood environment and facilities (n=114)

Neighborhood environment &facilities	**Number**	**Percentage (%)**
High	*68*	59.6
Moderate	46	40.4
Low	0	0
Mean ±SD=19.6±1.54 Min-Max=15.2-23.5		

Table 6 shows that two-third of participants had adequate physical activity (64.9) and the one-third of participant had inadequate in physical activity (35.1%)

Table 6 levels of physical activity' participants (n=114)

Physical activity	**Number**	**Percentage (%)**
Adequate	74	64.9

Inadequate	40	35.1
Mean ±SD=121± 41.77 Min-max= 31.50-213.25		

2. Correlation

Perceived barrier had weak negative correlation with physical activity (r = -.192). BMI, perceived benefit, perceived self-efficacy had positive weak correlation (r=.165, r=.271, r=.238, respectively). Age had weak negative moderate correlation with physical activity (r= -.374). Education had moderate positive correlation with physical activity (r=.412). However, gender and neighborhood environment and facilities had no significant association.

Table 7 Correlation between independent variables and physical activity (n = 114)

Factors	**Physical activity**	
	r	***p-value***
Age	-.374**	.000
Gender	-.121	.199
BMI	.165*	.039
Education level	.412**	.000
Perceived benefit	.271**	.002
Perceived barrier	-.192*	.020
Perceived self-efficacy	.238**	.005
Neighborhood environment &facilities	.118	.106

**.Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

DISCUSSION

This study revealed that age had weak negative moderate correlation with physical activity (r =374). This in line with previous study by Riebe et al (2005) stated that age as significant variable affecting stage and physical activity. Similarly study by Santoso (2014) reported that age had weak negative correlation with physical activity among older adults with hypertension (r = -.284, p<.01). Contrary, Azevedo et al (2007) found age was not related to physical activity in Brazillian. One possible explanation for the moderate correlation could be seen in the range of age of the participants whereas study in Brazil wider range.

Gender had no significant correlation with physical activity. This finding was in line with study in Indonesia by Santoso (2014) and in Thailand (Asawachaisuwikrom, 2001). However, in Pender's theory explained that personal factors influence health behavior. It can be explained by big proportion of female. The study indicate that BMI had weak positive correlation with physical activity (r =.165). In line with

study by Santoso (2014) show BMI was weak correlation with physical activity among older people with hypertension.

Furthermore, the finding point out that educational level had moderate positive correlation with physical activity (r =.412, p<.01). This finding in line with Santoso (2014) reported that education had positive correlation with physical activity. This finding also correspondent to study by Azevedo et al (2007), who found that in Brazil the educational level, was associated with physical activity (r=.23, p<.05). Study in Thailand by Asawachaisuwikrom (2001), found the same among 112 older Thai adults (r=.25, p<.01). It can be explained that education is needed by older adults to perform physical activity. As explained by Pender (2011) that educational level as personal factor had correlation direct and indirect to health behavior.

The finding furthermore indicates that perceived benefit had positive weak correlation with physical activity among older adults (r=.271, p<.01). This finding was supported by previous studies in Thailand. Asawachaisuwikrom (2001) found perceived benefit had weak correlation with physical activity among 112 older Thai adults (r=.25). The possible reason explained by moderate to high level of perceived self-efficacy (97.4%) and neighborhood environment and facilities in moderate to high level (100%).Both can be mediator to physical activity. As explained by Pender et al. (2011), perceived benefits can enhance the commitment to engage behaviors directly or indirectly.

Perceived barrier had weak negative correlation with physical activity (r = -.192). In line with study Santoso (2014) found that perceived barrier to physical activity among older people (r = -.286, p<.01). Study by Asawachaisuwikrom (2001) found that perceived barrier had negative weak correlation with physical activity among 112 older Thai adults (r= -.34, p<.01). Weak correlation might due to in this study had no variation of perceived barrier to physical activity in low to moderate level 97.4% and 2.6%, respectively). The other reason can be by high percentage in moderate and high perceived self-efficacy, 35.1%, 62.3%, respectively). High perceived self-efficacy affects direct or indirect to perceived barrier. As explained by Pender et al. (2011), perceived self-efficacy indirectly effect perceived barrier in health-promoting behaviors, higher of perceived self-efficacy influence lowering of perceived barriers. Fuch et al (2012) and Maly et al (2007) stated that self-efficacy involved in the mediation on physical activity.

This present study revealed that perceived self-efficacy in physical activity had positive weakly correlation with physical activity (r =.238, p<.01). This finding was supported by Santoso (2014) showed the correlation (r = .292, p<.01). Asawachaisuwikrom(2001) found that perceived self-efficacy had positive weak significant correlation with physical activity among 112 older Thai adults (r= .32, p<.01). In Pender (2011) stated that perceived self-efficacy enhances personal expectation and commitment to influence the action.

Neighborhood environment and facilities had no significant correlation with physical activity (r = .118, p>.05). Contrary with study in Thailand by Kraithaworn et al (2011) and Asawachaisuwikrom (2001) who found that neighborhood environment and facilities had positive moderate significant

correlation with physical activity among 112 older Thai adults (r= .46, p<.01).The correlation was direct and indirect effect on physical activity. It can be explained by high percentage of perceived self-efficacy of participant. It could be explained by Pender'theory. Pender stated that situational influence had direct effect and indirect effect to health promoting behavior.

CONCLUSION AND RECOMMENDATION

Age, BMI, educational level, perceived benefit, perceived barrier, and perceived self-efficacy were associated with physical activity. This finding as base information to community nurses and policy maker to design intervention program to increase physical activity among older adults and as base information for future research to conduct study with higher level design. Pender's Health promotion Model as theoretical framework of this study was considered appropriate.

Limitations

This study selects the samples for specific purposes might be not truly representative of the participants of older adults, although the samples were randomly selected in each area and show the similarity characteristics. Data were collected in elderly club which is not all older adults registered as member neither attended the elderly club. It might be influence the responses, as circumstances this finding could not be generalized for all population those who did not as member neither attended to elderly club.

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Psychometric Properties of the Everyday Stressors Index-Adolescent Version in a Sample of Thai Adolescents

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ABSTRACT

This study examined the psychometric properties of the Everyday Stressors Index-Adolescent Version (ESI-A) in a sample of Thai adolescents. A sample of 950 high school students from Saraburi Province, Thailand, participated. Cronbach's alpha for the ESI-A was .85. Inter-item correlation coefficients and item-total correlation coefficients were acceptable. The principal components analysis revealed three dimensions: peer and authority pressure, school-related problems, and personal problems. In addition, the ESI-A was positively correlated with negative cognitive style and depressive symptoms measured, but negatively correlated with attachment with father, mother, and peer.

Keywords: psychometric properties, the ESI-A, chronic stressors, adolescents

INTRODUCTION

A high depressive symptom is an important mental health problem in Thailand. The prevalence of high depressive symptoms ranges from 19% to 89% (Charoensuk, 2005; Malakul, 2003). Among adolescents, high depressive symptoms have been shown to predict a variety of negative outcomes such as suicide (Fergusson, Beautrais, & Horwood, 2003; Malakul, 2003), psychiatric diagnosis, school dropout, and involvement in high-risk behaviors such as substance use, and early engagement in activity (Cole & Milstead, 1989; Gutman & Sameroff, 2004; Weinman, Buzi, Smith, & Mumford, 2003). All of these have negative consequences for health status, lifetime income, occupational options, and socioeconomic status.

Effectively screening for a high level of depressive symptoms in adolescents may be one of the best ways to prevent Thai adolescents from developing the illness of depression. In both Thailand and in Western countries, exposure to stress has been identified as a strong predictor of depressive symptoms (Chareonsuk, 2005; Srisaeng, 2003; Sachs, Hall, Lutenbacher, Rayens, 1999). The greater the number of stressors adolescents experience, the higher the levels of depressive symptoms they report (Burton, Stice, & Seeley, 2004). Several instruments have been used to measure stressors in adolescents (Compas, Davis, Forsythe, & Wagner, 1987; Johnson & McCutcheon, 1980). The Everyday Stressors Index [ESI] is one such measure.

The ESI was originally developed in order to measure chronic stressors or everyday stressors in mothers with young children in America; it demonstrated good psychometric properties (Hall, 1983; Hall, Gurley, Sachs, & Kryscio, 1991). Chareonsuk (2005) modified the original version of the ESI developing the Everyday Stressors Index-Adolescent Version [ESI-A] which was then translated into Thai and tested in a sample of Thai adolescents, It was found to have acceptable reliability. The modified process was done in collaboration with the author of the original ESI (Hall, 1983). The ESI-A has only been used in one sample of Thai adolescents. Therefore, further examination is warranted in order to comprehensively determine its psychometric properties in Thai adolescents. The purpose this cross-sectional study was to examine the psychometric properties of the ESI-A in Thai adolescents. The specific aims were to: (1) assess the internal consistency reliability of the ESI-A; (2) examine the instrument's dimensionality; and (3) evaluate construct validity of the EAI-A. The following hypothesis was tested to evaluate construct validity of the ESI-A: a higher level of everyday stressors will be associated with more negative cognitive style, greater insecure attachments with father, mother, and peer, and a higher the level of depressive symptoms.

Cognitive distortions have been hypothesized as a risk factor for depression (Beck, Rush, Shaw, & Emery, 1979). Cognitive style includes the method by which individuals infer cause (attribution), consequence, and self to a particular event (Hankin & Abramson, 2002). Negative cognitive style has been identified as an important variable in predicting depressive symptoms in adolescents (Hankin & Abramson, 2002). For instance, in a study of 240 adolescents, negative attributional style, one dimension of negative cognitive style, and stressors predicted high depressive symptoms (Garber, Keiley, & Martin, 2002). In addition, other studies reported that a negative cognitive style is related to depressive symptoms in adolescents (Hankin & Abramson, 2002; Southall & Roberts, 2002). In Thailand, few studies have examined one particular dimension of cognitive style, attributional style. In a study of 400 young adults, Parapob (2003) reported that a positive attachment style was related to a positive attributional style.

Attach to father, mother, and peers influence adolescents' lives by providing a sense of emotional support, closeness, and continuity (Armsden & Greenberg, 1987) which are important predictors of depressive symptoms in adolescents (Laible, Carlo, & Raffaelli, 2000). Adolescents who report poor attachment to parent and peers were more likely to report high levels of depressive symptoms (Sund & Wichstrom, 2002). Additionally, insecure attachment to parents and stressful life events were reported as predictors of depressive symptoms in adolescents (Sund & Wichstrom, 2002). In Thailand, several studies

reported that poor relationships with parents and friends were associated with high levels of depressive symptoms in adolescents (Saengngen, 2007).

The original version of the Everyday Stressors Index (ESI) was developed to evaluate chronic stressors or everyday stressors in mothers with young children (Hall, 1983; Hall et al., 1991). It consists of five dimensions including role overload, financial concerns, parenting worries, employment problems, and interpersonal conflict. Cronbach's alphas ranged from .80 to .85 (Hall, 1990; Hall, Kotch, Browne, & Rayens, 1996). Construct validity of the ESI was supported in various studies of mothers with young children (Hall, 1990; Hall et al., 1991). The ESI also was adapted for use in a sample of first-time fathers (Pollock, Amankwaa, & Amankwaa, 2005). Cronbach's alpha in this sample was .78. Using Roy's adaptation (1994) as a guide, Pollock et al. (2005) categorized items of the ESI for fathers into three categories including role-function stressors, psychological stressors, and interdependence stressors. The ESI-A, another modified version of the ESI, was initially used in a sample of Thai adolescents (Chareonsuk, 2005). The ESI-A assesses common problems faced on a daily basis by adolescents in school. Content validity was supported by three Thai experts in adolescent psychology and psychiatry. The alpha coefficients were .84 to .87 in a sample of Thai adolescents. Psychometric properties of the ESI-A have not been comprehensively reported.

METHODS

1. Design and Sample

This cross-sectional study was conducted in a sample of high school students living in Saraburi Province, Thailand. Seven schools were included and 950 students participated. The adolescents ranged from 14 to 19 years of age (X = 17, SD = 0.9). More than half of the participants (57%) were female.

2. Measures

Data were collected using combination of standard instruments. : 1) The Everyday Stressors Index-Adolescent Version [ESI-A] (Chareonsuk, 2005; Hall, 1983) to measure everyday stressors; 2) The Center for Epidemiologic Studies-Depression Scale [CES-D] (Radloff, 1977) to measure depressive symptoms; 3)The Adolescent Cognitive Style Questionnaire [ACSQ] (Hankin & Abramson, 2002) to assess negative cognitive style; 4) The Inventory of Parent and Peer Attachment [IPPA] (Armsden & Greenberg, 1987) to measure attachment to father, mother, and peer. The ESI-A and the CES-D have both been translated into the Thai language (Chareonsuk, 2005). The other two measures, the ACSQ and the IPPA, were first translated into the Thai language by the primary investigator, then back translated into English by a bilingual Thai Ph.D. student, and then again back translated into Thai by another bilingual Thai Ph.D. student. The two Thai versions and two English versions were compared by a bilingual committee. The Thai versions of all measures were evaluated for content validity by three Thai experts in child and adolescent psychology and psychiatry. All agreed that the measures were accurately translated and that items were valid.

a. Everyday Stressor and Depressive Symptom

The Everyday Stressors Index-Adolescent version (ESI-A) measures everyday stressors. It was modified from the original ESI (Hall, 1983) by Chareonsuk (2005) and Hall (1983). It is a 25-item scale that assesses common problems faced on a daily basis by adolescents in school. The scale consists of seven items that measure family problems, nine items that measure problems with friends, including boyfriend-girlfriend, and nine items that measure problems with school and study. Participants were asked to rate how each problem worries, upsets, or bothers them from day-to-day using a 4-point-scale ranging from *not at all bothered* (1) to *bothered a great deal* (4). A summary score is computed; the higher the

score, the more the stressors experienced. Internal consistency in a sample of Thai adolescents was .87 (Chareonsuk, 2005). Cronbach's alpha in the pilot study was .88, and in the larger study was .85.

b. Attachment to Parent and Peers.

The Inventory of Parent and Peer Attachment [IPPA] (Armsden & Greenberg, 1987) measures father, mother, and peer attachment. The IPPA, a self-report questionnaire, was developed and tested to assess adolescents' relationships with their parents and close friends. It has 25 items each for father, mother, and peers. Participants rated items focusing on how well these attachment figures serve as sources of psychological security. Each item is rated on a 5-point Likert scale ranging from *almost never or never true* (1) to *almost always or always true* (5). The scores for the relevant items are summed to obtain an overall relationship score for father, mother, and peers. Higher scores indicate higher levels of secure attachment. Cronbach's alphas have been reported at .87 for mother attachment, .89 for father attachment, and .92 for peer attachment (Armden & Greenberg, 1987; Laible, Carlo, & Roesch, 2004). Cronbach's alphas in the pilot were .88, .90, and .86 for father, mother, and peer attachment, respectively. Cronbach's alphas in the larger study were .91, .92, and .89 for father, mother, and peer attachment, respectively.

c.Negative Cognitive Style.

The Adolescent Cognitive Styles Questionnaire [ACSQ] (Hankin & Abramson, 2002) is a measure of cognitive vulnerability to depression among adolescents. It assesses cognitive vulnerability, including negative inferences of cause (attributional style), consequence, and self. It consists of 12 negative hypothetical scenarios including 6 interpersonal and 6 achievement events which occur in adolescents' lives. Participants were asked to read scenarios and write down one cause for the event described in the scenario. Then, participants were asked to rate the degree to which the cause of the negative events are internal, stable, and global. Next, participants were asked to rate the degree to which further negative consequences would result from that event. Lastly, participants were asked to rate the degree to which the event affects the individuals' self. Scores range from 1 to 7 for each item. Total scores are summed. The higher the score is, the higher the negative cognitive style of the adolescent is realized. Factors structure supported three factors including negative inferences causal, consequence, and self-concept implication (Hankin & Abramson, 2002). Cronbach's alpha was .95 (Hankin & Abramson, 2002). Cronbach's alpha for ACSQ in the pilot and the larger study was .94.

d. Depressive Symptoms.

The Center of Epidemiologic Studies - Depression Scale [CES-D] (Radloff, 1977) was use to assess depressive symptoms. It is a 20-item questionnaire. Each item consists of one statement describing a depressive feeling and is rated using a 4-point scale ranging from *rarely or none of the time* (0) to *most or all of the time* (3). The higher the score, the more often they experience the depressive feeling. Among 20 items, there are four positive items whose ratings are reversed and added to those of the other 16 items, which forms a summary score ranging from 0 - 60. Scores of 16 and above commonly indicate a high level of depressive symptoms. However, a score of 22 was recommended as the optimal cutoff for a high level of depressive symptoms in Thai adolescents (Trangkasombat, Larpboonsarp, & Havanond, 1997). Cronbach's alpha in a sample of adolescents ranged from .80 to .90 (Heilemanm, Lee, & Kury, 2002; Miller & Chandler, 2002). Cronbach's alpha in a samples of Thai adolescents ranged from .80 to .89 (Charoensuk, 2005; Trangkasombat et al., 1997). Cronbach's alpha in the pilot study was .84, and was .87 in the larger study.

3. Procedures

The data were collected after getting approval from the Institutional Review Board of Boromarajonani College of Nursing, Praputhabat. The directors of selected schools were contacted for

permission to conduct the study in their schools. The process of obtaining parental consent for student participation in this study was waived. In Thailand, parents allow teachers to make decisions about their children's participation in school-related activities when students are in schools. The investigator did send parents a letter explaining the study. Informed assent was waived since the study was anonymous. Students in each of the chosen classes were approached in their classrooms, and received a handout explaining the study and their rights as volunteers. Anonymous and voluntary participation were emphasized. All students in the classroom were given a questionnaire in an envelope. Students who were willing to participate completed the questionnaire and returned it in the envelope to the researcher. The students who did not want to participate also returned their questionnaire in the envelope and gave to the researcher.

4. Data Analysis

Descriptive statistics, including means, standard deviations, frequency, and percentage, as appropriate to the level of measurement, were used to summarize the characteristics of the participants. Internal consistency reliability was computed using the alpha coefficient. Principal components analysis was conducted using common factor analysis (principal axis factoring) with Varimax rotation. Factors were extracted on the basis of the results of scree plot, the eigenvalues, total variance, and conceptual consideration (Pett, Lackey, & Sullivan, 2003). A factor loading of .40 or greater was viewed as significant and meaningful. Hypothesis testing was conducted using Pearson's product-moment correlation. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) for Windows, with an alpha level of .05 used throughout the analysis.

RESULTS

More than half of the participants (56%) were female. The mean age was 17 *(SD* = 0.9*)* years old. Average GPA was 2.8 (*SD* = 0.5) on a 4-point scale.

Reliability

Cronbach's alpha for the ESI-A in the pilot was .88, and in the larger study was .85, indicating excellent internal consistency reliability. Overall Cronbach's alpha is high. In addition, the final alpha did not increase after deletion of any items. The inter-item correlations among the items of the ESI-A ranged from .001 to .75; the mean inter-item correlation was .19. The corrected item-total correlations ranged from .24 to .54, supporting the measure's internal consistency.

Construct Validity: Principal Components Analysis

Because some inter-item correlations were below .3, the Bartlett's test of sphericity and the Kaiser-Meyer-Olkin index were tested in order to assess factorability of the data (Pallant, 2005). Bartlett's test of sphericity indicated that the data were suitable for principal components analysis ($\chi^2(300, N=937) = 8223.3$, $p < .001$). The Kaiser-Meyer-Olkin index of .85 also suggested that principal components analysis was appropriate. Only factors with an eigenvalue of 1 or more were retained for further investigation. The scree plot suggested three dimensions should be retained and rotated. The varimax rotated structure explained 42% of the total variance. The three factors are displayed in Table 2. All 25 items demonstrated moderate or strong loadings ($\geq .40$). Five items loaded on the first dimension, which was subsequently labeled peer and authority pressure. Eight items defined the second dimension, which was subsequently labeled school related problems. Interestingly, item 18 (bias by your teachers) loaded on both dimension first and second. The remaining 12 items loaded on the third dimension, which was subsequently labeled personal problems.

Construct Validity: Correlations among the ESI-A Subscales

Cronbach's alphas for three dimensions were .88, .81, and .75 for peer and authority pressure, school related problems, and personal problems, respectively. Subscale scores were created for each dimension by summing the items composing each factor. The ESI-A subscales correlated with the IPPA (Armsden & Greenberg, 1987), ACSQ (Hankin & Abramson, 2002), and the CES-D (Radloff, 1977).

Construct Validity: Correlation between the ESI-A and the CES-D, the IPPA and the ACSQ

To investigate construct validity, the following hypothesis was tested; the greater the everyday stressors, the more negative the cognitive style, the more insecure the attachment to father, mother, and peer, and the higher the level of depressive symptoms. The hypothesis was supported. Everyday stressors were negatively correlated with attachment to father (r = -.24, p < .001), mother (r = -.21, p < .001), and peer (r = -.15, p < .001). However, the ESI-A scores were positively correlated with negative cognitive style scores (r = .18, p <.001) and depressive symptoms (r = .31, p < .001). A number of demographic characteristics were tested for potential confounding influence. These included gender, GPA, age, drug, alcohol, and tobacco use, use of counseling services at schools, family members using mental health services, receiving educational loan, and parent's education level. The findings were unchanged by the addition of these covariates.

DISSCUSION

The findings of this study support the reliability and validity of the ESI-A in this sample of Thai adolescents. The ESI-A had substantial internal consistency (α = .85). In a study among Thai adolescents (Chareonsuk, 2005), including the current study, Cronbach's alphas range from .84 to .87, demonstrating consistently acceptable reliability. The high reliability of the ESI-A in a sample of adolescents is similar to that obtained for the original ESI in a sample of mothers with young children in USA. (Hall et al., 1996). In the current study, the results of item-total correlations demonstrated that the correlation coefficients for all items ranged from .24 to .54, indicating adequate homogeneity. Even though the analyses support the reliability of the ESI-A, some of the findings were unexpected and less supportive. Some inter-item correlation coefficients were low which demonstrated the heterogeneity of the items. Theoretically, the inter-item correlation is concerned with the degree of interrelatedness among items and whether the items underlie a single construct or factor (Hulin, Netemeyer, & Cudeck, 2001). In multidimensionality, alphas can still be high in spite of low inter-item correlations (Hulin et al., 2001).The ESI-A is composed of three factors. Therefore, dimensionality and construct complexity might affect the inter-item correlations. However, the mean inter-item correlation coefficient was .19 which is almost within the range of .20 recommended by Clark and Watson (1995). Furthermore, the ESI-A had an excellent Cronbach's alpha and the item-total correlations were moderately strong, for the most part. Therefore, the ESI-A demonstrated acceptable reliability in this sample of Thai adolescents.

Prior to this, a factor analysis of the ESI-A had not been comprehensively conducted in a sample of Thai adolescents. The current study provided support for three factors with item loadings of .40 or above. The items that loaded on the three factors in the current study are slightly different from the three dimensions identified by Chareonsuk (2005) which included school and study, family, and friend problems. In this study, Factor I combined two dimensions of the original ESI-A, problems with friends and school and study problems. Factor II obtained one dimension of the original ESI-A, school and study problems. Factor III combined two dimensions of the original of the ESI-A, family problems and problems with friends. The majority items of Factor I involved peer pressure. Item 17 (getting punishments from your teachers) loaded on this factor but did not fit conceptually. The factor composition of the ESI-A in this study captured different items from the original dimensions identified

by Chareonsuk (2005). Further investigation is warranted in a sample of Thai adolescents across the country in order to confirm the construct validity of the ESI-A in Thai adolescents.

It must be noted that item 18 (bias by your teachers) double loaded on both Factor I and Factor II. This may be attributed to the wording of the item. In the future, this item should be reworded to clarify the meaning of the term "bias". This item was intended to measure an adolescent's perception of unfair treatments by teachers. Furthermore, both positive and negative treatments by teachers may be thought of as bias. Therefore, the item should clearly identify the direction of unfair treatment by teachers. Because of this, it is recommended that item 18 not be included without further evaluation.

The tested construct validity provides support for the construct validity of the ESI-A. The everyday stressors assessed using the ESI-A were positively associated with negative cognitive style measured using the ACSQ (Hankin & Abramson, 2002) and depressive symptoms measured using the CES-D (Radloff, 1977) but negatively correlated with attachment to father, mother, and peer measured using the IPPA (Armsden & Greenberg, 1987). Similar to a study of adolescents living inrural America, chronic stressors measured using the ESI were positively correlated with depressive symptoms measured using the CES-D (Peden, Rayens, Hall, & Grant, 2004). Consistent with the study of high school students in Chonburi Province, Thailand (Chareonsuk, 2005), everyday stressors measured using the ESI-A were positively correlated with depressive symptoms. These results provide support for construct validity of the ESI-A in this sample of Thai adolescents. No previous study have examined the correlations of ESI-A dimensions with the CES-D, the IPPA, and the ACSQ. The results provide support for validity of the ESI-A.

CONCLUSION

The results provide substantial support for the reliability and validity of the ESI-A in this sample of Thai adolescents. The factor structure was slightly different from the three dimensions of the original ESI-A. Items of each three factors loaded $\geq$ .40. However, item 18 (bias by your teachers) loaded on two factors. Because of this, it is not recommended that item 18 be included without future evaluation. In future studies, rewording of this item is recommended due to the ambiguity of the word "bias". Construct validity of the ESI-A was supported by significant positive correlations with the CES-D and the ACSQ and negative correlations with attachment for father, mother, and peer assessed using the IPPA.

This study had some limitations. First, the participants were selected from only Saraburi Province. Therefore, the sample does not represent all Thai adolescents. Studies of the ESI-A in a sample of Thai adolescents across the country is the next logical step. Also, the sample only included adolescents enrolled in schools. Therefore, further investigation of the psychometric properties in a sample of adolescents who no longer attend school or who have identified psychiatric problems is needed.

The ESI-A is brief and convenient to administer. Therefore, it is reasonable to recommend using the ESI-A to measure everyday stressors in Thai adolescents. This study is the first factor analysis of the ESI-A in Thai adolescents. It provided evidence to begin understanding everyday stressors in Thai adolescents. This knowledge must be further investigated in order to understand everyday stressors in Thai adolescents.

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An Empirical Study of Factors Influencing Perceptions of Internet Information Credibility – Based on the Survey of Media Usage Habits from 36 cities in China

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Abstract

China had more than 649 million Internet users so far. With the popularization of the Internet, the trust mechanism of the traditional society has been impacted, and the trust mechanism of the network society has been forming. In order to evaluate the perceptions of Internet information credibility, we measured the credibility of information on the Internet from a perspective way. According to the results of a nationwide telephone survey on the sample of 1080 Chinese residents from 36 cities conducted by the Social Survey Center in Shanghai Jiao Tong University, we found that the Internet credibility in China is not very high. We further proposed a Hierarchical Linear Regression Model to present the influence of the demographic factors, personality, media using habits, obedience to authority and trust in government on Chinese residents' perception of Internet credibility. Results showed that (1) perception of Internet credibility differed among respondents in relation to age and education; (2) there is a positive and significant relationship between media use, media dependency and perception of Internet credibility; (3) both of obedience to authority and trust in central government have a negative effect on the perception of Internet credibility; (4) personality is also an important influencing factor. Our study found that people who lack of interpersonal trust have a low level of perception of Internet credibility.

***Keywords**: internet credibility, media credibility, influence analysis*

INTRODUCTION

Currently, the number of Internet users around the world has already been more than 3 billion. And China's Internet users have been more than 649 million till the end of 2014. People have never felt so closely linked and interdependent. When most people immersed in the freedom and convenience that brought by the Internet, we must be aware that the development of the new technologies also pose threats on basic values of human society. For example, social equality is threatened. The online "digital divide" deepens the offline "social divide". Another example is that social relations between people have been changed. Face-to-face interpersonal communication has been largely replaced by man-machine communication. The other problem is that privacy and individual rights in the digital world has become blurred. As long as the Internet has become the essential part of people' daily lives, the traditional social trust mechanism is impacted, and a new social trust mechanism of the digital world is being formed. Therefore, this study will focus on "trust", which is an important dependence in our society. We will explore the perceptions of Internet / web-based information credibility of Chinese people, and discuss what factors influencing their perceptions.

Media credibility

Research on media credibility was originated from U.S. Charnley(1936) proposed the issue of media credibility in the study of the accuracy of newspaper news. Since the research on information sources credibility conducted by Hovland (1951), media credibility has becoming a popular research field. In China , research about media credibility started late. After the national crisis "SARS" sparked in 2003 in China, media credibility were paid attention by the public and scholars (Yu, Zhang, 2006; Yu, Zhang, Yang, 2010).

Perceptions of Internet information credibility

With the rapid development of Internet, more and more people are accustomed to getting information from the Internet. The credibility of Internet or web-based information has become a hot topic. On the Internet, everyone is not only the audience, but also the producers of information. Due to the weakening of the gatekeeper mechanism of online news, the thresholds for information dissemination become lower. As a result, the credibility of online information is weak. Large number of scholars study on this problem and try to measure the credibility of Internet information, direct measurement of the credibility scale or design of network information, from the direct and comparative perspectives.(Flanagin, Metzger, 2000; Abdulla, et al, 2002)

Crisis of public trust in China

During the transit period, the crisis of public trust has been emerged out in China. According to the results of a nationwide telephone survey on the sample of 1080 Chinese

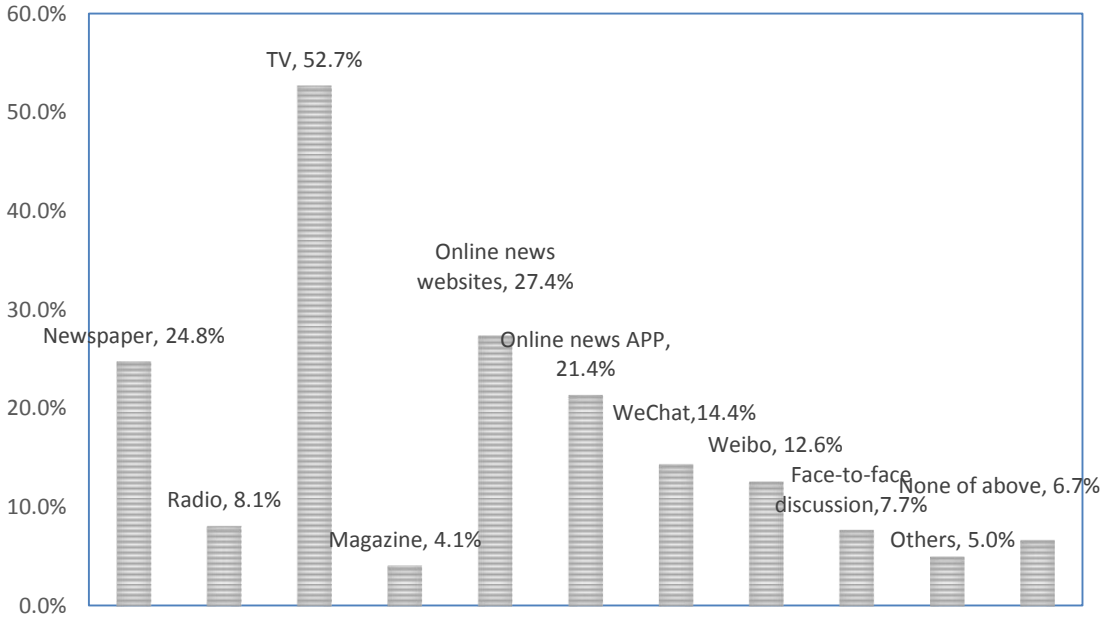
residents from 36 cities conducted by the Social Survey Center in Shanghai Jiao Tong University, we found that:

(1) Compared to the new media, Chinese urban residents prefer to trust traditional media : 43.2% percent of respondents said they prefer to trust traditional media, 26.3% of respondents prefer to trust new media, 20.2% of respondents trust both , and 10.3% of the respondents trust neither of them. Overall, more than 60% of respondents prefer to trust traditional media than new media. About 40% of the respondents prefer to trust new media.

(2) In different kinds of traditional media, the television enjoys the highest credibility. In different kinds of new media, people prefer to trust information from online news websites more than information from social media. Survey data showed that 52.7% of the respondents trusted TV, 27.4% trust newspaper, and 24.8% trust newspapers. (See *Figure 1*)

(3) the proportion of Chinese residents' trust in the central news media is far higher than local news media : The survey results show that 59.6 percent of respondents have more confidence in selecting the central news media , 14.4% more trust local news media , 19.5% for both We believe , while 14.4% do not believe for both . Thus, the proportion of residents' trust in the news media is far higher than the center of the local news media, up to a total of 79.1 percent of the respondents chose the trust the central media .

Figure 1 *Percent of respondents who trust in different kinds of media*



RESEARCH DESIGN

In this context, the Social Survey Center Shanghai Jiaotong University 36 cities in the country launched a media use and media -trust situations telephone survey to understand the

Internet credibility in the eyes of Chinese residents. This study focuses in public emergencies , people without respect to the credibility of the mainstream media coverage of the traditional evaluation of network information , especially factors propagation behavior analysis , we will focus on what factors , including the individual level , the technical level, technical level and the social level, affecting people 's trust in the Internet information in public emergencies .

Demographics

Among the influencing factors of perception of Internet information credibility, demographic variables, including gender, age, income, education, etc. usually are the first and basic factors to be considered (Westley & Severin, 1964). Johnson and Kaye (1998) found that gender is a significant factors influencing online political information credibility. He also found that age, education and income level were negative correlated with online information credibility. Results of a survey in 10 cities in China conducted by Zhang (2009) showed that, age is negatively correlated with the perception of Internet information credibility, especially people in their fifties showed lack of trust of online news. Overall, gender, age, education background are the key factors of perception of media credibility and Internet information credibility. Thus, we propose the first research problem with three hypotheses:

R1: Do demographics influence the perception of Internet information credibility?

H1a: Female has a higher perception of Internet information credibility than male.

H1b: Age is negatively correlated with the perception of Internet information credibility.

H1c: Education is positive correlated with the perception of Internet information credibility.

Media Use

Wanta and Hu's study (1994) have shown that media exposure frequency and duration are important factors of media credibility, and they were positively correlated. The longer the audience or user expose to a specific type of media, the more they will trust on the media (Tsfati, 2010). As to the online media research, most studies also show that the use of the new media, such as the Internet, has a positive impact on new media trust (Lu & Andrews, 2006; Johnson, et.al. 2007). According to "uses and gratifications theory" and "media system dependency theory", we propose the following hypothesis:

R2: Does media use influence the perception of Internet information credibility?

H2a: The time spent on Internet is positively correlated with the perception of Internet information credibility.

H2b: Mobile phone users trust the Internet information more than the non-users.

Government Credibility

Media plays a significant role in crisis communication. Media is the channel for information and it influences the effects of crisis communication. In China, the special media ecological environment makes crisis communication more complex. For a long time, there are two different public opinion fields, one is the "main stream media public opinion field", and the other is the "oral public opinion field" consisting of public discussions. (Nan, 2003) The traditional media always is viewed as "the mouthpiece of the Communist Party of China and the government" (Zhao, 1998). The highly homogeneous of news reporting makes the traditional media become an important tool for information release and public opinion guidance (Brady, 2006; Sparks, 2008). In this long-standing power structure which can be described as "strong government, weak society", the political forces have played a leading role in public opinion of emergency events. Government and traditional media grasp the information and the right to speak, while the public are placed in a weak position, unable to have enough rights to get information and express themselves. (Li, 2014). Under these circumstances, people are easily get the sense of information deprivation and choose to use or trust the other information channels to publish information, search for the truth. The informal, folk, or online information channel becomes the alternative choices. Based on this, we propose the following hypothesis:

R3: Does government credibility influence the perception of Internet information credibility?

H3a: Obedience to government authority is negatively correlated with the perception of Internet information credibility

H3b: Central government credibility is negatively correlated with the perception of Internet information credibility.

H3c: Local government credibility is negatively correlated with the perception of Internet information credibility.

Interpersonal Trust

Interpersonal trust is not only a factor that constitutes the individual personality characteristics, but also a basic unit of social trust or public trust. Fukuyama (1996) pointed out that, due to the cultural differences, there are also differences in the level of trust in different societies. In his point of view, the United States, Germany, Japan are classified high-level of trust, while China, Italy, France, etc. are classified as low-level of trust. Perception of the credibility of the Internet, one kind of media credibility, is closely linked with other kinds of trust, such as interpersonal trust. It is hardly imagine that, those who are lack of trust in their acquaintances, the surrounded community and even the whole society, have a high level of perception of Internet information credibility. In order to verify this statement, we propose the following

hypothesis:

H5: There is a positive correlation between interpersonal trust and trust information to the Internet.

METHOD

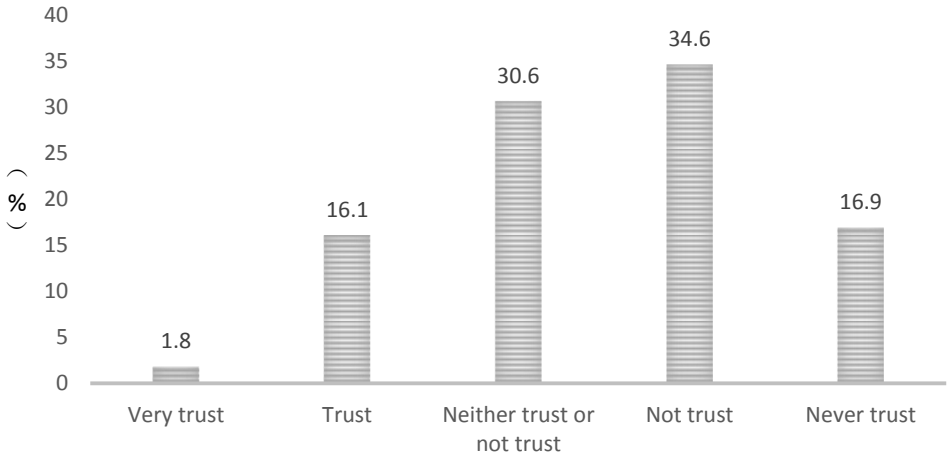
Data

The data for this study came from a national survey, with the theme of "Media Use and Media Credibility", covered 36 main cities in China, conducted by the Social Survey Center in Shanghai Jiao Tong University from April to December 2014. A total of 1080 interviews were completed with respondents contacted through landline or mobile phones by using CATI (Computer Assisted Telephone Interviewing) system, with a method of RDD (Random Digit Dialing) sampling. The margin of error for the full sample is within 3%.

Measurement

Independent variable: Perceptions of Internet Information Credibility

The dependent variable is defined as a 5-scale Likert item to describe the Perceptions of Internet Information Credibility compared with television or newspaper, ranging from "never trust" to "very trust", correspondingly taking the value from 1 to 5. According to Figure 1, the average level of Perceptions of Internet Information Credibility is relatively low (M=2.51, SD=1.009). More than half of the respondents hold the negative position on the information only from the Internet but not on traditional media, such as newspapers or TV.



Dependent variable:

The potential factors influencing the perceptions of Internet information credibility can be divided into four blocks:

(1) Demographics

The first block contained three demographics variables. Here we consider gender, age and education. These demographic variables are possible influencing factors according to research question 1, and they are also control variables in the regression model. (1) Gender is defined as a dummy variable with male coded as higher (1=male, 0=female). The weighted sample consists of 50.7% male and 49.3% female. (2) Age is an ordinal variable with six categories ranging from "below 20 years old" to "above 75 years old", correspondingly taking the value from 1 to 5. Specifically, 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 is an ordinal variable with six categories ranging from "elementary education and below" to "master degrees and above", correspondingly taking the value from 1 to 5. Specifically, 6.4% with no more than elementary education, 19.1% with junior high education, 25.1% with senior high or technical secondary school degrees, 17.8% with junior college degrees, 27.2% with bachelor degrees, 4.4% with master degrees or above.

(2) Media usage

The second block contained two kinds of control variables describing people's media using habits: (1) Daily average time spent online, which is measured by an ordinal variable with 10 categories ranging from "0 hour", "0.5~1 hour" to "above 8 hours", correspondingly taking the value from 0 to 9. (2) Mobile phone usage, which is measured by a dummy variable (usually use mobile phone to get information=1, otherwise= 0).

(3) Government credibility

The third block contained three variables: central government credibility, local government credibility and obedience to government authority, which are respectively measured by a singer item ranging from "very low" to "very high", correspondingly taking the value from 1 to 5.

(4) Interpersonal Trust

In the last block there is only one variable, i.e. the interpersonal trust, which is measured by asking people about their behavior when they suffer from troubles or difficulties. It is set as a dummy variable. Results from the survey showed that 25.1% of the respondents "never talk to others about their worry and troubles".

RESULTS

Correlation Analysis

Before regression analysis, correlation analysis commonly used on the dependent variable relationship between independent variables and a preliminary test, the results of correlation

analysis showed that at the 95% confidence interval, confidence in the Internet information age was negatively correlated ($r = -0.167$, $p < 0.05$), and positively correlated with level of education was ($r = 0.219$, $p < 0.05$), length was positively correlated contact with the Internet ($r = 0.199$, $p < 0.05$), with the central government's credibility, authority sense of obedience was negative correlation ($r = -0.118$, $p < 0.05$; $r = -0.147$, $p < 0.05$).

Regression Model

In this part, we concentrate on studying the relationship between the perception of Internet information credibility and potential influencing factors proposed in research hypothesis. We construct a multi-variables linear regression model. In the regression model, there are four blocks of predictors. The first block contained demographics variables; the second block contained two variables characterizing different aspects of media usage habits; the third block contained the variables of government credibility; the fourth block contained only one variable, i.e. interpersonal trust.

Table 1 *Influencing Factors of Perception of Internet Information Credibility*

		β	F	ΔR^2 (%)	Total R^2 (%)
Block1: Demographics	Gender Age Education	0.053 -0.105** 0.189***	15.736***	6.1	6.1
Block2: Media Use	Internet use Mobile phone use	0.082* 0.133***	13.151***	2.2	8.3
Block3: Government Credibility	Obedience to government Central government credibility Local government credibility	-0.110** 0.090* -0.109*	10.582***	2.2	10.5
Block4: Interpersonal Trust	Interpersonal Trust	-0.114**	10.597***	1.1	11.6

Notes:

1. Cell entries are standardized regression coefficients (Betas).
2. p values with two–tailed significance: *p< .05, **p< .01, ***p<.001.

As shown in Table 1, the first model explained 6.1% of the variance. In the demographic variables, gender and age significantly influenced the perception of Internet information credibility. In the first model, we found that the coefficient of age is negative, which means that with the increase of age, the perception of Internet information credibility decreased. The

coefficient of age is positive, which means that with the increase of education, the perception of Internet information credibility increased. Gender is not a significant influencing factor of the perception of Internet information credibility. In a word, we can draw the conclusion that the younger and well-educated people trusted in the online information more than the others. Thus the hypothesis H1b and H1c have been proved.

In research hypothesis H2, we are interested in the relationship between media usage and the perception of Internet information credibility. But in fact, a lot of factors have impact on the media usage itself, such as gender, age, education. In order to eliminate these disturbances, we set the demographics as control variables in succession. The second model told us that the time spent on the Internet has a positive relationship with the perception of Internet information credibility ($\beta=0.082$，$p<0.05$). The relationship between mobile phone usage and the perception of Internet information credibility is also positive ($\beta=0.133$，$p<0.001$). It revealed that the more people use Internet and mobile phone, the more they trust in the Internet information. Hs has been proved. Meanwhile, the fitness of the model increased 2.2%, up to 8.3%.

In the third model, the negative coefficient of obedience to government showed that people's obedience to government can promote their perception of Internet information credibility. Thus, H3a has been proved. However, the relationship between government credibility and Internet information credibility is complicated. The coefficient of central government credibility is positive, which is consistent with our hypothesis H3b. But the coefficient of local government credibility is negative, which is opposite with our hypothesis H3c.

At last, we put the interpersonal trust into the model to test the relationship between interpersonal trust and their perceptions of Internet information credibility. Results of the regression showed that the interpersonal trust played a significant role in decreasing perceptions of Internet information credibility ($\beta=-0.114$，$p<0.01$). It reveals the substitution effect existing in the two kinds of credibility.

Besides, it is obvious that the significant influencing variables are not the same. Since the Cox and Snell R^2 increase in each model, which indicates that the four blocks of independent variables have an increasing influence on the dependent variable. The strength of impact of demographic variables, the media using habits, the government credibility, the interpersonal trust on perceptions of Internet information credibility is increasing.

CONCLUSION AND DISCUSSION

With the development of Internet and other new techniques, the traditional social trust mechanism is impacted, and a new social trust mechanism of the digital world is being formed. But according to the results of our survey, we found that the Internet credibility in China is not very high. 51.5% of the respondents said they don't believe the information on the Internet but

not on traditional media, such as newspaper and television, while only 17.9% of the respondents believe such information, and the rest of them remain neutral.

Furthermore, the results of our survey revealed that those people who trust the Internet information holds the following opinions:

(1) 24.0% of them trust the Internet information based on historical experience. They found that much online news was proved to be true.

(2) 23.0% of them trust the Internet information based on subjective judgments.

(3) 19.4% of them trust the Internet information because they are the disappointed with traditional media's credibility.

(4) 12.9% of them trust the Internet information due to conservative psychology.

(5) 7.7% of them trust the Internet information due to herding effect.

We further proposed a Hierarchical Linear Regression Model to present the influence of the demographic factors, personality, media using habits, obedience to authority and trust in government on Chinese residents' perception of Internet credibility.

Results showed that (1) perception of Internet credibility differed among respondents in relation to age and education; (2) there is a positive and significant relationship between media use, media dependency and perception of Internet credibility; (3) both of obedience to authority and trust in government has a negative effect on the perception of Internet credibility; (4) personality is also an important influencing factor. Our study found that people who do not tell their troubles to anyone have a lower level of perception of Internet credibility.

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Media Channels for Receiving Stroke knowledge of Nursing Students in Thailand, Indonesia, and Union of Myanmar [1]

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Abstract

Stroke information and stroke knowledge about risk factors and warning signs are the keys success to reduce severity and disability of patients with stroke. This study investigated media channels for receiving stroke information and comparing level of stroke knowledge according to each media channel of undergraduate nursing students in Thailand, Indonesia, and Union of Myanmar. Data collection was conducted through online survey in January to May 2015. Respondents were 2,063 nursing students (1,367 Thais, 376 Indonesians, and 320 Union of Myanmar). Types of media channels were categorized as 1) mass media: television, radio, flyer, poster, internet, pamphlet, and newspaper; 2) local media: community broadcast tower; and 3) interpersonal communication. Findings revealed the top three media channels for receiving stroke information were internet (76.4%), television (70.9%), and instructors (70.2%). Whereas, the lowest three channels for receiving stroke information were community broadcast tower (3.8%), community leaders (6.4%), and community health volunteer (11.7%). Level of knowledge of stroke received through all media channels were low across countries (mean = 7.73, SD = 2.93). Examining levels of stroke knowledge received through each media channel were found to be low in all media channels. The three lowest score was information received through radio (mean = 6.13, SD = 3.38), relatives (mean = 6.97, SD = 3.24), and newspaper (mean = 6.98, SD = 3.29). The three highest score was information received through pharmacist (mean = 8.59, SD = 2.52), pamphlet (mean = 8.45, SD = 2.58) and friend (mean = 8.21, SD = 2.77). This study provides data benefit for planning of using media channels to improve stroke knowledge of undergraduate nursing students in Thailand, Indonesia, and Union of Myanmar.

Keywords: Undergraduate, nursing student, stroke knowledge, media channels

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BACKGROUND

Nine million of people in Asian countries suffer from stroke annually, the disability adjusted life years (DALYs) lost due to stroke is predicted to be 61 million in 2020 (World Health Organization, 2004). Stroke information and knowledge of risk factors and warning signs are the keys success to reduce symptom severity and disability of patients with stroke. Knowledge of stroke risk factors and warning signs benefit on stroke prevention and in time emergency care (Alberts, Perry, Dawson, & Bertels, 1992). Poor recognition of stroke warning signs results in delays treatment whereas lack of risk factor knowledge lead to stroke incidents (Becker et al, 2001). Previous study indicated low level of stroke knowledge among general population and elderly (Becker, Fruin, Gooding, Tirschwell, Love, & Mankowski, 2001; Pancioli et al, 1998).

Educational campaigns using mass media and multimedia were proven to create positive impacts on public awareness of stroke (Hodgson, Lindsay, & Rubini, 2007). These campaigns improved stroke knowledge and care seeking behavior in general population (Marx, Nedelmann, Haertle, Dieterich, & Eicke, 2008). The campaigns also promoted health service usage of patients with stroke successfully (Mellon, Hickey, Doyle, Dolan, & Williams, 2014). Moreover, a study using multifaceted educational program showed reduction of delayed in patient presentation and referral of public and professional (Alberts et al, 1992).

In general audience, public education campaigns using unique strategy and materials are often used to deliver series of message on stroke issue. Mass media is the most effective technology that can reach vast majority of population in public. The common mass media platforms are newspapers, magazines, radio, television, and internet (Coleman, 2015). Stroke information delivery through television advertising significantly increased knowledge related to stroke warning signs among patients with stroke. The intermittent television advertising with low level approach was found to be the most effective in recognition of warning sign of stroke than the intensive television advertising (Silver, Rubini, Black, & Hodgson, 2003).

OBJECTIVE

1. To investigate media channels used for accessing stroke information of nursing students in Thailand, Indonesia, and Union of Myanmar.

2. To examine level of stroke knowledge according to each media channel of nursing students in Thailand, Indonesia, and Union of Myanmar.

METHODS

This online survey was conducted in January to May 2015. Participants comprised of a convenient sample of undergraduate nursing students in Thailand, Indonesia, and Union of Myanmar. The IRB approval was obtained in Thailand from Boromarajonani College of Nursing Saraburi.

Instruments

Participants were asked to respond related to personnel data, media channels of stroke information, and stroke knowledge:

1. Personal information includes age, gender, years in nursing program, and location of institute.

2. Media channels of stroke information include 1) mass media (television, radio, flyer, poster, internet, pamphlet, and newspaper; 2) local media such as community broadcast tower; and 3) interpersonal communication with social group (family members, relatives, friends, teachers, and

community leaders) and healthcare personnel (physicians, nurses, public health personnel, pharmacist, community volunteer, and stroke caregivers)

3. Stroke knowledge related to risk factor and warning signs was measured by 15 items: questions one to nine ask about risk factors include alcohol/cigarette use, family history with stroke, high blood pressure, high cholesterol, diabetes, obesity, lack of exercise, and stress. Questions 10 to 15 ask about stroke warning signs include sudden onset of face asymmetry, weakness/ numbness of arm or leg any part of the body, sudden difficulty in speaking or understanding, blurred/loss of vision, sudden onset of severe headache, and sudden onset of dizziness, or vertigo. Score range from 1-15. Scoring criteria are low (7.5-10.0), moderate (10.0-12.5), and high (12.5-15.0).

RESULTS

Participants

The 2,063 nursing students who completed this survey were 1367 Thais, 376 Indonesia, and 320 Union of Myanmar. Proportions of students was majority of female (91.5%) and year in nursing program were 17.2% of fourth year, 33.8% of third year, 28.1% of second year, and 18.7% of first year.

Media channels for receiving stroke information

The top three channels delivery stroke information to overall nursing students was internet (76.4%), television (70.9%), and the instructors (70.2%). Whereas, the lowest three channels were community broadcast tower (3.8%), community leaders (6.4%), and community health volunteer (11.7%) as showed in Table 1. For Thai nursing students, the top three channels delivery stroke information was flyer (57.7%), internet (53.5%), and the instructors (48.3%) whereas, the lowest three channels were community broadcast tower (2.3%), community leaders (2.7%), and public health personnel (2.8%). For Indonesian nursing students, the top three channels delivery stroke information was internet (15.9%), television (15.8%), and the instructors (11.5%). Whereas, the lowest three channels were community broadcast tower (0.6%), relative (1.5%), and community leaders (2.0%). For Myanmar nursing students, the top three channels delivery stroke information was television (11.8%), newspaper (10.6%), and the instructors (10.4%) whereas, the less used three media channels were community broadcast tower (0.9%), community leaders (1.7%), and pharmacist (2.0%).

Table 1 Media channels used for receiving stroke information of nursing students*

Media channels	Thai		Indonesia		Myanmar		Total	
	n	%	n	%	n	%	n	%
I. Mass media								
Television	898	43.3	327	15.8	244	11.8	1,469	70.9
Radio	160	7.7	103	5.0	195	9.4	458	22.1
Flyer	266	57.7	113	5.5	82	4.0	461	22.2
Poster	431	20.8	108	5.2	84	4.1	623	30.1
Internet	1,108	53.5	329	15.9	145	7.0	1,582	76.4
Pamphlet	622	30.0	86	4.2	77	3.7	785	37.9
Newspaper	360	17.4	166	8.0	220	10.6	746	36.0
II. Local media								
Community broadcast	48	2.3	12	0.6	19	0.9	79	3.8
III. Interpersonal communication								
- Social groups								
Family members	228	11.0	174	8.4	68	3.3	470	22.7
Relatives	185	8.9	32	1.5	98	4.7	315	15.2
Friends	273	13.2	185	8.9	78	3.8	536	25.9
Teachers	1,001	48.3	238	11.5	215	10.4	1,454	70.2
Community leaders	55	2.7	41	2.0	36	1.7	132	6.4
- Healthcare personnel								
Physicians	404	19.5	239	11.2	133	6.4	776	37.5
Nurses	666	32.1	189	9.1	168	8.1	1,023	49.4
Public health personnel	58	2.8	234	11.3	99	4.8	391	18.9
Pharmacist	416	20.1	55	2.7	41	2.0	512	24.7
Community volunteer	110	5.3	76	3.7	56	2.7	242	11.7
Stroke caregivers	212	10.2	130	6.3	116	5.6	458	22.1
Total	1,367	66.3	376	18.1	320	15.5	2,063	100

* can select more than one

Level of stroke knowledge

Stroke knowledge of overall students was at low level (mean = 7.73, SD = 2.93). Level of stroke knowledge were similar low across three countries include Thai (mean = 8.57, SD = 2.17) Indonesia (mean = 8.85, SD = 2.00), and Myanmar (mean = 2.83, SD = 1.35). Comparison of stroke knowledge across media channels found that all were at low level. The highest stroke knowledge score was through interpersonal communication (mean = 7.75, SD = 3.30), mass media (mean = 7.63, SD = 2.95), and local media (mean = 7.14, SD = 3.29).

Table 2 Level of stroke knowledge across all media channels

Media channel	Stroke Knowledge							
	Thai		**Indonesia**		**Myanmar**		**Total**	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
I. Mass media	**8.79**	**2.05**	**8.85**	**1.96**	**2.76**	**1.33**	**7.63**	**2.95**
Television	8.64	2.12	8.87	1.99	2.54	1.39	7.73	2.95
Radio	8.39	2.41	8.72	2.13	2.92	1.29	6.13	3.38
Flyer	8.95	2.04	8.85	1.82	2.72	1.40	7.82	3.03
Poster	9.13	1.78	8.63	2.03	2.60	1.19	8.16	2.82
Internet	8.66	2.09	8.86	1.96	2.88	1.42	8.17	2.62
Pamphlet	9.04	1.88	9.12	1.78	2.90	1.38	8.45	2.58
Newspaper	8.69	2.04	8.87	1.99	2.75	1.25	6.98	3.29
II. Local media	**8.38**	**2.75**	**8.14**	**2.59**	**3.36**	**1.77**	**7.14**	**3.29**
Community broadcast tower	8.38	2.75	8.14	2.59	3.36	1.77	7.14	3.29
III. Interpersonal communication	**9.00**	**2.00**	**8.77**	**2.03**	**2.96**	**1.45**	**7.75**	**3.00**
- Social groups	**8.88**	**1.97**	**8.86**	**1.98**	**3.06**	**1.52**	**7.70**	**2.96**
Family members	8.72	2.14	8.78	2.02	3.18	1.65	7.94	2.82
Relatives	8.78	1.90	8.78	2.17	2.95	1.43	6.97	3.24
Friends	9.16	1.78	9.00	1.75	2.99	1.61	8.21	2.77
Teachers	8.86	1.94	9.00	1.90	2.85	1.44	7.99	2.84
Community leaders	8.89	2.11	8.73	2.06	3.33	1.46	7.40	3.11
- Healthcare personnel	**9.12**	**2.02**	**8.68**	**2.08**	**2.85**	**1.37**	**7.79**	**3.03**
Physicians	9.04	2.05	8.74	2.00	2.74	1.27	7.87	3.03
Nurses	9.20	1.81	8.95	1.89	2.84	1.39	8.11	2.92
Pharmacist	9.18	1.84	8.32	2.44	3.00	1.53	8.59	2.52
Public health personnel	8.91	2.68	8.65	2.03	2.83	1.34	7.21	3.24
Community volunteer	9.07	1.96	8.56	2.12	3.07	1.37	7.44	3.10
Stroke caregivers	9.33	1.78	8.87	1.98	2.62	1.32	7.50	3.34
Total	**8.57**	**2.17**	**8.85**	**2.00**	**2.83**	**1.35**	**7.73**	**2.93**

Scoring criteria: low = 7.50-10.00, moderate = 10.10-12.50, and high = 12.51-15.00

DISCUSSION

This study explored types of media channels for receiving stroke information among undergraduate nursing students in Thailand, Indonesia, and Union of Myanmar. Finding revealed the top three media channels for delivery stroke information were internet (76.4%), television (70.9%), and instructors (70.2%). Whereas, the lowest three channels for delivery stroke information were community broadcast tower (3.8%), community leaders (6.4%), and community health volunteer (11.7%). Media channels in this study were categorized as 1) mass media: television, radio, flyer, poster, internet, pamphlet, and newspaper; 2) local media: community broadcast tower; and 3) interpersonal communication.

Comparing overall levels of stroke warning sign and risk factor knowledge that students received through each media channel were found to be at low level across all media types. The three lowest score of stroke knowledge was received through radio, relatives, and newspaper whereas the three highest score of stroke knowledge was through pharmacist, pamphlet, and friends.

Findings in this study conducted in nursing students in Thailand, Indonesia, and Union of Myanmar are different from previous studies. Public education of stroke delvered through mass media campaigns has been shown to increase awareness of stroke symptoms and reduce the delay in presentation of patients with stroke and referral provided by health personnel (Hodgson, Lindsay, & Rubini, 2007). However, the direct impact of the FAST campaign in the multiethnic population is uncertain (Becker et al, 2001). There were the increases of 55.5% in stroke calls to emergency services and 84% of the public remembered the campaign on a national study (Lecouturier, Rodgers, Murtagh, White, Ford, & Thomson, 2010).).

CONCLUSION

This current study provides data benefit for planning of using media channels as mean to improve stroke knowledge among undergraduate nursing students in Thailand, Indonesia, and Union of Myanmar.

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The liking of the sticker line' elements, brand perceptions and sticker line use behaviors of people in Bangkok

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ABSTRACT

This research studied the liking of the line sticker's elements, line sticker use behaviors and brand as perceived from using sticker lines. Two line stickers selected as case examples in this study were Godji and Pin-Pink & Ning-Nong line stickers. The samples in this study were 400 line users who were residing in Bangkok at time of data collection. Data from questionnaires were analyzed using frequency, percentage, average and standard deviation and Pearson's Product Moment Coefficient Correlation. The findings were as follows. 1) In general, the cartoon character line sticker was the most liking line stickers which bear no product logo brand. The most liking theme color and characteristics of the sticker line were those in a cool tone and those which depicted provocative manner, honesty and friendly personality in a figurative appearance of cartoon animals. These animal characters were humanized similar to the sample's different daily life gestures. 2) Sticker line use behaviors. It was found that most of the sample preferred free-download sticker line, downloaded less than 3 set of stickers per week, used mostly to express their emotion at that time, send to close friends in their lines communication, As for characteristic of the sticker line often selected, it was found that they often selected sticker line with accompanied laughing voice, have lovely or funny cute face that elicit laughter, and preferred using animal cartoon sticker lines more often. 3) It was found that the liking of the Godji and Pink-Pink & Ning-Nong sticker lines' elements had positive statistical relationship with the Godji and Pink-Pink & Ning-Nong brand perception at a significance level at 0.01, respectively.

Keywords: Line stickers, Brand Perception, Line Sticker Pink-Pink & Ning-Nong, Line Sticker Godji

INTRODUCTION

Line application is the format of chatting program on smart phone, tablet and computer with produce to be another way of communication. This creative difference is more attractive than other applications. As a result of, there are many sticker released that user can choose instead of typing words. With this application, there is completely popular all over the world in a short period of time including the owner service and business acquire this way to be closed to their consumer. From this achievement and noticeable of Line which got the influence of the adorable style as its acting and other appearances and thus this application help user to easily communicate instead of typing words.

According to the rapidly growing of Line ,the application was developing itself to become social network which get influential of worldwide human routine and this was very powerful of branding made marketer easily knowing there customer. Therefore , nowadays many organization and owner brand try hard to provide qualifications of Line to apply with this marketing communication .The company's Line sticker is a factor to easily approach to the consumer through chatting and also the marketing man choose this method to build branding via different various characters as called "Sponsored sticker" .Recently, many companies have released the newly designed character sticker to be part of the consumer chatting pages and put the sticker or brand's mascot to become the unique and outstanding brand's sticker so the customers can acknowledge and immediately remember the brand.

Based on a survey of five ratings of brand sticker in Thailand in the year 2014 (Positioningmag, 2557:Online) The researchers recruited brand sticker that has been most popular in the first two from a survey of five rating. Line stickers that were popular in 2014 are 1) Godji Family that is applied to the PTT gas station PTT and 2) Pink-Pink & Ning-Nong that is applied to Mistine cosmetics were used as a case study in this research.

OBJECTIVE

This study aimed:

1. To study the liking of the line sticker's elements.

2. To study the line sticker use behaviors.

3. To study the relationship between the liking of the line sticker's elements and brand as perceived from Godji sticker.

4. To study the relationship between the liking of the line sticker's elements and brand as perceived from Pink-Pink & Ning-Nong sticker.

REVIEW OF RELATED LITERATURE

Attractiveness and Likeability

Likeability is components of the source of attractiveness which the consumers or subscribers had towards physical characteristics of the source and behavior or other personal characteristics of the source of the substance.

Attractiveness is creates an attractive source of the substance. Often, it is the nature of the sale, the beauty of the sender which could be models of famous people or celebrity actress (Hoyer and Macinnis, 2001). Generally, if there are interested enough to get satisfaction in the sender. Senders often have the opportunity to convince the receiver to trust and accept the message better if the sender is not

the receiver satisfaction. The attractiveness may be referred to as the likeability or similarity with consumer (Assael, 1998).

The source of the attractiveness comprised of three attributes namely; similarity' familiarity, and likeabilit. (Sultans, 2012).

1) Similarity is resemblance between the source and the recipient of the message. Marketers recognize that people are more likely to be influenced by a message coming from someone with whom they feel a sense of similarity (e.g. similar needs, goals, interests, lifestyles).

2) Familiarity is knowledge of the source through exposure. Familiarity is enhanced through repeated or prolonged exposure.

3) Likeability is affection for the source as a result of physical appearance, behavior, or other personal traits. Consumers can admire physical appearance, talent, and/or personality even if the source is not well known or a celebrity.

Brand concept

The American Marketing Association (AMA) defined the brand in 1960 as: "A name, term, symbol or design, or a combination of them, which is intended to signify the goods or services of one seller or group of sellers and to differentiate them from those of competitors." Other more recent definitions of branding also include internal and organizational processes

Kapferer (1986) provide the meaning of the brand is "A brand is both, tangible and intangible, practical and symbolic, visible and invisible under conditions that are economically viable for the company" From these definitions, a brand is the name and symbols that identify the source of a relationship with the consumer, the source of a promise to the consumer, the unique source of products and services, the single concept that is created inside the mind of the prospect and the sum total of each customer's experience with the corporate.

Line Sticker Concept

Line sticker refers to the communication application of text chat in smart phones and tablet. Users communicate by typing messages to communicate to another line user. Line has been developed to be versatile to accommodate the use in many features and one thing that makes lines different from the other chat application is a form of stickers that express emotions and feelings of users. The examples of these stickers are the basic emotional stickers, stickers by festivals and events, stickers of various brands and the famous cartoon stickers. (Kulchitjourwong, 2013).

The elements of a Character sticker

With spokes-characters, marketers have the ability to create the personality and appearance of the character specifically to fit their brand. Instead of having to choose from already established personalities and images, spokes-character creators are able to create specific behaviors, actions and appearances for the character. Over time, characters come to represent brands and in some cases even become the brand (Callcott & Alvey 1991 cited in Jennifer Marie Ireland, 2013)

Factors that cause liking towards spokes-character in advertising which uses the character in brand communication can be divided into four dimensions; personality, physical characteristics, humor and consumer experience factors (Callcot and Phillips, 1996 referred to in Rathiporn Kumsup, 2545). This study used personality, physical characteristics, consumer experience factors which effect liking to spokes-character in advertising and also linked with elements of brand identity suggested in Keven Lane Keller

(1998) which included name, symbol, personality and slogan in order to identify the elements of Line sticker.

MEDTHODS

This survey was conducted in June 2015. Self-reported questionnaires were distributed to 400 line users who were residing in Bangkok. Questionnaires included the following questions.

1) Personal information that asked gender, age, education, career, personal income per month, and the line sticker use behaviors.

2) The liking scale and perceived scale comprised of a 5 point scale (very less – very high) statement to measure liking of the line sticker's elements, the liking and perceived of the line sticker's elements and brand as perceived from Godji sticker, and the liking and perceived of the line sticker's elements and brand as perceived from Pink-Pink & Ning-Nong sticker.

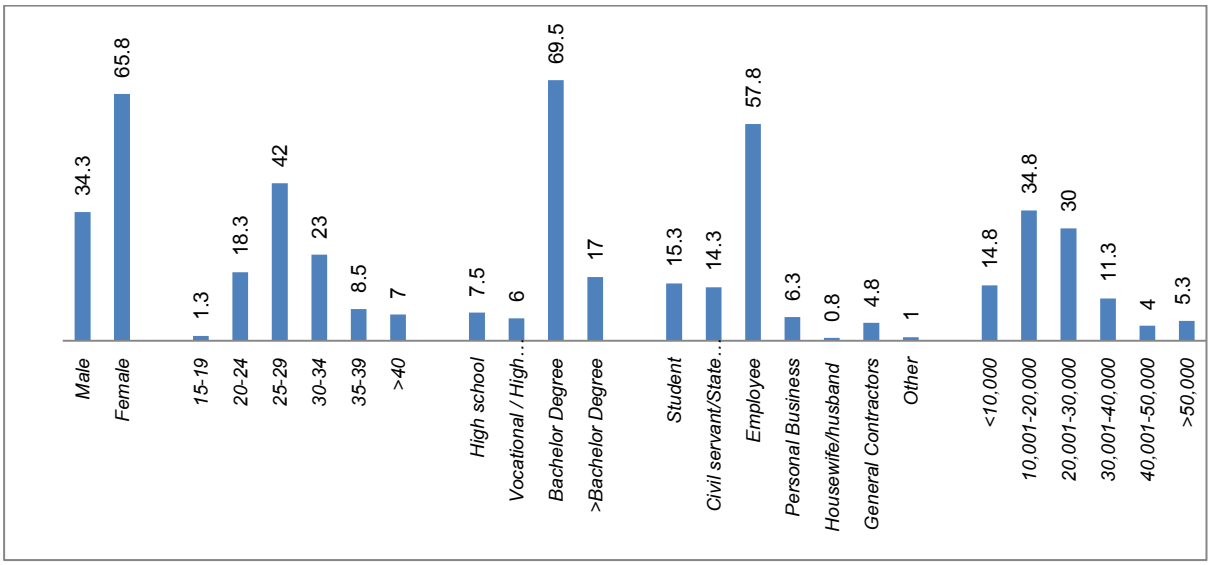
Descriptive statistics was used to analyze frequency distribution; percentages, mean and standard deviation were used to describe the samples' profile. Pearson's Product Moment Correlation was used to test relationship of liking of the sticker's elements with brands in the study, Godji sticker and Pink-Pink & Ning-Nong sticker.

RESULTS

Personal Information

The samples comprised of 34.3% of males as against 65.8 % of females, majority of them were aged between 25-29 years old (42%), had bachelor's education (69.5%), had company's employee (57.8%) and had personal income per month between 10,001-20,000 baht per month(34.8%), respectively as shown in Figure 1.

Figure 1. Samples' Profile (n=400)



Line sticker use behaviors

It was found that the samples had regular line's Stickers use behavior, majority of the samples downloaded those stickers for free (83%), at least 3 times per week (77.5%). The objective to use line's

sticker included showing emotion at that moment (62.8%), the regular word used on sticker is the message laughing (62.3%), characteristic is funny (58.3%), the favorite of physical character sticker is animal cartoon (54.8%), and format of Line Sticker is Line's cartoon (34.5%), as shown in Table 1.

Table 1 Line sticker use behaviors (n=400)

Use behaviors	No.	Percentage
Line Sticker download terms		
Free Download	332	83.0
Pay Download	68	17.0
Download frequency		
< 3 sets/week	310	77.5
3-5 sets/week	80	20.0
6-7 sets/week	2	0.5
>7 sets/week	8	2
The objective to use line's sticker (can answer more than one question)		
Lazy to type but want to show that perception.	223	55.8
To show emotion at that moment	251	62.8
To reduce the tension in the conversation.	160	40
Lazy to type and want To cut short the conversation	97	24.3
Add some fun conversation	240	60
The regular word on Line Sticker regularly used (answer more than one question)		
Laughter	249	62.3
General message as Hello, sorry, thank you, goodnight.	224	56
Love message as I miss you, I love you	184	46
Caring and encourage message as fight!!, back soon	166	41.5
Bad joke message	210	52.5
No message	133	33.3
Characteristic of Line Sticker regularly used (answer more than one question)		
Movable	200	50
Looks cute	223	55.8
Looks funny and laugh	233	58.3
A lot of details as lined pattern	27	6.8
Simple, A less detailed	83	20.8
The stickers of their favorite brand.	29	7.3
A favorite cartoon	153	38.3
A similar/look like a pet animal	56	14
A similar/look like myself	135	33.8
Have a cool message	192	48
Have a voice	153	38.3
Physical character sticker regularly used (answer more than one question)		
Cartoon animals	219	54.8
Cartoon human	109	27.3
Cartoon's character look like human	58	14.5
Image is real human	14	3.5
Format of Line Sticker regularly used		
Celebrity cartoons	98	24.5
Line's cartoons	138	34.5
Brand's cartoon	79	19.8
Creator's sticker	65	16.3
Image's celebrity	20	5.0
Total	**400**	**100.0**

It was found that the samples had the highest mean score of regular line's Stickers use with close friend (mean =3.63, SD = 1.250) followed by used with boyfriend/girlfriend (mean =3.21, SD = 1.595) which was at a high level and the lowest mean score of use was with relative(mean =2,12, SD = 1.255) which was a very low level as shown in Table 2.

Table 2 Mean and standard deviation of frequency level in Line Sticker used during the chat according to type of receivers (n=400)

Type of receiver	**Frequency level**		
	$\overline{X}$	**S.D.**	**Level**
1. Family (Mother, Father, Brother, Sister)	3.13	1.259	Moderate
2. Relative	2.12	1.255	Very Low
3. Close friends	3.63	1.250	High
4. Boyfriend / Girlfriend	3.21	1.595	High
5. Colleague	2.92	1.221	Moderate

Screening questions

Questions to distinguish liking of Line Sticker (case study). It was found that the samples had a liking of Line Sticker Godji (53%) more, which wasmore than liking the Line Sticker is Pink-Pink & Ning-Nong (47%) as shown in Table 3.

Table 3. Screening questions (n=400)

Case Study	**Amount**	**Percent**
Line Sticker "Godji"	212	53.0
Line Sticker "Pink-Pink & Ning-Nong"	188	47.0
Total	**400**	**100.0**

Liking of the line sticker's elements

It was found that the samples had a liking line sticker of Line cartoon's charactors as Brown,Cony ,Moon and James (mean =3.63, SD = 0.925). Liking sticker not have a brand's logo on line sticker (mean =3.47, SD =0.892). Liking line sticker has cool tone (mean = 3.65, SD = 0.924). Liking cartoon character with texts has bad joke (mean =3.91, SD = 0.952). Liking line sticker's personality that kindness and sincerely (mean =4.06, SD = 0.793). Liking Physical character sticker is animal cartoon (mean =3.57, SD = 0.953). The sample liking sticker that matched with the user experience or their daily activities (mean =3.86, SD = 0.939). as shown in Table 4.

Table 4. Mean and standard deviation of level of liking of the line sticker according to their elements (n=400)

Element's line sticker	Liking level		
	$\overline{X}$	S.D.	Level
Reputation of cartoon character			
1. Celebrity cartoon as Doraemon, Mickey Mouse, Chinchan, Hello Kitty	3.62	.960	High
2. Line's cartoon character as Brown, Cony, Moon, James	3.63	.925	High
3. Brand's Mascot as AIS's Aoonjai, BBQ Plaza's Bar B Gon	2.79	.906	Moderate
4. Brand's new character as SCB's Easy monkey, PTT's Godji	2.98	.909	Moderate
5. Creator sticker's character as BonBon, Tidlom	3.26	.830	Moderate
6. Image's celebrity as YaYa, Nadech, Nichakhun	2.52	1.067	Moderate
Brand's logo			
1. Show brand's Logo on sticker	2.67	.988	Moderate
2. Not show brand's Logo on sticker	3.47	.892	High
Theme colors			
1. Cool tone colors as green, blue, pink	3.65	.924	High
2. Hot tone colors as red, yellow, orange	3.21	.850	Moderate
3. Black and white tone colors	2.83	.952	Moderate
Accompanying message			
1. Have a love message	3.69	.890	High
2. Have a bad joke message	3.91	.952	High
3. Have a caring and encourage message	3.75	.918	High
4. Have a message is Laughter	3.80	1.001	High
5. No message	3.60	1.120	Moderate
6. Have a message is voice	3.69	.801	High
Personality			
1. Have personality is sincere, friendly	4.06	.793	High
2. Have personality is funny, humorous	3.51	.876	High
3. Have personality is Intelligent, talented	2.99	1.012	Moderate
4. Have personality is luxurious, hi-class	3.33	9.17	Moderate
5. Have personality is strong, rugged	3.26	.988	Moderate
Physical Characteristics			
1. Cartoon animals as Brown bear, Easy monky, Bar B Gon Dragon	3.57	.953	Moderate
2. Cartoon human as Chinchan, Maruko	3.46	.900	Moderate
3. Cartoon's character look like human as AIS's Aoonjai	3.01	.904	Moderate
4. Image is real human as YaYa, Nadech, Nichakhun	2.64	1.018	Moderate
The experience of the consumer			
1. Look like your pet animal	3.33	.961	Moderate
2. Look like yourself	3.73	.955	High
3. Look like your close friends	3.39	.922	Moderate
4. Look like your family's member	3.36	.956	Moderate
5. Look like your everyday life	3.86	.939	High

Liking and perceptions through the Godji line sticker's elements

The highest mean score of the perception of the different elements of Godji were found as followed. The samples had a liking Godji line sticker from a text combining (mean =3.79, SD = 0.953), had a brand perceptions in the brand attribute as logo on Godji line sticker (mean =3.61, SD = 0.867)' perceptions in the brand benefit as a gas station (mean =1.91, SD = 0.924). In the perceived brand value of PTT was the gas stations quality (mean =3.09, SD = 1.113), and the perceived brand personality was funny, humorous (mean =3.72, SD = 0.867) as shown in Table 5.

Table 5. Mean and standard deviation of liking and perceptions through the Godji line sticker's elements. (n=400)

Perceived of Godji Line Sticker on Brand Elements	Liking level		
	$\overline{X}$	S.D.	Level
Perceived Elements of Godji sticker			
1. Have a PTT's logo on Godji sticker	2.93	.976	Moderate
2. Is a cool tone colors (blue, deep blue)	3.52	.788	High
3. Have a accompanying message	3.79	.953	High
4. Gogji's personality	3.75	.855	High
5. Physical Characteristics is animal	3.60	.879	High
6. Character is Godzilla	3.64	.916	High
7. Look like your pet animal, yourself, close friends, family's members and your everyday life	3.41	.927	Moderate
Perceived Brand Attributes			
1. from name "Godji"	3.58	.896	High
2. from tone colors as blue	3.54	.839	High
3. from logo on Godji sticker	3.61	.867	High
4. from character is Godzilla	3.53	.971	High
5. from Godji's saying or accompanying message	3.47	1.046	Moderate
6. from slogan latent in line sticker	3.49	.995	Moderate
Perceived Brand Benefit of Godji			
1. is gas station	1.91	.924	Very Low
2. have a minimart	1.78	1.071	Very Low
3. have a coffee shop service	1.90	1.000	Very Low
4. have a automotive Service Center	1.69	1.006	Very Low
5. have a various restaurants	1.73	1.066	Very Low
6. have a financial services as ATM, bank branch	1.58	1.030	Very Low
7. in gas station have a various shop and service	1.88	1.204	Very Low
8. in gas station that there One Stop Service	1.85	1.251	Very Low
Perceived Brand Value			
1. A gas station quality	3.09	1.113	Moderate
2. Using quality oil	2.01	1.293	Very Low
3. The national oil company	2.06	1.061	Very Low
4. Under the supervision of the Ministry of Energy	1.98	.926	Very Low
5. Is a leader in fuel And renewable energy	1.99	1.293	Very Low
Perceived Brand Personality			
1. Have personality is sincere, friendly	3.54	.970	Moderate
2. Have personality is funny, humorous	3.72	.867	High
3. Have personality is Intelligent, talented	3.21	.886	Moderate
4. Have personality is luxurious, hi-class	2.97	1.021	Moderate
5. Have personality is strong, rugged	3.19	.935	Moderate

Liking and perceptions through the Pink-Pink & Ning-Nong line sticker's elements

It was found that the samples had a liking Pink-Pink & Ning-Nong line sticker from a text combining (mean =3.78 , SD = 0.884), perceived brand perceptions in the brand attribute as logo on Pink-Pink & Ning-Nong line sticker (mean =3.31, SD = 1.042), perceived in the brand benefit as cosmetic's brand (mean =1.70, SD = 0.787), perceived brand value as International standards quality (mean =1.70, SD = 0.749), and perceived brand personality as funny, humorous (mean =3.48, SD = 0.952), as show in Table 6.

Table 6. Mean and standard deviation of liking and perceptions through the Pink-Pink & Ning-Nong linesticker's elements. (n=400)

Perceived of Pink-Pink & Ning-Nong on Brand Elements	Liking level		
	$\overline{X}$	S.D.	Level
Element's Pink-Pink & Ning-Nong sticker			
1. Have a Mistine's logo on Pink-Pink & Ning-Nong sticker	2.92	.929	Low
2. Is a cool tone colors (blue, pink)	3.48	.797	High
3. Have a accompanying message	3.78	.884	High
4. Pink-Pink & Ning-Nong's personality	3.55	.877	High
5. Physical Characteristics is animal	3.45	.774	Moderate
6. Character is cat	3.51	.845	High
7. Character is rat	3.24	.866	Moderate
8. Look like your pet animal, yourself, close friends, family's members and your everyday life	3.52	.891	High
Perceived Brand Attributes			
1. Perceptions from name "Pink-Pink & Ning-Nong"	2.78	1.037	Moderate
2. Perceptions from tone colors as pink	3.08	.935	Moderate
3. Perceptions from logo on Pink-Pink & Ning-Nong sticker	3.31	1.042	Moderate
4. Perceptions from character is cat	3.08	1.013	Moderate
5. Perceptions from character is rat	2.87	1.025	Moderate
6. Perceptions from Pink-Pink & Ning-Nong's saying or accompanying message	3.17	0.985	Moderate
7. Perceptions from slogan latent in line sticker	3.26	.999	Moderate
Perceived Brand Benefit			
1. Perceptions is cosmetic's brand	1.70	.787	Very Low
2. Perceptions is cosmetics that direct sales	1,58	.862	Very Low
3. Perceptions that have diverse product	1.65	.898	Very Low
4. Perceptions that be effective cosmatics	1.53	.745	Very Low
Perceived Brand Value			
1. A brand cosmetics quality	1.68	.692	Very Low
2. Was the most popular in Asia	1.67	.695	Very Low
3. A security certification from Germany	1.51	.776	Very Low
4. International standards quality	1.70	.749	Very Low
Perceived Brand Personality			
1. Have personality is sincere, friendly	3.34	.933	Moderate
2. Have personality is funny, humorous	3.48	.952	High
3. Have personality is Intelligent, talented	3.02	1.047	Moderate
4. Have personality is luxurious, hi-class	2.88	1.138	Moderate
5. Have personality is strong, rugged	2.77	1.040	Moderate

The relationship between the liking of line sticker's element and brand perceived

It was found that the liking of the Godji and Pink-Pink & Ning-Nong sticker lines' elements had positive statistical relationship with the Godji and Pink-Pink & Ning-Nong brand perception at a significance level at 0.01, as show in Table 7.

Table 7. The relationship between the liking of line sticker's element and brand perceived. (n=400)

Relationship	**Brand perceptions Line Sticker Godji**	**Sig. (2-tailed)**
The liking in Line Sticker Godji's element.	0.402**	0.000*
Relationship	**Brand perceptions Line Sticker Pink-Pink & Ning-Nong**	**Sig. (2-tailed)**
The liking in Line Sticker Pink-Pink & Ning-Nong's element.	0.559**	0.000*

DISCUSSION

Consumer's behavior of Line's Sticker discovered that the sample mostly got free download by at least 3 times a week; it can be implementing that they have not usually spent most of their money for the sticker. Recently, there were several organizations that tired hard to promote their brand via Line's sticker by attractive, unique and creative style.

Most of the sample like cartoon sticker such as Brown, Cony, Moon and James. This might due to the fact that in the earliest style Line was released for free download to announce the standard sticker. And the sample like sticker without a brand's logo.

The satisfaction component of Line's sticker ,case study of Godji and Pink-Ping & Ning-Nong found that most of the sample are fascinated in these two stickers in high-level especially including with text on it to make more amusement mode meanwhile they were chatting which was similar to the study of Callcot and Phillips ,1996 (cited in Rathiporn Kumsup,2545) which found that there were many factor of satisfaction with Spokes-character in advertisement .They could use character directly, using amusement can be expressed as surprise through the use of comedy and happiness. This finding may encourage in many way of comedy for advertising via Spokes-Character in order to be impressive.

In these two cases, most of the sample acknowledged in high-level by character on the Logo's brand. It is very important to produce and create sticker must have Logo, brand, and symbol appeared on them because most of the sample cannot realize another way of communication.

The relationship of the Godji satisfaction and cknowledge through Godji Line's sticker and relationship of the satisfaction of component Pink-Ping & Ning-Nong, it was found that both were

related to each other. The study proved that if there are the satisfaction of components there will be the acknowledge brand.

It could be seen that majority of the samples liked Line Sticker Godji more than Pink-Ping & Ning-Nong. This may be because Godji was used also in marketing communication or brands communication in other media as advertising on television and radio, public relations activities of the organization. Seeing the Godji through different channels and more often could increase liking and best perception among the consumers, while Pink-Ping & Ning-Nong was used as a Line Sticker only. Less frequency of exposure to the receiver inevitably decrease liking to the character.

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The Quality of Death:
Institutional Environment for securing Social Quality of Dying in OECD countries

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Abstract

Discussions on End of Life care have been ascending, concurring with the ageing population. Various studies and relevant organizations argue that End of Life (EOL) care is a necessary means to enhance life quality until one's life-end – the course of dying rather than death itself. While there have be rising attempts in quantifying the quality in EOL, still the appropriate analysis framework needs articulation, applicable to various social systems. This paper argues that EOL is the extent of quality of life, in sync with life cycle of its participants, thus analytical protocol for social quality needs to be devised when approaching EOL quality as well, since it is the extent of life itself. Consequently, Social Empowerment stance was taken in this paper to evaluate institutional environment for enabling its potential participants to obtain basic human conditions and rights. With examination of five dimensions applied to EOL landscaped, derived from social quality models, it evaluates OECD nations and their current status in building quality of EOL for ageing population, as well as to address the areas of improvement for stable analysis and further study to follow.

Keywords: *quality of death, dying, quality of life, social quality, OECD, ageing, end of life, palliative care*

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I. Introduction

End of Life care, or Palliative care, is "an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness…(which assist the relevant to) affirm life and regard dying as a normal process," as defined by World Health Organization (WHO)[2]. Targets of the care cover all who suffer from chronic or terminal illness, particularly linked with Cancer categorized by WHO, many experts suggest that the necessity for End-of-Life care and its importance augment as the ageing population elevates rapidly (Zhuang et al., 2009; Swerissen & Duckett, 2014). Prediction by WHO that 75% of world population are likely to die from ageing or derivative diseases from it by year 2030, substantiates such arguments. While the disparity in technology development and medical advancement pervade across various countries and regions, this forecast has potential chance of actualization for most developed countries, and the end-of-life care programs and its execution mandate articulation by 2030, in order to assure the ageing and their quality of life until the end. In that way, the ageing and its social discourses cease to be marginal resonance of prolonging youth, instead convey full spectrum of one's life cycle from young and healthy to old and feeble. And, by definition as indicated by WHO, the quality of life does not solely concentrate on the living and alive, but it needs to extend to those who linger at the tail of living – ageing and dying - and the quality of their lives matter to a society as well.

II. Precedents

1) End of Life Care as Human Rights

With the rising attention on necessity for End of Life (EOL) care as well as Palliative Care, many experts along with professional institutes argue that it is one's right to have an access to such cares, and basic conditions in need for availability for many around the world. Recent report published by United Nation (UN, 2013), states that palliative care is a "fundamental (service) to health and human dignity" for those who face the end of life. It identifies that the lack of such care and its access, leads one to choose death over living without treatment, in pain. Of those who can benefit from the care, the large portions are the elderly, who are likely to expand their share in the pie, as they undergo long period of chronic pains in vain for the alleviation due to debilitating physics, inevitably. Moreover, ageing population is especially growing in the low- and middle income countries in the world, which infers that the elderly in the low tier are likely to have limited access to EOL care; thus more likely to suffer inhumane conditions at the end of one's life.

2) Quantitative Approach on Quality of Life at the End

Regardless of its social imminence, the area of ageing and end-of-life is relatively new as the ageing population is the consequence of post-industrialism. The rate of its prevalence differs by nations and their level of development as mentioned previously. Particularly, the quantitative approach of life quality at the end concurs with the occurrence of ageing population – as new as its short history[3]. With

[2] Source - http://www.who.int/cancer/palliative/definition/en/

[3] Korea alone, when searched for academic journals on death and dying from DBpia – a renowned academic online archive for academic papers in South Korea -, about 7,900 articles are found. However, those published from the field of Social Science narrows to a little over 1,000 articles while the rest relates to liberal arts, particularly philosophy and literatures. Of these 1,000 articles, only 350 articles found are the quantitative papers on death and dying – only about 5% of the total papers found on site. It suggests that still the quantitative

the increase in numbers of those aged 80 and above reaching 4% of world population, the necessity for controlling their life and its quality emerges as the new area of studies under the ageing researches. Of the subjects discussed in this realm, key area of the study is twofold; first, the criticism for overly medicalized in the course of reaching end of life, and second, – somewhat causal condition of the first – the economic drainage at the end of life. Although one is not necessarily is the result of another, there are various studies on the negative impact of hyper-medicalized life at the end, prevalent in many countries. In UK, the average medical cost of the dying is about GBP14,000 (21,240 USD) a year (Hatziandreu et al, 2008). In US, a study indicates that if an alternative means selected instead of medical procedures for the terminally ills, the medical cost diminishes to 20% of total spending of the hyper-medicalized in a lifetime (Economist Intelligence Unit, 2010). Even in the case of South Korea, a recent article corroborated that the medical cost during the last year of one's life is equivalent of all spent in 12 years of an average young patient spends all together (Chosun Newspaper, 2013). In sum, all these studies argue that the outcome of such high cost invested only leads to one's death with a risk of economic deficit not only on those at the end of life but also their immediate families. The rising voices on the social needs for alternative means and choices in one's life in the ends are supported by the quantitative researches and results from different countries evidently.

While there have been a few attempts to quantify the quality of life at the end, there still needs the development for a solid theoretical analysis and framework in measuring quality of life at the end – quality of dying, not death. Loucka et al. (2014), in his recent article on the measurement development for the EOL care, criticizes a lack of substantial analysis framework, articulating that there still needs a convincing argument why such quantitative works were done. While the quality of life at the end is tackled by various scholars around the world, still it proves that a consistent approach and understanding on life before death remains to be contemplated further. The study continues to point out the lack of standardized and persuasive framework directly links to inconsistency of the results from the various studies, which could engender discordant policies across different nations. While it acknowledges the insufficient data available, it still censures the absence of thorough theoretical explanation on its study design jeopardizes the validity of the measurement and, thus, its results.

III. Study Objectives and Framework

1) Objectives and Methodology

This paper aims to address the landscape of institutional environment in enhancing the quality of End of Life through quantitative evaluation, substantiated by analysis framework and its reasons. A prior to conducting a statistical investigation, this paper will; 1) first, articulate theoretic approach in running the quantitative measurement in life quality at the end, and 2) second, examine the social dimensions derived from the theory established. And, the coverage of the countries is limited to OECD countries, as the developed countries face critical need for EOL with fast ageing population[4]. Through the review of the available data from WHO, UN and relevant studies, this paper explores institutional condition, and

approach on quality in dying and life at the end are marginal in the field, at least in Korea.

[4] Bloom et al. (2008) suggest that the portion of those aged above 80 are greater in the developed countries compared to that of the developing. It estimates the population of the 80s and above will reach 9.4% amongst the developed while 3.1% in the developing. Thus, it concludes that the issues on ageing population in the developed countries are more imminent than others. In addition, OECD countries are selected due to the availability of necessary data sources.

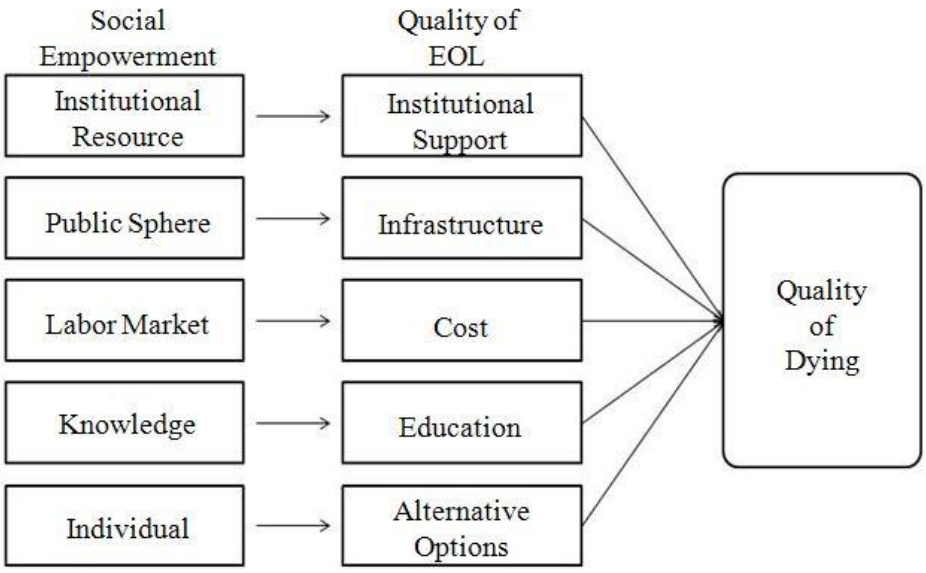
available social apparatus, which impact on shaping ways of life near end.

2) Framework on Measuring Quality of Life at the End

Quality of Life is constructed by social policies available through institution. The purpose of EOL and palliative care is to ensure the quality of life for those with chronic and terminal illness, which then is considered as a prerequisite of human right. In this respect, the analytical approach on quantifying the quality of EOL must retain its elements form measuring social quality, particularly one of its dimensions, Social Empowerment. WHO and many other EOL organizations, states that fundamental purpose of EOL and palliative care for the elderly is to improve their life quality until its very end. In other words, it enables them to feel supported by the society that their pain and life still matters regardless of their lack of productive contribution. As a member of a society, one's basic right to gain and retain empowerment despite senile deterioration should be guarded through various social apparatuses. The conditions in providing quality of life whether young or old do not, and should not, vary just because one faces the risk of dying – in sum, the quality of dying is still in tandem with that of living. Thus, the analytical approach in measuring quality of EOL needs to be rooted on that of a society and its relation in providing the quality life – social quality – particularly on Social Empowerment.

Social empowerment is a sub-dimension of measuring Social Quality, which defines the patency of social institution. It enables its members to participate in a system and have an affect appeal of their capabilities in various aspects of a society (Herrmann, 2006). Its characteristics coincide with the argument made on the EOL care and its necessity. Various studies suggest that EOL and palliative care enable the sick and ageing with various options in their course of dying, other than medical options with high risk on the subjected. As paradoxical as it sounds, the social apparatus regarding quality of life whether thorough social participation or the course of reaching the end of life, empowers its participants in various course of one's life – from young and participatory to old and marginal. Consequently, the analytical approach on EOL quality and its framework shares similarity with the characteristics of Social Empowerment, which yields a theoretical approach based on that of Social Empowerment, is suggested as below.

<Figure 1>. Analysis Framework on Measuring Quality of EOL



Following such analysis framework, this paper aims to explore five dimensions of Quality of

EOL of 34 OECD countries, and evaluate the institutional landscape a prior to a potential future research and its feasibility.

IV. Study Findings

1) Institutional Support

When reviewed on the institutional conditions for the quality of EOL, the OECD countries are categorized into 3 different groups <Table 1>; 1) Capacity building, the nations at the stage of building public interests in the EOL cares and such, a prior to substantial organizations or institutions built; 2) Localized Provision, a group of nations where the necessity for EOL and relevant cares has permeated into local voices, which yield activist movements towards EOL and its need for prevalence; and, 3) Integrated, is the most advanced stage of EOL care development, which have surpassed group 1 and 2, and reached the state of concord from various aspects its society.

Table 1 Categorization on EOL and Palliative Care Institution

3. Integrated	2. Localized	1. Capacity Building
Netherland	Greece	Turkey
Norway	Luxemburg	
New Zealand	Mexico	
Denmark	Estonia	
Germany	Slovakia	
U.S.A.	Portugal	
Belgium	Czech	
Sweden	S. Korea	
Switzerland		
Spain		
Slovenia		
Iceland		
Ireland		
Austria		
U.K.		
Israel		
Italy		
Japan		
Canada		
Poland		
France		
Finland		
Chile		
Hungary		
Australia		

Source: Wright et al., 2006. Reconstructed only on OECD countries

The categorization indicates that majority of OECD nations, particularly of those European countries as well as other Western countries, have reached the stage of the Integrated regarding the institutional apparatus establishment. Only non-western country in the group 3 is Japan, whose portion of the aged population rank at the top internationally. Particularly, Japan retains active NGO support in promoting quality of dying and EOL care for those in need (Wright et al., 2006). In case of S. Korea, its institutional support remains at the Localized provision, which suggest that there are rising voices and public awareness in the need for EOL care for the elderly, whilst still need for the social integration in providing multidimensional support for those in need. Nevertheless, in July of 2015, S. Korea has initiated a policy of social pension to cancer patients who undergo palliative and hospice care. Thus, the outlook for reaching the integrated stage appears optimistic.

2) Public Sphere for EOL Care

The status of infrastructure establishment for EOL and Palliative care amongst the OECD nations, US and UK are the leading countries with the highest development compared to any other nations, indicated in <Table 2>. In case of U.S.A. it boasts the long history of nursing home and palliative care catered for the elderly, which attributes to the strong performance in terms of the public sphere dimension when it comes to EOL care. As for UK, it has recently ranked as the top country with the highest score in the Quality of Index (EIU, 2010), which suggests that the nation has stable foundation for improving the quality of life for those at near death and their families. According to EIU analysis (2010), it indicates that the high awareness of alternative means other than the hyper-medicalized as well as prevalent education on it, has contributed to the high ranking in its measurement. As evident from the infrastructure landscape shown from <Table 2>, the data corroborate this finding from another study as well.

Table 2 Number of EOL and Palliative Care Institutes Availability[5]

Category	Country	No. of Infra.
Integrated	New Zeeland	41
	Denmark	18
	USA	4,000
	Iceland	6
	Ireland	50
	UK	1,478
	Israel	11
	Japan	126
	Canada	500
	Poland	406
	France	471
	Chile	21
	Hungary	50
	Australia	320
Localized	Mexico	15
	Portugal	10
	Czech	16
	Korea	36

Source: Wright et al., 2006. Reconstructed only on OECD countries

Nevertheless, the discrepancy in the infrastructure establishment across the countries still signifies the lack of institutional support in execution. As for Iceland and Israel, their infrastructural conditions are far behind Korea, under the Localized provision category, which challenge the first categorization of EOL care in the previous part. Additional, while many European countries and Western countries from OECD are identified as providing the integrated service regarding the EOL care, the lack of adequate institute to accommodate those in need of the care, suggest that the social apparatus for the aged and their life at the end face further challenges for its members and potential users. Such disparity found between the two dimensions can either be; 1) first, due to at-home EOL care are not counted into the infrastructure status – or even inconsistency in the calculation across each country; or 2) second, physical execution in need of catching up with the purpose of social intention. Further investigation should follow

[5] Some countries unidentified in <Table 2> compared to Categorization are omitted due to the limited data availability.

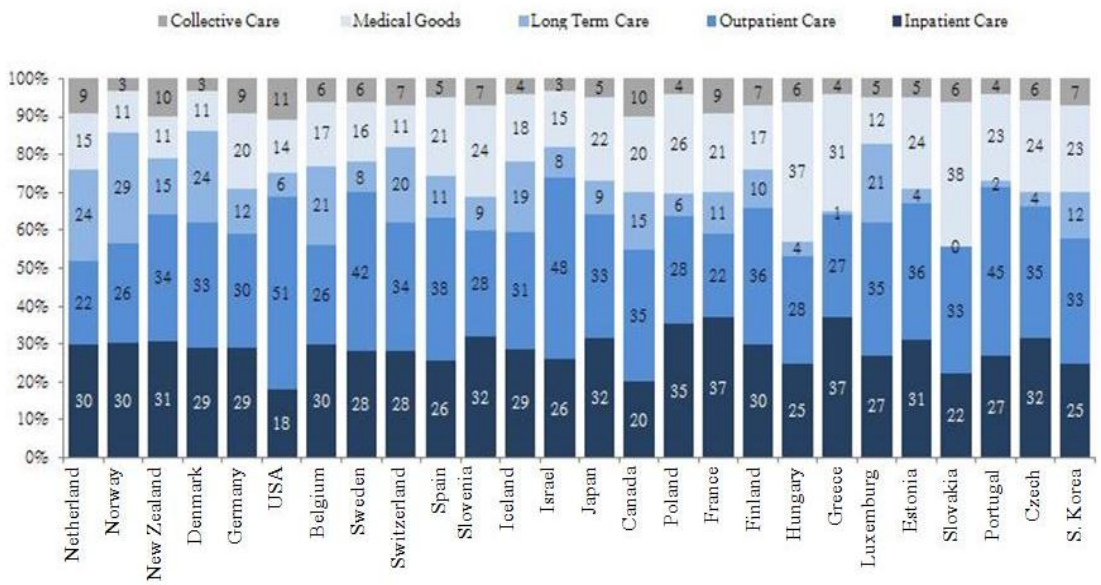
in order to grasp reasons behind.

3) Cost Efficacy of EOL Care for Elderly

As many studies have argued, one of prerequisites for alternative means is the economic deficit the hyper-medicalized EOL have caused on the life quality of the aged. Without much alleviation in physique, the elderly spends most of medical expenditure at the end of one's life. Such economic drainage is another element diminishing the quality of life near end (Hatziandreu et al, 2008; EIU, 2010; Chosun, 2013). OECD's recently published report 'Health at a Glance' exhibits trends of medical expenditures, particularly high on Long Term care – 12% of total in average. Long Term Care (LTC) spending mainly deals with the Elderly with chronic illness unable to maintain everyday life independently. While it is inclusive of surplus more than the EOL spending, the trends of cost efficiency of EOL care can be inferred from it, as shown from <Figure 2>.

Overall performance of OECD nations in terms of LTC is consistent with the previous findings, especially to that of EOL infrastructure. However, for Japan, constant discrepancy in infrastructure as well as LTC spending trends appears versus categorization. OECD results indicate that while in-/out-patient cares are dominant expenditure, the long term care specifically for the elderly is as significant – 9% of the total spending, below the average. This concludes two possible explanations; 1) first, the local community of the elderly is well established so that necessity for institutions and spending decrease compared to other nations; or 2) discordance in measurements and protocol result in such inconsistency in findings, as argued by Loucka et al. (2014).

Figure 2 Medical Expenditure Breakdown[6] (2013, %)



Source: OECD, 2013. 「Health at a Glance」, reconstructed for this paper

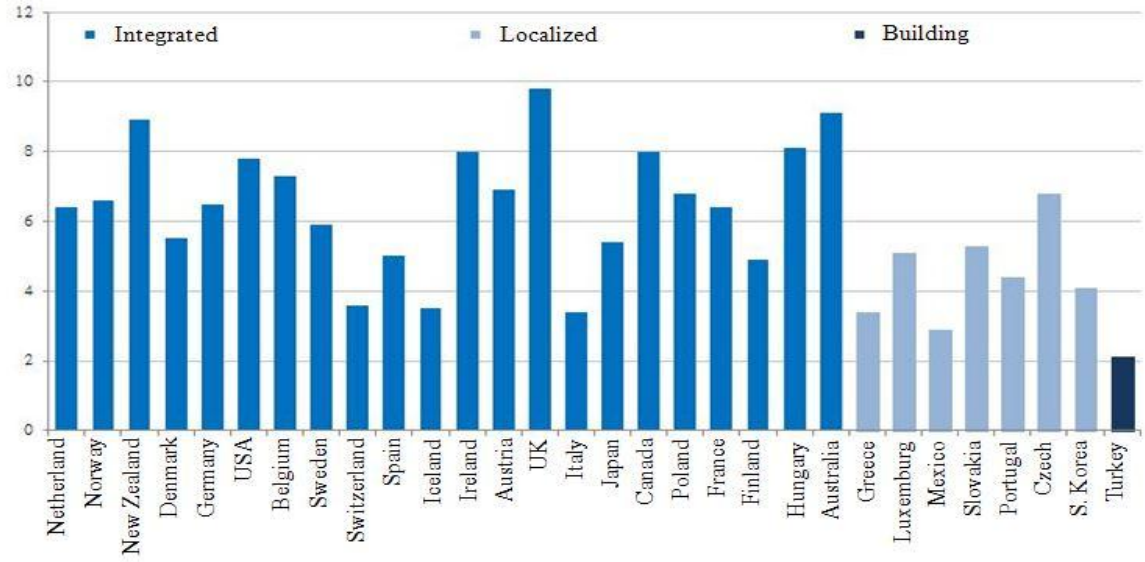
4) Educational Environment on EOL needs

Education on End of Life and alternative means on its course is another dimension critical in shaping one's mind and acceptance on dying. Through social conditions, its member feel empowered in

[6] Some countries unidentified in <Figure 2> are omitted due to the limited data availability.

the course of their life, but it is not a granted result simply due to shift in institutions. Rather, educating its members and potential users is simultaneously crucial in expanding their horizons on choosing appropriate ways of life at the end (Worldwide Palliative Care Alliance, 2014). Relevantly, EIU (2010) mentions the importance of public education and its accessibility in enhancing the quality of life of the aged. <Figure 3> presents UK still the dominant nation with strong educational system for the aged and EOL care for them, consistent with other findings mentioned previously. Japan consistently displays discrepancy from categorization, remaining low at the educational aspect as well. As for Korea, while reaching some establishment regarding infrastructure and medical expenditure for the elderly, the education for alternative means in life course towards end, shows further improvement necessary for the better for life quality of the needed.

Figure 3 Index on Quality of EOL Education (2010, pt)



Source: EIU, 2010. 「Quality of Death – Education index」, reconstructed for this paper

5) Alternative Options and Participation

While accurate numbers are unavailable on total population size participating in the EOL and palliative care, the numbers of people residing in the EOL institutes refer how accepting the elderly are of the alternative option for EOL. Additionally, capacity rate of EOL institutions suggest efficiency of such infrastructure, functioning as referendum for its potential accommodation capacity. Similar to analysis on EOL institutes, both US and UK exhibit capacities for intensive care for the elderly, appropriate for tending chronic illness. Both Korea and Japan show condensed accommodation for the aged in need of EOL care, due to insufficient numbers of institutes and high aged population – the highest in OECD countries. However, the data can only refer to the accommodating potentials rather that the actual participation rates in EOL care.

Table 3 Potential Accommodation Population in EOL care

Category	Country	No. of People (1,000)
Integrated	New Zealand	98
	Denmark	302
	US	75
	Iceland	49
	Ireland	83
	UK	40
	Israel	611
	Japan	1,024
	Canada	65
	Poland	95
	France	128
	Chile	776
	Hungary	202
	Australia	63
Localized	Mexico	7,135
	Portugal	150
	Czech	649
	S. Korea	1,328

Source: Wright et al., 2006. Reconstructed only on OECD countries

V. Conclusion and Future Direction

Discussions on End of Life care have been ascending, concurring with the ageing population. Various studies and relevant organizations argue that End of Life care is the necessary means to enhance life quality until one's end – the course of dying rather than death itself. While there have be rising attempts in quantifying the quality in EOL, still the appropriate analysis framework needs articulation, applicable to various social systems. This paper argues that EOL is the extent of quality of life, in sync with life cycle of its participants, thus analytical protocol for social quality needs to be devised when approaching EOL quality as well, since it is the extent of life itself. Consequently, Social Empowerment stance was taken in this paper to evaluate institutional environment for enabling its potential participants to obtain basic human conditions and rights. While many OECD countries established integrated provision for EOL care, its physical landscape needs further development and construction, except for UK and US.

With evaluation on EOL institutional conditions, data still shows key improvement areas; 1) first, thorough data collection is essential to stabilize inconsistency in each dimension of EOL quality, and 2) second, with substantial data, legitimacy of these dimensions needs statistical validation. This suggests further investigation and researches to continue, which compliment current discrepancy in results and validate the relevancy of the identified social dimensions to the actual quality of life of the elderly through institutional apparatus for alternative means in the aged near the end of life.

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The effectiveness of pre-post discharge rehabilitation program on functional performance in ischemic stroke patients

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ABSTRACT

Objective: To examine the effectiveness of pre-post discharge rehabilitation program on functional performance in ischemic stroke patients

Method: Two groups pretest-posttest design was employed to 60 patients with first time ischemic stroke, admitted at Panyanathaphikkhu Chonprathan Medical Center, Srinakharinwirot University, Nonthaburi and HRH Princess Maha Chakri Sirindhorn Medical Center, Srinakharinwirot University, Nakorn Nayok, Thailand. The eligible samples were randomly assigned to receive pre-post discharge rehabilitation program (intervention group) or usual care (control group). The outcome data such as recovery of neurological function and ADL function were collected at several periods of times including the day of initial admission, the discharge day, 4 weeks after discharge and 6 weeks after discharge. Recovery of neurological function was measured by the National of Health Stroke Scale-Thai (NIHSS-T) and ADL function was measured by the Modified Barthel Index Measurement-Thai Version (BI-T).

Results: The comparisons of characteristics including average of age, gender, and income of the sample in both groups were not statistically significant different. The comparisons of data outcome at several periods of times showed that at initial admission, the scores of NIHSS-T and the scores of BI-T between intervention group and control group were not statistically significant different. While at the discharge day, 4 weeks after discharge and 6 weeks after discharge the scores of NIHSS-T and the scores of BI-T of the intervention group is better than the scores of control group. Regarding the comparisons of outcome data within intervention group each period of time, the results showed that at 4 weeks after discharge and 6 weeks after discharge the scores of NIHSS-T and the scores of BI-T of intervention group were significantly improve more than of 7 days after admission. Moreover, the scores of NIHSS-T and the scores of BI-T of intervention group at 4 weeks and 6 weeks were statistically significant different too.

Conclusion: pre-post discharge rehabilitation program in recent ischemic stroke patient with stable clinical leads to more improvement in neurological function and ADL function than usual care.

Keywords: Discharge Rehabilitation Program; Functional Performance; Ischemic Stroke Patients

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INTRODUCTION

Ischemic stroke is the third leading cause of death, but it is the leading cause of long term disability in the population throughout the world (Fisher & Norrving, 2011). The majority of deaths in patients with stroke has occurred in undeveloped and developing countries (WHO, 2004). Thailand has also faced this critical problem. In the year 2007, the Ministry of Public Health of Thailand reported the statistical data about the burden of stroke. They found that the burden of stroke in Thailand has been increasing. In 1996, the death rate among the elderly with cerebrovascular disease was 54.9/100,000, rising up to 79.7/100,000 in the year 2000 and then increasing to 166.3/100,000 in the year 2004 (Bureau of policy and strategy, 2007).

The rapid increase in number of patients with ischemic stroke in Thailand not only influences an allocation of the health care budget but also influences the physical, psychological and social function of post stroke patients and their families. Most ischemic stroke patients lose their physical functions to conduct the activities in daily living such as moving, toileting, transferring, communicating, and eating. Studies reported that 60-70% of patients with mild and moderate stroke develop depression, experience decrease of quality of life and have impaired recovery (Suenkeler, et al., 2002; Hankey, 2003; Van Wijk, et al., 2006; Gabaldon, et al., 2007).

Consequently, ultimate goals for the care of post stroke patients and family include reduction in the number of deaths, decreasing long term disability and improving function for conducting daily activities. If stroke patients do not receive appropriate treatment and effective rehabilitation at the initial phase, the occurrence and rate of disability in stroke patients will be higher. Several clinical studies support the idea that the work of an interdisciplinary team at the initial phase following the vital signs of ischemic stroke patients results in improvement of their vital and functional prognosis (Wojner, 1996; Miller, et al., 2010). There is strong evidence that organizing post-acute and inpatient stroke care delivered within the first 4 weeks by an interdisciplinary health care team results in an absolute reduction in the number of deaths (Briggs, Felberg, Malkoff, Bratina, & Grotta, 2001; Evan, Harraf, Donaldson, Kalra, 2002). The organization of interdisciplinary stroke care will not only reduce mortality rate, institutional care, and long term disability but also significantly enhance recovery and increase ADL independence (Duncan, et al., 2005; Kalra & Langhorne, 2007).

Impacts of stroke on patients' daily living continue from acute phase to chronic phase. Each phase needs specific interdisciplinary team collaboration. At the acute phase the rehabilitation management focuses on the stability of pathophysiological processes of the stroke patients, while, subacute and chronic phases focus on improving performance to do activities of daily living and facilitating community integration, including vocational and social participation needs. Management of these multifaceted aspects of stroke recovery is therefore required (Kalra & Langhorne, 2007).

The target goals of rehabilitation such as avoiding some complications from hospital admission, reducing the patient's level of impairment and early returning home with continued rehabilitation at home are required (Langhorne, Widen-Holmqvist, 2007). To achieve these target goals, the interdisciplinary team has to develop and implement a pre-post discharge rehabilitation plan. Since discharge from hospital is considered as the major crisis point in the pathway of patients' recovery after having stroke, post stroke patients who do not receive the discharge plan, will get impairment of the transferring or linking of care between the stroke unit, the out-patient care, and home health care. They will be hat higher risk for long term disability. It is necessary that the interdisciplinary team in a hospital has to develop a discharge plan that establishes the linkage of care.

Two previous studies are proposed as the evidence base supporting this study. First, Mary chu, Wu and Cheung (2005) conducted a study to examine the effectiveness of a home-based occupational therapy program for the safe discharge of inpatients with recent stroke. A pre-post discharge rehabilitation program was performed for improving function, reducing environmental risk and the risk associated with early discharge of homebound stroke patients, and improving caregivers' skills through training. The researchers monitored patients' outcomes during 3 months after discharge. The results of pre-post intervention revealed that a sample of 144 showed improvement ($p < 0.05$) in Modified Barthel Index, risk reduction, Caregiver Strain Index, self-efficacy of patients and caregivers.

Second, Fung Mei Ling (2004) studied stroke rehabilitation regarding prediction of inpatient length of stay and discharge placement with 1,111 stroke patients, admitted to Kawloon hospital. The objectives of this study were to identify the indicators that predict the length of hospital stay (LOS), gain functional independence measure and discharge placement after completion of pre-post discharge rehabilitation program. The results showed that significant predictors for discharge placement were age, gender, marital status, pre-hospital living alone versus living with family, and functional subtotal score in locomotion. The results from this study are useful for a multidisciplinary team to initiate appropriate pre-post discharge rehabilitation.

Consequently, developing the pre-post discharge rehabilitation program focusing on interdisciplinary collaboration to improve functional independence, ensure safe discharge, reduce long-term disability, and decrease burdens for caregivers is essential. This therapeutic intervention could result in better achievement and longer lasting outcomes in patients with stroke despite increasingly shorter duration of hospital stay. The objective of this study was to examine the effectiveness of a pre-post discharge rehabilitation program on the recovery of neurological and ADL functions after discharge and during the follow-up period.

2. MATERIALS AND METHODS

2.1 Design

This prospective study used a two groups pre-post test design. All eligible subjects had given their informed consent. The study was reviewed and approved by the ethical committee of Panyanathaphikkhu Chonprathan Medical Center, Srinakharinwirot University, Nonthaburi, Thailand.

2.2 Inclusion and exclusion criteria

Patients with the first diagnose of ischemic stroke admitted at Panyanathaphikkhu Chonprathan Medical Center, Srinakharinwirot University, Nonthaburi or HRH Princess Maha Chakri Sirindhorn Medical Center, Srinakharinwirot University, Nakorn Nayok, Thailand were recruited. The main inclusion criteria of the sample were: 1) first diagnosed with ischemic stroke by a physician but no cognitive impairment; 2) directly discharged to their homes; 3) both the patient and their caregivers were willing to participate in the study; 4) ability to provide informed consent. Patients were excluded if they had severe ischemic stroke (NIHSS > 15), severe disability and/or rapid progression towards death; uncontrolled hypertension, severe dysphagia, and demonstration of previous disability in self -care or were living in a nursing home prior to stroke.

2.3 Sample size and randomization

The results from previous study indicated that the mean differences between the Barthel Index Score and the group were 4.8 with standard deviation 6.7. The formula to calculate sample size ($n = (Z\alpha$

$+ Z\beta)^2 S^2/D_2)$ for experimental design with two groups was employed using the significance level of 5%. The calculated sample size in this study was 30 patients per group.

The block randomization procedure with stratification by gender and age was used for this study. The eligible stroke patients were stratified by gender and age (≤ 40years, > 40 years). After giving informed consent, the stroke patients were randomly allocated to receive either a pre-post discharge rehabilitation program (intervention group) or usual care (control group). Randomization was conducted by a sequence of sealed envelops in which the treatment assignment was given, using random number table and block randomization in fixed box of each stata.

2.4 Intervention and control group

In order to ensure the safe participation of post stroke patients with the program, the pre-post discharge rehabilitation program would be given when post stroke patients displayed stability of their vital signs. When post stroke patients' vital signs were stable, the nurse researchers or assistant researchers who are well trained in conducting the pre-post discharge rehabilitation program, initiated individual or group counselling between post stroke patients, their families or caregivers, and physician to increase the understanding about the risk factors, complication, prognosis of ischemic stroke, and modification of risk behaviour for individual post stroke patients. On the second day the nurse researcher or assistant researcher collaborated with the physical therapist to demonstrate the first mobilization such as sitting and standing beside the bed, using the assistive device for walking or for transferring to the toilet. Afterwards, the post stroke patient returned from the demonstration and practiced all the activities with the assistance of the nurse researcher and physical therapist. On the third day the nurse researcher and assistant researcher collaborated with the dietician to provide counselling to post stroke patients and their families an appropriate menu for the post stroke patient. As some patients received nasogastric tube feeding, their caregivers were taught and practiced how to feeding via the nasogastric tube and how to prepare food for feeding. On the fourth day the nurse researcher collaborated with the physician and physical therapist to initiate individual or group counselling with the post stroke patient and their family about the benefits, obstacles, and selection of appropriate exercises for post stroke patient. These were then practiced by the patients. The less time of the day, the post stroke patients and their families would be prepared for living at home by the nurse researcher or assistant researcher, including medical administration, monitoring of abnormal signs and symptoms, home modification, and the significance of health care follow up. The duration of time for conducting activities in each session was approximately one hour. After discharge from hospital the post stroke patient and family were followed up via telephone by the nurse researchers every week until 6 weeks after post discharge to encourage them to continue conducting exercise and modification of risk behaviour, regular medication use, and help them to solve problems while living at home.

The post stroke patients in the control group and their family members were given instructions for usual care such as immobilization, risk factor reduction, appropriate menu and food preparation by nurses and rehabilitation training by physical therapists prior to discharge from the hospital. The control group did not include follow up via telephone.

2.5 Outcomes and follow up

Outcomes of the study focused on the recovery of neurological function and ADL function. Several previous studies (Adam et al., 1999; Fonarow, et al., 2012) indicated that the National of Health Stroke Scale-Thai (NIHSS-T) is a good instrument for monitoring the recovery of neurogical function as well as the Modified Barthel Index Measurement-Thai Version (BI-T) which is an appropriate index for

monitoring the recovery of ADL function of stroke patients in the acute phase. Thus, these measurements were employed to monitor the outcomes of the study.

2.6 Statistical analysis

Characteristics of the participants in this program were analysed by descriptive statistics such as frequency, percentage, mean and standard deviation. The independent *t*-test was employed for analysis of the characteristic differences of the participants in both intervention and control groups. To evaluate the effectiveness of pre-post discharge rehabilitation on the recovery of neurological function and ADL function after discharge and in the follow-up period, the two way repeated mix Anova was used for the analysis.

3. RESULTS

1. Results involving to the recovery of neurological function

The scores of the National of Health Stroke Scale-Thai (NIHSS-T) were monitored at initial admission, the discharge day and the follow-up period including 4 and 6 weeks after discharge. These NIHSS-T scores referred to the recovery of neurological functions. The average of scores of NIHSS-T in each period of time categorized by intervention and control group is shown in Table 2.

Table 2: Average scores of NIHSS-T in each period of time categorized by intervention and control group

Group	Initial admission		The discharge day		4 weeks after discharge		6 weeks after discharge	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Intervention	7.17	3.10	3.07	2.39	1.23	1.38	0.30	0.65
Control	7.63	3.06	4.70	2.18	2.33	2.11	1.27	1.87

From Table 2 the results reveal that the average scores of NIHSS-T of both groups tend to decrease with elapsed time after initial admission. However, average scores of NIHSS-T of the control group are still higher than intervention group in each period of time.

2. Results involving the recovery of ADL function

This study monitored the recovery of ADL function at initial admission, the discharge day and follow-up period including 4 and 6 weeks after discharge, by measuring the scores of the Modified Barthel Index Measurement-Thai Version (BI-T). The average of score of BI-T scores in each period of time categorised by intervention and control groups is presented in Table 3.

Table 3: Average scores of BI-T in each period of time categorized by intervention and control group

Group	Initial admission		The discharge day		4 weeks after discharge		6 weeks after discharge	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Intervention	61.00	10.21	78.83	7.03	90.50	6.35	96.67	3.56
Control	60.67	9.98	72.67	8.38	83.50	7.45	90.50	7.35

From table 3, the results demonstrate that the average scores of BI-T of both group tended to increase with elapsed time after initial admission. However, the intervention group had a higher average of score of BI-T than the control group in each period of time.

3. Results relating to the effectiveness of pre-post discharge rehabilitation on improvement of the recovery of neurological function and ADL function after discharge and in the follow-up period

3.1 The effectiveness of pre-post discharge rehabilitation on improving the recovery of neurological function

This study examined the effectiveness of pre-post discharge rehabilitation program on improving the recovery neurological function by using the two way repeated mix Anova for data analysis. The results from the analysis are presented in Table 4 and 5.

Table 4: Two-way ANOVA between improving the recovery neurological function and groups

Source	SS	df	MS	F	p-value
NIHSS-T	1540.71	3	513.57	338.88	0.000
Group	65.10	1	65.10	4.25	0.04
NIHSS-T*Group	10.35	3	3.45	2.28	0.08
Error	887.81	58	15.31		
Total	2503.97	65			

From table 4 the results indicate that there is a significant main effect for average score of NIHSS-T, $F(3,58) = 338.88$, $p < 0.001$ and there is a significant main effect for group, $F(1,58) = 4.25$. $p < 0.05$. Additionally, the results showed that there is a non-significant interaction between average score of NIHSS-T and group.

Table 5: The differences of the average scores of NIHSS-T between periods of time (Post hoc test)

NIHSS-T (I)	NIHSS-T (J)	Mean difference (I-J)	Std. Error	p-value	95% confidence interval	
					Lower bound	Upper bound
Initial admission	Day of discharge	3.52	0.21	0.000	2.93	4.10
	4 weeks after discharge	5.62	0.27	0.000	4.87	6.36
	6 weeks after discharge	6.62	0.31	0.000	5.77	7.47
Day of discharge	4 weeks after discharge	2.10	0.16	0.000	1.66	2.54
	6 weeks after discharge	3.10	0.21	0.000	2.53	3.67
4 weeks after discharge	6 weeks after discharge	1.00	0.13	0.000	0.65	1.35

From Table 5, after conducting a Post hoc procedure for pairwise comparisons, the results revealed that there are differences of the average scores of NIHSS-T between all time periods in this study. Investigating the pairwise comparisons shows that the results indicate that there are statistical significant differences of the average scores of NIHSS-T between initial admissions, the day of discharge, 4 weeks after discharge and 6 weeks after discharge. Regarding the differences of the average score of NIHSS-T between the day of discharge, 4 weeks after discharge and 6 weeks after discharge, there are statistical significant differences in the average scores as well. Finally, considering the pairwise comparisons between the differences of the average score of NIHSS-T between at 4 weeks after discharge and at 6 weeks after discharge, there is statistical significant difference of the average scores in these periods too.

3.2 The effectiveness of pre-post discharge rehabilitation on improving the recovery of ADL function

To examine the effectiveness of pre-post discharge rehabilitation program on improving the recovery of ADL function, this study applied the two way repeated mix Anova for data analysis. The results from the analysis are presented and shown in Table 6 and 7.

Table 6: Two-way ANOVA between improving the recovery ADL function and groups

Source	SS	df	MS	F	p-value
BI-T	37015.42	3	12338.47	521.09	0.000
Group	1450.42	1	1450.42	8.44	0.005
BI-T*Group	427.08	3	142.36	6.01	0.001
Error	9966.67	58	171.84		
Total	48859.59	65			

From Table 6 the results indicate that there is a significant main effect on the average score of BI-T, $F(3,58) = 521.09$, $p < 0.001$ and there is a significant main effect on the group, $F(1,58) = 8.44$, $p < 0.01$. Additionally, the results showed that there is a significant interaction between average score of BI-T and group.

Table 7: The differences of the average scores of ADL between period of times (Post hoc test)

BI-T (I)	BI-T(J)	Mean difference (I-J)	Std. Error	p-value	95% confidence interval	
					Lower bound	Upper bound
Initial admission	Day of discharge	-14.92	0.91	0.000	-17.40	12.44
	4 weeks after discharge	-26.17	1.13	0.000	-29.26	-23.08
	6 weeks after discharge	-32.75	1.16	0.000	35.93	29.57
Day of discharge	4 weeks after discharge	-11.25	0.68	0.000	-13.11	-9.39
	6 weeks after discharge	-17.83	0.77	0.000	-19.94	-15.73
4 weeks after discharge	6 weeks after discharge	-6.58	0.47	0.000	-7.86	-5.30

After conducting a Post hoc procedure for pairwise comparisons, the results shown in Table 7 indicate that there are differences of the average scores of BI-T between all periods of times in this study. Investigating the pairwise comparisons, the results indicate that there are statistical significant differences of the average scores of BI-T between initial admission, the day of discharge, 4 week after discharge and 6 week after discharge. Regarding the differences of the average score of NIHSS-T between the day of discharge, 4 week after discharge and 6 week after discharge, there are statistical significant differences of the average scores as well. Finally, considering the pairwise comparisons between the differences of the average score of BI-T between at 4 weeks after discharge and at 6 weeks after discharge, there is statistical significant difference of the average scores between these periods too.

4. DISCUSSION

Results of data analysis indicated that the pre-post discharge rehabilitation had a statistically significant effect on improving the recovery of neurological function. The average scores of NIHSS-T of the intervention group decreased through all periods of the study time and the participants of the intervention group had lower average scores of NIHSS-T than the control group. Moreover, this research monitored the effectiveness of the program by measuring the score of NIHSS-T until the stroke patient discharged from the hospital to 4 and 6 weeks, respectively. The results supported that there were statistically significant differences in the average scores of NIHSS-T between initial admission, the day of discharge, 4 weeks after discharge and 6 weeks after discharge. It means that after the stroke patient participated with the pre-post discharge program, the program still improved the recovery of neurological function until the sixth week of the follow up period. It could be explained that since this pre-post discharge program is the multidisciplinary collaboration for continuum caring post stroke patient and

family from acute phase of illness until early return to home. Several activities of the pre-post discharge program were planned for improvement of recovery of neurological function in the post stroke patient, such as treatment from a physician, training from a physical therapist, group counselling from nurses and a dietician. Specifically, all post stroke patients and families participated with the training course for mobilization, such as sitting and standing beside the bed, using an assistive device for walking or transferring to the toilet and also training for exercise by a physical therapist, nurse researcher and assistant. There is evidence to support that motor practice can improve motor neuron function both immediately and long after stroke (Miller, 2010). The stimulation from practice is the sensory input to promote neural reorganization. A complete contraction of target muscle and associated movement increases proprioceptive feedback to the central nervous system that will promote motor learning and neural reorganization (Wang, 2007). Moreover, post stroke patients should continue their practice after discharge because this program was designed to provide the phone counselling for conducting the training exercise by themselves every week for 6 weeks after discharge. Therefore, the pre-post discharge rehabilitation program had a significant effect on improvement of neurological function recovery.

Another outcome of this study is the recovery of ADL function. The results from data analysis supported that the pre-post discharge rehabilitation program had a statistically significant effect on the recovery of ADL function through all time periods in the study. It can be noticed that the average scores of BI-T of the intervention group was higher than the control group through all time periods. Moreover, the results from pairwise comparisons indicated that there were statistically significant differences in the average scores of BI-T between initial admissions, the day of discharge, 4 weeks after discharge and 6 weeks after discharge. However, it is noticed that there is the interaction effect between group and average score of BI-T after certain elapsed times. Considering the relationship of means of the scores of BI-T and times of experimental and control groups, the means of scores of BI-T of the control group also increased but to a lesser degree than the experimental one. This result is consistent with the study of Pessah-Rasmussen& Wendel (2009). This study assigned patients with acute stroke to receive early supported discharge (ESD), coordinated planned discharge from the hospital and post-discharge multidisciplinary care. Patients demonstrated a significant improvement in functional independence at post-treatment and at 6 months post-stroke. The post stroke patients participated in the program used a repetitive practice of specific movements by the physical therapist and nurse researcher to increase their ADL function while they were admitted to the hospital. After discharge they received telephone counselling to continue to practice specific movements.

5. CONCLUSION

Pre-post discharge rehabilitation is considerably effective for the improvement and recovery of neurological function and ability to carry out daily activities. This leads to independent living of the post stroke patient and reduces the burden to their families.

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Barriers of Teaching on Sex Education among Parent-Adolescent in Phetchaburi Province, Thailand [1]

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ABSTRACT

Background: The communication about sexual issues within families is thus indispensable, especially those families having the adolescent children due to their prone to the inappropriate sexual behaviors and health. However, the sexual issue is a 'taboo subject' in the context of Thai society therefore; the open discussion in such regard should be avoided.
Aim: To reflect the barriers of teaching on sex education among Parent Adolescent in Phetchaburi Province
Method: A qualitative research design was used. Participants were 16 parent-adolescent and semi-structured in-depth interviews, a recorder, and field notes was used as the main technique of data collection. Data was analyzed using the process of Colaizzi analysis.
Results: Three categories, 8 subcategories emerged from the analysis. A difficulty for the parents to teach their adolescent children about sex education is their lack of confidence in the accuracy of what they want to teach. They also have the perception that the sex education refers to the teaching of sexual intercourse, which the adolescents can learn on their own. In addition, they are afraid that the sex education may provoke their children's sexual eagerness and desire for experimentation.
Conclusion: the health personnel should develop the competence of parents in the provision of accurate and suitable knowledge of sexuality to their adolescent children. This is to generate the correct attitude, which may then contribute to the adolescents' good sexual development.

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INTRODUCTION

Teenage pregnancy situation is a chronic social problem with gradual increase of childbearing rate per 1,000 adolescents aged 15-19 years in the past 11 years; although, the statistics reveals that the fertility rate in Thailand is below the replacement rate at the rate of 1.5 with the decline of pregnancy rate from 31 per 1000 women in 1996 to 24 in 2011. In particular, such childbearing rate increases in 2003-2007 with a fall in 2008 at the rate of 39.79. It soars again to the highest level in 2011 at the rate of 46.60 but shrinks in 2013 to the rate of 41.54.

In addition, it is also found that the rate of childbearing and repeated pregnancy in the adolescents aged below 20, 15-19 and below 15 years is 11.6%, 11.7% and 6.5%, respectively (Office of the Permanent Secretary, Ministry of Social Development and Human Security, 2014). Therefore, it can be said that the teenage pregnancy is an important problem of Thailand. According to the research on the cause of teenage pregnancy in Thailand, the important contributory factors includes the incorrect knowledge of sex education and of birth control, friends being consulted for sexual issues instead of teachers or guardians, improper sexual behavior of adolescents and belief that one or two sexual intercourses may not lead to the pregnancy (Apakupakul, 2006). It is also found that the problem of teenage reproductive health is more intense leading to other health-related problems: HIV infection, HPV infection (a cause of cervical cancer), other preventable sexual transmitted diseases and child abandonment. Apart from direct impacts on their quality of life and health, those problems affect the economy, society and country as a whole too. It is thus crucial to enhance their awareness of and engagement in self-care (Phaisan-achaphong et al., 2011).

Sex education is a key for the adolescent's self-care because sex is learned from their childhood to adulthood such as reference to sexual organs as well as understanding of maleness and femaleness and of expected roles of men and women in society. The parents or guardians play an important role in promoting the children's knowledge about sex and sexual development suitable to the age. As a result, the communication on sex education in the family is crucial, especially the family of adolescents due to their proneness to behavioral and health related problems (Panyayong, 2010). This finding agrees with a study, which reveals that the adolescents want to learn about sex and wish to consult about it with their parents (Openminded Talks for Safe Love Affairs Project, 2005).

However, sexual issues in Thai society are like a taboo so open discussions about them should be avoided, while parents view that sex should not be discussed with children because they are afraid that such discussion will increase the curiosity and eagerness to experiment (Prasertwong, Hornboonherm, Singhala, Mahasiripanth and Thaibpho, 2006). Similarly, according to the study of the Bureau of Reproductive Health, Department of Health, Ministry of Public Health (2011), an

important reason behind the adolescent's engagement in early sexual intercourse is that their parents believe that the discussion of sexual issues should be avoided or they are afraid to talk about it; therefore, the adolescents are left to learn about sex on their own among friends resulting to the acquisition of incorrect knowledge, false beliefs and wrong practices.

Due to a small number of in-depth study on the parents' teaching on sex education to adolescents, the author desire to examine the relevant problems and obstacles with the expectation that the research findings may benefit the formulation of adolescent sexual health promotion scheme through the promotion of greater role of parents in teaching on sex education. In this regard, Phetchaburi Province, a western province of Thailand, is chosen by the author for this study because it has the pregnancy rate of 20.08% among the female aged below 20 years. It is the second highest rate in the western provinces (Health promotion center region 5: Ministry of Public Health, 2011).The immediate solutions are thus required for this critical health problem.

AIM OF THE STUDY

This study aimed to reflect the barriers of teaching on sex education among parent-adolescent in Phetchaburi Province, Thailand

METHODS

Study design

This is a qualitative phenomenological research in which the in-depth interviews are conducted for direct and extensive acquisition of relevant data and details for the purpose of this study. Data collection and procedure the criterion for inclusion involved a sample that was parents aged 33 years or higher, being married and living together; having children aged 13-19 years, having the domicile in Phetchaburi Province, being experienced in teaching on sex education, and was willing to participate. The participants were recruited by two sampling techniques. The first technique was a purposive sampling; participants who have a direct experience of in teaching on sex education should be selected through purposive sampling. Secondly, snowball sampling was used, in which new participants referred other parent-adolescent to the study who were willing to participate (Hollowey & Wheeler, 2010).Further, sample size was determined on the basis of theoretical saturation. Saturation refers to no new information being obtained while collecting data (Morse, 1995).

Ethical considerations

Ethical approval was obtained from the Human Research Ethics Committee of Phachomklao College of nursing, Phetchaburi Province (15-2014).The participants were provided with both verbal and written information about the study. The description included an explanation that the participants could choose to skip any questions that they did not feel comfortable

answering or talking about and they could change their mind later and withdraw from the study at any time. Moreover, the participants could choose the time and place of the interview at their convenience and they were ensured privacy to decide a place by themselves. The interview, which was recorded by a recorder, would be destroyed after the interviews were analyzed. The confidentiality of participants was guaranteed. Moreover, they had an opportunity to ask questions before submitting a signed consent form that was retained by the researcher.

Data analysis

The research tool is the semi-structured interview, which is developed by the author based on the review of relevant literatures, transcribed texts of audio recordings and field notes. Colaizzi's method of data analysis (Holloway & Wheeler, 1996) is also used. The data are collected from January to September 2014. After finishing daily data collection, they are transcribed, recorded in detail without any interpretation and fully analyzed. The sample comprises 16 parents of adolescents. The saturation of data is reached.

Trustworthiness

To enhance the quality of this study, four criteria of trustworthiness were integrated in all of the research procedure design, consisting of: credibility, dependability, confirmability, and transferability (Polit & Beck, 2008). Credibility is enhanced by a rigorous method and the credibility of the researcher (Polit & Beck, 2008).In this study, the researcher shared research procedures and findings of the first study participant with the adviser. This process aided the researcher to discuss and validate what emerged through coding and to ensure that the coding reflected the experiences of the participants and suggested the need for further data collection and analysis. Transferability relates to which findings from the data can be transferred to other settings or groups. A good description takes readers into the setting being described; thick description also helps someone to make a generalization of the findings to a similar situation or context (Polit & Beck, 2008).

In this study, thick descriptions such as the more detail of the experiences in teaching on sex education among parent-adolescent were provided. Thick description was enhanced by conducting interviews with having more specific detail of experiences and writing field notes throughout the process of data collection. The detail of participants, setting characteristics and adequate information or findings also provided to guide readers to see how the categories were elaborated and applicable to other groups. Especially, when presenting categories and themes, quotations were selected when suitable. Dependability is synonymous with reliability research and Lincoln and Guba, (1985) state that dependability is the consistency and stability of data over time. In this study, the field notes containing thought and decision trails when theme, categories, sub-categories, properties are identified were shared with the adviser. Confirmability refers to the

maintenance of neutrality and prevention of personal bias influence on the research. The technique for establishing confirmability is an audit trail (Lincoln and Guba, 1985). In this study, the researcher showed the summary of each interview to each participant to verify the accuracy of the information. The process of collecting data coding, and interpretation were discussed and shared with the adviser in order to verify the findings.

RESULTS

Table 1 The Data analysis of Barriers of Teaching on Sex Education among Parent-Adolescent in Phetchaburi Province, Thailand

Sub-category	Category	Theme
The school is responsible for teaching on sex education.	It lacks the confidence in the correctness of sex education contents.	Barriers of Teaching on Sex Education
One believes that the potential to teach on sex education is insufficient.		
The teaching on sex education means the teaching on sexual intercourse.	There is an attitude that teaching on sex education means the teaching on sexual intercourse.	
The children must reach the adolescent age before teaching on sexual intercourse.		
The adolescents are repeatedly told not to date rather than the teaching on sexual intercourse.		
One feels discomfort to teach on sex education because it is not known how to begin.	The teaching on sex education will encourage the children to experiment.	
One should teach on sex education after the children reach the adolescent age. If they are taught too early, their curiosity to know will then increase.		
The teaching on sex education may encourage the children to experiment.		

Barriers of Teaching on Sex Education among Parent-Adolescent in Phetchaburi Province

According to the research results, there are 3 important barriers of teaching on sex education among parent-adolescent in Phetchaburi Province.

1. Being unconfident in the correctness of sex education contents to be taught, the parents accept that they have taught their children about sex such as the condom use but they do not go into detail, for example, 'how to deal with the situation when the condom is leak'. They believe that sex education and sexual health care are normally taught at school so the teaching on sex education is a school's role. They will also take their children to see the doctor if any sexual health problems (e.g. abnormal leucorrhoea) are found.

"…When he begins to have a girlfriend, I taught him how to use condom for preventing diseases but I am unconfident in teaching other preventive measures if the condom is leak. I think the school can teach about sex better than me…" (Father aged 42 years).

"…I teach my daughter about self-care, for example, what to do if she has leucorrhoea. I think the school can teach better than me because this issue is too detailed. I will take her to see the doctor if her leucorrhoea seems abnormal… " (Mother aged 37 year)."

"…Normally sex education is available in schools. I do not need to teach it in great detail. I am afraid of mistakes. It is better for me to give advices…" (Mother aged 35 years).

2. Having the attitude that sex education means the teaching on sexual intercourse the parents tend to warn or forbidden their children from dating or engaging in early sexual intercourse rather than the teaching on safe sex.

"…The discussion about sex education involves the sex intercourse. I do not teach my son about it but I merely tell him not to have a girlfriend…" (Father aged 40 years).

"…Sex education means sexual intercourse. I have never taught my son about it. I will teach it when he has a girlfriend…" (Father aged 42 years)

"…The frequent discussion of sex education may increase my son's concentration in such matter…" (Mother aged 39 years).

"…I advise him not to have a girlfriend before graduation or being employed otherwise he will suffer from difficulties…" (Mother aged 35 years).

2.3 Being afraid that sex education may increase the curiosity and eagerness to know and experiment The parents believe that sex education merely means the sexual intercourse so they feel embarrassed and discomfort when they begin to talk with their children about it. Also, they are afraid that sex education may increase the children's curiosity and eagerness to know and experiment resulting in the engagement of early sexual intercourse.

> *"…I feel discomfort. It is embarrassing to talk. It should not be discussed openly. I am afraid that the more we talk about it the more he has curiosity and eagerness to know and experiment…" (Mother aged 37 years).*
>
> *"…The teaching on sex education should begin at the age of 11-12 years, approximately. I am afraid that if we talk about it too early, the curiosity and eagerness to know and experiment will increase…" (Mother aged 38 years).*
>
> *"…I feel discomfort to talk about sex education with my children. The more we talk about it the more he has curiosity and eagerness to know and experiment…" (Mother aged 35 years).*

According to the research results, the parents still believe that sex education means the teaching on sexual intercourse. It is like a taboo that should not be revealed. They feel discomfort to talk with their children and think that they have insufficient knowledge in such regard so the school is the best source of knowledge. It is also believed that the teaching on sex education for young children may increase their curiosity and eagerness to know and experiment resulting in the engagement of early sexual intercourse. All these factors decrease the parents' role in teaching on sex education for the adolescents.

DISCUSSION

The study results reveal that the barriers of teaching on sex education among parent adolescent in Phetchaburi Province are attributable to several factors. This includes the lack of confidence in the correctness of sex education contents, the attitude that sex education means the sexual intercourse and the afraid of the increase of the children's curiosity and eagerness to know and experiment due to the sex education. As a result, the parents tend to warn or forbidden their children from dating or engaging in early sexual intercourse rather than the teaching on safe sex. This agrees with the study of the Bureau of Reproductive Health, Department of Health, Ministry of Public Health (2011), which indicates that an important reason behind the adolescent's engagement in early sexual intercourse is that their parents believe that the discussion of sexual issues should be avoided or they are afraid to talk about it; therefore, the adolescents are left to learn about sex on their own among friends resulting to the acquisition of incorrect knowledge, false beliefs and wrong practices.

Meanwhile, according to the study of Nitirat (2008), numerous parents accept that they are incapable to teach on sex education and embarrassed to talk about it. They also claim the following reasons: their children are too young for sex education; they are embarrassed to talk about sex issues and afraid that sex education will increase the children's curiosity in sex issues; their children may have already known about it; and the teaching on sex education is a school's responsibility. Nonetheless, the study on the adolescents' attitude towards the parents' teaching on sex education and the needs of sex education reveals that the parents are the most suitable person for teaching on sex education (Kritcharoen, Phol-in, Ingkathawornwong and Sritaweewat, 2008). The children are confident in their parents whom they want to talk with or to be consulted about the boy (girl)

friend relationship (Open-minded Talks for Safe Love Affairs Project, 2015). Similarly, Kritcharoen, Singchangchai, Phol-in, Ingkathawornwong and Sritaweewat (2009) have conducted a study on the development of the parents' potentials of teaching on sex education through the workshop comprising the positive sexual communication activities. This is a new path for sex education at the international level. It differs from the negative sexual communication that focuses on the danger of diseases, expression of good will or use of intimidation techniques. Negative sexual communication causes the unsuccessful sexual relationship campaign.

Before workshop participation, it is found the parents teach their children about sex at low level because they are embarrassed to talk about it and have no knowledge in such regard. The parents themselves have never been taught by their ancestors. They do not know how to begin, have no time to talk, and fail to be aware of the risk to their children. The parents are not only afraid that the teaching on sex education may increase the children's concentration on sex but also believe that their children can learn about it on their own, are good kids whose behaviors conform to the religious doctrine, have never raised any questions about sex, and are too young to know about it.

However, after the workshop participation, the parents pay more attention to the teaching on sex education, are able to give advices to their children, and have more understanding and trust in their children. With respect to the parents who provide close care to their children, the communication on sex between them and the adolescents is at 21.5%. Meanwhile, the adolescents believe that the talks with parents in an open-minded manner may lead to the delay of first sexual intercourse and be a solution for teenage mother problem. This conforms to the study of the Bureau of Reproductive Health, Department of Health, Ministry of Public Health (2011), which unveils that a solution for teenage mother problems is that the parents or guardians are required to play a role, to provide the assistances, and to imbue their children with the immunity.

In particular, a warm family in which family members can talk to each other may enhance the adolescents' good health and delay their first sexual intercourse. It is also found that birth control techniques are more used by the adolescents who have talked with their parents about it in comparison to their counterparts who have never done so. This finding agrees with the study of Child and Adolescent Psychiatric Society of Thailand (2005). It claims that most parents do not understand the true meaning of sex education so they focus on the sexual intercourse alone. Indeed, sex education or learning about sex is a suitable and academic matter and aims to enhance the learners' correct knowledge, understanding and attitude towards sex, proper conducts and sexual problem prevention. This includes, for example, the internal and external sexual changes when reaching adolescent age, suitable manners, understanding of opposite sex, difference between men and women in light of their belief, feeling, physiology and reproductive system, sexual issues at adolescent age, sexual relation and response, pregnancy, birth control, sexually transmitted diseases as well as roles and responsibility after sexual intercourse, etc.

SUGGESTIONS

1. The government agencies should introduce the campaigns for enhancing the correct understanding and knowledge of sex education among people in order to reduce their negative attitudes towards the teaching on sex education.

2. The collaboration between families and schools in formulating the program for the provision of sex education knowledge to the parents should be initiated. This is to encourage the families to recognize the significance of sex education and to have the positive attitude towards it. The parents are then able to teach their children about sex in a manner suitable for the age and

gender of children.

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The Effect of Clinical Post Conference on Reflective Thinking and Critical Thinking in the 3rd Year Nursing Students in Maternal and Infant Nursing and Midwifery Practicum Course

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ABSTRACT

Background: Clinical post conference is a sharing opportunity in knowledge gained during clinical practice. Clinical post conferences in nursing provide an open discussion, share critical thinking, and reflective thinking after clinical experiences. Faculty members usually guide students in discussing on how to develop problem-solving skills in nursing practice. The reflective thinking process is considered as a cycle interactive process to improve practice in a specific context. New insight and changed perspective are outcomes of reflective thinking process.

Study Aim: This study aimed to explore clinical reflective thinking regarding clinical post conferences in maternal and infant nursing practice of the third year nursing students.

Method: The study was quasi- experimental research – one group pre-post test design. The participants were 107 third year nursing students at Boromrajonani College of Nursing, Phraputtabath during maternal and infant nursing practice. The participants completed a clinical reflective thinking pretest just one week before beginning nursing practice at the antenatal clinic, labor and delivery department, and postpartum ward. The guidelines of the clinical post conference and reflective thinking questionnaire were based on Kolb's learning theory. The reflective thinking questionnaire included 16 items and the reliability is 0.779. The Critical thinking tool consisted of 19 items and the reliability is 0.75. A total of 7-8 students in each group participated in 24 clinical post conferences with maternal and infant nursing faculty in each area of practice. Pair-test was used to examine the difference of pretest and posttest reflective thinking scores.

Results: The study finding indicated that there was significantly different between pre-test and post-test of clinical reflective thinking mean after 8 weeks ($p>=0.001$). The reflective thinking scores were identified into 4 subcategories including habitual action, understanding, reflection, and critical reflection. The highest scores were in the understanding and reflection categories.

Keywords: Clinical post conference, reflective thinking, nursing practice

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BACKGROUND OF THE STUDY

Recently, healthcare system is more complex than ever before. As a rapidly advancing profession, nursing practice demands higher-order cognitive skills from nurses, such as critical thinking, creative thinking, and reflective thinking, problem solving, and decision-making, as well as the skills in nursing practice[1]. Clinical Post Conference (CPC) is used as a learning method in clinical practice in nursing education. In the clinical setting, nursing students learn to apply theory that was learned in the classroom to real life situations[2]. Clinical settings present problems that are novel, complex, specialized, and unpredictable. Nursing students without clinical experience have to learn how to practice safely, within the time periods that are allocated to the clinical settings. Although the knowledge, skills and attitudes that are necessary for delivering quality of care are required in each area of practices, after the results of care are presented, the students need to learn how to improve their performances in the next situation [4,5].

Reflection is thinking about the process of learning and thinking about knowledge [6]. Reflection is a tool that can be used during experience for nursing students "to look back on their performance in a situation and compare their performance to other performances such as their own previous performance or to that of an expert. The student can use the real life situations to enhance their ability to critically think. Reflection is articulation that promotes better learning. Guided reflective journaling is articulation of developing understanding, which leads to deeper understanding or metacognition. Reflective journaling will take the learner beyond the mere knowledge domain to the level of expert performance [7]. Reflective thought is a key element in developing the ability to think critically [8] .Various strategies have been introduced in nursing education to move students beyond rote learning. These strategies include interactive computer activities, sharing of clinical experiences in post conference. Guided reflective journaling is a strategy that has the potential to enhance critical thinking during the nursing preceptorship experience because it is real-life, non simulation, hands-on experience.

The ability to think critically through the application of knowledge and experience, problem solving and decision making skills is central to nursing practice[9]. To practice in clinical setting, nursing students requires thinking like a nurse. Nurses think differently from other health team personnel such as doctors, dentists, pharmacists, etc because of the way that we view the client and the type of problems they deal with in practice when they engage in client care. Critical thinking is the ability to think in a systematic and logical manner with openness to question and reflect on the reasoning process used to ensure safe nursing practice and quality care [10]. Therefore, they critically monitor their thinking to ensure that their thinking meets the standards for intellectual thought[11].

In clinical nursing practice as a nursing student, reflective thinking and critical thinking were abilities that are important to develop their learning and problem solving competencies. The purpose of study is to identify the effect of clinical post conference to improve reflective thinking and critical thinking in third year nursing students at Boromjonnani College of Nursing, Phraputtabath, Saraburi,Thailand. The findings are important for improving teaching and learning methods in clinical nursing practice, especially in Maternal and Infant Nursing and Midwifery Practice course.

METHODS

A quasi-experimental – one group pre-post test design-was implemented. The participants were 107 third year nursing students during maternal and infant nursing practice.

Sample

The target population of this study was baccalaureate nursing students at the third year and enrolled in Maternal and Infant Nursing practice I. Sample inclusion criterions were (a) age 18 to 25 years, and (b) enrollment in an Maternal and Infant Nursing Practice I course at a nursing program, Boromrajonnani College of Nursing Phraputtabath, Thailand during December 2014-July 2015. An exclusion criterion was students could not complete the course. Total of 107 students enrolled Maternal and Infant Nursing Practice course. At the end of the course, one student had health problem issues and could not complete the posttest. All of 106 students were samples for data analysis.

Intervention

In this study the authors developed a guideline for clinical post conference based on model of reflection thinking. All 7-8 students in each group, totally 14 groups, practiced at prenatal clinic, labor and delivery department, and postpartum ward for 8 weeks. Each student participated in clinical post conference 24 times at the last hour of practice. The guideline of clinical post conference was based clinical reflection including: What? – Description of event that happen with the student during practice, how the event related to physiological change and theory, how the student feels about the event, and how the students react to the events. So what? – Analysis of event by discussing about strong or weak points of practice and sharing of better practice. Now what? – Summary of learning and plan for better action to solve similar events in the future.

Measurement

The reflective thinking questionnaire –self administration- included 16 items, respond 1-5[12]. There were four categories including habitual action, understanding, reflection and critical reflection. The reliability is .779. The Critical thinking tool consisted of 19 items, respond 1-4[13]. The reliability is .75. After Ethical committee approved, the students were asked for informed consent of the study. Data were collected two times, at the first week of maternal and infant nursing practice. The students participated in the clinical setting based nursing process and were assigned to the clinical post conference. The last data collection was at the last week of nursing practice. Descriptive analysis was used for descriptive data. Pair-t test was used to compare the difference between the reflective thinking scores measured before applying intervention and after the intervention.

RESULTS

The participants were 106 third year nursing students at Boromrajonnani Phraputtabath. There were 96.56 % female students and 3.44 % male students (10 male students). The study finding indicated that there was significantly different between pre-test and post-test of clinical reflective thinking mean after 8 weeks ($p>=0.001$). The reflective thinking scores were divided into 4 subcategories including habitual action, understanding, reflection, and critical reflection. The highest scores were in the understanding and reflection categories.

Table 1 Comparison of pretest and posttest Reflective Thinking

Items	Pretest		Posttest		t	Significant P value
	mean	S.D	mean	S.D		
					4.392	0.01
Habitual Action						
1. When I am working on some activities, I can do them without thinking about what I am doing.	2.43	1.02	2.78	0.82		
2. In this course we do things so many times that I started doing them without thinking about it	3.02	0.85	3.22	0.85		
3. As long as I can remember handout material for examinations , I do not have to think too much	3.38	0.88	3.44	0.89		
4. If I follow what the lecturer says, I do not have to think too much on this course.	4.10	0.68	4.44	0.78		
Total	3.232	0.79	3.47	0.87		
Understanding						
5. This course requires us to understand concept s taught by the teachers.	3.91	0.66	4.41	0.76		
6. To pass this course you need to understand the content	4.50	0.62	4.69	0.72		
7. I need to understand the material taught by the teacher in order to perform practical tasks.	3.83	0.79	4.23	0.68		
8. In this course you have to continually think about the material you are being taught.	3.95	0.77	4.41	0.78		
Total	4.04	0.67	4.435	0.73		
Reflection						
9. I sometimes question the way others do something and try to think of a better way	3.16	0.73	3.23	0.58		
10. I like to think over what I have been doing and consider alternative ways of doing it.	4.24	0.71	4.45	0.79		
11. I often reflect on my actions to see whether I could have improved on what I did.	4.08	0.71	4.56	0.66		
12. I often re-appraise my experience so I can learn from it and improve for my next performance .	4.11	0.65	4.18	0.65		
Total	3.897	0.68	4.105	0.72		
Critical Reflection						
13. As a result of this course I have changed the way I look at myself.	3.35	0.92	3.36	0.82		
14. This course has challenged some of my firmly held ideas.	3.32	0.72	3.32	0.52		
15. As a result of this course I have changed my normal way of doing things.	4.25	0.66	4.27	0.77		
16. During this course I discovered faults in what I had previously believed to be right.	3.91	0.81	3.92	0.77		
Total	3.705	0.89	3.717	0.76		

Table 2 Average of Critical thinking after Clinical Post Conference

Items	Mean	S.D.
1. Analyzing potential and their weaknesses	2.94	0.61
2. Identifying goal of self development	3.10	0.52
3. Planning to accomplish the goal	3.10	0.57
4. Searching current information	3.08	0.60
5. Searching Information from a variety of sources	3.04	0.68
6. Analyze data from data a variety of sources and accuracy	2.97	0.65
7. Assessing information based on evidences and leading to problem solving in proper	2.93	0.56
8. Referencing evidence based practice in appropriate context	2.94	0.55
9. Using evidence based information for problem solving in appropriate context	2.93	0.61
10. Discriminating information based on authentic situation	3.04	0.54
11. Identifying problems and causes of data.	2.97	0.54
12. Connecting knowledge in nursing / health related / experiences in solving problems	2.84	0.55
13. Indicating safe and quality outcomes of nursing services.	3.08	0.55
14. Seeking solutions from diverse data sources to the problem of reliable and diverse and reliable data sources	2.99	0.56
15. Choose the approach / method of problem solving appropriately with context.	2.96	0.55
16. Solving problem based on scientific process /research /innovation	2.78	0.55
17. Analyzing of the health situation	2.88	0.56
18. Identifying obstacle and success factors to problem solving outcomes	2.99	0.53
19. Identifying approaches problem solving approaches	3.03	0.49
Mean	3.06	0.57

DISCUSSION

This study identified that clinical post conference to improve reflective thinking in the third year nursing students. The clinical post conference is a learning method that was based on evidence of nursing practice.[14, 15] during nursing practice; reflective thinking guided the students to move from routine action to focusing on their action to respond to the clinical situation, involving careful, critical consideration for

knowledge. The experiences help students understand and evaluate their performance in nursing practice. In clinical post conference environment, the students were sharing clinical practice experiences and thinking about the situations that they were engaging in and discussing. These reflected self- awareness and critical thinking.[16-17]

Although the students seem to understand their ability and are better aware of their actions, the critical reflection was not improved after 8 weeks. Critical reflection as relatively changes in techniques or way of thinking was not clearly improved in the students. The limited of nursing practice experiences and maturity may be involved critical reflective thinking. The social action during sharing and discussing at the post conference help the students reflect themselves not moved to changing action or higher level of thinking. It was also found that the critical thinking was in medium level,

STUDY LIMIT

The study was one group pre-post design that limited to claim the effectiveness of intervention.

DISCUSSION AND CONCLUSION

The clinical post conference is a learning method in a clinical setting used to improve clinical reflective thinking of the students with clinical experiences. The reflective thinking is self-awareness during clinical practice that helped the students understand how their ability is related to nursing outcomes and maternal and infant health outcomes. The higher levels of thinking as critical reflective thinking need more experiences of reflection and experiences of clinical practice.

Discussion and conclusion: the clinical post conference was related to reflective thinking in nursing practice of the third year students. Regarding to reflective learning, the students build their nursing experience when they provided nursing care and participated with clients in the clinic. The experiences also indicated outcome of practices as either successful or needing improvement. The clinical post conference was a sharing process of how to improve outcomes and the students' insight about their performance and perspective to solve the problem.

IMPLICATION FOT PRACTICE

It is an essential responsibility of nurse educators to employ clinical post conferences to assist students in applying their knowledge in practical situations, in developing professional values, and in enhancing their problem solving abilities.

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An Empirical Study of Factors Influencing Perceptions of Internet Information Credibility – Based on the Survey of Media Usage Habits from 36 cities in China

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Abstract

China had more than 649 million Internet users so far. With the popularization of the Internet, the trust mechanism of the traditional society has been impacted, and the trust mechanism of the network society has been forming. In order to evaluate the perceptions of Internet information credibility, we measured the credibility of information on the Internet from a perspective way. According to the results of a nationwide telephone survey on the sample of 1080 Chinese residents from 36 cities conducted by the Social Survey Center in Shanghai Jiao Tong University, we found that the Internet credibility in China is not very high. We further proposed a Hierarchical Linear Regression Model to present the influence of the demographic factors, personality, media using habits, obedience to authority and trust in government on Chinese residents' perception of Internet credibility. Results showed that (1) perception of Internet credibility differed among respondents in relation to age and education; (2) there is a positive and significant relationship between media use, media dependency and perception of Internet credibility; (3) both of obedience to authority and trust in central government have a negative effect on the perception of Internet credibility; (4) personality is also an important influencing factor. Our study found that people who lack of interpersonal trust have a low level of perception of Internet credibility.

***Keywords**: internet credibility, media credibility, influence analysis*

INTRODUCTION

Currently, the number of Internet users around the world has already been more than 3 billion. And China's Internet users have been more than 649 million till the end of 2014. People have never felt so closely linked and interdependent. When most people immersed in the freedom and convenience that brought by the Internet, we must be aware that the development of the new technologies also pose threats on basic values of human society. For example, social equality is threatened. The online "digital divide" deepens the offline "social divide". Another example is that social relations between people have been changed. Face-to-face interpersonal communication has been largely replaced by man-machine communication. The other problem is that privacy and individual rights in the digital world has become blurred. As long as the Internet has become the essential part of people' daily lives, the traditional social trust mechanism is impacted, and a new social trust mechanism of the digital world is being formed. Therefore, this study will focus on "trust", which is an important dependence in our society. We will explore the perceptions of Internet / web-based information credibility of Chinese people, and discuss what factors influencing their perceptions.

Media credibility

Research on media credibility was originated from U.S. Charnley(1936) proposed the issue of media credibility in the study of the accuracy of newspaper news. Since the research on information sources credibility conducted by Hovland (1951), media credibility has becoming a popular research field. In China, research about media credibility started late. After the national crisis "SARS" sparked in 2003 in China, media credibility were paid attention by the public and scholars (Yu, Zhang, 2006; Yu, Zhang, Yang, 2010).

Perceptions of Internet information credibility

With the rapid development of Internet, more and more people are accustomed to getting information from the Internet. The credibility of Internet or web-based information has become a hot topic. On the Internet, everyone is not only the audience, but also the producers of information. Due to the weakening of the gatekeeper mechanism of online news, the thresholds for information dissemination become lower. As a result, the credibility of online information is weak. Large number of scholars study on this problem and try to measure the credibility of Internet information, direct measurement of the credibility scale or design of network information, from the direct and comparative perspectives.(Flanagin, Metzger, 2000; Abdulla, et al, 2002)

Crisis of public trust in China

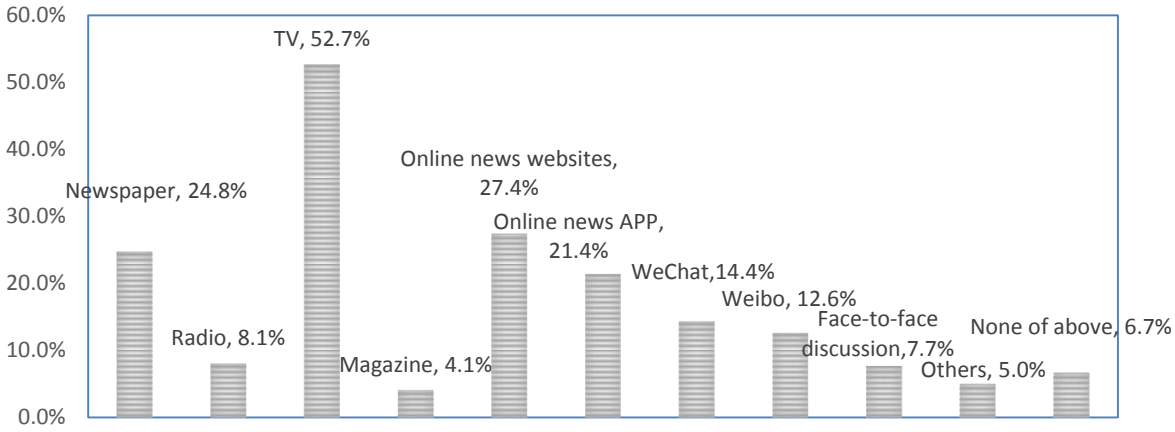
During the transit period, the crisis of public trust has been emerged out in China. According to the results of a nationwide telephone survey on the sample of 1080 Chinese residents from 36 cities conducted by the Social Survey Center in Shanghai Jiao Tong University, we found that:

(1) Compared to the new media, Chinese urban residents prefer to trust traditional media : 43.2% percent of respondents said they prefer to trust traditional media, 26.3% of respondents prefer to trust new media, 20.2% of respondents trust both , and 10.3% of the respondents trust neither of them. Overall, more than 60% of respondents prefer to trust traditional media than new media. About 40% of the respondents prefer to trust new media.

(2) In different kinds of traditional media , the television enjoys the highest credibility. In different kinds of new media , people prefer to trust information from online news websites more than information from social media. Survey data showed that 52.7% of the respondents trusted TV, 27.4% trust newspaper, and 24.8% trust newspapers. (see *Figure 1*)

(3) the proportion of Chinese residents' trust in the central news media is far higher than local news media : The survey results show that 59.6 percent of respondents have more confidence in selecting the central news media , 14.4% more trust local news media , 19.5% for both We believe , while 14.4% do not believe for both . Thus, the proportion of residents' trust in the news media is far higher than the center of the local news media, up to a total of 79.1 percent of the respondents chose the trust the central media.

Figure 1 *Percent of respondents who trust in different kinds of media*



RESEARCH DESIGN

In this context, the Social Survey Center Shanghai Jiaotong University 36 cities in the country launched a media use and media -trust situations telephone survey to understand the Internet credibility in the eyes of Chinese residents. This study focuses in public emergencies , people without respect to the credibility of the mainstream media coverage of the traditional evaluation of network information , especially factors propagation behavior analysis , we will focus on what factors , including the individual level , the technical level, technical level and the social level, affecting people 's trust in the Internet information in public emergencies .

Demographics

Among the influencing factors of perception of Internet information credibility,

demographic variables, including gender, age, income, education, etc. usually are the first and basic factors to be considered (Westley & Severin, 1964). Johnson and Kaye (1998) found that gender is a significant factors influencing online political information credibility. He also found that age, education and income level were negative correlated with online information credibility. Results of a survey in 10 cities in China conducted by Zhang (2009) showed that, age is negatively correlated with the perception of Internet information credibility, especially people in their fifties showed lack of trust of online news. Overall, gender, age, education background are the key factors of perception of media credibility and Internet information credibility. Thus, we propose the first research problem with three hypotheses:

R1: Do demographics influence the perception of Internet information credibility?

H1a: Female has a higher perception of Internet information credibility than male.

H1b: Age is negatively correlated with the perception of Internet information credibility.

H1c: Education is positive correlated with the perception of Internet information credibility.

Media Use

Wanta and Hu's study(1994) have shown that media exposure frequency and duration are important factors of media credibility, and they were positively correlated. The longer the audience or user expose to a specific type of media, the more they will trust on the media (Tsfati, 2010). As to the online media research, most studies also show that the use of the new media, such as the Internet, has a positive impact on new media trust (Lu & Andrews, 2006; Johnson, et.al., 2007). According to "uses and gratifications theory" and "media system dependency theory", we propose the following hypothesis:

R2: Does media use influence the perception of Internet information credibility?

H2a: The time spent on Internet is positively correlated with the perception of Internet information credibility.

H2b: Mobile phone users trust the Internet information more than the non-users.

Government Credibility

Media plays a significant role in crisis communication. Media is the channel for information and it influences the effects of crisis communication. In China, the special media ecological environment makes crisis communication more complex. For a long time, there are two different public opinion fields, one is the "main stream media public opinion field", and the other is the "oral public opinion field" consisting of public discussions. (Nan, 2003) The traditional media always is viewed as "the mouthpiece of the Communist Party of China and the government" (Zhao, 1998). The highly homogeneous of news reporting makes the traditional media become an important tool for information release and public opinion guidance (Brady, 2006; Sparks, 2008). In this long-standing power structure which can be described as "strong government, weak society", the political forces have played a leading role in public opinion of emergency events. Government and traditional media grasp the information and the right to

speak, while the public are placed in a weak position, unable to have enough rights to get information and express themselves. (Li, 2014). Under these circumstances, people are easily get the sense of information deprivation and choose to use or trust the other information channels to publish information, search for the truth. The informal, folk, or online information channel becomes the alternative choices. Based on this, we propose the following hypothesis:

R3: Does government credibility influence the perception of Internet information credibility?

H3a: Obedience to government authority is negatively correlated with the perception of Internet information credibility

H3b: Central government credibility is negatively correlated with the perception of Internet information credibility.

H3c: Local government credibility is negatively correlated with the perception of Internet information credibility.

Interpersonal Trust

Interpersonal trust is not only a factor that constitute the individual personality characteristics, but also a basic unit of social trust or public trust. Fukuyama(1996) pointed out that, due to the cultural differences, there are also differences in the level of trust in different societies. In his point of view, the United States, Germany, Japan are classified high-level of trust, while China, Italy, France, etc. are classified as low-level of trust. Perception of the credibility of the Internet, one kind of media credibility, is closely linked with other kinds of trust, such as interpersonal trust. It is hardly imagine that, those who are lack of trust in their acquaintances, the surrounded community and even the whole society, have a high level of perception of Internet information credibility. In order to verify this statement, we propose the following hypothesis:

H5: There is a positive correlation between interpersonal trust and trust information to the Internet.

METHOD

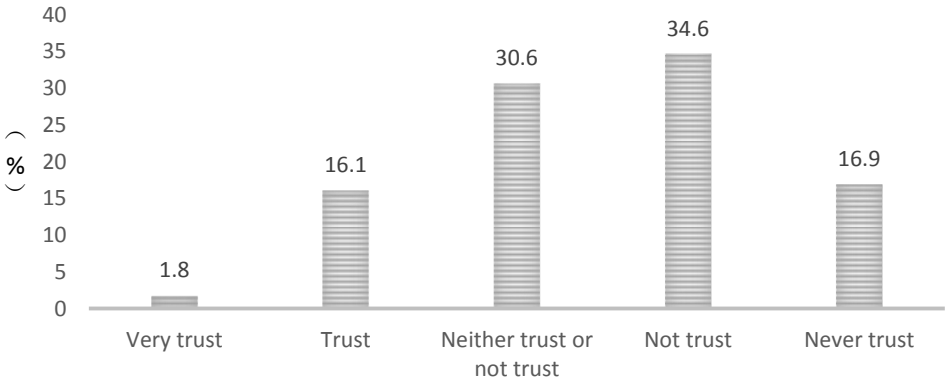
Data

The data for this study came from a national survey, with the theme of "Media Use and Media Credibility", covered 36 main cities in China, conducted by the Social Survey Center in Shanghai Jiao Tong University from April to December 2014. A total of 1080 interviews were completed with respondents contacted through landline or mobile phones by using CATI (Computer Assisted Telephone Interviewing) system, with a method of RDD (Random Digit Dialing) sampling. The margin of error for the full sample is within 3%.

Measurement

Independent variable: Perceptions of Internet Information Credibility

The dependent variable is defined as a 5-scale Likert item to describe the Perceptions of Internet Information Credibility compared with television or newspaper, ranging from "never trust" to "very trust", correspondingly taking the value from 1 to 5. According to Figure 1, the average level of Perceptions of Internet Information Credibility is relatively low (M=2.51, SD=1.009). More than half of the respondents hold the negative position on the information only from the Internet but not on traditional media, such as newspapers or TV.



Dependent variable:

The potential factors influencing the perceptions of Internet information credibility can be divided into four blocks:

(1) Demographics

The first block contained three demographics variables. Here we consider gender, age and education. These demographic variables are possible influencing factors according to research question 1, and they are also control variables in the regression model. (1) Gender is defined as a dummy variable with male coded as higher (1=male, 0=female). The weighted sample consists of 50.7% male and 49.3% female. (2) Age is an ordinal variable with six categories ranging from "below 20 years old" to "above 75 years old", correspondingly taking the value from 1 to 5. Specifically, 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 is an ordinal variable with six categories ranging from "elementary education and below" to "master degrees and above", correspondingly taking the value from 1 to 5. Specifically, 6.4% with no more than elementary education, 19.1% with junior high education, 25.1% with senior high or technical secondary school degrees, 17.8% with junior college degrees, 27.2% with bachelor degrees, 4.4% with master degrees or above.

(2) Media usage

The second block contained two kinds of control variables describing people's media

using habits: (1) Daily average time spent online, which is measured by an ordinal variable with 10 categories ranging from "0 hour", "0.5~1 hour" to "above 8 hours", correspondingly taking the value from 0 to 9. (2) Mobile phone usage, which is measured by a dummy variable (usually use mobile phone to get information=1, otherwise= 0).

(3) Government credibility

The third block contained three variables: central government credibility, local government credibility and obedience to government authority, which are respectively measured by a singer item ranging from "very low" to "very high", correspondingly taking the value from 1 to 5.

(4) Interpersonal Trust

In the last block there is only one variable, i.e. the interpersonal trust, which is measured by asking people about their behavior when they suffer from troubles or difficulties. It is set as a dummy variable. Results from the survey showed that 25.1% of the respondents "never talk to others about their worry and troubles".

RESULTS

Correlation Analysis

Before regression analysis, correlation analysis commonly used on the dependent variable relationship between independent variables and a preliminary test, the results of correlation analysis showed that at the 95% confidence interval, confidence in the Internet information age was negatively correlated ($r = -0.167$, $p < 0.05$), and positively correlated with level of education was ($r = 0.219$, $p < 0.05$), length was positively correlated contact with the Internet ($r = 0.199$, $p < 0.05$), with the central government's credibility, authority sense of obedience was negative correlation ($r = -0.118$, $p < 0.05$; $r = -0.147$, $p < 0.05$).

Regression Model

In this part, we concentrate on studying the relationship between the perception of Internet information credibility and potential influencing factors proposed in research hypothesis. We construct a multi-variables linear regression model. In the regression model, there are four blocks of predictors. The first block contained demographics variables; the second block contained two variables characterizing different aspects of media usage habits; the third block contained the variables of government credibility; the fourth block contained only one variable, i.e. interpersonal trust.

Table 1 *Influencing Factors of Perception of Internet Information Credibility*

		β	F	ΔR^2 (%)	Total R^2 (%)
Block1: Demographics	Gender Age Education	0.053 -0.105** 0.189***	15.736***	6.1	6.1
Block2: Media Use	Internet use Mobile phone use	0.082* 0.133***	13.151***	2.2	8.3
Block3: Government Credibility	Obedience to government Central government credibility Local government credibility	-0.110** 0.090* -0.109*	10.582***	2.2	10.5
Block4: Interpersonal Trust	Interpersonal Trust	-0.114**	10.597***	1.1	11.6

Notes:

1. Cell entries are standardized regression coefficients (Betas).
2. p values with two–tailed significance: *p< .05, **p< .01, ***p<.001.

As shown in Table 1, the first model explained 6.1% of the variance. In the demographic variables, gender and age significantly influenced the perception of Internet information credibility. In the first model, we found that the coefficient of age is negative, which means that with the increase of age, the perception of Internet information credibility decreased. The coefficient of age is positive, which means that with the increase of education, the perception of Internet information credibility increased. Gender is not a significant influencing factor of the perception of Internet information credibility. In a word, we can draw the conclusion that the younger and well-educated people trusted in the online information more than the others. Thus the hypothesis H1b and H1c have been proved.

In research hypothesis H2, we are interested in the relationship between media usage and the perception of Internet information credibility. But in fact, a lot of factors have impact on the media usage itself, such as gender, age, education. In order to eliminate these disturbances, we set the demographics as control variables in succession. The second model told us that the time spent on the Internet has a positive relationship with the perception of Internet information credibility ($\beta=0.082$，$p<0.05$). The relationship between mobile phone usage and the perception of Internet information credibility is also positive ($\beta=0.133$，$p<0.001$). It revealed that the more people use Internet and mobile phone, the more they trust in the Internet information. Hs has been proved. Meanwhile, the fitness of the model increased 2.2%, up to 8.3%.

In the third model, the negative coefficient of obedience to government showed that people's obedience to government can promote their perception of Internet information credibility. Thus, H3a has been proved. However, the relationship between government credibility and Internet information credibility is complicated. The coefficient of central government credibility is positive, which is consistent with our hypothesis H3b. But the coefficient of local government credibility is negative, which is opposite with our hypothesis H3c.

At last, we put the interpersonal trust into the model to test the relationship between interpersonal trust and their perceptions of Internet information credibility. Results of the regression showed that the interpersonal trust played a significant role in decreasing perceptions of Internet information credibility (β=-0.114，$p<0.01$) . It reveals the substitution effect existing in the two kinds of credibility.

Besides, it is obvious that the significant influencing variables are not the same. Since the Cox and Snell R^2 increase in each model, which indicates that the four blocks of independent variables have an increasing influence on the dependent variable. The strength of impact of demographic variables, the media using habits, the government credibility, the interpersonal trust on perceptions of Internet information credibility is increasing.

CONCLUSION AND DISCUSSION

With the development of Internet and other new techniques, the traditional social trust mechanism is impacted, and a new social trust mechanism of the digital world is being formed. But according to the results of our survey, we found that the Internet credibility in China is not very high. 51.5% of the respondents said they don't believe the information on the Internet but not on traditional media, such as newspaper and television, while only 17.9% of the respondents believe such information, and the rest of them remain neutral.

Furthermore, the results of our survey revealed that those people who trust the Internet information holds the following opinions: (1) 24.0% of them trust the Internet information based on historical experience. They found that much online news was proved to be true. (2) 23.0% of them trust the Internet information based on subjective judgments. (3) 19.4% of them trust the Internet information because they are the disappointed with traditional media's credibility. (4) 12.9% of them trust the Internet information due to conservative psychology. (5) 7.7% of them trust the Internet information due to herding effect.

We further proposed a Hierarchical Linear Regression Model to present the influence of the demographic factors, personality, media using habits, obedience to authority and trust in government on Chinese residents' perception of Internet credibility. Results showed that (1) perception of Internet credibility differed among respondents in relation to age and education; (2) there is a positive and significant relationship between media use, media dependency and

perception of Internet credibility; (3) both of obedience to authority and trust in government have a negative effect on the perception of Internet credibility; (4) personality is also an important influencing factor. Our study found that people who do not tell their troubles to anyone have a lower level of perception of Internet credibility.

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The Effect of the Health Promotion Program for Elderly People who Lived with Dementia in Saraburi province, Thailand

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ABSTRACT

Background: Dementia cause thinking dysfunction, memory loos, decreased working capacity and perception which result in abnormal of brain. It originated in uncontrolled non-communication disease such as Hypertension or Diabetes Mellitus. Therefore, the health promotion program promotes the health behavior of elderly people who lived with chronic disease and increase the quality of life.

Purpose: The purpose of this study aims to study the effect of health promotion program on health promotion behavior among elderly people who lived with dementia.

Methods: This Quasi-experimental research and one group pre-post test design. The samples were 30 of Hypertension and Diabetes Mellitus from Subcha-um Village, Phra-Phuthabat, Saraburi province. The total period of program ranged 8 weeks and the first week to fourth weeks arranged intervention program and the eight weeks tested the effectiveness of program. Data collection was used demographic data and the health promotion program of elderly people questionnaire. The descriptive statistic was used the mean and Standard Deviation and the inferential statistic was analyzed paired t-test.

Result: After completed the health promotion program, the elderly people have the mean score of the perceived benefit of health promotion program higher than before implementing program with statistical significance ($t= -3.968$, $p<.05$)

Conclusion and Recommendations: According to the study, the health promotion program for elderly people who lived with chronic promoted the health behavior and quality of life. In addition, this program can support the learning style with nursing student in order to prevent the dementia in elderly people.

Keywords: Health Promotion program, elderly, dementia.

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BACKGROUND AND SIGNIFICANCE OF THE STUDY

At present, the aging population is increasing in the world and the number of aging population were 737 million and the estimated number were 1.2 one thousand million in the 2020 and increasing in 2 one thousand million in the 2050.(WHO,2000). In Thailand, the number of aging people is increasing 1.21 million in 2503 to 4.5 – 5.7 million in 2002 and 6.8 – 7.6 million in 2012 and 11 million in 2022. (National statistic, 2557). With this figure, Thailand will inevitably become aging society soon.

According to statistic report, top five diseases among elderly were dementia, depression, insomnia, fall and uncontrolled urinary. The dementia is the most crucial problem and the number of dementia patient is increasing 229,000 people in 50 years. Dementia causes loss of memory, cognition, work ability and decision. In addition, it effects on family and health expansion, and family relationship. Patient who lived with dementia condition decreases the perception, learning process and stimulation including sensory motor, hearing, testing, visual and skin. Moreover, the literature supported that living place, religion, occupation, genetic; age, gender, education, income and participation have relationship with depression among elderly people who lived with dementia.

Health promotion is the process and capacity development of individual, group and community that make them control and adjust health in well-being such as physical, mental, social and spiritual and environmental development that impact to promoting health behavior.(Kaplun,1997 cited in Phapaporn Jinuntiya,2549). Health promotions of aging people have the goal for maintain health for disability. The objective of health promotion aims to develop the health behavior among elderly people such as movement, exercise, stress management, sleep, body weight control, no smoke, physical checkup, and follow up. (Anderson and McFarlance, 2004 cited in Phapapan Jinuntuya, 2549).

As mentioned above, it could be seen that is indicated that the literature reviews is still limited and treatment for dementia is not completely addressed. Therefore, researcher view an important issue on dementia among elderly people and provide the health promoting program for elderly people in the Subcha-um Village, Phra-Phuthabat, Saraburi province.

OBJECTIVE

This study aimed to compare the effect of health promotion program for elderly people who lived with dementia in the Subcha-um Village, Phraputthabat district, Saraburi province, Thailand.

HYPOTHESIS

After implementation program, elderly people who lived with dementia have higher score of health promotion than before implementation

CONCEPTUAL FRAMEWORK

The health promoting program for elderly people who lived with dementia
1. Interpersonal relationship and health responsibility
-Introduction and objective of program
-Information about dementia disorders
2. Exercise and nutrition
-Physical exercise with Saraburi dancing
-Giving knowledge about food
3. Stress management
4. Spiritual development

Health promoting behavior
1. Nutrition
2. Exercise
3. Health responsibility
4. Stress management
5. Interpersonal relationship
6. Spiritual development

METHODOLOGY

This study was a Quasi-experimental research with the one group pre-posttest design aims to test the effect of health promoting program among elderly people who lived with dementia in the Subcha-um Village, Phra-putthabat district, Saraburi province, Thailand.

Population and sample

The population of this study was the elderly people who lived with dementia and age more than 60 years both male and female. They can do activity by themselves and live in the Subcha-um Village, Phraputthabat district, Saraburi province. All of them were tested the Thai Mini-Mental State Examination (TMSE) with score more than 23, the test of depression level by using the Thai Geriatric Depression Scale (TGDS) with score more than 12, the capacity of daily living test by using the Barthel Activities of Daily Living (ADL) with score more than 12 and willing to participation.

Sample

The sample of this study was 30 of elderly people who have age more than 60 years and lived with dementia and lived in the Subcha-um Village, Phra-putthabat district, Saraburi province.

Ethical consideration

This research was approved by the human right committee of Boramarajaonani Phra-putthabat and participant have right to reject the activity of program. In addition, all of information has confidentiality and no impact with their life.

Research instruments

The research instrument consisted of three parts such as intervention tool, collecting tool, and screening dementia tool.

1. Intervention instrument was developed by researcher based on the theory of Pander, 1996 and literature reviews. It divided into five activities such as interpersonal relationship and health

responsibility, exercise and nutrition, stress management and spiritual development. The period of study was four weeks.

2. Collecting tool was developed by researcher based on the health promoting lifestyle of Pander, (1996:134). The items divided into six parts such as nutrition, exercise, stress management, health need, interpersonal interaction, and spiritual development. The total number of items were 38 items with four rating scale

3. Dementia screening tool was used to access the level of dementia in order to requite the sample of this study. There were composed of TMSE, TGDS and ADL.

Validity and reliability of instrument

The content validity of this research was tested by three experts and the health promoting behavior was tested the reliability by tryout with 30 of elderly people who lived with dementia in Lopburi province and the result of the Cronbach' alpha coefficient test was .91.

Data Collection

Data collection divided into two parts such as before implementation, implementation and after implementation as follow.

Step 1 before implementation phase

1. Inform the letter to director of Phra-putthabat hospital in order to permit collecting data in the Subcha-um health promoting hospital sub-district

2. Select the sample of this study and inform the objective and activities of program.
3. Test the pretest of sample before implementation
4. Collect data with inclusion criteria of sample

Step 2 implementation phase

1. Researcher implemented the activities among sample with five weeks and three times (one and a half to two hours per one time). In each activity have time period one week in the Subcha-um health promoting hospital sub-district.
2. Week one : Introduce yourself and make relationship
3. Week two : Health responsibility and exercise
4. Week three: Nutrition and food consumption behavior
5. Week four: Stress management
6. Week five : Spiritual development

Step 3 Evaluation phase : Test the posttest after implementation program

Data analysis

Data analysis analyzed by using the SPSS v. 11.5 for window and tests the different mean score of health promotion behavior among elderly people who lived with dementia before and after implementation program by using paired *t*-test

RESULTS

The result of this study showed that most of participants were female 80%. The average of age in 60-69 years was 66.7% and having income by themselves were 66.7% and living with their family were 66.7%.

Table 1 The comparison of the difference of mean score of health promoting behavior and intervention group (N=30)

Health promoting behavior	N	Mean	S.D.	*t*-test	p-value
Before implementation	30	165.80	12.39	-3.968	.000
After implementation	30	183.83	18.82		

p-value < .05

The result of the testing of the mean score of health promoting behavior among elderly people who lived with dementia before and after implementation found that the mean score of health promoting behavior higher than before implementation with statistical significance at p-value .05.

DISCUSSION

The result of study showed that elderly people who lived with dementia in the experimental group have higher score of health promoting behavior than control group with statistical significance at p-value .001. It was concordance with the hypothesis because the health promoting program promotes the information support about making relationship, exercise, nutrition, experience, and stress management. In addition, some literature reviews supported that exercise and avoid oily food can decrease vessel stenosis and promote blood circulation into the brain and delay dementia condition (www.alzhemers.org.au). It also indicated that good practice can concern the benefit of exercise.

Recall of previous event can make participant more increasing health behavior because well experience in the pas make them appreciated with their practice and stimulated member to telling story. Moreover, recall of previous experience has relationship with the perception and increase the capacity of brain function of elderly people. (Jing, J.W, 2007). It indicated that the cortisol level related to the depression due to inappropriate management of stress level result to dementia. Therefore, the health promoting program impacts to elderly people who lived with dementia due to having the practice guideline and learning activity with each other. This reason made them to confident and adjusts health promoting behavior for dementia.

This program also support the participants create their pattern with environment and they have member teams to support information that is the necessary for promoting behavior with the concept of health promotion of Pander, 1996. Furthermore, elderly people who lived with dementia have more awareness in importance of dementia prevention and practice after implementation and building network for health modification in physical, mental, emotion and psychosocial factors.

LIMITATION

1. The result of this study can refer to only specific group and it is not refer to general population.

2. This study did not have the control group that did not compare with other elderly people.

RECOMMENDATION

1. The study of health promoting behavior program should be concern the context of physical, mental, psychosocial and culture that make cognitive skill of participants in order to increase wellbeing in physical and mental health in each life span.

2. It should be studied the health promoting behavior program in other group of elderly people such as high cholesterol level.

3. Community health nurse should be applied this program to take care of elderly people who lived with dementia**.**

4. Nurse in hospital setting should be applied the program for patient with dementia and depression among elderly people.

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The Interaction Effect of Generation and Sense of Government Responsibility on Political Participation: An Empirical Research

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Abstract

This research is consisted of two parts. First, this paper explores the effect of generation on political participation. More importantly, this research further aims to investigate the interactive effect between generation and individual perception of government responsibility for social services on political participation. As South Korea has been transitioning into post-industrial society, various social phenomena such as the emergence of "Net Generation" and new social risks arose along. Unlike previous researches which focused on the differences in the degree of political involvement among various age groups, this research assumes that not only generational effects but also perception of government responsibility for social services will affect various age groups' involvement in political activities differently. On one hand, theories of new social risks suggest that younger generation is more exposed and vulnerable to new social risks such as unemployment and high competition in the job market. On the other hand, studies of generation and political participation demonstrate that theyouth of South Korea, who are also recognized as the "Net Generation," have recently become the leading population of political activities. Conjecturing from the sociological literature, this research hypothesizes that individual perception of government responsibleness for social security will have greater influence on political participation for younger generation than relatively older generation. In order to discover the interrelations among generational effects, perception of government responsibility in providing social safety net, and political participation, the authors conduct a comprehensive quantitative research using 2012 survey data titled "Social Quality Survey Questionnaire." The major finding of this research reveals that Korean citizens in their thirties are more likely to participate in various forms of political activities as they perceive that government is responsible for establishing social safety net than any other age groups. The implications of the results are discussed in the article.

Introduction

In the contemporary political scene of South Korea, one may easily observe a pattern that political parties competitively employ social service plans and welfare policies to intrigue citizens of various interests. Half-college tuition agenda, free-lunch-at-school plans, and pension for the elderly exemplify this notion. These instances imply two crucial points about the political scenary of South Korea nowadays. First, appealing to different interest groups has become a critical determinant for winning the elections. Second, different age groups act as interest groups as they pursue different goals and interests related to the life-phases they are in. Extending on this observed pattern, this research aims to investigate the interactive effect between generation and individual perception of government responsibility for social services on political participation. As South Korea has been transitioning into post-industrial society, various social phenomena, including the emergence of social risks, arose along.

Unlike previous researches which focused on the differences in the degree of political involvement among various age groups, this research assumes that not only generational effects but also perception of government responsibility for social services will affect various age groups' involvement in political activities differently. On one hand, theories of political participation in general suggest that younger generation is inclined toward participating in more active forms of political participation, while older generations have a tendency to participate in electoral activities, such as voting, only. This research revisits this theory and aims to verify whether this tendency appears consistently in the most recent data and to enlighten the factors working behind this generational disparity. Conjecturing from the sociological literature, this research hypothesizes that individual perception of government responsibleness for social security will have greater influence on political participation for younger generation than relatively older generation. In order to discover the interrelations among generational effects, perception of government responsibility in providing social safety net, and political participation, the authors conduct a comprehensive quantitative research using 2012 survey data titled "Social Quality Survey Questionnaire." The major finding of this research reveals that Korean citizens in their thirties are more likely to participate in various forms of political activities as they perceive that government is responsible for establishing social safety net than any other age groups. The implications of the results are discussed in the article.

Literature Review

Conceptualization of Political Participation and Generation

Huntington and Nielson (1976) broadened the spectrum of political participation by including legal, illegal activities and voluntary, involuntary activities. According to the authors, these activities have strong impact on either government or public policy. In contemporary society, political participation has become ever more divergent as scholars of various literatures have strived to articulate the notion of political participation. According to Verba (1978), political participation includes not only engaging in voluntary associations (church, leisure, organizations), and electoral activities (campaign, donating political money), but also contacting officials and partaking in protests. More recently, Dalton (2006) added to the variety of political activities by recognizing internet-based activism. In this paper, we adopt Dalton's concept to conceptualize political participation as voting, protests, and any other expressions toward the government or political reality.

Defining generation is yet another cornerstone of our research. In previous works of generational studies, some scholars have focused on the 'life cycle' aspect of generation. This group of scholars tends to explain generational differences based on critical events of one's life cycle. Meanwhile, birth cohort aspect of generation divides generations by people who are born in the same period or "crucial formation period" (Manheim, 1952). In this paper, we distinguish generation based on birth cohort. In this sense, shared memories and experiences are significant factors in anticipating both behavior patterns and collective consciousness of generations. Consequently, we expect that the age cohort approach will contribute to finding generational trends and characteristics of political participation.

This paper aims to discover generational differences in political participation in South Korea. Many scholars have attempted to account for the relationship between generation and political participation in this country. For instance, Park(2005) argued that the younger people are more likely to participate political activity than those older. Moreover, younger people have engaged in more active forms of political activities such as protest, boycott, and donation. In contrast, previous researches demonstrate that older people are more inclined to vote than to participate in more active forms of activities. This generational difference is not unique to the case of South Korea. However, compared to other countries, this disparity seems to appear most evidently in South Korea.

Manheim's Concept of "Political Generations" and the Effects of Collective Experiences

In his paper "The sociological problem of generations", Manheim(1952) introduced the term "political generations" to describe that different age cohorts tend to have distinct political orientations. According to him, the age cohorts develop political orientations based on the historical events that they collectively experience. Consequently, each age cohort is likely to perceive and interpret social phenomena in a similar way. While developed in the Western democratic societies, the concept of "Political Generations" also is applicable to the social context of South Korea.

As suggested above, the differences of political participation among generations are evident in South Korea. Therefore, our research strives to explore from which generational differences in political activities derive by referring to collective experiences which each generation shares. South Korea has profound history. In 1950, Korean War occurred. Afterwards, South Korea was dominated by the authoritarian regime for 20 years until the democratization occurred in 1987. Korean notion of so-called political generation arises from undergoing such significant political turmoil. Previous researches on the political generation of South Korea suggest that certain age cohort who experienced this political turnover has formed distinct political orientation. For instance, Park(2005) argued that those who were in their twenties and thirties during the democratization period have tendency to engage in political activities actively. Lee(2006), on the other hand, claims that members of older generation, who used to be ruled by the authoritarian government tend to be supportive of the government in general. In this notion, older generations perceive protests as acting against the government. To the older generations, active forms of political participation including protests and boycott are deterrents to social stability. In turn, older people's political activities are delineated to voting, which is an inactive political activity.

The Linkage between Perception of Government Responsibility and Political Participation

According to Dalton (2008), citizenship norms have transformed from duty based citizenship to "engaged citizenship". On one hand, duty citizenship is closely related to social obligation emphasizing on civic responsibility to partake in political actions. On the other hand, engaged citizenship refers to a series of norms that rather result in social solidarity, autonomy, and active participation.

Voluntary association, volunteering, and protests exemplify the concept of engaged citizenship. Some of the previous researches in the literature maintain that older generations are likely to act according to the duty citizenship norms, whereas younger generations are more likely to display political behaviors associated with engaged citizenship.

Transition of citizenship norms from duty-based citizenship into engaged citizenship has also expanded the realm of political participation. From an empirical research, Dalton found that one of the traditional political behaviors, voting (electoral activity) is an outcome of 'duty based' citizenship norms. On the other hand, engaged citizenship is a factor that exerts critical amount of influence on extended political activities such as sign petitions, legal/illegal protests, boycotts, internet activism, and direct action[1] (Dalton, 2008). Dalton's arguments raise a significant point for our paper that an engaged citizen, who recognizes social problems, will eventually participate in political activities in the pursuit of a better society.

Methods

Data

We use a survey data titled "Social Quality Survey Questionnaire (SQSQ)", which was designed and conducted by the Institute of Social Development and Political Research in 2012. While this survey was conducted to respondents in various countries such as Taiwan, Turkey, Germany, Greece, etc., this paper statistically analyzes a data collected from South Korea only. Total of 1,000 respondents answered this survey. The survey respondents' age ranges from 19 to 69. Number of cases used in our statistical analysis differs by dependent variable. For non-voting types of political participation, total number of cases is 917. For voting, number of cases analyzed is 833.

Variables

Dependent Variables Our empirical analysis is comprised of two parts. Each part has different dependent variables. As we aim to explore the interaction effect of generation and perception of government responsibility on political participation, we divide political activities into two types, non-voting and voting. The first part of our research focuses on the interaction effect on non-voting type of political participation. In this paper, the term active participation is used interchangeably with non-voting political participation. In this part, we combine the variables that measure frequency for participating in non-voting types of political actions such as giving opinions on-line; appealing to the government or the media; and partaking in demonstrations, signature-collecting campaigns, and other assemblies. Therefore, our first dependent variable, non-voting political action, is a result of these three variables combined and averaged. In the second part of this study, the dependent variable is participation in voting. Unlike the former, the voting variable does not measure the frequency in participation; rather, it is a dummy variable demonstrating whether one voted at the election of the 2012 National Assembly.

Explanatory Variables This research has two main independent variables. One of them is generation. Considering the age distribution of the survey respondents, we divide the respondents into five groups. First one is the 20s, which includes those who are 19 to 29 years old. Second group is the 30s which includes the ages ranging from 30 to 39. Third group in the 40s and the fourth is the 50s. Last

[1] Dalton further explains direct action as contact political figure, monetary donation, and "work with group".

group of our generations is an age group ranging from 60 to 79 years old. The other explanatory variable is the perception of government responsibility. The survey question for this variable aims to measure one's perception of how responsible the government is in establishing a social safety net against various forms of social risks, such as retirement, providing for education, employment, etc.

Interaction Terms We further measure the interaction effect of our two explanatory variables, generation and sense of government responsibility.

Control Variables In the first statistical analysis of our research, of which independent variable is participation in non-voting political actions, we control the effects on sex, existence of children, employment status, level of education, household income, and religion. We selected these control variables based on our previous research on political participation. The theories of political participation in general consider the variables listed above as primary factors that might affect money, time, and civic skills, which are critical resources for one's political participation (Rosenstone and Hansen, 1993).

Results

Non-Voting Political Participation

Table 1 shows results of the OLS regression analysis conducted to estimate the effects of generation and perception of government responsibleness for providing social safety net on non-voting types of political participation. Firstly, Model 1displays the results from a multi-variable regression. On the other hand, Model 2 shows the coefficients gained from the OLS regression that involves an interaction term of generation and perception of government responsibility on non-voting political participation.

In a broad perspective, Model I suggests that among our selected control variables, only sex, level of education, religion exerts statistically significant influence on the frequency of non-voting political participation. Especially, Model I demonstrates that more male than female and those with higher level of education tend to participate in non-voting types of political participation more frequently. Holding socio-demographic variables constant, one of the two explanatory variables, sense of government responsibility appears significantly influential for non-voting types of political participation. Since the coefficient is positive, we can also argue that those who perceive the government is highly responsible for social safety are more inclined to participate in non-voting types of political actions. On the other hand, the coefficients of the generation variable indicate that compared to the reference group—60,70s—, those in their 20s, 30s, and 40s display significantly distinguishable pattern in terms of involvement in non-voting political actions. Those in their 50s, however, do not seem to have a statistically significant difference in their frequency in non-voting political participation from those of the 60-79 age group.

Model II adds a dimension of complication to Model I. While Model I simply explains which variables significantly affect the frequency of active political participation and how the participation frequency differs among generations, Model II presents how the interaction of generational effects and perception of government responsibility acts upon active political participation. When the interaction effect is exercised, the behavior pattern of 20s and 60-70s no longer appears significantly different. Only 30s and 40s portray a distinguishable pattern in active political participation.

Table 1 OLS Regression Results of Generation and Perception of Government Responsibility on Non-voting Political Participation

	Model I Multi-variable Regression		**Model II** Multi-variable Regression with Interaction Effect	
Control Variables				
Sex (Female)	-0.14	*	-0.13	**
Having Children	0.06		0.07	
Employment	0.08		0.10	
Level of Education	0.28	**	0.29	***
Household Income	-0.01		-0.01	
Religion	0.05		0.05	*
Explanatory Variables				
Generation (ref= 60,70s)				
20s (20-29)	0.31	*	-0.31	
30s (30-39)	0.30	*	-1.23	**
40s (40-49)	0.20		-0.82	
50s (50-59)	0.05		-0.20	
Sense of Government Responsibility	0.14	*	-0.10	
Interaction Terms (ref=60-70s)				
20s · Government Responsibility			0.21	
30s · Government Responsibility			0.51	***
40s · Government Responsibility			0.34	*
50s · Government Responsibility			0.08	
Constant	0.43		1.13	**
N(number of samples)	917		917	
F	19.30		15.29	
R^2	0.19		0.20	

* p –value < 0.05; ** p-value < 0.01; *** p-value < 0.001

From Model I, we can conclude that younger generations, 20s, 30s, and 40s, engage in non-voting political activities significantly more actively than the relatively older generations, 50s and 60-70s. Apart

from Model I, Model II demonstrates that the effect of interaction between generational factors and perception of government responsibility for social safety no longer result in binary disparity among generations, since the interaction affects the political participation of 20s, 50s, and 60-70s in a similar way. This analysis is clearly summarized in Figure 1.

Figure 1 ***Interaction Effect on Non-electoral Types of Political Participation***

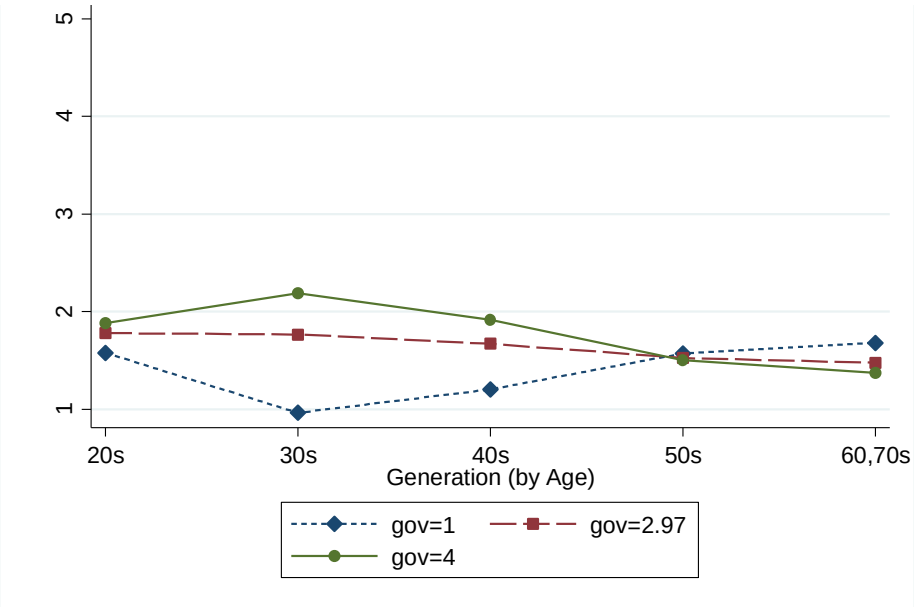

Figure 1 is a graph of broken lines. In other words, the lines on the graphs are not continuous but merely connecting the markers on the graphs. The blue-diamond markers on the graph indicate the degree of participation in non-voting political actions when each generation feels that the government is not responsible at all for preventing or defying the social risks. The red, square-shaped markers indicate political participation of each generation when the perception of government responsibleness is held constant. Previously, Model I of Table 1 has exhibited that participation in non-voting political activities of the younger generations, 20s, 30s, and 40s, appears significantly different from that of the elderly generation. The red, square-shaped markers are graphical indications of this generational difference. When the sense of government responsibility is given as average, 2.97, the degree of frequency is higher in younger generations. As the generation gets older, the degree of non-electoral political participation decreases, though slightly.

Comparing three markers at each generation allows us to interpret the interaction effect of generation and sense of government responsibleness on non-electoral political participation. Figure 1 portrays that the interaction effect has the greatest influence on the political participation of the age group of 30s. In the age group of 30s, the frequency of active political participation increases when one perceives that government is absolutely responsible for providing social safety net. In contrast, the frequency decreases when one in his or her thirties perceives that the government is not responsible for social safety at all. It is significant that when the sense of government responsibleness is the lowest, degree of involvement in the active political activities is the lowest as well, which is 'never'. This pattern is also observable in the non-voting political participation of the 40s. While the degree of variance is lower

than 30s, the frequency in active political participation in the age group of 40s also seems to vary by the sense of government responsibleness. In the participation pattern of 20s, an interesting pattern is observable. As in relatively older generations, 50s, and 60-70s, the does not seem to influence the frequency of non-electoral political participation neither positively nor negatively.

Electoral Activity

Table 2 shows the result of the logistic regression, using the electoral activity as a dependent variable. Model IV suggests that depending on perception of generational government responsibility, generational impacts on voting behavior appear distinctively. Unlike Model II, Model IV does not show any statistically significant differences in the interaction effects on the participation pattern among generations. Meanwhile, we can find from Model III that the age group of the 40s still influences political participation in a negative direction. On the other hand, some control variables affect political participation statistically. To elaborate, coefficient of political interests is .66($p<.001$). This result implies that as the degree of political interests elevates, the potential to political participation increases along. In this sense, the conventional argument on the relationship between political interest and political participation is reconfirmed.

Table 2 *Logistic Regression Results of Generation and Perception of Government Responsibility on Electoral Activity*

	Model III Logistic Regression		**Model IV** Logistic Regression with Interaction Effect	
Control Variables				
Sex (Female)	0.44		0.46	*
Having Children	0.26		0.23	
Employment	-0.33		-0.35	
Level of Education	0.14		0.13	
Household Income	0.10		0.08	
Religion	0.17		0.15	
Political interest	0.63	**	0.66	***
Party identification	-0.24	*	-0.24	**
Explanatory Variables				
Generation (ref= 60,70s)				
20s (20-29)	-2.61	**	-3.09	
30s (30-39)	-1.83	**	-2.07	
40s (40-49)	-.1.80	**	-5.75	*
50s (50-59)	-0.94		-4.52	
Sense of Government Responsibility	-0.21		-0.80	
Interaction Terms (ref=60-70s)				
20s · Government Responsibility			0.16	
30s · Government Responsibility			0.08	
40s · Government Responsibility			1.33	
50s · Government Responsibility			1.21	
Constant	1.59		3.42	
N(number of samples)	833		833	
Pseudo R^2	0.18		0.15	

Conclusion

This paper explored the interaction effect of generation and perception of government responsibility on political participation. In particular, this paper focused on the sense of government responsbiity for establishing a social safety net. Numerous researches have explored the relationship between generation and political participation. However, this paper attempted to take more multi-dimensional approach to this subject. Using the Social Quality Survery Questionnaire, this study investigated the interaction effect of generation and government responsbility on political participation. Our analysis has shown that those in their 30s and 40s are more likely to participate in non-voting type of political actions as they feel that the government is highly responsible for establishing a social safety net. Our study demonstrates a pattern of a triggering mechanism in the political participation of the younger generations. Extending on the findings of previous researches that the political generation that underwent the period of democratization tends to participate in the active forms of politicial activities, this paper suggests that sense of government responsibleness for social safety and security can be a pivotal stimuli intriging the political generation into non-electoral forms of political participation. This further proposes that the political generation that is consisted of those in their 30s to 40s are successful instances of engaged citizens in South Korea. To summarize, this paper insinuates a bright future in contruction of a welfare state, which is built upon the active participation of the engaged citizens.

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Teachers' and Nursing Students' Perceptions in Final Clinical Skills Examination Using Objective Structured Clinical Examination (OSCE) for Second Year Nursing Students : Case Study at Boromarajonani College of Nursing, Phraputthabat, Thailand

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ABSTRACT

Background: Clinical competency is the important components that student nurses are required to develop during their education. The Objective Structured Clinical Examination (OSCE) is widely and increasingly used to assess the clinical skills among nursing students. Boromarajonani College of Nursing, Phraputthabat, first implemented the OSCE in the final Clinical Skills Examination in second year nursing students during the 2014–2015 academic years.

Objectives: The purpose of the study was to evaluate the perceptions of the OSCE as part of an evaluation of Clinical Skills Examination among second year nursing students and teachers.

Material and methods: The descriptive study was conducted both teachers who were the examiners and the students who were candidates of Boromarajonani College of Nursing, Phraputthabat, Saraburi, Thailand, during the final Clinical Skills Examination using OSCE. Ten examiners and 96 second year nursing students participated in this study. The self-administered questionnaires composed of 42 items were designed to assess the perception of examiners and students towards OSCE immediately after the OSCE exam. The internal consistency of the instrument was .86. The descriptive statistics was used to analyze the data .

Results: The results indicate that OSCE is accepted as clinical skills assessment the by teachers but 13% of students refuse. It was reported by majority of the teacher and students that OSCE can identify student's weakness; (80% of students and 70% of teachers); OSCE with standardized patients is better than ward assessment. (70% of teachers and 66.7% of students); and promote thinking and decision making skills (around 50% of teachers and students). The weakness of OSCE stated by students was strong anxiety exam (72.9%), while, teachers mentioned that requires more resources and continuous process.

Conclusion: In summary, the findings highlight the positive feedback about the quality of OSCE performance in term of that OSCE covered a wide range of knowledge and skills, promoted critical thinking, and highlighted areas of students 'weakness. However, students stated that OSCE was hard to pass and it was very stressful test. Overall of the OSCE, most of participants satisfy the test.

Keywords : Objective Structured Clinical Examination (OSCE), Perceptions, Second Year Nursing Students, Clinical Skills

BACKGROUND OF THE STUDY

Competence in nursing is not easy to define and to measure. Australian Nursing and Midwifery Council (ANMC) (2005) are described competencies as a 'combination of skills, knowledge, attitudes, values and abilities that underpin effective and/or superior performance in a professional/occupational area. The United Kingdom-based Nursing & Midwifery Council defines clinical competence as "the overarching set of knowledge, skills and attitudes required to practice safely and effectively without direct supervision" (2010). Assessment of clinical competence is significant to guarantee that nurses provide effective nursing care and safe (Cook, Cox, & Henning, 2008; Summers, & Woods 2008; Ulfarson, & Oxelmark, 2012 cited in Schub 2014). Nursing students are required to master several assignment related skills and to develop their nursing competency during education. "Rigorous, valid and reliable evaluation of students' clinical performance is essential to ensure readiness for practice" (Cant, McKenna, Cooper, 2013, p 163). As we known, competence assessment in nursing is difficult by a lack of standardized techniques and tools. Many method of assessment that relies on knowledge-based tests fail to prove how students apply cognition to clinical situations (Tiwari et al., 2005).

The Objective Structured Clinical Examination (OSCE) is defined as "an approach to the assessment of clinical competence in which the components of competence are assessed in a well-planned or structured way with attention being paid to objectivity" (Harden, 1988, p. 19). OSCE is a valuable approach "to assess 'fitness to practice' at the students' expected level of clinical practice within a nursing context where the importance of accurate patient assessment is paramount" (Nulty et al, 2011, p. 145). It is well known in medicine since its development in the 1970s. Nowadays, OSCE is used increasingly as well as widely in nursing education. It is described as standardized checklists used by an observer to evaluate students (Rushforth, 2007). Students must complete to demonstrate a range of skills and knowledge using the test which designs as a series of exercises (Schub). OSCE is considered as a high level of objectivity, reliability, validity and creditability method to evaluate clinical skills (Chehrzad et al. 2004;Rushforth 2007; Walsh 2009; Furlong et al. 2005; & Selim et al. 2012 cited in Eldarir & Abd el Hamid,2013) Some evidence points out that OSCE can increase student's decision making ability and help students to be confidence to apply their skills in clinical setting (Eldarir & Abd el Hamid, 2013 & Liddle, 2014) Comparing to conservative test, students gave the highest rate of satisfaction belonged to OSCE methods (Eldarir & Abd el Hamid, 2013). However, OSCE tends to be time-consuming and expensive test, as well as stressful approach to participants (Ralph & Norris, 2012).

Boromarajonani College of Nursing, Phraputthabat (BCNPB), Thailand was established in 1982 as a nursing college that offered only 2 years nursing program in the beginning. The bachelor degree has offered in 1989 until now. Final examinations are conducted annual at the end of year 1-3. The traditional formats of examination that include multiple choice questions, opened end questions, case study, nursing skills test, and oral examination are used. The format of tests is not the same for all level (first year nursing students – fourth year nursing students). It depends on competency of nursing student that is required for each level. In response to recommendations to improve the fairness and validity of the examination in nursing education and prove the readiness for practice in higher level, BCNPB first implemented the OSCE in the final Clinical Skills Examination in second year nursing students during the 2014–2015 academic years. It was thought that it would improve faculty and student acceptance of the new assessment tool and promote faculty training for the OSCE.

OBJECTIVES

The purpose of the study was to evaluate the perceptions of the OSCE as part of an evaluation of Clinical Skills Examination using OSCE among second year nursing students and teachers

RESEARCH METHODS:

Population and ethical Consideration

The researcher obtained an approval to conduct the research study from ethical committee of Boromarajonani College of Nursing, Phraputthabat. Both teachers who were the examiners and the students who were candidates of Boromarajonani College of Nursing, Phraputthabat, Saraburi, Thailand, during the final Clinical Skills Examination using OSCE were the subjects of this study.

Instrument

The OSCE composed of a circuit of four stations, which involved completion of a number of tasks including physical examination, laboratory interpretation, insulin injection, urinary catheterization. The duration for each station was ten minutes, with total exam duration of 40 minutes. One minute was given between stations to assist change and the reading of instructions. Each examiner was provided by checklist for the stations. We used criterion-based scoring, with each checklist item scored as 0 (omitted, incorrect or inadequate), or 1 (correct or adequate). Also, global rating were used, with item scored as 0 (fail) or 1 (pass). Content validity of each checklist was established by experts and a group of senior nurse educators. Some items were rewritten by expert suggestions and consensus by a core group of senior nurse educators. Face validity was performed and Interrater reliability was tested before the examination.

The perceptions of teachers and students were gathered using the self-administered questionnaires. The questionnaires were designed to assess teachers and students about their concepts towards OSCE. It composed of 42 items about OCSE which developed by the researchers. There were 4 parts of questionnaire, 14 advantages, 7 disadvantages, 11 processes during examination and 10 suggestions to make OSCE more effective. Participants was asked to rate their agreement with each item on a three-point scale, ranging from one to three, from disagree (1) to agree (3). The score of each level was follows: Disagree was1, Neutral was 2, and Agree was 3.

The global rating question which asked participants satisfy the whole examination or not was created. The response categories were "yes" or "no".

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 parts of the tool was .87, .92, .83, and.77, respectively. All subscale and overall instrument demonstrated acceptable. The data were collected immediately after the OSCE exam. Ten examiners and 96 second year nursing students participated in this study.

Data collection

The data were gathered between 6 and 10 July 2015. After the completed questionnaire was collected, the researchers coded the questionnaire and cleaned the data. Statistical Package for the Social Science (SPSS/PC+20.0) were utilized for data management. The data were analyzed by using descriptive statistics to compare the results.

RESULTS

1. Advantages of OSCE

Table 1: Advantages of OSCE stated by participants

Advantages of OSCE	%Teachers' Responses			%Students' Responses		
	Agree	Neutral	Disagree	Agree	Neutral	Disagree
1. OSCE was fair	40	60	0	36.5	56.3	7.3
2. OSCE covered a wide range of knowledge and skills	40	50	10	64.6	30.2	5.2
3. OSCE highlighted areas of students 'weakness	70	20	10	83.3	16.7	0
4.OSCE reflected teachers taught	80	20	0	46.9	44.8	8.3
5. Exam using standardized patients was better than ward assessment	70	30	0	66.7	30.2	3.1
6 OSCE promoted decision making skills and thinking skills	50	50	0	53.1	43.8	3.1
7. OSCE assessed actual knowledge and clinical skills that students had	40	60	0	42.7	47.9	9.4
8. OSCE was not bias about question and time	40	50	10	42.7	51.0	6.3
9. OSCE was useful for students to apply in higher level and after graduation	60	40	0	65.6	30.2	4.2
10. OSCE was accepted by students and teachers	60	40	0	32.3	54.2	13.5
11. OSCE was the same format so the evaluation was the same	60	20	20	37.5	57.3	4.2
12 Students knew important skills	66.7	33.3	0	64.6	33.3	2.1
13. Students can use OSCE outcome to develop their study	55.5	33.3	8.2	68.8	30.2	1.0
14. students gained more knowledge and skills from OSCE	44.4	44.4	8.2	55.2	36.5	44.8

Data in Table 1 shows advantages of OSCE that stated by the participants. Eighty percent of students and 70% of teachers stated that OSCE highlighted areas of students 'weakness. Seventy percent of teachers and 66.7% pointed out that OSCE which used standardized patients was better than ward assessment.

Only 40 % of teachers and 36.5% of students believed that OSCE was fair. Forty percent of participants responded that OSCE assessed actual knowledge and clinical skills that students had as well as OSCE was not bias about question and time. Half of teachers and students expressed that OSCE promoted decision making skills and thinking skills (50% and 53.1% respectively).

Nearly of half of students did not believe that students gained more knowledge and skills from OSCE (44.8%) while eight percent of teachers had the same opinion. All teachers accepted that OSCE can assess the clinical skills but 13% of students did not accept.

2. Disadvantages of OSCE

Table 2 Disadvantages of OSCE stated by participants

Disadvantages of OSCE	**%Teachers' Response**			**%Students' Response**		
	Agree	Neutral	Disagree	Agree	Neutral	Disagree
1.OSCE required more resources such as time, man, and materials	50	50	0	43.8	44.8	11.5
2. OSCE was difficult to pass	20	70	10	57.3	38.5	4.2
3.OSCE was very stressful	22.2	66.7	11.1	72.9	26.0	1.1
4. OSCE was unable to solve unexpected problem.	33.3	22.2	54.5	21.9	62.5	15.6
5.Time management at each station was difficult	30	50	20	57.3	36.5	6.2
6.No participation	40	50	10	39.6	52.1	8.3
7. Only some skills and knowledge were prepared	30	70	0	39.6	50.0	10.4

Table 2 shows disadvantages of OSCE that indicated by the participants. Seventy three percent of students stated that OSCE was very stressful while twenty two percent of teachers accepted that. Half of teachers (54.5%) accepted that OSCE was able to solve unexpected problem; while only fifteen percent of students accepted that.

3. Perception towards the exam processes

Table 3 Students perception about processes during the exam

Items	Degree of Response		
	Agree (%)	**Neutral (%)**	**Disagree (%)**
1. The announcement before exam processes was clear	13 (13.5)	45 (46.9)	38 (39.6)
2. The time tables of OSCE examination were available and easy to access	13 (13.5)	47 (49.0)	36 (37.5)
3.Instructions in each station were clear and unambiguous	10 (10.4)	43 (44.8)	43 (44.8)
4.Tasks asked to perform were able to do	13 (13.5)	48 (50.0)	35 (36.5)
5.Setting and context at each station felt authentic	7 (7.3)	59 (61.5)	30 (31.3)
6. Number of stations in exam were suitable	24 (25.0)	51 (53.1)	21 (21.9)
7. Sequence of each station was appropriate	8 (8.4)	45 (47.4)	42 (44.2)
8. Time at each station was enough	13 (13.5)	46 (47.9)	37 (38.5)
9. Materials at each station were enough	55 (57.3)	29 (30.2)	12 (12.5)
10 Exam room was suitable	28 (29.2)	43 (44.8)	25 (26.0)
11Students knew the overall of the exam.	16 (16.7)	46 (47.9)	34 (35.4)

Table 3 shows that fifty seven percent of students stated materials at each station were enough. Forty percent of students mentioned that instructions in each station were clear and unambiguous as well as sequence of each station was inappropriate.

4. Suggestions to improve OSCE's effectiveness

Data in Table 4 shows that seventy percent of teachers stated that exam should reflect those taught and 66% of students stated the same. Eighty percent of teachers point out that student should get documents for their exam while around 10% of students did not want the documents.

Table 4: Suggestions to make OSCE more effective expressed by participants

Suggestions Items	%Teachers' Response			%Students' Response		
	Agree	Neutral	Disagree	Agree	Neutral	Disagree
1. Should set some standard goal and apply to the exam	50	40	10	32.3	61.5	6.3
2. Interactive stations should be created rather than stasis stations	40	60	0	33.3	58.3	8.3
3.Higher level of OSCE should be conducted	60	40	0	43.8	44.8	11.5
4.Exam should reflect those taught	70	30	0	65.6	30.2	4.2
5.Exaimer can be able to ask some outside checklists	50	30	20	51	34.8	5.2
6. Teachers and students can participate during exam	20	50	30	53.1	40.6	6.3
7. The whole exam is not over two hours.	50	50	0	51	44.8	4.2
8. Students should get some feedback right after the exam	60	40	0	42.7	46.9	10.4
9. Using video in some stations to reduce students' stress	20	50	30	43.8	34.4	21.9
10. Student should get documents for their exam	80	20	0	68.8	21.9	9.4

Table 5: The global rating for OSCE

Items	%Teachers' Response		%Students' Response	
	yes	no	yes	no
Did you satisfy the whole exam?	90	10	71.9	28.1

As far as the satisfaction of the teachers and the students who were involved in the examination, data in Table 5 shows that ninety percent of teachers satisfied the whole OSCE while seventy two percent of students had the same opinion.

DISCUSSION

The objective structured clinical examination (OSCE) is a useful tool to assess nursing competency among both nursing students and nurses. Other tests are difficult to evaluate clinical competence. The intent of this study gave an opportunity to know the students' and teachers' perceptions about OSCE.

For advantage of OSCE, some of the students and teachers disagreed that OSCE was fair. The result was not consistent with the result of the previous studies (Rushforth, 2007; Saadeldin, 2014). Several evidences have proved the OSCE as a reliable, valid, and objective assessment (Barry et al.,2013) because "In an OSCE, all students are assessed using exactly the same stations with the same marking scheme to make the assessment of clinical skills more objective rather than subjective"(Rushforth). The possible rationales used to explain the difference of results of this study. First, students may feel an examination to be unfair because of their perception of variations. Examiners may diverge in their skill in assessing the students' skills, so students may be huge variation in the expectations of examiners (Smith, Price & Houston, 1984). Secondly, there were only four OSCE stations in this study; so, teachers may question about fairness of the OSCE. In the literature, a larger number of short stations (approximately five minutes) can improve reliability and content validity of OSCE (Bartfay et al., 2004). Also, Jansiraninatarajan and Deepa (2014) stated that limitations of psychometric properties of the OSCE in the context of nursing education still remain.

Several participants both teachers and students expressed that OSCE highlighted areas of students 'weakness. The result was consistent with many studies (Jahan et al., 2011; Selim et al., 2012). Additionally, Troncon (2004) reported that examiners accepted the value of the OSCE as feedback data that may lead to improve student learning and clinical teaching. Six tenth of participants stated that OSCE was useful for students to apply in higher level and after graduation. The current findings were consistent with study conducted by Hala and Hanaa (2013) who mentioned OSCE as a good way of preparing them for future such as application critical thinking in real situation. Additionally, OSCE performance is related to problem solving strategies (Kim, J. H., & Kim, H. J. Kim, 2013). In the current study half of participants indicated that OSCE promoted decision making skills and thinking skills. As mentioned earlier about thinking and OSCE, some educators disagree about the positive relationship between OSCE and thinking ability. The level of critical thinking assessed by the OSCE is unlikely to reflect the student's ability to apply critical thinking in clinical situations. (Mitchell et al, 2009). OSCE can only provide a standardized clinical assessment but the environment in real-life situations are prevented such as the myriad of economic, culture, and sociopolitical contexts (MCGrath et al, 2006 cited in Michell et al, 2009). In progressing up the pyramid of competence (Miller, 1990) to "shows how", students demonstrate their knowledge and understanding by performing in a simulated setting rather than critical thinking skill.

Although, many studies pointed out positive feedback about the quality of OSCE performance, Mitchell et al expressed in the different way that it is essential that OSCE is used besides other methods of assessment so that more accurate and favorable results will be found for judgment.

According to the view of the participants toward the disadvantage of OSCE, seventy three percent of students stated that OSCE was very stressful while twenty two percent of teachers accepted that. The result was consistent with the result of the previous studies (Pieree et al., 2004; Saadeldin,et al). Any examination is a source of stress and anxiety and OSCE specifically reflected as a stressful test (Van Der Vleuten et al., 2000 cited in Saadeldin,et al). Nearly six tenth of students stated that OSCE was hard to pass. This finding may be explainable because it was the first time for students to test using this type of assessment.

CONCLUSION

In summary, the findings highlight the positive feedback about the quality of OSCE performance in term of that OSCE covered a wide range of knowledge and skills, promoted critical thinking, and highlighted areas of students 'weakness. However, students stated that OSCE was hard to pass and it was very stressful test. Overall of the OSCE, most of participants satisfy the test

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RECOMMENDATION

Several OSCE stations and short stations should be implemented to increase the objectivity, validity, and reliability of the examination.

Students have to be prepared appropriately to decrease their stress.

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Factors Relating Depression among Older People Living in Cimahi, West Java Province, Indonesia

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Abstract: Depression is commonly found in older people. The prevalence of depression among older people, particularly in Indonesia is increasing worldwide. This study was aimed to identify the factors relating to depression among older people living in Cimahi, West Java Province, Indonesia. A cross sectional design was used with a total of 267 older people aged from 60 to 79 years old. A multi-stage random sampling has been used in five Public Health Centers in Cimahi. The instruments comprised socio-demographic questionnaires, General Health Perceptions questionnaire, Chula Activities of Daily Living Index (CADLI), and Geriatric Depression Scale-15 (GDS-15). Data analysis was conducted using descriptive statistic, chi-square, and point-biserial. The result revealed that 56.2% respondents was no depression and 43.8% respondents was depression. The results also showed that age, marital status, family history of depression, perceived health status, and activities of daily living was significant relationship with depression among older people ($p<.01$; $p<.05$). This finding can be used as a reference to implement new strategies to decrease depression among older people.

Keywords: factor relating, depression, older people

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I. INTRODUCTION

Depression is affecting 350 million people worldwide (World Health Organization, 2012) and commonly found in older people. Approximately 121 million of the 350 were older people (34%) (Lepine and Briley, 2011). In South East Asia, 21.4% of older people have depressions (Lai and Surood, 2008).

While the proportion of the world population over the age of 60 years will double from 11% to 22% until 2050 (World Health Organization, 2012), the number of older people in Indonesia is also rapidly increasing. Based on the Central Statistical Agency (Badan Pusat Statistik) of Indonesia, the number of older people aged 60 years and above already significantly increased from 9.5 million in 2008 to 18.55 million in 2012 (Central Statistical Agency, 2014). There was also an increase in number of older people with depression from 20% to 32% of the total older population in Indonesia between 2008 and 2011 (Ministry of Health Republic of Indonesia, 2013). Depression for older people means that the quality of living and the happiness during the final stage of life is interfered with by both, physical and mental health (Ministry of Health Republic of Indonesia, 2014).

The high numbers of depression in older people are related to biological, psychological, and social factors (Hatala, 2012; Gilbert, 2007; Jilks, 2007). The perceived health status has been increasingly recognized as an important factor for multidimensional health (Kim *et al.*, 2009). A recent study disclosed that the perceived health status affected depression, especially for patients with chronic illnesses (Shin *et al.*, 2010). A negative perceived health was often caused by depression, as poorer health occur simultaneous with greater emotional vulnerability and depression (Evandrou, 2014). Some studies found that a negative perceived health status and chronic conditions were significant predictors of depression in older people (Blay *et al.*, 2007; Suen and Morris, 2006). Furthermore, findings of previous studies indicate that a health status perceived as "poor health" would have a negative psychological effect and could trigger depression among older people (Centre for Addiction and Mental Health, 2008). In addition, a low perception of the health status may influence the level of independent activities of daily living.

Older people, who experience limitations in functional performance and have to rely on their caregiver, are more likely to emotional distress (Lou *et al.*, 2013). The degree of independence depends on the performance of older people in tasks and routines that they are able to do on their own (Kim and Lee, 2009); on the ability of individuals to care for themselves in their activities of daily living (ADLs) such as bathing, showering, dressing, eating, and transferring in and out of bed or chair (Dale *et al.*, 2011; Hossein, 2015). When people are unable to perform the ADLs and rely on other people - including family members or caregivers (Grewal *et al*, 2006) - they usually show negative emotional responses and may lose their self-esteem (Murphy *et al*, 2007). The problems in performing the ADLs was logically found higher in older age (Kim and Lee, 2010; Ouden *et al.*, 2012; Evandrou *et al.*, 2014; Unsar *et al.*, 2015). In contrast a study by Lawrence *et al* (2014) showed that successful performance of ADLs does not have a relationship with depression. Family members - as main providers of social support - can also soften the psychological effect of such limited abilities.

This study aimed to identify the relationship between age, marital status, family history, perceived health status, and activities of daily living with depression among older people. The results of this study will be beneficial to health care providers, families, and older people living in Cimahi and can be used as guideline for developing appropriated interventions to prevent depression in older people. Moreover, the results can be used as baseline data for the Department of Health in Cimahi and for health centers to be aware of prevalence and factors that can effect depression in older people.

II. METHODOLOGY

This study used a descriptive cross-sectional design and was conducted among older people in five PHCs in Cimahi, West Java Province, Indonesia during the months of September and October 2015. Independent variables including age, marital status, family history, perceived health status, and activities of daily living were collected, whereas, the dependent variable is depression among older people. The hypothesis of this study assumes that there are relationships between age, marital status, family history, perceived health status, and the ability to perform activities of daily living among older people.

Sample

The sample size of the study was 267 older people selected by multi-stage random sampling. The inclusion criteria were: a) older people aged between 60 until 79, b) willingly volunteer to participate in this study, c) can read and write in Indonesia language. While the exclusion criteria were: a) suffering from cognitive impairment as evaluated by Pfeiffer (1975) "The Short Portable Mental Status Questionnaire; b) diagnosed with severe mental illness such as Schizophrenia or Dementia; or c) being hospitalized during data collection.

Measurement

The questionnaires were prepared to be consistent with the objectives of this research and its content validated by three experts in mental health and community field. In this study, depression was divided into two categories based on the Geriatric Depression Scale-15 (Yessavage *et al.*, 1983). At the lower level of the depression scale 0-4 means "no depression", whereas 5-15 in the upper areas represents depression. The reliability measured before data collection process was revealed Chronbach's alpha coefficients at .848.

Perceived health status based on General Health Perception (Agustini, 2013) was divided into the two categories "negative perception of general health" (1-5) and "positive perception of general health" (6-10). As the General Health Perception questionnaire only consisted of one single question it did not required a reliability process.

Chula Activities of Daily Living Index (Jitanpukul *et al.*, 1994) was used to measured activities of daily living in older people. A total score for CADLI was ranged from 0 to 9, with higher scores indicated better functional ability. The reliability measured before data collection process was revealed Chronbach's alpha coefficients at .873.

Data Collection

Data were collected with granted Ethical Review Board for Research Involving Human Research Subjects, Boromarajonani College of Nursing Nopparat Vajira (ERB, BCNNV) with ERB No. 27/2558. Data were collected by the researcher and a well trained research assistants. Face-to-face interviews were used during data collection process and took approximately 30 – 45 minutes to be completed.

The data were coded, validated and analyzed using computer software program. Descriptive statistics were used to measure the contribution of demographic data (numbers, mean, percentage and standard deviation). A Chi-square analysis was performed to test the relationship between marital status, family history of depression, and depression among older people. Point-biserial was used to test the relationship between age, perceived health status, and activities of daily living with depression among older people.

III. RESULTS

This part explains the individual characteristics of the participants including age, marital status, and family history; perceived health status, and their performance in their activities of daily living.

Table 1 Number and percentage of individual characteristics (N=267)

Characteristics	Number	Percentage (%)
Age		
Mean = 69 years SD= 5.439		
Marital Status		
Single/widowed	90	33.7
Married	177	66.3
Family History of depression		
Yes	15	5.6
No	252	94.4

Participants of this study were age ranged from 60 to 79 years (mean age=69). The Most of the participants were married (66.3%) and no depression in family history (94.4%) (see table 1).

Table 2 Number and percentage of depression (N=267)

Variable	Number	Percentage (%)
Depression		
No depression (0-4)	150	56.2
Depression (5-15)	117	43.8
Mild (5-8)	67	57.3
Moderate (9-11)	29	24.8
Severe (12-15)	21	17.9
Median = 4, Range = 12		

According to the Geriatric Depression Scale (Yessavage *et al.*, 1983), the total score is ranged from 0 to 15. GDS score was devided into two categories, no depression (0 – 4) and depression (5 – 15). This classification was based on summation of score in each item. Results found that most of participants had no depression (56.2%). However, almost a half of them were depressed (43.8%). Regarding to the severity of depression, there were devided into 3 categories including mild (5-8), moderate (9-11), and severe (12-15) (Yessavage *et al.*, 1983). Majority of participants with depression was in mild level of depression (57.3%), while almost half have moderate to severe depression (see table 2).

Table 3 Perceived health status in percentages (N=267)

Variable	Number	Percentage (%)
Negative perception (1-5)	43	16.1
Positive perception (6-10)	224	83.9
Median = 8, Range = 1 to 10		

Perceived health status score was ranged from 1 to 10. It was divided categorized into two groups (Agustini, 2013) which were negative (1 – 5) and positive perception of general health (6 – 10). The result show majority of the participants perceived positive in their health status (83.9%) (see table 3).

Table 4 Number and percentage of activities of daily living (N=267)

Variable	**Number**	**Percentage (%)**
Low (3 – 6)	77	28.8
High (7 - 9)	190	71.2
(Median = 7, Range = 6)		

The CADLI was used to measure functional abilities. The score of the CADLI ranged from 3 to 9. The CADLI was divided into two levels, including, a low score (3-6) which means a low level of functional ability, while a high score (7-9) means the presence of functional independence. The results indicated that most of participants had a high level of functional ability (71.2%) (see table 4).

Table 5 The relationship between individual characteristics (age, marital status, family history), perceived health status, and activities of daily living with depression among older people (N=267).

Variables	**Depression**
	p-value
Age	<. 05
Marital status	< .05
Family history of depression	< .05
Perceived health status	< .05
Activities of daily living	< .05

The results revealed that variables that statistically associated with depression among older people were age ($r = .154$, $p < .05$), perceived health status ($r = -.348$, $p < .01$), and activities of daily living ($r = -.137$, $p < .05$). The results of the relationship indicate that age had positive significant relationship with depression among older people. Its mean that, chance of depression would be higher if older people get older age. Whereas, perceived health status and activities of daily living had negative relationship with depression among older people. It is mean that older people who have negative perception of general health were more likely to be depressed than older people who have positive perception of general health. Older people who have low degree of functional ability were more likely to experience depression than older people who have high degree of functional ability.

The variable also had statistically significant relationship with depression among older people were marital status ($\chi^2 = 6.225$, $p < .05$) and family history ($\chi^2 = 5.623$, $p < .05$). The result revealed that older people who were single or widowed more likely suffered from depression than those older people who were married. Furthermore, older people who had no depression in family history were more likely suffered from depression as compared to older people who had

IV. DISCUSSION

The finding of this study found almost a half of older people were suffered from depression. Age was found have correlation with depression among older people living in Cimahi. Based on theory of aging, at this age, the transitional period starts changing the lives of the older people, including physical, psychological, and social (Tabloski, 2010). Some of the signs of aging concern physical change for example problems with sensory, hearing, and vision; psychological change include affective and cognitive function; and change of social status influence older people to feel lose their social power, roles, and being abandoned (Tabloski, 2010). This condition also happened in Indonesia that of older people get older age, chance of depression would be higher (Darmojo, 2006).

This study also shows that marital status, family history and perceived health status had significantly associated to depression among older people. A study by Murphy et al (2007) found that marriage has a strong direct effect on health. Older people with couple marital status would receive the better caring than those with single or widowed status (Kamiya et al., 2013; Nyer et al., 2007). Family history can place an older people for developing depression (Monroe et al., 2014). People who had previous episodes of depression have a greater risk for developing depression in older age (Alvarez et al., 2010). Perceived health status was negative significantly associated with depression among older people. It could be inferred that older people with a good perceived health status are less likely to develop depression. This result is consistent with other studies showing that the perceived health status was significantly associated with depression (Kim, et al 2009; Fernandez-Martinez et al., 2012; Galloway and Henry, 2014; Chun et al., 2015). It seems that the perceived health status has a great impact on depression in older people. Therefore, to prevent depression in older people, it might be useful to focus more on improving life satisfaction in older people.

The analysis of the activities of daily living in this study indicates that older people who depend on others in their activity tend to develop depression. On the other hand, those with independence in their activities of daily living would rarely experience symptoms of depression. These findings confirm the results of previous studies where dependence in activities of daily living was correlated with depression (Wada et al., 2005; Kazama et al., 2013; Tiedt, 2013; Lawrence et al., 2014). However, the contradictory results of this study might have been caused by some reasons, including older people still have good condition to do something; for example walking out door (distance 50+ meters, cooking, using public transport, using money, and heavy housework (house cleaning).

One strength of this study is adaptation of Biopsychosocial Approach as a guideline to find the association of depression among older people. Although all the objectives had been met in this study, there were some limitations. Firstly, the finding could not be generalized for the population of the older people who do not come to PHC. Secondly, as the data were collected in PHC where participants received their treatment, these environmental conditions might not influence the participants' response to the questionnaire.

To prevent the potential bias mentioned above, further research should ideally be conducted in a real community health care services, not only at PHCs. It could also involve psychiatric experts in order to allow for direct information and intervention into the depression among older people.

V. CONCLUSION

This study focused on depression in older people. It showed that factors, such as age, marital status, family history, general health perception, and activities of daily living can be associated with depression among older people. Age, marital status, family history of depression, perceived health status, and activities of daily living were associated to depression among older people. Older people with single or widowed, had family history; and had negative perception of general health more likely suffered from depression as compared to older people who had married, not had family history, and had positive perception of general health. This finding can be used as a reference to implement new strategies to decrease depression among older people.

VI. ACKNOWLEDGEMENT

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The Operationality of District Health System: A Case Study at Thayang District Phetchaburi Province, Thailand[1]

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ABSTRACT

The Operationality of District Health System (DHS) is the organization and management of a health system including, structures, managerial processes, priority health activities, community participation and the availability and management of resources. This mixed-method study was to examine the operations of the DHS in Thayang, Phetchaburi, during November 2013 to March 2014. Administrative committee of Thayang Hospital, district public health offices, and service recipients were interviews. Focus group discussions, non-participatory observation, health documents and questionnaire were used in data collection. The instruments were Self-evaluation on 5-steps progress of DHS, and the guideline of interview, focus group, and observation. Thematic analysis was used to analyze qualitative data and frequency distribution and percentage, mean and standard deviation were used to analyze the quantitative data. . The results were described by CIPP model as follows..

: 1) The context:: Thayang District, Phetchaburi, had a system and mechanisms for driving continually to construct the DHS. 2) Input factors were set by the DHS committees from all regions. Essential cares were selected to work together emerging from all opinions of DHS committees. 3) Process: DHS committees and all team work in DHS work together as a unity. They shared and allocated proper resource for each other, particularly in the situation of man, budget, and material shortages. 4) Product:: The health committee satisfactions on the services was at a good level (Mean=3.80, SD = 0.55; Mean = 3.78, SD = 0.68). The community strength was emerging in the model of sub-district health system for care people with disabilities and mental health problems.

Recommendations**:** the key success factors of the DHS are learning together of all committees, therefore the health policy should be supportive and keeping the sharing knowledge to crystallize the pool of knowledge.

Key words: District Health System, CIIP model, Case study

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1. Introduction

Nowadays, Thailand health policy need to construct the operationality of District Health System particular primary health care service because it is closely services for people in the community. Furthermore, the policy requires the primary care services coordinate with secondary and tertiary care and focus on supporting strengthen community to ensure that people are strong, self-reliant, and do not abandon one another (Wasi, 2013). Based on the limitations of resources, budget, material and the complexity of health problems, it is necessary to development the operationality of District Health System to self-management for all.

The District Health System (DHS) involves systematic working, cooperation of health committees from all sectors not only the government system but also the non-government system in order to collaboratively solve health problems with effectiveness management in their province. Health problem situations in which they collaborated underpinning the context based learning such as decision-making essential care, integrated community participations, knowledge management (Thiptiangtae et al, 2014). DHS is important for development the primary health services because: 1) districts have sufficient capacity to support central policies (top-down process) and they are aware of the readiness, needs, and requirements of local areas (bottom-up process), creating a balance when decision-making is required for the development of comprehensive district service systems; 2) DHS facilitates the setup of integrated health care systems, thereby helping to create non-repetitive, integrated systems, in terms of operations and management (Pongsupap, 2013).

Based on the Ministry of Public Health policy, district health system as the mechanism to build a healthy ampere nationwide was set up in 255 districts, serving as pioneering districts in order to ensure that other districts gain guidelines for further development. The 5th National Health Security Office, Ratchaburi, collaborate with Boromarajonani College of Nursing, Ratchaburi; Prachomklao College of Nursing Phetchaburi Province, and Faculty of Nursing Science, Rajabhat, NakhonPathom to study the Thayang District of Phetchaburi Province. This study aimed to determine the operationality of the pilot district health systems and results could be applied to district health system in other areas.

2. Objective

2.1 To study the operationality of the district health system of Thayang District, Phetchaburi Province.

2.2 To study the satisfaction of Thayang District health committees and clients from all sections of DHS.

3. Methodology

The study design was descriptive research, mixed method, both quantitative and qualitative method, using the CIPP Model of Danial L. Stufflebeam (Stufflebeam, 2008). It used to describe the phenomena of DHS practice. They were following:1) the context of the Thayang District including social capital, health problem situations, and other surrounding conditions; 2) the input factors consist of gender, age, level of education of the district health committees, budget, resources and technology; 3) processes as how to development the successful of DHS, such as readiness preparation, support, orientation, monitoring, preparation of strategic/work/project plan, the carrying out of operation and project plan, resource sharing and developing budget, quality and suitability of technology, progress monitoring and outcome evaluation;4) outputs, mean as evaluation results of the 5-step progress of DHS

development, and health committee satisfactions, strength of health care team, and the perception of people on self-health care reliance.

Instruments:

Four set of instruments were used to collect data in this study.

1) The 5-Step Progress of DHS development. There was the evaluation format of the Ministry of Public Health. It was include 5 parts, unity of team of committees, community participation, resource sharing, appreciation, and essential care, Likert-type measured their perceptions 5 scales. Each item was rated from 1 = strongly disagree to 5 = strongly agree.

2) The guideline of in-depth interview and focus group discussion. The examples of question are following. How do you choose essential care for work together? Why do you choose this health problem? How do you plan to solve this health problem? These questions were approved and trail by 5 relevant key informants.

3) The perception of health committee satisfaction. There are their self-report on 18 items, Likert scale, measure 5 aspect, including: 1) the strategic plan, operational plan, and project which they call One District One Project, ODOP, essential care which health committees chose for work together, 2) doing follow their plans emphasis on ODOP, 3) budget management, 4) output and outcome of ODOP, and 5) Formative evaluating of the progress and summative evaluation.

4) The observational guideline. It was used during in-depth interview and focus group discussion.

Data collection:

. Data were collected during November 2013 until March 2014. The process of collected data were as follows

1. Qualitative data. The procedure of researchers to gathering data followed

1.1 The in-depth interviewed 2 health committees, the representative of Thayang Hospital and the head of the district public health office of Thayang District. The first section asked for personal data including, age, gender, and the seconded section interviewed following guideline questions.

1.2 The focus group discussion conducted with 17 Thayang District health committees, consisted of the Mayer, Deputy Mayer, Deputy Director of Thayang hospital, and the representatives of the office of health promotion hospital in Thayang District. The processes of collecting data were complete personal data, and divided 2 groups for focus group discussion.

1.3 The non-participative observations conducted on the Thayang District health committees meeting for 2 days.

1.4 Document analysis was used to 2 days after completed the focus group discussion from Thayang District health committees.

2. Quantitative data: collected from 19 members of Thayang District health committee, and 82 service recipients from ODOP, health volunteers, caregivers, and people with disabilities. The procedure were inform and consent by describe the process of collecting data and the detail of satisfaction instrument. After participants understanding and signs in the format of consent form, the collecting data were started.

Data Analysis

1. Qualitative data analyzed by content analysis via CIPP model perspective. Confirming accurate thematically with participants during collecting data was used.

2. Quantitative data analyzed with frequency, percentage, mean, and standard deviations.

Ethical consideration

This research was approved by the Academic committee of the 5th Health Region. All participants were informed of the project and the research team asked for their consent to participate in the study. They can refuse participation in this research project. It found that no one refused participation.

4. Findings and Discussion

Based on the CIIP model perspective, the results were below.

Context of Thayang District Health System:

The context was based on the administration in the local area with the District Public Health Coordination Committee being the driving mechanism for health work and the work was done to build the health conditions of each village and sub-district in conjunction with various sectors in planning to solve the long accumulated problems using strategy roadmap (SRM), from the district level to the sub-district level with cooperation from the local area, with representatives from public health personnel being members of the Tambon Health Fund Committee under the leadership of the director of district public health and the director of Thayang Hospital. The fact that the context of the Thayang District Health System is an executive, the hospital's director who is the person with vision and leadership concerning changes and working as a good executive, setting the foundation by developing the capacity of personnel and operating teams within the network and by having a mechanism to disseminate multidisciplinary teams from hospitals to serving as work teams for each sub-district (Thayang Hospital, 2013), thereby enabling seamless coordination of data from local areas and service units.

Input Factors

1. Policy – The Thayang District Network was selected as Phetchaburi's pioneering district employing the district health system as a driving mechanism in building health conditions. This concurred with the policy issued by the Ministry of Public Health which promotes the development of district health systems with an objective to create the management of health network with cooperative efforts from all parties involved in health problem management with unity and target leading to the healthcare of the people in the entire district in concurrence with health problems occurring in the area.

2. Committees – The Thayang District Health System Committee was appointed by the Governor of Phetchaburi Province and comprised networks from thepublic health sector and local administrative organizations. The advantages of the aforementioned committee were 1) the committee's comprising of members from multiple sectors resulted in awareness and opinion exchanging with joint planning to resolve health issues for concurrence with the health conditions of the areas that truly led to the setting of common target; 2) Having committee and work teams from multiple sectors led to the awareness about health conditions leading to join forces and cooperative efforts in resolving problems according to the mission, which promoted a driving force. The aforementioned findings concurred with the study of Chidsupang Thiptiangtae (2014) which found that district health system committees with common targets to be led by the fact that everyone jointly recognized the occurrence of problems and

helped one another in line with individual responsibilities and could be the force leading to successful problem-solving.

3. Resources - The budget used to drive the work operations of the district health system according to the One-District-Once-Project (ODOP) was issued by the National Health Security Office (NHSO) in conjunction with the budget from the Permanent Secretary Office of the Ministry of Public Health and the Budget from Tambon Health Funds.

Work Process of Thayang District Health System

1. In terms of policy dissemination, the Thayang District Health System was assigned responsibilities at the Ministry of Public Health level, the 5th health service network district, and at the level of Phetchaburi Province. The committee then reported to the district level executive in the first Thayang District Committee meeting and was set as an agenda for every month for acknowledgement and to drive district health system according to the 5-step principle with requests for approval of the District Health System Committee. Afterwards, a meeting was held to explain and present the work operations of district health system and explain health conditions in the local area, namely, patients with physical, mobility and psychiatric disabilities. Next, explanations were made at the village headsmen meeting on a monthly basis. Thus, all of the people involved were aware and recognized the importance of the problem while cooperating with the work. These findings did not concur with the study of KamolphuTanomsat (2014) which was conducted to study the work operations of a district health system in Kanchanaburi. According to the findings, certain primary service providers still did not have clear understanding about work procedures for district health systems, follow-up on work performance, project outcome evaluation, and success indicators.

1. In terms of work operation to essential care in the Thayang District

The Thayang District Health System Committee worked to resolve health issues by using the 5-step progress self-evaluation form as a guideline for the work. Director's meetings were held and various health situations found in Thayang District were presented and prioritized. Next, the meeting resolution selected the problems of patients with physical or mobility disabilities and psychiatric patients as the common problems to be solved according to the 5-step guidelines of the district health system. Then, the project to develop healthcare system for patients with physical, mobility and psychiatric disabilities in Thayang District of Phetchaburi Province was carried out in line with the committee's resolution.

The principles used by Thayang District in the project design were: 1) Setting policy to resolve health issues in the local areas by using a strategy roadmap moving toward thesub-district level in conjunction with local areas; 2) using cooperative efforts from networks in all sectors; 3) coordinating work and requesting budgets from theTambon Health Fund from all sub-districts with emphasis on shared resource management and using. The aforementioned principle used in the project design was:

Set up one single large project in the operation plans under the name, "Thayang Participatory Healthcare Provision Development Project for People with Physical or Mobility and Mental Health Disabilities Project. The sub-activities included : 1) meeting to explain to the committee and people involved at all levels; 2) exploring and analyzing data on the target group and identify people not yet registered; 3) educating the health team on the subject of "Rehabilitation of patients and persons with mobility disability according to family medicinal principles"; "Assisting and caring for psychiatric patients"; 4) building and developing instruments used in project evaluation; 5) visiting and rehabilitating persons with disabilities and strengthen the energy of caregivers in conjunction with community team; 6) coordinating transfers for continual treatment and assistance in other areas; 7) preparing manuals and

educating caregivers/volunteers/local administrative organizations; 8) Transcribing lessons and preparing caring guideline in conjunction with health teams and communities.

The party responsible, the Thayang District Health System Committee, delegated responsibilities according to relevant activities with the district public health office and tambon health promotion hospital being the hosts in addition to participation from local administrative organizations.

Target Groups: 1) 200 patients with physical or mobility disabilities and 20 psychiatric patients with medication shortage and relapse; 2) District Health System Committee; 3) 13 local administrative organizations; 4) Personnel from public health office/local administrative organizations, public agencies and people sector, and 5) Staffs from 20 primary services.

Expected Outcome: 1) The district health system working together and coordinating district health service systems in caring for patients with physical, mobility and psychiatric disabilities; 2) 169 patients (84.5%) with disabilities were visited and rehabilitated at home; 3) 83 patients (100%) with difficulties were visited and rehabilitated at home; 4) 10 patients with disabilities (100%) received physical equipment and certifications; 5) The psychiatric patients with medication shortages received follow-up visits and declining severity; 6 %) the occurrence of innovation in caring for patients with physical or mobility disabilities according to medical principles and the forum for exchanging knowledge and 7) The development of district health service systems through the co-learning process between the health service network and local administrative organization.

Resource Management– There was planning and integrated use of resources to jointly resolve health issues. The network's multidisciplinary team made home visits, followed up on the recuperation of the disabled and psychiatric patients in the local areas once or twice a month, using budget from the district health system, the chronic disease fund and the Tambon Health Fund to prepare manual and training on capacity development of caregiver of patients with disability and psychiatric patients with equipment and supplies such as disabled patient visit kits and various equipment from the local administrative organization.

Output

1. The 5-steps progress of DHS development

Table 1- 5-step progress evaluation results of Thayang District Network

5-Step Activities	Pre-operation Evaluation	Post-operation Evaluation
1. Unity of District Health Team.	3	4
2. Appreciation for both service recipients and service providers.	2	3
3. Resource sharing and human development.	2	3
4. Provision of essential care.	3	4
5. Community participation.	3	4

Source: documents accompanying the contest on District Health System Network on Friday, 13 August 2013 at the Public Health office, Phetchaburi, Thayang Health District Network, Phetchaburi.

Data in Table 1, revealed the 5-step outcome evaluation of theThayangDistrict Health System was improved by at least one or three steps for success evaluation according to indicators at the provincial and district levels.

2. The personal data of the operationalities of district health system

Results showed that 19 numbers of the Thayang District Health System Committee were following, 64.706% were males, 35.29% were females; 47.06% were 50-59 years old and 23.53% were 40-49 years old. The mean age was 49.43 years old with 59 years old being the oldest age and 33 the lowest age; 82.35% of the committee members had bachelor's degrees and 17.65% master's degrees.

The mean score of the committee's satisfaction in the work operations of the district health system was good level (Mean = 3.80, SD = 0.55). Most of the committee members were satisfied with the work operations in line with operation and project plans (Mean = 3.94, S.D. = .49) and were least satisfied with progress monitoring and outcome evaluation (Mean = 3.61, S.D. = .50). These findings concurred with a study conducted by Supang Thiptiangtae (2014) who studied the work conditions at Suanpueng-Ban Ka district health system of Ratchaburi Province and found satisfaction to be at a good level (Mean = 3.59, S.D. = .0.44), as detailed in Table 2.

Table 2- Each aspect of Satisfaction in the operationalities of Thayang' District Health perceived by the committees (N=19).

No.	Description	Satisfaction Level	
		Mean	S.D.
	Setting Strategy, Plans for Practice and Structure	**3.94**	**0.49**
1	Problem selection method.	4.05	0.39
2	Use of information and local area issues.	4.15	0.43
3	Participation in the preparation.	3.80	0.62
4	Indicators/target value setting.	3.86	0.49
5	Planning to use resources in problem-solving.	3.86	0.49
6	Setting up monitoring and evaluation systems.	3.92	0.47
	Performance under Plans for Practice and Structure	**3.95**	**0.54**
7	Operation/health problem solving methods byissues selected.	3.98	0.45
8	Participation in operations.	3.94	0.59
9	Target population coverage.	3.94	0.59
	Budget	**3.81**	**0.50**
10	Amount of budget allocated for each project by health issue selected.	3.70	0.51
11	Budget allocation method for each project by health issue selected	3.92	0.48
	Products/Outcomes	**3.90**	**0.55**
12	Public health status by health issue selected	4.05	0.39
13	People's self-reliance on health	3.80	0.62
14	Cooperation among members in district health system	3.86	0.61
	Follow-up on Progress & Outcome Evaluation	**3.61**	**0.50**
15	Participation in progress monitoring and outcome evaluation.	3.53	0.49
16	Methods for progress monitoring and outcome evaluation.	3.62	0.51
17	Implementation of results from progress monitoring and outcome evaluation.	3.68	0.51
18	**Overall Satisfaction in Operations**	**3.86**	0.49
	Overall	**3.80**	**0.55**

3. Satisfaction in the operationalities of the district health system as perceived by service recipients

For the demographic data of the 82 samples, 60.98% were females and 39.02% were males. 29.27% were 40-49 years old and 23.17% were 30-39 years old. The mean age was 45.7 years old, with 88 years old being the oldest and 19 the lowest age. 40.24% graduated with secondary school education, and 4.88% with associate degrees and 4.88% with bachelor's degrees.

From an aggregate perspective, service recipient satisfaction was good (mean =3.78, SD = 0.68). Most service recipients satisfied with the staff's advice, assistance, and service (Mean =3.94, SD = 0.58), indicating that the work operations of the district health system led to the service recipients' receipt of more advice, assistance and services. This concurred with the study conducted by Taewjuntuek (2014) which examine the work conditions of Pranburi District Health System and found that service recipient's satisfaction was at good level (Mean = 3.44, S.D. = .59), as detailed in Table 3.

Table 3 - Satisfaction on the operationalities of district health system as perceived by service recipients (n = 82).

No.	Description	Mean	Standard Deviation
1	Information provision/publication of the participatory project.	3.62	0.78
2	Form/method/duration of project/activities.	3.63	0.68
3	Benefits gained from project/activity participation.	3.85	0.67
4	Suggestions, assistance and service provision by the staff.	3.94	0.58
5	Overall satisfaction on project participation.	3.84	0.64
	Total	**3.78**	**0.68**

4. Strength of the DHS health team and the public self-reliance of people

According to the findings, the Thayang District Health System had good cooperation with local areas, people, and communities. Every sector took part in planning, allocating, developing, and supporting the use of resources in order to care for the local people's health. As a result, problem-solving and various operations progressed consistently to attain the health policy indicator. Qualitative data confirmed the successfulness, indicate below.

"We were happy with the work because the patient's quality of life was improved…",
"……If the people in our district are happy, we are happy with the work …",
"…There were more people's networks and networks in other sectors providing care for the patients….",
"…as a result, the relationship within the health network was improved….",
"….There were certain things that the public health team could not do. However, with cooperation from the local sector, full benefits were achieved…"

For people's capacity and health self-reliance, it found that leaders, relatives and caregivers of patients with physical, mobility and psychiatric disabilities developed their capacities and became more confident in caring for patients, as the following qualitative data:

"….have more confidence in taking care of the patient…", "…the people are benefitted and we can return the people back to the society…."

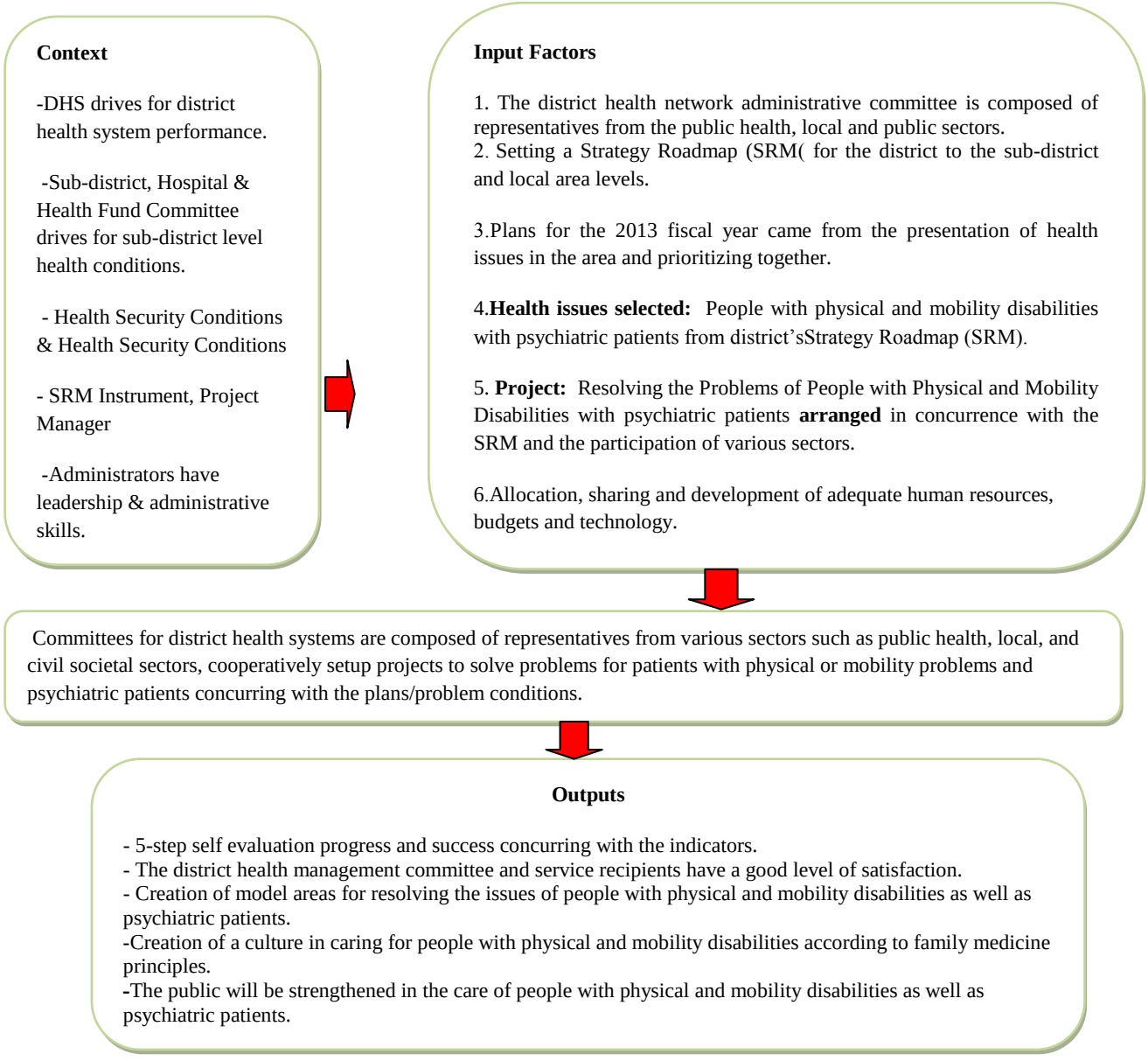
"…patients with physical disability and psychiatric patients received systematic, active and passive, care…",

"…When the patient's quality of life is improved, then, things follow…".

Work condition of district health system: of Thayang district health system could be summarized as in the following diagram:

Figure1

Work Condition of District Health System: Case study of Thayang District Health System



5. Conclusion and Recommendations

5.1 The context of Thayang District has consistently maintained a system and mechanism in building amper health with the use of the strategy roadmap from district to sub-district organizations in conjunction with local areas, including resource planning, sharing, and developing in resolving health issues. The executives have vision and leadership.

5.2 Input factors – Committees for district health systems are composed of representatives from various sectors, such as public health, local, and civil societal sectors, cooperatively setup projects to solve problems for patients with physical or mobility problems and psychiatric patients concurring with the plans/problem conditions.

5.3 Process – The district health system committee holds meetings to jointly plan and solve the problems of patients with physical or mobility disabilities and psychiatric patients. Personnel works as a team with unity, sharing, and development of resources as necessary, as well as budgets in line with the system's mission and shortages in order to meet needs. Multiple sectors took part in thinking, planning and operating the work, as well as monitoring and evaluating work performance.

5.4 Output – Output evaluation revealed that the work made progress and achieved success as pointed out by the indicators. The satisfaction of the district health system committee and service recipients were at good levels and a model for the provision of care for patients with mobility disability and psychiatric patients was created.

6. Recommendations

1.Support learning exchanges, for example, crystallizing the pool of knowledge occurringand making it into documents with publication through various channels to ensure that other areas study or further disseminate the knowledge.

2. The operation of District Health System (DHS) must thoroughly cover all areas and every level of personnel. In addition, the roles and responsibilities of the committee running the DHS must be clear with emphasis on regulating and monitoring each level with fairness and no repetition.

7. Implementation

The findings from this study can be used as guideline for developing district health system networks. Individuals responsible for driving the district health system networks can use the findings to extend the results or for further development.

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Factors Associated With Self-care Management among Adult People With Hypertension in Jepara, Central Java, Indonesia[1]

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ABSTRACT

Hypertension is a chronic disease and serious health problem in many countries. Almost one billion adult people worldwide are suffered from hypertension. Approximately each year 8 million of adult populations worldwide die because of hypertension. Therefore, self-care management of hypertension is crucial in reducing the premature mortality. The aim of this study is to assess factors associated with self-care management of hypertension among adult people. The cross sectional design was used to evaluate self-care management of 145 hypertensive patients in Public Health Center (PHC) in Jepara, Central Java, Indonesia between August and September 2015. Multistage random sampling method was used to obtain a sample of adult people with hypertension. The data were collected by using the Hypertension Self-care Activity Level Effect (H-SCALE), Knowledge of Self-care Management, and The Chronic Illness Resources Survey (CIRS). Descriptive statistics, Point-biserial correlation, and Person's Product-moment correlation were used for data analysis. The results of analysis revealed that there were significant correlation between gender, knowledge of self-care management, social support, and self-care management of hypertension. However, there were some factors that were no correlation with self-care management including age, education level, and income.

In conclusion, the self-care management of hypertension in Jepara, Central Java, Indonesia could be focus on gender, improving knowledge of self-care management, and giving support to prevent the complications of hypertension. The result of this study will provide general information relating to factors of self-care management among adult people with hypertension. In addition, the finding of the study is expected as recommendation for local health care authority to carry out self-care management program, promote health, and prevent complications of hypertension.

Keywords: Hypertension/Self-Care Management/ Adult People/ Jepara Indonesia

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INTRODUCTION

Hypertension is a chronic disease and serious health problem in many countries. Almost one billion adult people worldwide are suffered from hypertension (Osamor & Owumi, 2011). Approximately each year 8 million of adult populations worldwide die because of hypertension (WHO, 2011). Moreover, 26.4% of adults in the world who are age 40-59 years suffered from hypertension (Bhandari et al., 2012). In the USA, the prevalence of hypertension among adults aged 18 and older was 29.1% in 2011–2012 (Nwankwo et al., 2013).

In Indonesia, hypertension became the third leading cause of death after stroke and tuberculosis (Ministry of Health Republic of Indonesia, 2007). Around 32% of the total population of Indonesia suffered from hypertension. In 2013, the prevalence of hypertension more than 25.8 % of person aged 18 years and above (Ministry of Health Republic of Indonesia, 2013). Specifically, in District of Jepara, there were 8,824 cases of hypertension in 2013. This figure increased to be 11,994 cases in 2014 (Dinas Kesehatan Kab. Jepara, 2014). These findings seem to point out that the current intervention to reduce and prevent hypertension might not have been carried out effectively.

Hypertension is chronic disease that requires management of the individual to perform self-care management (Warren-Findlow et al., 2012). Self-care management is an individual's ability to detect and manage symptoms, treatments, physical and psychosocial consequences, and lifestyle change that linked with a chronic illness (Barlow et al., 2002).

Self-care management of hypertension should improve several kinds of health behaviors. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure (JNC 7) recommends 6 self-care behaviors: adhering to medication regimens, engaging in physical activity, following a healthy, taking low-salt and low-fat diet similar to the Dietary Approaches to Stop Hypertension (DASH) diet, maintaining a healthy weight, reducing alcohol intake, and avoiding tobacco (Chobanian et al., 2003).

There are several previous studies investigating the relationships among factors related to self-care management. Age, gender, level of education, socioeconomic, and knowledge of self-care management are identified as personal factors relevant to self-care management of hypertension. Social support also becomes important factors in self-care management of hypertension. Some previous studies showed that knowledge of self-care management, age, gender, income, and education level have positive relationship with self-care management of hypertension (Lynch et al., 2014; Appleton et al., 2013; Crowley et al., 2012; Wee & Koh, 2012, respectively). However, other studies found that personal factors were not associated with self-care management of hypertension (Masi et al., 2012; Eugene & Bourne, 2013; Kusuma et al., 2013; Warren-Findlow & Seymour, 2013; Ross et al., 2004, respectively). Study conducted by Sarah et al. (2013) analyzed that social support were have positive impact on self-care management of hypertension. However, Sharoni et al. (2013) found that high social support had no significant relationship with self-care management of hypertension.

There is a few study of self-care management of hypertension among adult people in Jepara District. Identifying contributing factors related to self-care management for disparities community are crucial in improving health behaviors outcomes (Manze et al., 2010). Therefore, studying factors associated with self-care management among adult people with hypertension in this area is essential for deepening our understanding of the conditions.

AIMS

The aim of this study is to assess factors associated with self-care management of hypertension among adult people.

METHOD

Study Design

This study was conducted by a cross-sectional design.

Sample

Multi-stage sampling technique was used to recruit the participants. A total 145 adult people with hypertension were recruited from four Primary Health Center (PHCs) in Jepara, Central Java, Indonesia. The inclusion criteria set for this study are: a) age between 20-59 years old, b) diagnosed with hypertension based on PHC's medical records, and d) willingly to participate in this study. While, the exclusion criteria set are: a) suffering from severe complications of hypertension b) patients with severe hypertension (BP= ≥180/110 mmHg) and c) being hospitalized during data collection.

Instruments

There are four instrument tools to collect the data in this study, as follows:

1. The Demographic Data Survey Form was developed by the researcher to collect personal data of the research participants that consists of age, gender, educational level, income.
2. The knowledge of Self-care management of hypertension would be assessed by specific questions that consist of 11 items. The questionnaire was developed by Rosalind M. Peters (2008). The answer options for the knowledge are score strongly disagree (1), disagree (2), partially disagree (3), undecided (4), partially agree (5), agree (6), and strongly agree (7). The Cronbach's alpha for the 11 items was 0.867.
3. The Chronic Illness Resources Survey was developed by Glasgow et al. (2004). The scales consist of 13-items. The instrument encompasses seven separate resources of social support including health care, family, friends, neighborhood, media/ policy, organizational, and co-worker. Each item is scored on a 5-point Likert scale and the scores indicate the degree to which the participants agrees or disagrees with a particular item question (1 = not at all, 2= A little, 3= a moderate amount, 4= quite a bit, 5 = a great deal). The minimum possible score is 13 and the maximum possible score is 65. The Cronbach's alpha coefficient for the 11 items was 0.805.
4. The Hypertension Self-Care Activity Level Effects, or H-SCALE, was developed for self-report assessment. The questionnaire was designed to measure the recommended self-care activities in patients with hypertension. The H-SCALE was developed by Warren-Findlow (2013) that consists of 6 domains and 29 items. The alpha Cronbach's coefficient was 0.730.

Data collection

Data collection was started after gaining an approval letter from by the Ethical Review Board (ERB) committee of Boromarajonani College of Nursing Nopparat Vajira (BCNNV-Bangkok Thailand) and the approval letters from Department of Health Jepara District. After getting permission, the researcher met each Head of Public Health center (PHC) to explain purpose, benefit, and plan of study and asked for the potential participants. The researcher met the participant's in every programs of chronic disease in Primary Health Care (PHC). Participants who were willing to participate in this study were asked to sign informed consent forms and informational sheet. The questionnaires were completed by self-administered questionnaire and required approximately 60 minutes. Then, the researcher checked the complement of the questionnaire. Data were collected on August - September, 2015.

DATA ANALYSIS

Data analysis was performed using Statistical Package for the Social Sciences (SPSS Student Version 20.0). Descriptive statistics was used to summarize the sample characteristics. Person's Product-moment-correlation-coefficient and point-biserial correlation coefficient were used to examine the relationship between income, age, educational level, knowledge of self-care management, social support, gender, and self-care management of hypertension.

RESULT

1. Descriptive statistic

A total of 145 participants were included in this study. The majority of participants were female (77.2%). The average age of the participants was 47.06 years with a standard deviation of 7.12. Most of the participants (84.8%) were from middle age 40 to 59 years old. The majority of the participants are elementary school, 53.8% respectively. Only 6.2% had a higher educational level. The average income per month of participants is IDR 1,067,586 with SD of 712,330 and 79.3% participants have income less than IDR 1,150,000/month.

Table 1 show that the median score of participants' knowledge about self-care management were 63.00 with score of participants ranged from 27-77 out of the total score. The knowledge score was classified into: good, fair, and poor (≥62, 46-61, and ≤ 45, respectively). Most of participants had a good level of knowledge (56.6%), followed by fair level (35.9%), and poor level (7.6%). Those data are shown in Table 2.

Table 1 Number and percentage of levels of participants' knowledge of hypertension self-care management (n=145).

Knowledge	Number	Percentage
Good	82	56.6
Fair	52	35.9
Poor	11	7.6
Median = 63.00		
Min-Max = 27-77		

The result of the study found that about 45% of participants were strongly agree that avoiding alcohol will keep blood pressure in normal level. In addition, more than one-third of them were strongly agree that avoiding tobacco can control blood pressure within normal level. Approximately 50% participants agree on the seeing doctor on regular basis to keep BP within normal limits.

Table 2 shows the mean of social support scores was 38.67 and standard deviation of 8.99 with ranged from 16 to 62. The social support was classified into two levels: high and low, using the total of mean score. The data revealed that more than half (53.8%) of the participants were low of social support.

Table 2 Number and percentage of levels of participants' social support to self-care management of hypertension (n=145).

Social Support	Number	Percent
High	64	44.1
Low	78	53.8
Mean ± S.D = 38.67±8.99		
Min-Max = 16-62		

In this study, more than half of participants got explanations about the result of test related to their problem and support from doctor or other health care providers. Approximately 45% of participants had health insurance to cover most of the costs of medical needs. More than quarter of participants (26.2%) had shared healthy low-fat recipes with family members.

Table 3 shows the number and percentage of self-care management level of hypertension. The data revealed that the self-care management of hypertension scores ranged from 59 to 137 with the mean score of 101.19 and standard deviation of 15.87. The self-care management scores were classified into two levels: good and poor using the mean scores, respectively. Almost half of participants were good level in self-care management of hypertension and about 50.3% of them were poor in self-care management.

Table 3 Number and percentage of self-care management level of hypertension (n=145).

Self-care management	Number	Percent
Good	72	49.7
Poor	73	50.3
Mean ± S.D = 101.19±15.87		
Min-Max = 59-137		

2. Correlation between Independent variables and self-care management

Table 4 shows the correlation among gender, age, income, education level, , knowledge of self-care management, social support, and self-care management of hypertension. According to table 6, there were a positive, significant correlation between gender, knowledge of self-care management, social support and self-care management of hypertension ($r = .185$, $p < .05$; $r = .223$, $p < .01$; $r = .447$, $p < .05$, respectively). However, other variables including income, age, and education level had no significantly associated with self-care management of hypertension in this study.

Table 4 Correlation between independent variables and self-care management of hypertension (n = 145)

Factors	Self-care management of hypertension	
	r	*p-value*
Gender	.185*	.026
Age	.018	.833
Income	.049	.557
Education level	.002	.980
Knowledge	.223**	.007
Social support	.279**	.001

**.Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

DISCUSSION

This study found that various factors had no significant correlations with self-care management of hypertension ($p>0.05$). These included age, income, and education level. However, some factors had significant associated with self-care management including gender, knowledge of self-care management, and social support.

The majority of participants were male of 112 (77.2%). Based on the result of point-biserial correlation found that gender was significantly associated with self-care management of hypertension ($r = .185$, $p < .05$). This result was consistent with the previous studies by Crowley *et* al.,(2012); Warren-Findlow and Seymour, (2011) and Kayima et al., (2013). Those studies analyzed that women were more likely to control Blood Pressure than men. Although, other studies by Kusuma et al., (2013) and Romdhane et al. (2012) found that that the rate of treatment and control hypertension did not differ between male and female. According to the results, the number of female hypertensive patient was more

than male. In term of Indonesia culture, most of male are worker. It might be caused by males have dominant role in the family and community. They usually don't have a lot of time to control their blood pressure. Therefore, the awareness of male hypertension patients was less than female.

The result of this study found that age was not associated with self-care management of hypertension ($p > .05$). Most of the participants (84.8%) were middle age from 40 to 59 years old. This finding contradictive with study conducted by Dennison et al. (2007) indicated that younger people had a better self-care management of hypertension. Moreover, Eugene & Bourne (2013) evaluated the self-care management practices level among hypertensive clinic in urban St. Andrew, Jamaica found that age has negative relationship with self-care management of hypertension.

The study revealed that education level was not associated with self-care management of hypertension ($p > .05$). This was in line other previous studies showed that the education level was not associated with the self-care management of hypertension (Kusuma et al., 2013; Osamor & Owumi, 2011). However, several studies contradict that higher level of education was associated with better self-care management of hypertension (Romdhane et al., 2012; Warren-Findlow & Seymour, 2011; Kayima et al., 2013).

The finding of this study indicated that income was not associated with self-care management of hypertension ($r = .049$, $p > .05$). This was in line with the study by Warren-Findlow & Seymour (2011), who found that socioeconomic factors such as home ownership, education, or income were similar between adherers and non-adherers in self-care activities. One possible explanation for the lack of influence of age on the self-care management could be more than 40% of participants had health insurance. This finding might be has effect to cover the costs of medical needs.

According to the result, knowledge of self-care management was significantly associated with self-care management of hypertension ($r = .223$, $p < .05$) in this study. The higher knowledge of self-care management would have better self-care management of hypertension. The result was consistent with previous studies. As confirmed by numerous studies knowledge has positive relationship with the self-care management of hypertension (Wang et al., 2013; Mosack et al., 2012; Lynch et al., 2014; Beigi et al., 2014). Peters & Templin (2008) investigated knowledge of self-care behaviors for controlling blood pressure among African American. The study found that knowledge about self-care behaviors has positive relationship with blood pressure control.

The finding show that most of participants had a good level of knowledge (56.6%), About 45% of participants were strongly agree that avoiding alcohol will keep blood pressure in normal level. More than one-third of them were strongly agree that avoiding tobacco can control blood pressure within normal level. Approximately 50% participants agree on the seeing doctor on regular basis to keep BP within normal limits. This result indicated that the information about self-care management is required for hypertension patients in the community. Those can improve self-care management of hypertension.

The finding of this study shows that social support was significantly associated with self-care management of hypertension ($r = .279$, $p < .05$). In this study, more than half of participants got explanations about the result of test related to their problem and support from doctor or other health care providers. About 38% of them had seen billboards or other advertisements that encourage stopping smoking, eating low-fat, and doing regular exercise. Moreover, around quarter of participants (26.2%) had shared healthy low-fat recipes with family members. The result was consistent the previous study by Sarah et al. (2013) found several facilitators such as support of family members and positive relationship with doctors have positive correlation with self-care management of hypertension and can be used as effective predictive factors. Fort et al. (2013) confirmed that family and community support are factors that can encourage patients in carrying out self-care management of hypertension. Moreover, Saleem et al. (2011) found that hypertensive patients were influenced by peers, family members and people with the disease condition, and that their self-care management improved when they received advice on condition from them.

CONCLUSION AND RECOMMENDATION

Gender, knowledge of self-care management, and social support were associated with self-care management of hypertension. The findings may provide guiding evidence to make intervention program in improving knowledge of self-care management and inducing social support to promote self-care management and prevent complications of hypertension among adult people. Health care provider and nursing community should implement strategies intervention to improve self-care management among adult peoples.

Limitations

This study was conducted using a descriptive cross-sectional survey. It could not explore hypertension patients over time. Moreover, the data was collected using self-administered that could be bias result and cause missing data.

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Estimation of sensitive attributes using a stratified Kuk randomization device[1]

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Abstract

This paper suggests a stratified Kuk model to estimate the proportion of sensitive attributes of a population composed of a number of strata by applying stratified sampling to the adjusted Kuk model. The paper estimates sensitive parameters in the case where the size of the stratum is known by taking proportional and optimal allocation methods into account and extends it to the case of an unknown stratum size, estimating sensitive parameters by applying stratified double sampling and checking the two allocation methods. Finally, the paper compares the efficiency of the proposed model to that of the Su et al. model and the adjusted Kuk model in terms of the estimator variance.

Keywords: Randomized Response Model, Adjusted Kuk Model, Sensitive Attribute, Stratified Sampling, Stratified Double Sampling

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Estimation of sensitive attributes using a stratified Kuk randomization device

1. Introduction

Warner (1965) first suggested an ingenious survey model called the randomized response model (RRM) to obtain sensitive information from respondents without disturbing their privacy by using a randomization device composed of the following two questions (a sensitive question and a nonsensitive one):

Question 1: Do you have a sensitive attribute A? (with probability P),

Question 2: Do you have a nonsensitive attribute A^c? (with probability 1- P).

The probability of a "yes" answer is given by

$$\theta_W^* = P\pi + (1-P)(1-\pi). \qquad (1.1)$$

Let $n\hat{\theta}_W^*$ be the number of "yes" answers in a random sample of n respondents, and then the estimator $\hat{\pi}_W$ and the variance $V(\hat{\pi}_W)$ of its sensitive proportion π are respectively

$$\hat{\pi}_W = \frac{\hat{\theta}_W^* - (1-P)}{2P-1}, \quad P \neq 1/2, \qquad (1.2)$$

$$V(\hat{\pi}_W) = \frac{\pi(1-\pi)}{n} + \frac{P(1-P)}{n(2P-1)^2}. \qquad (1.3)$$

Kuk (1990) suggested an RR model that makes use of two randomization devices. The first randomization device R_1 is composed of a deck of cards, and each card bears one of two possible questions with two possible outcomes:

Question 1: Do you have a sensitive attribute A? (with probability θ_1).

Question 2: Do you have a nonsensitive attribute A^c? (with probability $1-\theta_1$).

The second randomization device R_2 is composed of a deck of cards, and each card bears one of two possible questions with two possible outcomes:

Question 1: Do you have a nonsensitive attribute A^c? (with probability θ_2),

Question 2: Do you have a sensitive attribute A? (with probability $1-\theta_2$).

Assume that a simple random sample with the replacement (SRSWR) of n respondents is selected from the population of interest. Each respondent is to report the first outcome of R_1 if he or she has a sensitive attribute A and the second outcome of R_2 if he or she has no sensitive attribute A.

The probability of a "yes" answer θ_K^* is given by

$$\theta_K^* = \pi\theta_1 + (1-\pi)\theta_2 . \quad (1.4)$$

Let $n\hat{\theta}_K^*$ denote the number of "yes" responses in the sample of size n, and then the estimator $\hat{\pi}_K$ of π, the proportion of the population in the sensitive group, and its variance $V(\hat{\pi}_K)$ are given by

$$\hat{\pi}_K = \frac{\hat{\theta}_K^* - \theta_2}{\theta_1 - \theta_2}, \quad \theta_1 \neq \theta_2 , \quad (1.5)$$

$$V(\hat{\pi}_K) = \frac{\theta_K^*(1-\theta_K^*)}{n(\theta_1 - \theta_2)^2}. \quad (1.6)$$

Many studies have suggested and extended various models based on Warner's model. Chaudhuri and Mukerjee (1988) and Ryu et al. (1993) organize and emphasize various RR models. Kim and Warde (2004) present a stratified RR model by using an optimal allocation method, and Kim and Elam (2005) extend it to a two-stage stratified RR model.

Recently, Su et al. (2014) suggest a new RR model compelling answers "yes" or "no" to each respondent according to his or her selection situation in a randomization device modified from Kuk's randomization device. However, Su et al.'s (2014) model estimates sensitive attributes by using simple random sampling, and therefore it is difficult to apply it to populations composed of several strata.

This paper considers the conditions for estimating the proportion of sensitive attributes of a population composed of a number of strata and extends the adjusted Kuk model by applying stratified sampling. The paper estimates sensitive parameters in the case of a known stratum size by taking proportional and optimal allocation methods into account and extends it to the case of an unknown stratum size, estimating sensitive parameters by applying stratified double sampling to Su et al.'s model and checking the two allocation methods. Finally, the paper compares the efficiency of the proposed model to that of the Su et al. model and the stratified Kuk model in terms of the estimator variance.

2. An RR model using a modified Kuk randomization device

Su et al. (2014) estimate the proportion of sensitive attributes by suggesting an adjusted RR model modified Kuk's one. The modified Kuk model suggested in Su et al. (2014) applies the modified Kuk randomization device to n respondents selected by simple random sampling with replacement (SRSWR):

Each respondent in a sample of n respondents is provided with two randomization devices D_1 and D_2. The randomization device D_1 consists of a deck of cards, and each card bears one of the following two statements: (1) use the randomization device F_1 and (2) use the randomization device F_1^c with probabilities θ_1 and $(1-\theta_1)$, respectively. Similarly, the randomization device D_2 consists of a deck of cards, and here each card bears one of the following two statements: (1) use the randomization

device F_2 and (2) use the randomization device F_2^c with probabilities θ_2 and $(1-\theta_2)$, respectively. Each respondent is instructed to use the first device D_1 if he or she has the sensitive attribute A and the second device D_2 if he or she has the nonsensitive attribute A^c.

The device F_1 mentioned in the first outcome of the device D_1 consists of two possible mutually exclusive statements: (1) say "yes" and (2) say "no" with probabilities P_1 and $(1-P_1)$, respectively. The device F_1^c mentioned in the second outcome of the device D_1 also consists of two possible mutually exclusive statements: (1) say "yes" and (2) say "no" with probabilities T_1 and $(1-T_1)$, respectively. Similarly, the device F_2 mentioned in the first outcome of the device D_2 consists of two possible mutually exclusive statements: (1) say "yes" and (2) say "no" with probabilities P_2 and $(1-P_2)$, respectively. The device F_2^c mentioned in the second outcome of the device D_2 also consists of two possible mutually exclusive statements: (1) say "yes" and (2) say "no" but with probabilities T_2 and $(1-T_2)$, respectively.

In the adjusted Kuk RR model, the probability of a "yes" answer is given by

$$\begin{aligned}\theta_c^* &= \pi\left[\theta_1 P_1 + (1-\theta_1)T_1\right] + (1-\pi)\left[\theta_2 P_2 + (1-\theta_2)T_2\right] \\ &= \pi\left[\theta_1(P_1 - T_1) - \theta_2(P_2 - T_2) + (T_1 - T_2)\right] + \theta_2 P_2 + (1-\theta_2)T_2,\end{aligned} \tag{2.1}$$

where π is the population proportion of sensitive attributes.

The estimator $\hat{\pi}_c$ of the population proportion of sensitive attributes is

$$\hat{\pi}_c = \frac{\hat{\theta}_c^* - \theta_2 P_2 - (1-\theta_2)T_2}{\theta_1(P_1 - T_1) - \theta_2(P_2 - T_2) + (T_1 - T_2)}. \tag{2.2}$$

The variance of the proposed estimator $\hat{\pi}_c$ is given as follows:

$$V(\hat{\pi}_c) = \frac{\hat{\theta}_c^*(1-\hat{\theta}_c^*)}{n\left[\theta_1(P_1 - T_1) - \theta_2(P_2 - T_2) + (T_1 - T_2)\right]^2}, \tag{2.3}$$

where $\hat{\theta}_c^* = x/n$ is the observed proportion of "yes" answers.

3. A stratified Kuk randomization device

This section considers the estimation of the proportion of sensitive attributes by using a stratified Kuk randomization device and checks the allocation method when the population consists of a number of strata and the size of each stratum is known.

Let the population of size N be divided into disjointed L strata of size $N_h (h = 1, 2, \cdots, L)$ each in the stratum h. Then $n_h (n = \sum_{h=1}^{L} n_h)$ respondents are selected by the SRSWR and asked to answer "yes" or "no" according to the modified Kuk randomization device.

Each respondent in the stratum h is provided with two randomization devices D_{h1} and D_{h2}. The randomization device D_{h1} consists of a deck of cards, and each card bears one of the following two statements: (1) use the randomization device F_{h1} and (2) use randomization device F_{h1}^c with probabilities θ_{h1} and $(1-\theta_{h1})$, respectively. Similarly, the randomization device D_{h2} consists of a deck of cards, and here each card bears one of the following two statements: (1) use the randomization device F_{h2} and (2) use the randomization device F_{h2}^c with probabilities θ_{h2} and $(1-\theta_{h2})$, respectively. Each respondent in the stratum h is instructed to use the first device D_{h1} if he or she has the sensitive attribute A_h and the second device D_{h2} if he or she has no sensitive attribute A_h.

The device F_{h1} mentioned in the first outcome D_{h1} consists of two possible mutually exclusive statements: (1) say "yes" and (2) say "no" with probabilities P_{h1} and $1-P_{h1}$, respectively. The device F_{h1}^c mentioned in the second outcome D_{h1} consists of two possible mutually exclusive statements: (1) say "yes" and (2) say "no" with probabilities T_{h1} and $1-T_{h1}$, respectively.

Similarly, the device F_{h2} mentioned in the first outcome D_{h2} consists of two possible mutually exclusive statements: (1) say "yes" and (2) say "no" with probabilities P_{h2} and $1-P_{h2}$, respectively. The device F_{h2}^c mentioned in the second outcome D_{h2} consists of two possible mutually exclusive statements: (1) say "yes" and (2) say "no" with probabilities T_{h2} and $1-T_{h2}$, respectively.

A pictorial representation of this forced RR model is given in Figure 3.1.

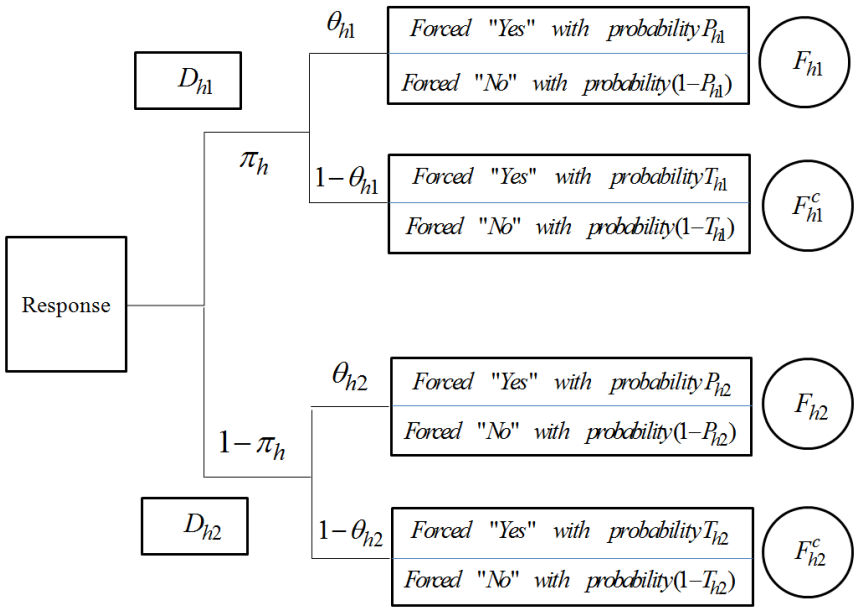

Figure 3.1. A stratified Kuk forced randomized response model

From these RR procedures, the probability of a "yes" answer is given by

$$\begin{aligned}\theta_{hc}^{*} &= \pi_h\left[\theta_{h1}P_{h1}+(1-\theta_{h1})T_{h1}\right]+(1-\pi_h)\left[\theta_{h2}P_{h2}+(1-\theta_{h2})T_{h2}\right] \\ &= \pi_h\left[\theta_{h1}(P_{h1}-T_{h1})-\theta_{h2}(P_{h2}-T_{h2})+(T_{h1}-T_{h2})\right]+\theta_{h2}P_{h2}+(1-\theta_{h2})T_{h2},\end{aligned} \tag{3.1}$$

where π_h is the population proportion of sensitive attributes in the stratum h.

Let X_h be the number of "yes" responses in the SRSWR sample of n_h in the stratum h. Then X_h follows a binomial distribution with parameters n_h and θ_{hc}^{*}, that is, $B\left(n_h,\theta_{hc}^{*}\right)$. Therefore, the probability of observing x_h "yes" answers out of n_h responses is given by

$$P(X_h=x_h)=\binom{n_h}{x_h}\left(\theta_{hc}^{*}\right)^{x_h}\left(1-\theta_{hc}^{*}\right)^{n_h-x_h}.$$

The log-likelihood function is given by

$$\log P(X_h=x_h)=\log\binom{n_h}{x_h}+x_h\log\left(\theta_{hc}^{*}\right)+(n_h-x_h)\log\left(1-\theta_{hc}^{*}\right).$$

Setting

$$\frac{\partial\log P(X_h=x_h)}{\partial\theta_{hc}^{*}}=0,$$

gives the maximum likelihood estimator (MLE) $\hat{\theta}_{hc}^{*}$ of θ_{hc}^{*} as follows:

$$\hat{\theta}_{hc}^{*}=\frac{x_h}{n_h}. \tag{3.2}$$

Therefore, the estimator $\hat{\pi}_{hc}$ of the population proportion of sensitive attributes in the stratum h is

$$\hat{\pi}_{hc} = \frac{\hat{\theta}^*_{hc} - \theta_{h2}P_{h2} - (1-\theta_{h2})T_{h2}}{\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})}, \tag{3.3}$$

where $\hat{\theta}^*_{hc} = \frac{x_h}{n_h}$ is the observe proportion of "yes" answers in the sample of h.

<Theorem 3.1> The stratified estimator $\hat{\pi}_{st}$ is an unbiased estimator of π:

$$\begin{aligned}\hat{\pi}_{st} &= \sum_{h=1}^{L} W_h \hat{\pi}_{hc} \\ &= \sum_{h=1}^{L} W_h \frac{\hat{\theta}^*_{hc} - \theta_{h2}P_{h2} - (1-\theta_{h2})T_{h2}}{\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})},\end{aligned} \tag{3.4}$$

where $W_h = \frac{N_h}{N}$.

(Proof) Because $E\left(\hat{\theta}^*_{hc}\right) = \theta^*_{hc}$, it is easy to show that

$$\begin{aligned}E(\hat{\pi}_{st}) &= E\left[\sum_{h=1}^{L} W_h \frac{\hat{\theta}^*_{hc} - \theta_{h2}P_{h2} - (1-\theta_{h2})T_{h2}}{\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})}\right] \\ &= \sum_{h=1}^{L} W_h \frac{E\left(\hat{\theta}^*_{hc}\right) - \theta_{h2}P_{h2} - (1-\theta_{h2})T_{h2}}{\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})} \\ &= \sum_{h=1}^{L} W_h \frac{\theta^*_{hc} - \theta_{h2}P_{h2} - (1-\theta_{h2})T_{h2}}{\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})} \\ &= \sum_{h=1}^{L} W_h \frac{\pi_h\left[\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})\right] + \theta_{h2}P_{h2} + (1-\theta_{h2})T_{h2} - \theta_{h2}P_{h2} - (1-\theta_{h2})T_{h2}}{\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})} \\ &= \sum_{h=1}^{L} W_h \pi_h \\ &= \pi.\end{aligned}$$

□

<Theorem 3.2> The variance of the proposed estimator $\hat{\pi}_{st}$ is given as follows:

$$V(\hat{\pi}_{st}) = \sum_{h=1}^{L} W_h^2 \frac{\theta^*_{hc}(1-\theta^*_{hc})}{n_h\left[\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})\right]^2}. \tag{3.5}$$

(Proof) Because $X_h \sim B(n_h, \theta^*_{hc})$ and independent, it is easy to show that

$$V(\hat{\pi}_{st}) = V\left[\sum_{h=1}^{L} W_h \frac{\hat{\theta}^*_{hc} - \theta_{h2}P_{h2} - (1-\theta_{h2})T_{h2}}{\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})}\right]$$
$$= \sum_{h=1}^{L} W_h^2 \frac{V(\hat{\theta}^*_{hc})}{\left[\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\right]^2}$$
$$= \sum_{h=1}^{L} W_h^2 \frac{\theta^*_{hc}(1-\theta^*_{hc})}{n_h\left[\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\right]^2}.$$

□

<Theorem 3.3> An unbiased estimator of the variance of the proposed estimator $\hat{\pi}_{st}$ is

$$\hat{V}(\hat{\pi}_{st}) = \sum_{h=1}^{L} W_h^2 \frac{\hat{\theta}^*_{hc}(1-\hat{\theta}^*_{hc})}{(n_h-1)\left[\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\right]^2}. \quad (3.6)$$

(Proof) It is obvious because $E\left[\hat{\theta}^*_{hc}(1-\hat{\theta}^*_{hc})\right] = (n_h-1)V(\hat{\theta}^*_{hc})$:

$$E\left[\hat{V}(\hat{\pi}_{st})\right] = E\left[\sum_{h=1}^{L} W_h^2 \frac{\hat{\theta}^*_{hc}(1-\hat{\theta}^*_{hc})}{(n_h-1)\left[\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\right]^2}\right]$$
$$= \sum_{h=1}^{L} W_h^2 \frac{E\left[\hat{\theta}^*_{hc}(1-\hat{\theta}^*_{hc})\right]}{(n_h-1)\left[\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\right]^2}$$
$$= \sum_{h=1}^{L} W_h^2 \frac{(n_h-1)V(\hat{\theta}^*_{hc})}{(n_h-1)\left[\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\right]^2}$$
$$= \sum_{h=1}^{L} W_h^2 \frac{\theta^*_{hc}(1-\theta^*_{hc})}{n_h\left[\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\right]^2}$$
$$= V(\hat{\pi}_{st}).$$

□

Now consider proportional and optimal allocation methods to allocate the overall sample of n to each stratum of n_h and check the variance in each case.

In stratified sampling, values of sample sizes n_h in respective strata are chosen by the sampler. If the stratum size N_h is known but the variance of each stratum is not known, then the proportional allocation method is useful. In proportional allocation, $n_h = n(N_h / N)$, and the variance of $\hat{\pi}_{st}$ is given by

$$V(\hat{\pi}_{st}) = \frac{1}{n}\sum_{h=1}^{L} W_h \frac{\theta^*_{hc}(1-\theta^*_{hc})}{\left[\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\right]^2}. \quad (3.7)$$

The optimal allocation method determines n_h to minimize $V(\hat{\pi}_{st})$ for a specified cost or the cost of a specified value of $V(\hat{\pi}_{st})$. Let the cost function be

$$C = c_0 + \sum_{h=1}^{L} c_h n_h, \tag{3.8}$$

where c_0 is the overhead cost and c_h is the cost per unit.

In the optimal allocation method, the stratum sample size n_h and the minimum variance of $\hat{\pi}_{st}$ are respectively given as

$$n_h = n \frac{W_h \sqrt{\dfrac{\theta_{hc}^*(1-\theta_{hc}^*)}{\left[\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\right]^2}} \Big/ \sqrt{c_h}}{\sum_{h=1}^{L} W_h \sqrt{\dfrac{\theta_{hc}^*(1-\theta_{hc}^*)}{\left[\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\right]^2}} \Big/ \sqrt{c_h}}, \tag{3.9}$$

$$\begin{aligned} V(\hat{\pi}_{st(o)}) = \frac{1}{n} \sum_{h=1}^{L} W_h \sqrt{\frac{\theta_{hc}^*(1-\theta_{hc}^*)}{\left[\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\right]^2}} \sqrt{c_h} \\ \times \sum_{h=1}^{L} W_h \sqrt{\frac{\theta_{hc}^*(1-\theta_{hc}^*)}{\left[\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\right]^2}} \Big/ \sqrt{c_h}. \end{aligned} \tag{3.10}$$

4. Stratified double estimation of sensitive attributes using a stratified Kuk randomization device

This section considers the estimation of the proportion of sensitive attributes by using a stratified Kuk randomization device and checks the allocation method when the population consists of a number of strata but there is no information on the size of each stratum. If information on stratum size is lacking in stratified sampling, then stratified double sampling is useful.

If information on stratum size is lacking, then it can be obtained from the first sample, and the estimation of sensitive attributes can be made using the stratified Kuk randomization device.

If a population of size N consists of L strata, then the first sample of n' respondents is selected by the SRSWR, and they are asked answer the direct question "Are you in stratum h?" Then the first sample is classified into h strata of size n_h', and two proportions W_h and w_h are defined as follows:

$W_h = \dfrac{N_h}{N}$, $(h = 1, 2, \cdots, L)$: The proportion of the population falling into the stratum h,

$w_h = \dfrac{n_h'}{n'}$, $(h = 1, 2, \cdots, L)$: The proportion of the first sample falling into the stratum h,

where w_h is an unbiased estimator of W_h.

The second sample is a stratified sample in the stratum h. Here $n_h (n = \sum_{h=1}^{L} n_h)$ respondents are selected by the SRSWR from the first sample $n_h^{'} (h = 1, 2, \cdots, L)$ and asked to answer "yes" or "no" according to the stratified Kuk randomization device, as in Section 2.

The stratified estimator $\hat{\pi}_{std}$ of the population proportion of sensitive attributes can be obtained from these procedures as follows:

$$\hat{\pi}_{std} = \sum_{h=1}^{L} w_h \frac{\hat{\theta}_{hc}^{*} - \theta_{h2} P_{h2} - (1-\theta_{h2}) T_{h2}}{\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})}, \quad w_h = \frac{n_h^{'}}{n^{'}}. \tag{4.1}$$

<Theorem 4.1> The stratified estimator $\hat{\pi}_{std}$ is an unbiased estimator of π.

(***Proof***) Because $E\left(\hat{\theta}_{hc}^{*}\right) = \theta_{hc}^{*}$, it is easy to show that

$$\begin{aligned}
E\left[\hat{\pi}_{std}\right] &= E_1\left[E_2\left(\sum_{h=1}^{L} w_h \frac{\hat{\theta}_{hc}^{*} - \theta_{h2} P_{h2} - (1-\theta_{h2}) T_{h2}}{\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})} \right) | \, w_h \right] \\
&= E_1\left[\sum_{h=1}^{L} w_h \frac{E_2(\hat{\theta}_{hc}^{*}) - \theta_{h2} P_{h2} - (1-\theta_{h2}) T_{h2}}{\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})} \right] \\
&= E_1\left[\sum_{h=1}^{L} w_h \frac{\theta_{hc}^{*} - \theta_{h2} P_{h2} - (1-\theta_{h2}) T_{h2}}{\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})} \right] \\
&= E_1\left[\sum_{h=1}^{L} w_h \frac{\pi_h \left[\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})\right] + \theta_{h2} P_{h2} + (1-\theta_{h2}) T_{h2} - \theta_{h2} P_{h2} - (1-\theta_{h2}) T_{h2}}{\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})} \right] \\
&= E_1\left[\sum_{h=1}^{L} w_h \pi_h \right] = \sum_{h=1}^{L} W_h \pi_h = \pi.
\end{aligned}$$

□

<Theorem 4.2> The variance of the proposed estimator $\hat{\pi}_{std}$ is given as follows:

$$\begin{aligned}
V(\hat{\pi}_{std}) = \frac{1}{n^{'}} \Bigg[& \sum_{h=1}^{L} W_h \left(\frac{\theta_{hc}^{*}(1-\theta_{hc}^{*})}{\left[\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})\right]^2} \right) + \sum_{h=1}^{L} W_h (\pi_h - \pi)^2 \Bigg] \\
& + \sum_{h=1}^{L} \frac{W_h}{n^{'}} \left(\frac{1}{v_h} - 1 \right) \left[\frac{\theta_{hc}^{*}(1-\theta_{hc}^{*})}{\left[\theta_{h1}(P_{h1} - T_{h1}) - \theta_{h2}(P_{h2} - T_{h2}) + (T_{h1} - T_{h2})\right]^2} \right],
\end{aligned} \tag{4.2}$$

where $0 \le v_h = n_h / n_h^{'} \le 1$ is a fixed constant.

(*Proof*) If $\hat{\pi}_h^{'}$ is written as an estimator of sensitive attributes obtained from the first sample $n_h^{'}$ of the stratum h and $\hat{\pi}_{std}$ is redefined as a function of $\hat{\pi}_h^{'}$, then $\hat{\pi}_{std}$ can be expressed as follows:

$$\hat{\pi}_{std} = \sum_{h=1}^{L} w_h \hat{\pi}_h = \sum_{h=1}^{L} w_h \hat{\pi}_h^{'} + \sum_{h=1}^{L} w_h (\hat{\pi}_h - \hat{\pi}_h^{'}).$$

The variance of the first term on the right-hand side is

$$V_1 E_2 \left(\sum_{h=1}^{L} w_h \hat{\pi}_h^{'} \right) = \frac{1}{n^{'}} \left[\sum_{h=1}^{L} W_h \left(\frac{\theta_{hc}^{*}(1-\theta_{hc}^{*})}{\{\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\}^2} \right) + \sum_{h=1}^{L} W_h (\pi_h - \pi)^2 \right],$$

and the second term on the right-hand side is

$$\begin{aligned} E_1 \left[V_2 \left(\sum_{h=1}^{L} w_h (\hat{\pi}_h - \hat{\pi}_h^{'}) \right) \right] &= E_1 \left[\sum_{h=1}^{L} \left(\frac{1}{n_h} - \frac{1}{n_h^{'}} \right) w_h^2 \left(\frac{\theta_{hc}^{*}(1-\theta_{hc}^{*})}{\{\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\}^2} \right) \right] \\ &= E_1 \left[\sum_{h=1}^{L} \frac{w_h}{n^{'}} \left(\frac{1}{v_h} - 1 \right) \left(\frac{\theta_{hc}^{*}(1-\theta_{hc}^{*})}{\{\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\}^2} \right) \right] \\ &= \sum_{h=1}^{L} \frac{W_h}{n^{'}} \left(\frac{1}{v_h} - 1 \right) \left(\frac{\theta_{hc}^{*}(1-\theta_{hc}^{*})}{\{\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\}^2} \right), \end{aligned}$$

because $n_h = v_h n_h^{'} = v_h w_h n^{'}$.

Here (4.2) is obtained from these equations.

□

Now consider proportional and optimal allocation methods to allocate the overall sample of n to each stratum of $n_h^{'}$ and check the variance in each case.

If the stratum size N_h is known but the variance of each stratum is not known, then the proportional allocation method is useful. In the proportional allocation method, if $n^{'}$ and $n_h^{'}$ are used instead of N and N_h, then $n_h = n(n_h^{'} / n^{'})$, and the variance of $\hat{\pi}_{std(p)}$ is given by

$$V(\hat{\pi}_{std(p)}) = \frac{1}{n^{'}} \sum_{h=1}^{L} W_h (\hat{\pi}_h - \pi)^2 + \frac{1}{n} \sum_{h=1}^{L} W_h \left(\frac{\theta_{hc}^{*}(1-\theta_{hc}^{*})}{\{\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\}^2} \right) . \quad (4.3)$$

The optimal allocation method determines $n^{'}$ and v_h to minimize $V(\hat{\pi}_{std})$ for a specified cost. Let the cost function be

$$C = c^{'} n^{'} + \sum_{h=1}^{L} c_h n_h, \quad (4.4)$$

where $c^{'}$ is the total cost for the first sample and c_h is the cost per unit.

Then the expected value of (3.4) must be minimized to obtain optimum values of n' and v_h because n_h is a random variable. The expected value of C is given by

$$E(C) = C^* = c'n' + \sum_{h=1}^{L} c_h E(n_h) = c'n' + n' \sum_{h=1}^{L} c_h v_h W_h. \tag{4.5}$$

Use the Cauchy-Schwarz inequality to obtain v_h that minimizes the product $V(\hat{\pi}_{std})E(C)$:

$$v_h = \sqrt{\frac{c'}{c_h} \frac{\dfrac{\theta_{hc}^*(1-\theta_{hc}^*)}{\{\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\}^2}}{\sum_{h=1}^{L} W_h(\pi_h - \pi)^2}}. \tag{4.6}$$

Substituting v_h into (4.5) gives the optimum value of n' as follows:

$$n' = \frac{C^*}{c' + \sum_{h=1}^{L} c_h W_h \sqrt{\frac{c'}{c_h} \frac{\dfrac{\theta_{hc}^*(1-\theta_{hc}^*)}{\{\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\}^2}}{\sum_{h=1}^{L} W_h(\pi_h - \pi)^2}}}. \tag{4.7}$$

Therefore, the minimum variance of $\hat{\pi}_{std(o)}$ is

$$V(\hat{\pi}_{std(o)}) = \frac{1}{C^*}\left[\sqrt{c'}\sqrt{\sum_{h=1}^{L} W_h(\pi_h - \pi)^2} + \sum_{h=1}^{L} W_h \sqrt{\frac{\theta_{hc}^*(1-\theta_{hc}^*)}{\{\theta_{h1}(P_{h1}-T_{h1}) - \theta_{h2}(P_{h2}-T_{h2}) + (T_{h1}-T_{h2})\}^2}}\sqrt{c_h}\right]^2. \tag{4.8}$$

5. Efficiency comparison

5.1 Stratified estimation vs. Su et al.'s (2014) estimation

In Su et al.'s (2014) model, the variance of the estimator $\hat{\pi}_c$ of the sensitive attribute π is

$$V(\hat{\pi}_c) = \frac{\theta_c^*(1-\theta_c^*)}{n\left[\theta_1(P_1 - T_1) - \theta_2(P_2 - T_2) + (T_1 - T_2)\right]^2}, \tag{5.1}$$

where $\theta_c^* = \pi\left[\theta_1(P_1 - T_1) - \theta_2(P_2 - T_2) + (T_1 - T_2)\right] + \theta_2 P_2 + (1-\theta_2)T_2$.

Here use relative efficiency (RE) to compare the efficiency of two models:

$$RE = \frac{V(\hat{\pi}_c)}{V(\hat{\pi}_{st})}.$$

Values of RE over 1 indicate that the estimator obtained using the proposed stratified estimation method is more efficient than the estimator in Su et al. (2014).

To calculate RE empirically, assume that the population has two strata and $W_1 = 0.6, W_2 = 0.4$ and $W_1 = 0.7, W_2 = 0.3$ for $N_1 = 6,000, N_2 = 4,000$ and $N_1 = 7,000, N_2 = 3,000$ with $N = \sum_{h=1}^{2} N_h = 10,000$.

Also assume that $\theta_1 = \theta_{11} = \theta_{21} = 0.7, \theta_2 = \theta_{12} = \theta_{22} = 0.2$, and $0.1 \le \pi = \pi_1 = \pi_2 \le 0.3$. Tables 5.1 and 5.2 show the frequency of RE >1 when values of $P_{h1}, P_{h2}, T_{h1}, T_{h2}$, $h = 1, 2$ increase from 0.7 to 0.9 by 0.1 for $\pi = \pi_1 = \pi_2 = 0.1$.

Table 5.1. Frequency of RE >1 for $\pi = \pi_1 = \pi_2 = 0.1$ and $W_1 = 0.6, W_2 = 0.4$ (%)

$P_1 = P_2$	$T_1 = T_{11} = T_{21}$				$T_2 = T_{12} = T_{22}$			
	0.7	0.8	0.9	Total	0.7	0.8	0.9	Total
0.7	114,147 (20.79)	214,249 (39.02)	220,736 (40.2)	549,132 (100.00)	116,726 (20.02)	263,613 (45.22)	202,616 (34.76)	582,955 (100.00)
0.8	229,525 (36.13)	182,722 (28.76)	223,052 (35.11)	635,299 (100.00)	207,221 (36.15)	201,021 (35.07)	165,003 (28.78)	573,245 (100.00)
0.9	216,002 (40.96)	207,069 (39.27)	104,222 (19.77)	527,293 (100.00)	236,356 (42.55)	253,090 (45.56)	66,078 (11.89)	555,524 (100.00)
Total	559,674	604,040	548,010	1,711,724	560,303	717,724	433,697	1,711,724

The total number of iterations is 14,348,907, and the cases of RE >1 are 1,711,724 and 1,734,572 for $\pi = \pi_1 = \pi_2 = 0.1$, $W_1 = 0.6, W_2 = 0.4$, and $W_1 = 0.7, W_2 = 0.3$ (Tables 5.1 and 5.2).

Based on Table 5.1, if $P_1 = P_2 = 0.7$ and $T_2 = T_{12} = T_{22} = 0.7$, then the percentage of RE >1 is 20.79%, and if $T_2 = T_{12} = T_{22} = 0.7$, then the percentage of RE >1 is 20.02%. In the case of some fixed $P_1 = P_2 = 0.7$, if T_1, T_2 increase from 0.7 to 0.9, then the percentage of RE >1 increases. However, if P_1, P_2 or T_1, T_2 increase from 0.7 to 0.9, then the percentage of RE >1 decreases. In addition, if selection probabilities P_1, P_2 and T_1, T_2 have the same value, then the percentage of RE >1, that is, that of diagonal cells, has the lowest value of any other off-diagonal cells.

Table 5.2. Frequency of $RE>1$ for $\pi=\pi_1=\pi_2=0.1$ and $W_1=0.7, W_2=0.3$ (%)

$P_1 = P_2$	$T_1 = T_{11} = T_{21}$				$T_2 = T_{12} = T_{22}$			
	0.7	0.8	0.9	Total	0.7	0.8	0.9	Total
0.7	116,692 (20.95)	215,194 (38.63)	225,179 (40.42)	557,065 (100.00)	118,509 (20.12)	267,839 (45.48)	202,586 (34.4)	588,934 (100.00)
0.8	232,422 (35.97)	186,760 (28.90)	226,949 (35.12)	646,131 (100.00)	210,034 (36.17)	205,524 (35.39)	165,167 (28.44)	580,725 (100.00)
0.9	218,158 (41.06)	208,278 (39.2)	104,940 (19.75)	531,376 (100.01)	239,597 (42.41)	256,742 (45.45)	68,574 (12.14)	564,913 (100.00)
Total	567,272	610,232	557,068	1,734,572	568,140	730,105	436,327	1,734,572

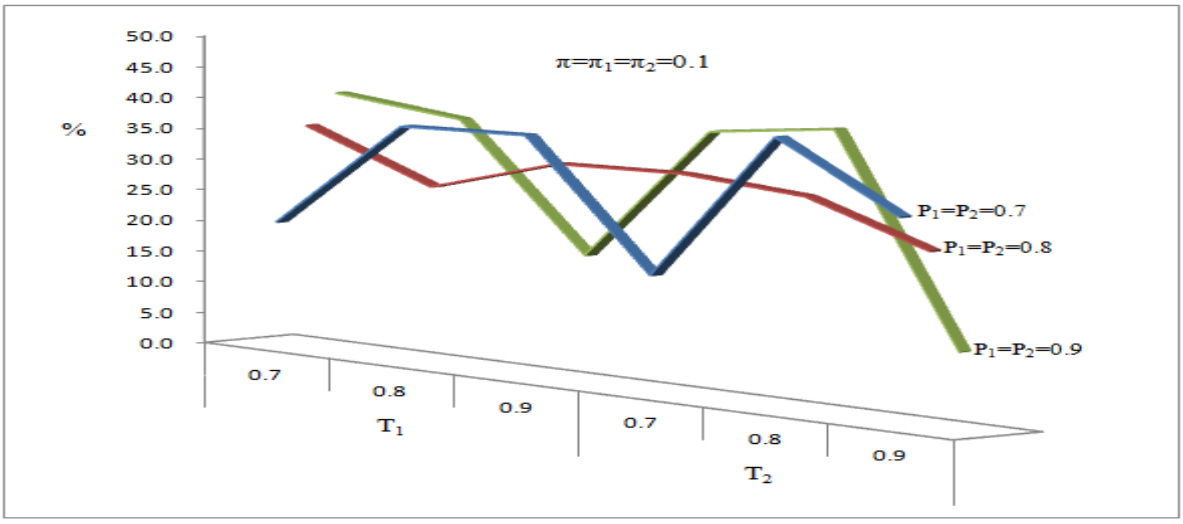

Figure 5.1. Percentages of $RE>1$ for $\pi=\pi_1=\pi_2=0.1$ and $W_1=0.6, W_2=0.4$

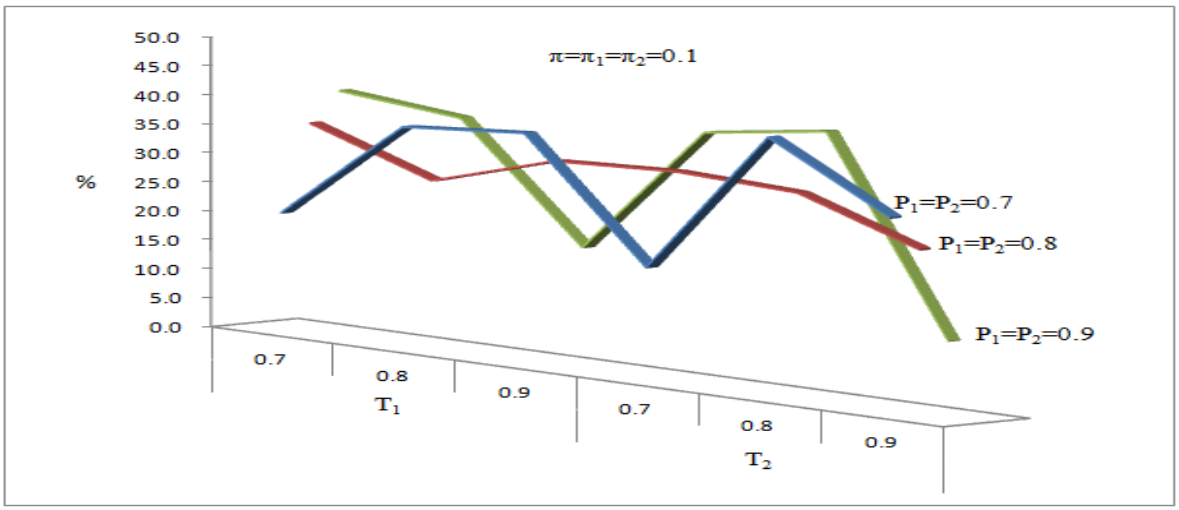

Figure 5.2. Percentages of $RE>1$ for $\pi=\pi_1=\pi_2=0.1$ and $W_1=0.7, W_2=0.3$

Figures 5.1 and 5.2 show that section probabilities $P_1 = P_2 = 0.7$ to 0.9 and $T_2 = T_{12} = T_{22} = 0.7$ to 0.9 for each stratum reduces the percentage of RE >1. If $\pi = \pi_1 = \pi_2 = 0.2$ or 0.3, the percentage of RE >1 has the same pattern as that in Figures 5.1 and 5.2.

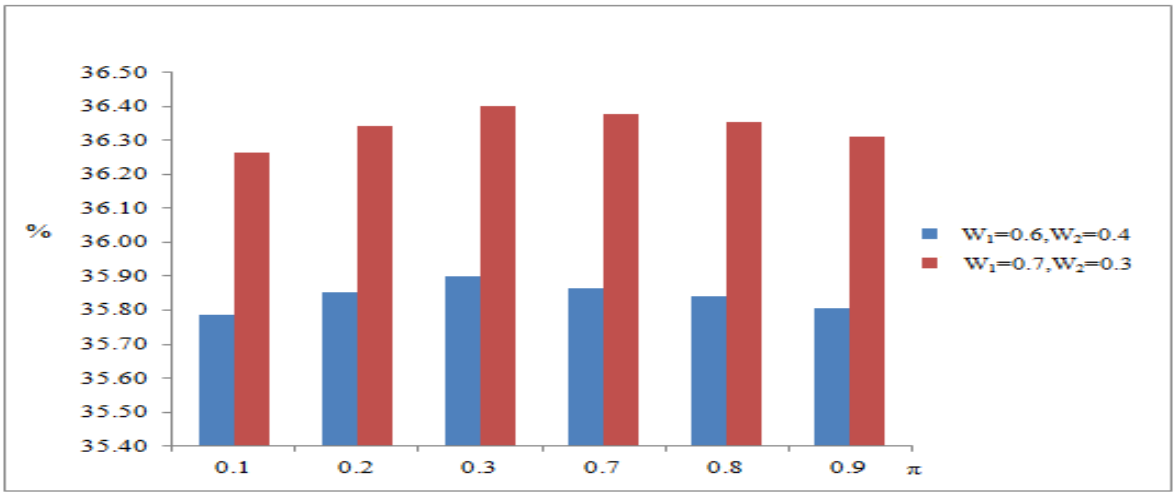

Figure 5.3. Percentages of RE >1 for $\pi = \pi_1 = \pi_2 = 0.1$ to 0.9, $W_1 = 0.7, W_2 = 0.3$ and $W_1 = 0.6, W_2 = 0.4$

Figure 5.3 shows that RE >1 increases for $\pi = \pi_1 = \pi_2 = 0.1$ to 0.3 and decreases for $\pi = \pi_1 = \pi_2 = 0.7$ to 0.9 for strata sizes $W_1 = 0.7, W_2 = 0.3$ and $W_1 = 0.6, W_2 = 0.4$, respectively. In addition, the percentage of RE >1 if $W_1 = 0.7, W_2 = 0.3$ are greater than $W_1 = 0.6, W_2 = 0.4$. That is, if the size of the stratum varies across strata, then the relative efficiency of the proposed estimator is more efficient than Su et al.'s estimator.

5.2 Stratified estimation vs. stratified double estimation

The difference between (3.7), the variance of the stratified estimator, and (4.3), the variance of the stratified double estimator, is

$$\frac{1}{n'}\sum_{h=1}^{L} W_h(\pi_h - \pi)^2 . \qquad (5.2)$$

The increment of the variance in stratified double sampling is due to an unknown stratum size obtained in the process of forming an estimator.

6. Conclusions

This paper estimates sensitive attributes of a population composed of a number of strata by applying stratified sampling to Su et al.'s model. The paper estimates sensitive parameters in the case where stratum size is known by taking proportional and optimal allocation methods into account and extends it to the case of an unknown stratum size, estimating sensitive parameters by applying stratified double sampling to the modified Kuk model and checking the two allocation methods. The paper compares the efficiency of the proposed stratified Kuk model to that of Su et al.'s model in terms of the estimator variance. The results of the numerical study indicate that the proposed estimator is more efficient than Su et al.'s model for different sizes of strata. In the proposed model, $RE > 1$ is guaranteed to be over 35% in all cases with various parameters.

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Is Social Support A Key Factor Influencing Depressive Symptoms Among Older Adults Residing In Long-Term Care In Thailand?[1]

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Abstract

Depression is a major factor in late life suicide among older adults. A factor contributing to depressive symptoms among older adults who live in long-term care is social support, which has been found to influence depressive symptoms. However, the association between social support and depressive symptoms in this population is still unclear in the current situation of long-term care in Thailand. Therefore, the purpose of this study is to describe depressive symptoms and social support, and to examine the relationship between social support and depressive symptoms of older adults in long-term care. The design that has been used is a descriptive correlational research of a quantitative study. The data was collected by interviewing residents, using structured questionnaires; the Thai Geriatrics Depression Scale (TGDS), and the Medical Outcomes Study Social Support Survey (MOS Social Support Survey). The findings indicate that depressive symptoms of older adults were mostly at a normal level (76.32%). Furthermore, 23.68 % of older adults were found to have mild depressive symptoms. The Mean of the social support factor for older adults was 54.58 (SD= 6.57). The results of this study found that social support of older people in long-term care is not significantly correlated with depressive symptoms. This result may have implications for developing interventions for depression in older adults who live in long-term care. Other factors such as social stigma, the performance of health professionals or the effectiveness of management strategies for treating depression in this population may need more research.

Key words: depressive symptoms, long-term care, older adults, social support

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Background

The trend towards an ageing population is a global phenomenon (Lee et al., 2013). This population is growing at a significantly greater rate than other populations. The United Nations (2013) reported that the number of older adults aged 60 years and over was approximately 841 million for the world in 2013. This number is predicted to rise to two billion in 2050. In addition, the majority of older adults live in developing countries (Sirey et al., 2013). Thailand is the second most aged country in Southeast Asia. The last survey of older adults in Thailand in 2010 reported approximately 8,408,000 older adults (The National Committee on the Elderly, 2013). This number is expected to increase to 20 million in 2040.

In Thai culture, older adults are an important group; they are respected by their children and Thai society (Choowattanapakorn, 1999). Most older adults expect their children to take care of them when they get older (Philips & Chan, 2002). Furthermore, most Thai people reject the idea of letting their parents reside in long-term care because their belief about long-term care is that it is a place for older adults who have no family and are poor (Choowattanapakorn, 1999).

However, some older adults have been sent to live in long-term care due to there being no one to take care of them and support them financially. Most older adults residing in long-term care have been reported to suffer high rates of psychological distress, including depression (Loughlin, 2004). The studies of long-term care conducted in Thailand report that nearly one-quarter (23% to 24%) of residents are suffering with depression (Wongpakaran & Wongpakaran, 2012, Wongpakaran & Wongpakaran, 2013).

Social support might be a major factor contributing to depressive symptoms because of the culture in Thai society of the family taking care of parents when they get older. Currently in Thailand, there are only a small number of studies exploring social support and depressive symptoms of older adults. Moreover, it is only reported to a minor extent. Therefore, it is interesting to study the relationship between social support and depressive symptoms in long-term care in Thailand. The result of this study will describe social support among older adults residing in long-term care. Furthermore, understanding the factors that influence older adults with depressive symptoms can result in interventions which can lead to the reduction or prevention of depression, as well as to the promotion of good mental health among this age group.

Research Objective

The aim of this study is to describe depressive symptoms and social support of older adults and to examine the relationship between social support and depressive symptoms among older adults residing in long-term care in Thailand.

Methodology

Population and sample

This study was conducted in two long-term care homes in the northeast part of Thailand between June and September 2013. Convenience sampling was applied in the study. The eligible criteria for older adults who could participate in the study included: aged 60 year and above, fluency in the Thai language, absence of severe cognitive impairment, and absence of severe psychological disturbance. The number of older adults who participated in this study was 38 people.

Data analysis

The data was analysed using the Statistical Package for the Social Sciences (SPSS) IBM PASW Version 20 for Windows. Descriptive statistics, including means, standard deviations, and frequency distributions, were used to describe the characteristics of participants, their level of depressive symptoms and social support. The inferential statistic Pearson's product moment correlation was used to examine the relationship between social support and depressive symptoms.

Research instruments

The questionnaire used consisted of three parts, as follows: personal demographic characteristics, depressive symptoms, and social support. Thai Geriatric Depression Scale-TGDS (Puangwarin et al., 1994) was used to examine depressive symptoms among residents. The GDS was developed by Yesavage et al. (1983). It has been reported with a high correlation. The Thai version of GDS was translated into Thai and it has been reported to have high reliability. In addition, the Medical Outcomes Study Social Support Survey (MOS Social Support Survey) was used to examine social support among older adults residing in care homes (Sherbourne & Stewart 1991). This questionnaire was translated into the Thai language by Rungruangsiripan (2011), and it has been reported to have good internal consistency (ibid).

Ethical issues and ethical considerations

This study was approved by the ethics committee of Boromarajonani College of Nursing, Nakhonratchasima. In addition, the study was approved by Nakhonratchasima Provincial Administrative Organisation. The researcher was very conscious of avoiding any risk of harm to participants. Therefore, the information of the study was treated confidentially. The participants were informed that they had the right to refuse to participate in the study at any time. The participants were asked to sign a consent form before structured interviewing using the questionnaires. During data collection, participants who were thought to have emotional distress were encouraged to pause or stop if they found it stressful. Moreover, the researcher informed them that they had a right to withdraw from this study at any time without informing the reason.

Results

Demographic characteristics

The participants consisted of older adults in two long-term care homes in the northeast of Thailand. Most of the older people were female (63.2%). The mean age was 74.97 years *(SD = 9.006)*. Most of the older people were Buddhists (97.4%). Many of the older people were widowed (55.3%) and had an elementary educational level (65.8%). Participants had an average income of 378.95 Baht/Month received from donors (78.91%) and didn't have debt (92.1%). Regarding health they had hypertension (47.4%), diabetes mellitus (15.8%), and other diseases (44.7%), including cataract, peptic ulcer, renal failure and cerebrovascular accident. Most of the older people cared for themselves at a good level (94.7%).

The level of depressive symptoms and social Support of the older people in long-term care

The highest frequencies for the level of depressive symptoms were those at normal level and mild depressive symptom level. The mean of the depressive symptoms scores of the older people in long-term care was 8.76 *(SD= 4.21)*. The levels of depressive symptoms are described in table 1.

Table 1. The Levels of depressive symptoms of older people in long-term care

The level of depressive symptoms	Frequency (n=38)	% (n=38)
Normal	29	76.32
Mild depressive symptoms	9	23.68
Total	38	100

Level of depressive symptoms: 0 - 12 score (Normal range), 13 - 18 score (Mild depression), 19 - 24 score (Moderate depression), 25 - 30 score (Severe depression).

The levels of the medical outcomes study of social support for older people in long-term care

The level of the medical outcomes study of social support average is 54.58 *(SD= 6.57),* and the highest frequencies for the level of medical outcomes study of social support were those for Tangible support *(M= 18.52, SD= 1.72),* Emotional or Informational support *(M= 17.67, SD = 4.39)*, Positive social interaction support (*M= 10.90, SD= 2.01*), and the lowest was Affectionate support *(M= 7.50, SD= 1.69)*. The levels of the medical outcomes study social support are described in table 2.

Table 2. The levels of the medical outcomes study of social support for older people in long-term care

Social support	**M** (n=36)	**SD**
Tangible support	18.52	*1.72*
Emotional/Informational support	17.67	*4.39*
Positive social interaction support	10.90	*2.01*
Affectionate support	7.50	*1.69*
Summary	**54.58**	***6.57***

The relationship between depressive symptoms and social support

Social support of older adults in long-term care was not significantly correlated with their depressive symptoms (r = -.180) (*p > .05*). The relationships between social support and depressive symptoms are presented in table 3.

Table 3.The relationship between depressive symptoms and social support

Source of sample	M (n=36)	SD (n=36)	Pearson correlation between depressive symptoms and social support	
			r	*p-value*
Depressive symptoms	8.76	4.21	-.180	.147
Negative thinking	54.58	6.57		

Discussion

The highest frequencies for the level of depressive symptoms were those at normal levels and mild depressive symptom levels. The results of this study suggest that 23.68% of the participants have mild depressive symptoms. This result is similar to the studies of Stewart et al. (2014) and Paungrod (2015), which found that 22% and 15.3% had been found to have depressive symptoms respectively.

This study found that the social support level of older people in long-term care is not significantly correlated with their depressive symptoms. The results of this study are different from the results of the study that was conducted among older adults who participated in activities in church (Chatters, Taylor, Woodward

& Nicklett, 2015). That study supported the hypothesis that social support from church networks is protective against depressive symptoms and psychological distress (ibid).

The relationship between social support and depressive symptoms is supported by the study of Lee et al. (2012). They found that social support is negatively correlated with depressive symptoms ($p < .01$) (ibid). That means that if older adults have high social support, they would have low depressive symptoms. Furthermore, it has been suggested that social support has an influence in decreasing depressive symptoms among Chinese elderly in Singapore by using problem solving and emotion regulation resilience (Li, Theng & Foo, 2015).

However, the study of Drageset et al. (2011) found that social support is not correlated with emotion of older adults residing in care homes. The study showed that social support variables were not associated with loneliness among nursing home residents without cognitive impairment (ibid). Presumably, the reason that social support is not significantly correlated with depressive symptoms is because most residents have a good level of self-help care. It is supported by the randomized controlled trial in depressed patients with chronic diseases, diabetes, and/or coronary heart disease (Ludman et al., 2013). They found that the perception of self-help care could significantly reduce the severity of depression within six months and twelve months (-0.33 to -0.27, $p = .001$ and $p = .007$) respectively.

Moreover, the results of that study found that most older adults are independent, and they can help themselves with routine daily activities. As a result, they don't need anybody to help them with their routine activities. By supporting older adults who can help themselves with daily activities care home staff, or others, may reduce their self-esteem and make them feel dependent and this may lead to depressive symptoms. As the study suggested the happiness of older adults who live in a care home comes from independence and acceptance of changes in their bodies (Somphong & Rotjanalert, 2014).

This study is related to the study of Lee et al. (2012) regarding social support and mobility limitation in older adults. They found that giving older adults high social support, if they have only minor limitation of daily activities, could lead to depressive symptoms (ibid). Being dependent for routine activities is significantly associated with depressive symptoms among older adults (Paungrod, 2015). The research suggested that dependent older adults were more depressed than independent older adults approximately 31.5% and 11.8% respectively (ibid).

Considering each subscale of social support, it is suggested that Affectionate support subscale is associated with depressive symptoms at a moderate level ($r = -.539$, $p > 0.05$). In addition, Emotional/Informational support, Tangible support and Positive social interaction support is associated with depressive symptoms at a low level. The result of this study differs from the study of Chatters, Taylor, Woodward and Nicklett, (2015). This research supported the hypothesis that emotional support from family was a protective factor and negative interaction with family was a risk factor for depressive symptoms and psychological distress (ibid).

However, the reason why the subscales; Emotional/Informational support, Tangible support, Positive social interaction support and Affectionate support, were correlated with depressive symptoms at low level was because older adults who decided to live in long term care felt that they were independent people. They might not need any support from others. The study of Paungrod (2015) found that dependence on others for routine activities by older adults was a major factor that led to depressive symptoms among older

adults in Nontaburi province. The result of that study showed that older adults who resided with relatives were more depressed than older adults who lived with their families or lived alone.

Conclusions

The highest frequencies for the level of depressive symptoms were those at normal level and mild depressive symptom level**.** The social support of older people in long-term care is not significantly correlated with their depressive symptoms. These results may have implications for interventions to manage depressive symptoms in the elderly; for example, the provision of interventions related to the reduction of depression, including more the performance of physical activities to devise a more effective management strategy for depression.

Limitations

Firstly, due to the small sample size in two long-term care homes with mostly female participants the results cannot be generalized to those living in long-term care homes. Secondly, the cross-sectional survey used in the study might not be enough to confirm that there is a relationship between social support and depressive symptoms in older adult in care homes. A longitudinal design could be considered for a future study. Lastly, researchers should explore the different subtypes of social support in future research.

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The Opinion on Experience of Sexual Intercourse and Prevention of Sexually Transmitted Disease among Teenager in Thailand

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Abstract

Background: Teenager is the important population for the future of Thailand. Currently social media and technology, and city moving toward elderly society in the near future, thus the healthy teenager will be the best start for both healthy adult and elderly in the future. However, the physiology of sex hormone drives the teenagers to pay more attention to have socialized with the other gender. Related to this socialization, some teenagers were either of risk or infected to sexually transmitted disease infections, which challenged to sexual transmitted prevention service care. So, updated information of the opinion on prevention of sexually transmitted disease among the teenagers can be guided to appropriated guidelines for teenagers to provided knowledge and prevention of sexually transmitted diseases.

Objectives: This descriptive study aimed to explore the opinion on experiences of sexual intercourse and sexually transmitted diseases prevention among Teenager in Thailand.

Methods: Data were gained by multi-aspect questionnaire. It reliability tested by Chronbach's Alpha Coefficient was .71. Four hundred forty nine students of secondary schools, under the office of Education school District 31 in Nakhon Ratchasima Province, were simple random sampling and volunteered to this study. Descriptive data were analyzed by frequency, percentile, mean, standard deviation. The relationship data were tested by Chi-Square test.

Findings: The teenager was more female than male (89.80% and 10.20% respectively), average age was 14.93 years old. Among this, only 3.82% had experience of sexual intercourse, more female than male (2.24% and 1.57% respectively). The teenager gender was statistically significant related to their opinions on prevention behavior of sexually transmitted diseases ($p<.01$). The experiences of sexual intercourse were statistically significance related to the opinions on prevention behavior of sexually transmitted diseases ($p < .01$).

Conclusions: These finding suggested that the teenager needed of sexually transmitted knowledge in order to maintain healthy save sex behavior for healthy life.

Keywords: Teenager, sexual intercourse, Opinion, prevention of sexually transmitted disease

INTRODUCTION

Teenager is the important population for the future of Thailand. Currently social media and technology, and population structure in the city was moved toward elderly society in the near future, thus the healthy teenager will be the best start for both healthy adult and elderly in the future. Moreover, the population ratio of elderly, which increased, marked up the crucial of teenager who will be the care giver of the elderly and the manpower for workforce who taking care of elderly society in the near future.

However, the physiology of sex hormone drives the teenagers to pay more attention to have socialized with the other gender. Related to this socialization, some teenagers were either of risk or infected to sexually transmitted disease infections, which challenged to sexual transmitted prevention service care. So, updated information of the opinion on prevention of sexually transmitted disease among the teenagers can be guided to appropriated guidelines for teenagers to provided knowledge and prevention of sexually transmitted diseases.

Teenager is one of important age group of Thai population. Healthy teenager will be healthy adult in the future. However, teenager is coping with hormone changing, this drive them to be attract with other gender and were socialized with friends. This situation leads some teenagers to experience some problems of sexual transmitted disease infection. In Northeastern region of Thailand, Nakhonratchasima is the biggest city in this region with 6 million populations. It is a crowned city with active teenagers. The nature of teenager paid more intention to friends than parent (Arwoot Chareonnoppasit, 2010).

In 2011, there was found that people were infected with HIV worldwide, which was 34.2 million peoples. Moreover there was an increase in number of infected in 10 years about 5 million peoples. Among this, the rate of infection of HIV in the teenager population was 0.8 percent (AIDS, Tuberculosis, and Sexual transmitted disease Institute, 2012).

In the Asia-pacific region, there were HIV infected about 5.5 million peoples and there were those who died from HIV AIDS, approximately 300,000 people (AIDS, Tuberculosis, and Sexual transmitted disease Institute, 2012). So updated information about the opinion and behavior on prevention of sexually transmitted disease in the current situation among teenager can be guided and applied to supplementary guidelines for teenagers to facilitate the teenager with the correct and appropriated knowledge and prevention of sexually transmitted diseases.

OBJECTIVES

This descriptive survey study aimed to explore the opinion on experiences of sexual intercourse and sexually transmitted diseases prevention among Teenager in Thailand. This study aimed:

1. To study the relationship between an opinion toward sexual experience and opinion on prevention behavior of sexual transmitted disease among the teenagers.

2. To compare the opinion on prevention behavior of sexual transmitted disease of the teenager with different gender.

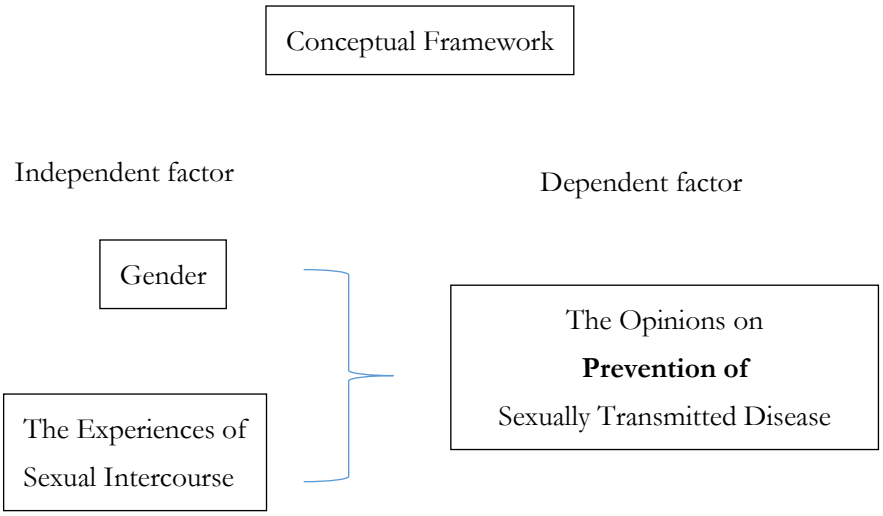
This study based on the following hypotheses:

1. The opinion of experience of sexual intercourse was associated with opinions on sexually transmitted disease prevention behaviors of the teenagers;

2. There is a significant difference in the opinion on sexually transmitted disease prevention behaviors between male and female respondents.

Conceptual Framework

This study had 2 groups of variable. The first group was an independent variable. The independent variables were gender and the experiences of sexual intercourse. The second was Dependent variable. The dependent variable was the opinions on prevention behavior of sexually transmitted Disease.



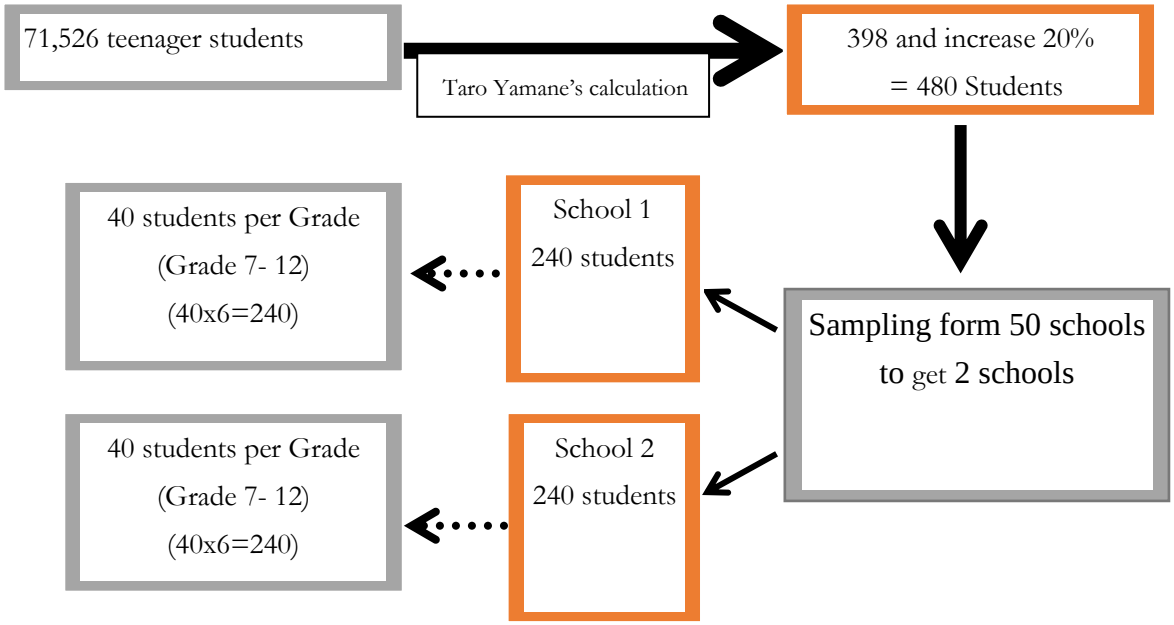
METHODOLOGY

Samples

Descriptive research: cross-sectional surveying was performed by using questionnaire. The population of this study was teenager of secondary schools in Nakhornratchasima province, which have 50 schools. Population and sample during July and August 2014, there were 71,526 teenager students. Sample size was based on Taro Yamane's calculation (Taro Yamane, 1967), the sample size was 398 students. And we need 20 percent extra. Thus there were 480 teenager students volunteered. Sample were selected by stratify random sampling.

Stage one, the first random sample; the 50 school was simple random sampling to get 2 schools. Stage two, the second random sampling, as each school had 6 grade level (junior high school = grade 7-9, senior high school= grade 10-12), each level was simple random sampling to get 40 sample size from each grade {(40 students x 6 levels) + (40students x 6 level)= (240+240)=480} as shown in diagram 1.

Diagram 1 Stratify random sampling



Thus there were 480 teenager students volunteered. This study gained sample by stratify Random sampling (diagram 1). Ethic consideration, with the school permission, the samples was volunteers and well informed, and data were analyzed in general terms.

Instrument

Data were collected by the questionnaire of sexually transmitted disease prevention behaviors, which is derived from a survey of knowledge. The questionnaire was adapted from the survey of knowledge, intention to pregnancy prevention, and attitude to abortion and need of health care service among teenager (Porpen Girnara, et al, 2013). The questionnaire had 2 main parts: 1) general information and 2) opinion on experience of sexual intercourse and prevention behavior of sexual transmission disease. The questionnaire was content validated by 3 experts and was reliability validated by 30 secondary school students which were similar to the volunteer's sample. It reliability tested with Alpha Cronbach's Co-efficient was .714.

Data analysis

Data was analyzed using descriptive statistic; frequency distribution, percentile, mean and standard deviation. The Chi-Square test was performed to test the research hypotheses.

RESULTS

The teenager was more female than male (89.80% and 10.20% respectively), average age was 14.93 years old. Their academic average performances was 3.18 (in the four grade level, Maximum was 4). Among this, only 3.82% had experience of sexual intercourse, which was more female than male (2.24% and 1.57% respectively). Their family average income was 5,001-10,000 Baht per month. The average amount of money receipted from parent was 89.89 Baht per day. The student's average money spending was 57.05 Baht per day.

The sexual intercourse experience and opinion level on prevention sexually transmitted diseases

The relation between the sexual intercourse experience and opinion level on prevention sexually transmitted diseases was shown in Table1. The experiences of sexual intercourse were statistically significance related to the opinions on prevention of sexually transmitted diseases ($p < .01$). The students who had no sexual intercourse experience had more high prevention opinion on sexual transmitted disease than those who were experienced.

Table 1: Number and Percentage of the sample who had sexual intercourse and never had sex by opinion level on prevention sexually transmitted diseases.

The Experiences of Sexual Intercourse	The Opinions on Prevention of Sexually Transmitted Disease				
	High level	Moderate level	Low level	χ^2	
Had Sexual Intercourse	15 (88.20%)	2 (11.80%)	0 (0.00%)	14.301	.001*
Never Have Sexual Intercourse	421 (99.10%)	4 (0.90%)	0 (0.00%)		
Total	436 (98.60%)	6 (1.40%)	0 (0.00%)		

*p<.01

The gender and opinion on prevention behavior of sexually transmitted diseases

The majority of female had more high level of prevention behavior opinion of sexually transmitted disease than male (93.3% and 79.5% respectively). The relationship between gender and opinions on prevention behavior of sexually transmitted diseases was found that the teenager gender was

statistically significant related to their opinions on prevention behavior of sexually transmitted diseases (p<.01) as shown in Table 2.

Table 2 Number and percentage of samples of each gender, by opinion level on prevention behavior of sexually transmitted diseases

Gender	The Opinions on prevention behavior of Sexually Transmitted disease				
	High level	Moderate level	Low level	χ^2	
Male	35 (79.50%)	9 (20.50%)	0 (0.00%)	10.087	.001*
Female	375 (93.30%)	27 (6.70%)	0 (0.00%)		
Total	410 (91.90%)	36 (8.10%)	0 (0.00%)	446 (100.00%)	

*p<.01

Discussion

The sexual intercourse experience and opinion level on prevention sexually transmitted diseases

The sexual intercourse experience was related to opinion level on prevention behavior of sexually transmitted diseases. The experiences of sexual intercourse were statistically significance related to the opinions on prevention of sexually transmitted diseases ($p < .01$). Difference of experience of sexual intercourse has different opinions. The students who had no sexual intercourse experience had more high prevention opinion on sexual transmitted disease than those who were experienced. For the no sexual intercourse experience, no experience was one of the sexually transmitted disease prevention, this was the outcome of learning process supported by Brunner (1963) (cited in Panom Katmarn, No Publishing Year) that knowledge gained came from person interact with environment, this lead to learning, then insight of such knowledge. The students thought that teenager was not proper age for having sexual intercourse, in particular girl without contraceptive method supported by Porpen Gainara, et al (2013).

Gender related to the opinions on prevention of sexually transmitted disease by different genders has different opinions. Because the person is born as a female or a male, they will have different personality obviously by social or cultural condition shaped women or men role supported by Weerati Pongtippat, et al (2007) and Mookda Rattanasingha (2006).

CONCLUSION

These finding suggested that the teenager needed of sexually transmitted knowledge in order to maintain healthy save sex behavior for healthy life. Regarding development of learning process and the program to promote the knowledge of sexually transmitted disease prevention, the future research should: 1) study ways to provide knowledge about the prevention of sexually transmitted disease in each sex and 2) use qualitative data gathering techniques such as in-depth interview to collect intimate and sensitive data on sexuality of the teenager which allow the researcher to get insights data and understand actual situation. The insights could be useful for sexual health care prevention program planning for the teenager.

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Smoking and its Effects on the Elderly in Muang Nakhon Ratchasima, Thailand

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ABSTRACT

Objective: The purpose of this research was to study the effects of smoking and of second hand smoke on the elderly in Muang Nakhon Ratchasima, Thailand. The study included 100 elderly subjects who were aged between 60 – 103 years old, ($\bar{x}$ =71.13, SD=7.41). 62 percent of them were female and 38 percent were male. 68 percent of the total subjects suffered from a chronic illness of some sort.

Method: A questionnaire regarding smoking and second hand smoke and its effects on the elderly was used in this study which had been developed by the researcher and had designed it specifically for this purpose. The validity of the content was examined by 3 qualified people resulting in a score of .82; the reliability of the questionnaire by Chronbach's alpha coefficient was .74.

Result: The results showed that 81 percent of the participants were either non-smokers or people who had smoked casually but have since decided to stop, 11 percent were smokers who had successfully quit and 8 percent were existing smokers. 42 percent of the participants lived in the same house as someone who smoked. Results also showed that the participants perceived the impact of smoking including its risks, hazards or any health disadvantages at a high level. Approximately 87.5 percent of the subjects also recognized the health benefits of trying to stop smoking along with its acknowledged difficulties. 75 percent of the participants stated that the reasons why they smoke included people encouraging them to smoke, people would by cigarettes for them; they were stressed, irritable or bored. Many participants tried to quit smoking, anywhere from 1-20 times. Their reasons for attempting to quit include seeing how it benefitted their family, their children told them to quit, and they also believed that smoking was wasteful. Many methods were used for attempting to stop smoking including stopping immediately (cold turkey), gradually reducing the volume of consumption, changing from packaged cigarettes to loose leaf tobacco. To deal with the stress of trying to quit it was noted that many resorted to eating candy as an alternative.

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Conclusion: For the benefit of the elderly it is imperative that the issue of exposure to second hand smoke be discussed and negotiated with the family and in the case of the elderly who do smoke, the risks and associated health problems that go with it should be discussed with their family members and the person should be convinced to quit. Part of a successful plan to assist one to stop smoking should include a program on the associate cravings and how to deal with them.

Keyword: Exposure to smoke, Elderly

BACKGROUND OF THE STUDY

Cigarette smoke is a crucial caused of dead among the World Population. WHO reported that the World Population dead because of cigarette smoking 6 million per year. More than 5 million died from first hand cigarette smoking (World Health Organization, 2015). In Thailand, there was 11.5 million of cigarette smoking. Among them, there were 60,000 people died from cigarette smoking. Before them died, they were suffered from critical illness condition for 2 years. Each of mean their longevity, was 12 year shorten. This made the country both lost population before proper time and budget for 52,000 million per year (ASH Thailand, 2015).

Cigarette smoking caused varieties of fetal diseases: 1) lung cancer, 2) cardio and vascular, 3) emphysema, 4) hemorrhagic stroke or ischemic stroke (Thun et al, 2013). Moreover any kind of smoke leads to physical sickness of 1) respiratory symptom such as cough, chronic phlegm, lung wheezing, dyspnea, or 2) lung capacity decrease leads to lung cancer, emphysema, and heart diseases (Buntong, T., Srimorakot, P. & Krumpakorn, 2008). In contrast, mental impact was lower than non-cigarette. Nicotin substance in cigarette is crucial as it an addicted agent. Moreover, it stimulated brain to cause feeling of happiness, alert, stress released, which is positive to cigarette smoking. Thus, when the smoker suddenly quit smoking, the negative feeling such as irritated, moody, stress, depress, fatigue, accept more appetite occurred. These positive feeling in particular release stress, caused the smoker unsuccessful smoking quit, or repeat smoking (Phomsawat, W. et al., 2003).

Thailand currently moved toward aging society. From the Thai National Statistic, elderly population was 11.7 % of all population. These were 3 small group of senior citizen categorized by age: 1) early age (60-69 years old) 6.4 %, 2) middle age (60-69 years old) 3.8 %, 3) late age (60-69 years old) 1.5 % (The Foundation of Thai Gerontology Research and Development Institute (TGR), 2010).

Elderly were suffered from varieties of diseases: hypertension (31.7%), DM (13.3%), heart

disease (7%), stroke (16%), hemiplegia or paralyzed (2.5%), cancer (0.5%). Among this, elderly women were more risk that elderly men, except hemiplegia or paralyzed (TGR, 2010). In addition, cigarette smoking leaded to add worse or more risk to died (Gellert, C., Schottker, B., & Brenner, H., 2012). However, stop cigarette smoke promoted healthy improvement.

Magurie et al (2000) founded among senior (65-74 years old) who stop smoking, were healthy improved and mortality rate decreased. The community campaign of cigarette smoke quitting should had rigid implementation scheme, although the elderly smoking rate was lower than other age groups (Kerr, Watson& Tolson, 2002), cigarette smoking was more hazardous including inhale form other's smoke cigarettes namely "passive smoking" (Yang et al., 2015) .

"Banjarong" is one of community in Nakhon Ratchasima Province, Thailand, which majority of elderly was suffered from chronic illness such as DM and hypertension (82% of all elderly) (Community Health Center 1, Hua Ta lay, 2012). Moreover, elderly smoking which was both continue smoking or passive smoking speeded worsen of the illness condition (Kerr, Watson& Tolson, 2002). Since there was no basic information of elderly smoking to use for quit smoke campaign in this community, it is crucial to study the smoke condition in this community.

OBJECTVE

This research aimed to study:

1) The study the elderly experiences of exposure to cigarette smoke, and

2) The elderly perception of effect of cigarette smoke among the elderly at Banjarong, Nakhon Ratchasima, Thailand.

METHOD

This cross-sectional survey aimed to study elderly at an urban area at Nakhon Ratchasima Province. Sample was calculated by Taro Yamane (1973) form the 125 senior at Banjarong Community. The Taro Yamane's calculate was $n= N/1+Ne^2$, 95 % confidentiality. So the sample was 95.24. This study was 100 elderly. Then 100 senior citizens were drawn from table of random numbers and then were asked for volunteered to this research. Data collection was open-ended questionnaire, constructed from

literature reviewed by researcher, was 4 levels of Likert's scale, composed of 3 parts: general information, experiences of cigarette smoke exposure, and perception of cigarette smoke impact. Study framework based on Health Belief (Rosenstock, 1974). The questionnaire was content validity by 3 experts, CVI of .82. The tool was reliability tested by elderly 30, analysed by Chronbach's alpha coefficient was .74.

Ethic consideration, the elderly, who was sample, was asked to volunteer to participate in this research. The participant was free to ask the researcher for any inquiry. The participant's incent forms and all data were kept anonymous. The data were analysed intern of general data. Data were analysed by descriptive statistic: frequency, percentage, mean, standard deviation.

RESULTS

The 100 questionnaires were analysed. The average age of the sample was 71.13(S.D. = 7.41), rage from 60 to 103 years old. Majority gender was female (62%). Religion was 99 % Buddhism, married for 52 %, graduated from primary school 72%, retired 47%, average income from 600- 40,000 Baht per month ($\bar{x}$= 6,361.90, S.D.= 7,837.14), chronic illness for 75 %. The chronic diseases were hypertension 88%, diabetes mellitus 18.7 % and paralysis 1.3%.

Experience of cigarette smoking exposure was as followed. The majority of the sample was non- smoker or only trial to smoke for 81%. Ex- smoker was 11%. Smoker was 8%. Sample stayed together with family members who smoked 38% (Table 1). The sample got smoke as passive smoking from their sons/daughters or grandsons/granddaughters 84.2%, got smoke from husband 15.8%).

Table 1 Experience of cigarette smoking exposure among elderly

Experience of cigarette smoking exposure		N	%
Categories of cigarette smoking			
non- smoker or only trial to smoke		81	81.00
Ex- smoker		11	11.00
Smoking		8	8.00
	Total	100	100.00
Passive smoking			
Yes		57	38.00
No		35	62.00
	Total	92	100.00

Among the smoker (8 %), majority was male (87.5%), The average age of the sample was 66.87 (S.D. = 6.35), rage from 60 to 70 years old ($\bar{x}$= 66.87, S.D.= 6.35). Their first time smoke were at age range from 15 to 53 years old ($\bar{x}$= 22, S.D.= 12.64). The motivation to start smoking were: 1) followed friend leaded 37.5%, 2) some people such as cousin provide free cigarette 25%, 3) eager to trial smoking 25%, 4) too much free time, nothing to do, feeling bore so want to get feeling of exiting 25 %), 5) stress, irritating 12.5%. They smoke range from 2 to 30 cigarettes per day ($\bar{x}$= 8.87, S.D.= 9.10). Among these the participants tried to quit smoking, anywhere from 1-20 times. There was 75 % spend effort for 1 to 9 times ($\bar{x}$=3.33, S.D.= 2.94). The motivations to quit smoking were: 1) seeing how it benefitted their family health 50%, 2) their children told them to quit 50%, 3) they also believed that smoking was wasteful 33.3%. For the method to quit smoking were: 1) stopping immediately (cold turkey) 83.3%, 2) gradually, changing from packaged cigarettes to loose leaf tobacco 16.7%, 3) reducing the volume of consumption was not used. The solution to cope with the feeling of addiction which want to smoke were: 1) stop oneself need/ be patient 66.7%, 2) skewing many resorted or eating candy as an alternative 33.3 %. For the people who support the smoker to quit were: 1) by myself 37.5 %, 2) wife 25 %, and 3) kids 12.5 %.

The participants perceived the impact of smoking including its risks, hazards or any health disadvantages at a high level ($\bar{x}$= 3.38, S.D.= 0.41) (Table 2). The negative impacts on social such as being discussing for other people and lost money were at the moderate level.

Table 2 Perception of impact from cigarette smoking exposure among the elderly

Perception of impact from cigarette smoking exposure	**x̄**	**S.D.**	**Level**
Cigarette smoking was			
1. risk of Cancer (Lung cancer, tonsil cancer, cervix cancer)	3.66	0.49	High
2. risk of atelectasis	3.68	0.52	High
3. risk of cardio& vascular	3.66	0.49	High
4. risk of paralyzed	3.41	0.71	High
5. risk of osteoporosis	3.39	0.72	High
6.risk of moth hygienic (Gingivitis, smelly , cancer)	3.66	0.57	High
7. risk of GI track disease (blistering gastritis hepatitis)	3.45	0.74	High
8. risk of impotent	3.39	0.73	High
9. risk of aging	3.66	0.53	High
10. risk of fetus	3.64	0.54	High
11. risk of people around you	3.68	0.56	High
12. not waste money	2.93	0.99	Moderate
13. waste money, time, frequency sickness	3.25	0.83	High
14. not discussing in public	2.93	0.99	Moderate
15. not disturbing anyone	3.12	0.94	High
16.was wasting country economic	3.13	0.81	High
17. good looking and charming	3.17	0.93	High
18. my addicted	3.28	0.92	High
19. was not harmful to anyone around me	3.14	1.00	High
20. caused the asthma among children	3.42	0.78	High
Total	**3.38**	**0.41**	High

Data in Table 3 revealed that overall perception of benefit of cigarette smoking quit among elderly was at a high level (**x̄**=3.55, S.D.= 0.42) and every item's mean score were also at high level. Reduce family expense had the highest mean score ($\bar{x}$= 3.70, S.D.= 0.57) followed by reduce risk of my family sickness (($\bar{x}$= 3.64, S.D.= 0.54) and provide more confident of socialization had the lowest mean score (**x̄**= 3.29, S.D.= 0.82).

Table 3 Perception of benefits of quitting cigarette smoke among the elderly

Benefits of quitting cigarette smoke	x̄	S.D.	Level
1. reduce risk of myself sickness	3.50	0.68	High
2. reduce risk of my family sickness	3.64	0.54	High
3. more healthy than non-quit	3.62	0.64	High
4. reduce family expense	3.70	0.57	High
5. gained more love, relationship of family members	3.52	0.73	High
6. more being accepted of family member	3.56	0.67	High
7. role model of society	3.61	0.70	High
8. provide more confident of socialization	3.29	0.82	High
Total	3.55	0.42	High

Data in Table 4 revealed that the respondents' perception of obstacle in quitting smoking cigarette was at a moderate level ($\bar{x}$= 2.61, S.D.= 0.67). Cause friend dump had the highest mean score ($\bar{x}$= 3.12, S.D.= 0.68) which was the only perception at the high level mean score.

Table 4 The perception of obstacle of quitting cigarette smoke among the elderly

Perception of obstacle of quitting cigarette smoke	$\bar{x}$	S.D.	Level
Cigarette smoking quit was			
1. feeling irritated	2.35	0.94	Moderate
2. feeling stressful	2.42	0.95	Moderate
3. feeling fatigue	2.61	0.91	Moderate
4. feeling no appetite	2.88	0.75	Moderate
5. cause friend dump	3.12	0.85	High
6. erythema	2.57	0.85	Moderate
7. feeling restless, not happy	2.46	0.95	Moderate
8. difficult to quit smoking	2.49	1.07	Moderate
9. difficult to sleep	2.63	0.83	Moderate
Total	2.61	0.67	Moderate

DISCUSSION

There was only 8 % smoke among elderly. In other hand, passive smoking was 38% among elderly. This alarmed the non-smoker harmful situation which they were second hand smoke. This also supported by Kerr, Watson & Tolson that the evidence of cigarette smoke among elderly was low (Kerr, Watson & Tolson, 2002; National Statistics Office, 2012) and elderly were exposed to smoke from the other smoking (Yang et al., 2015). That was the non- smoker was hazardous with cigarette fumes as still stayed at tobacco smoke environment. This led to asthma, chronic obstructive pulmonary disease (COPD), pneumococcal infections and stroke. (Jaakkola, 2002). In addition, elderly was risk of chronic disease such as hypertension, DM, paralyzed for 75%. Thus smoker or second hand smoke was increased risk of those chronic diseases. It was reported that elderly smoker with DM was dead from coronary disease and diabetic renal disease both male and female (Moy et al., 1990).

Elderly perception of disadvantage and advantage of the smoking were more bad than good.

The disadvantage, at a high score level, focused mainly on bad for health such as risks, hazards or any health disadvantages. This study was among majority of non-smoker (92%), the perception was more negative than positive to cigarette smoke and perceived of benefit of non-smoking. This finding supported by the Harriset et al. (2011) that the non-smoker perceived the bad benefit for health of smoking than the smoker and Parn-In (2009) founded that the motivation to quite was perceiving harmful effect. Moreover this study founded that the advantages of the smoke were closer social tie with their friends, or close relatives. Among the smokers, the reason of continue smoking were 4 reasons: 1) smoking in accordance with friends, 2) persuade to smoke by more powerful or influence to the smoker, 3) to release stress, and 4) toget rid of boredom. Thus campaign for cigarette smoke quit should involve social factors and say no technique and stress coping.

Quitting cigarette smoking obstacles mean score were at a moderate level. This present that elderly founded that smoke quit was hard to success because addicted and too old to change (Parn-In, 2009). This study found that 75 % of elderly had been tried to quit for 9 times. The effective method were cold turkey 83.3%, changing from packaged cigarettes to loose leaf tobacco 16.7%, reduction of smoking prior to complete abstinence (cut down) was not trial 100%. Although the cold turkey was more effective than reduce number of cigarette, there was only 22-27% success (Cheong, Yong, &Borland, 2007).

Finally, the smoking quit campaign was important for the elderly as it lead to healthy improvement and decrease dead rate related to smoking (Maguire et al, 2000). It was important to use information of method of coping with the stress of trying to quit to add to effective method such as restrain oneself, eating candy to maximized success rate.

SUGGESTION

Suggestion for the benefit of the elderly, it is crucial that the issue of exposure to second hand smoke be discussed and negotiated with the family and in the case of the elderly who do smoke, the risks and associated health problems that go with it should be discussed with their family members and the person should be convinced to quit. Part of a successful plan to assist one to stop smoking should include a program on the associate cravings and how to deal with them.

Limitation of this study was employed on one community for study. That is the result cannot refer to general elderly of all the cities. This longitudinal study could be concluded at the only time of study.

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Physical Activity in Graduating Fourth Year Nursing Students:
A comparative study using the Transtheoretical Model and the Stages of Change[1]

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ABSTRACT

The objectives of this research were to 1) study physical activity stages of change among the senior year nursing students at Boromarajonani College of Nursing, Nakhon Ratchasima based on Prochaska's Transtheoretical Model and Stages of Change and 2) compare students' physical activity stages of change with the data collected while they studied in their freshman year. The population in this study included all senior (4th) year nursing students from Baromarajonani College of Nursing, Nakhon Ratchasima in 2012 academic year (n=106). Instrument used in the study was the Physical Activity Stages of Change Questionnaire translated into Thai language using back translation technique with a 0.92 Cronbach's Alpha Coefficient. The data were collected twice using the same instrument; first when the students were in the freshman year (2009) and later when they were in their senior year (2012)

The students were mostly female (n=95; 89%) with an average age of 18.9 years (SD=0.55). The majority of the students was in the action stage (40.6%) followed by the precontemplation stage (27.4%). Nursing students' perceived self-efficacy in physical activity was at a moderate level ($\overline{X}$ =2.96, SD=0.59). Regarding decisional balance in physical activity, the students used positive aspect more when deciding to be physically active ($\overline{X}$ =3.75; SD=0.63). The process of change techniques frequently used by the students were self-reevaluation ($\overline{X}$ = 3.96, SD=0.77), environmental reevaluation ($\overline{X}$ = 3.77, SD=0.78), and stimulus control ($\overline{X}$ = 3.67, SD=0.79).

When comparing students' most recent findings (senior year) with the data collected when they were in their freshman year, it was found that their stages of physical activity significantly decreased (Z = -6.088; p=.00). Their physical activity self-efficacy significantly improved in some areas such as being confident when having to perform physical activity alone (t=2.583; p=.01) and without supports from peers (t=3.049; p=.003). Their significant decreased in physical activity self-efficacy was found when they had to participate in physical activity under a lot of stress, depressed, or anxious (t=-2.536; p=.013). Students used positive aspect when they decided to participated in physical activity significantly lower in their senior year (t=2.784; p=.006). Techniques used more frequently by senior year nursing students when wanting to improve or maintain their physical activity behaviors included using dramatic relief (t=2.512; p=.014), self-liberation (t=2.163; p=.033), and reinforcement management (t=5.336; p=.000). Technique used less frequently was stimulus control (t=-2.831; p=.006).

Results from this study can be used to plan for tailored educational program that are more suitable for students from different stages due to the difference needs.

Keywords: *Physical Activity, Transtheoretical Model, Stages of Change, Nursing Students*

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INTRODUCTION

Physical activity is very important for health (Sallis, 1999) According to studies done with nurses and health professionals; it was found that they participated in physical activities and exercises at the moderate to low levels (Tanatron, 1994; Narin et al., 2008; Sriaka, 2000; Dasa, 2001; Kurmlue, 2000). A study on physical activities among the first year nursing students done in 2009 found that the nursing students participated in physical activities at a good level (M = 3.04, SD = 0.50) and their stage of physical activities was at maintenance level (44.5%) (Aunprom-me & Aunprom-me, 2012). However, being participated in the studies as well as nursing practices, it was interesting to learn how their physical activities have changed over time during their program of study in the Bachelor of Nursing program. Therefore the stages of change in physical activities were measured once again with the same group at their senior (fourth) year before their graduations in order to provide invaluable information in promoting physical activities among nursing students in the college and elsewhere.

The study utilized Prochaska's Transtheoretical Model and Stages of Change (Prochaska, Redding & Evers, 2008). The theory proposed that changing health behaviors was a process that people moved through 5 steps or "stages" namely 1) Precontemplation Stage, 2) Contemplation Stage, 3) Preparation Stage, 4) Action Stage, and 5) Maintenance Stage. Additionally, the theory also explained that 3 other components also influence the progress through stages namely Decisional Balance, Perceived Self-efficacy and Process of Change.

METHODS

This cross-sectional descriptive study aimed at examining the stages of physical activities among the fourth year nursing students in a nursing college in Nakhon Ratchasima of Thailand based on Prochaska's Transtheoretical Model and Stages of Change. The researchers also compared the data collected from the students during their first year and the fourth year of the same students. Population in this study included 106 fourth-year nursing students in a nursing college in Nakhon Ratchasima, Thailand. The data collection during the students' first year was collected in 2009 and the data collected during their fourth-year were done in 2013. Instruments used in this study were comprised of 5 parts: 1) Physical Activity Stages of Change (Marcus et al., 1992), 2) Physical Activity Perceived Self-efficacy (Marcus et al., 1992), 3) Physical Activity Decisional Balance (Nigg, Norman, & Benisovich, 1998), 4) Physical Activity Process of Change (Nigg et al., 1999), and 5) Personal Information. The instruments were translated into Thai using back-translation technique under the permissions from the original researchers. The reliability of the whole instrument was tested yielding the Cronbach's Alpha Coefficient of 0.92. The study was reviewed by the Ethical committee of the nursing college before commencing the data collection. The nursing students were provided with the information on objectives of the study and their rights to choose not to participate in the study at any time without any impact on them. Upon receiving the information and agreeing to participate in the study, the participants signed informed consents allowing the researchers to collect the data.

RESULTS

Personal Information of the Nursing Students

Nursing students participated in this study were the fourth (senior) year. Among 106 students who participated, the majority were females (n=95, 89.6%). Their ages ranged from 21 to 24 years old with average age of 22.18 (SD=0.55).

Nursing Students' Physical Activity Stages of Change

According to the survey done in 2009, it was found that the majority of the 1st year nursing students' physical activity stages of change were at the Maintenance Stage (n=46, 43.4%). In 2013, the majority of the 4th year nursing students' physical activity stages of change were at the Action Level. The declines in the students' stages of change were further analyzed using the Wilcoxon Signed-rank Test at 0.05 significant level and it was found that their physical activity stages of change significant declined (Z = -6.088; p=0.00). The nursing students' physical activity stages of change between the 1st and the 4th year were shown in Tables 1 and 2.

Table 1 Nursing students' physical activity stages of change: comparison between their 1st and 4th year results

Nursing Students' Physical Activity Stages of Change	First Year n (%)	Fourth Year n (%)
Stage 1 – Precontemplation	1 (0.9)	29 (27.4)
Stage 2 – Contemplation	4 (3.8)	5 (4.7)
Stage 3 – Preparation	24 (22.6)	15 (14.2)
Stage 4 – Action	31 (29.2)	43 (40.6)
Stage 5 – Maintenance	46 (43.6)	14 (13.2)
Total	**106 (100.0)**	**106 (100.0)**

Table 2 The comparison between 1st and 4th year nursing students' physical activity stages of change using Wilcoxon Signed-ranks Test

Nursing Students' Physical Activity Stages of Change	N	Z	Asymp. Sig (2-tailed)
Nursing students' physical activity stages of change during their 1st year – Nursing students' physical activity stages of change during their 4th year	106	-6.088	.000*

* Statistically significant

Nursing Students' Physical Activity Self-Efficacy

It was found that nursing students' perceived self-efficacy regarding physical activity during the 2 times were similar. During their 1st year, their self-efficacy were at a moderate level ($\overline{X}$ = 2.91, SD = 0.50) while their self-efficacy in their 4th year were at a moderate level as well ($\overline{X}$ = 2.96, SD = 0.59). Their overall perceived self-efficacy in physical activity between the 1st and the 4th year were not significantly different (t = 1.475; p = 0.143). When comparing each item among the total 6 items of physical activity self-efficacy, it was found that the nursing students' perceived self-efficacy in physical activity that significantly increased were their abilities to perform physical activity alone (t = 2.583; p = 0.01) and their ability to perform physical activity without supports from their friends and family (t = 3.049; p = 0.03). However, there is one item that had a significant decline in the perceived self-efficacy in their 4th year: their ability to perform physical activity under a lot of stress, depression or anxiousness (t = -2.536; p = 0.013). Nursing students' perceived self-efficacy in physical activity were shown in Table 3.

Table 3. Nursing students' perceived self-efficacy in physical activity between their 1st year and 4th year.

Nursing Students' Perceived Self-efficacy in Physical Activity	First Year $\overline{X}$ (SD)	Fourth Year $\overline{X}$ (SD)
Abilities to engage in physical activity even though…		
• Students were under a lot of stress, depressed, or anxious.	2.89 (0.82)	2.64 (0.90)
• Students felt that they didn't have the time, didn't feel like it, or were busy.	2.59 (0.74)	2.75 (0.77)
• Students had to engage in physical activity alone.	3.35 (0.92)	3.59 (0.91)
• Students didn't have access to equipment or exercise facilities.	2.93 (0.74)	3.08 (0.76)
• Students had resistance from others.	3.27 (0.78)	3.55 (0.78)
• There was a bad weather.	2.45 (0.79)	2.35 (0.87)
Overall	**2.91 (0.50)**	**2.96 (0.59)**

Nursing Students' Physical Activity Decisional Balance

Nursing students' decisional balance can be divided into pros, cons and overall factors. When comparing their decisional balance between both times, it was found that their overall decisional balance significantly declined from $\overline{X}$ = 3.04 (SD = 0.34) in the 1st year to $\overline{X}$ = 2.89 (SD = 0.44) in the 4th year with t = -3.210 (p = 0.002). The factors that support the nursing students' decision to perform physical activity (the pros factors) significantly declined from $\overline{X}$ = 3.93 (SD = 0.56) in the 1st year to $\overline{X}$ = 3.75 (SD = 0.63) in the 4th year with t = 2.784 (p = 0.006). However, it was found that factors that hinder their decision to perform physical activity (the cons factors) between the two-time periods were not significantly different. The nursing students' decisional balance in physical activity can be seen Table 4.

Table 4 Comparison of nursing students' decisional balance in physical activity between their 1st and 4th years

Nursing Students' Decisional Balance in Physical Activity	1st Year $\overline{X}$ (SD)	4th Year $\overline{X}$ (SD)	t	df	Significance (2-tailed)
Pros	3.93 (0.56)	3.75 (0.63)	2.784	105	.006*
Cons	2.13 (0.52)	2.04 (0.60)	1.764	105	.081
Overall	3.04 (0.34)	2.89 (0.44)	3.210	105	.002*

* Statistically significant

Nursing Students' Physical Activity Process of Change

According to the theory, there are 10 techniques known as process of change in physical activity persons can use to facilitate changes in their stages. The 10 techniques include consciousness raising, dramatic relief, environmental reevaluation, self-reevaluation, self-liberation, reinforcement management, helping relationship, counter conditioning, stimulus control, and social liberation. The survey done during

the nursing students' 1st year showed that top-three techniques they utilized the most included self-reevaluation ($\overline{X}$ = 4.07; SD = 0.66), social liberation ($\overline{X}$ = 3.96; SD = 0.54), and stimulus control ($\overline{X}$ = 3.89; SD = 0.72). Techniques frequently utilized during their 4th year were slightly different: social liberation ($\overline{X}$ = 4.05; SD = 0.66), self-reevaluation ($\overline{X}$ = 3.96; SD = 0.77), and environmental reevaluation ($\overline{X}$ = 3.77; SD = 0.78). When comparing techniques used between both times, it was found that techniques used more frequently by the 4th year nursing students when wanting to improve or maintain their physical activity behaviors included using dramatic relief (t=2.512; p=.014), self-liberation (t=2.163; p=.033), and reinforcement management (t=5.336; p=.000). The technique used less frequently was stimulus control (t=-2.831; p=.006).

DISCUSSION

As progressed to the higher years, nursing students assumed greater responsibilities as well as their roles have changed from caring their own personal health to caring for others' health. With greater responsibilities, especially during nursing students' practices in their higher years, their stress, depression or anxiousness levels might increase. Seyedfatemi (2007) examined causes of stress and adaptation techniques among nursing students from an institution in Iran. The study found that their major causes of external stress included "having to work with persons whom students did not know before" (63.4%) while major causes of the students' internal stress was "their new roles" (72.1%). In addition, studies done with students from other majors or professions revealed that students in colleges and universities were less likely engaged in physical activities and exercises. A study by Narin et al. (2008) found that medical students' exercise levels decreased when they proceeded from their pre-clinical program (years 2 and 3) to the clinical program (years 4-6). Several studies supported that barriers to physical activities and exercises among students in colleges and universities included study requirements and demands from works and extracurricular activities did not match well with their time to perform physical activity (Kurmlue, 2000; Dasa, 2001; Sriaka, 2000).

Nursing students' perceived self-efficacy in physical activity in this study was found at a moderate level. This result showed that having greater roles, duties, responsibilities, and works when they progressed through their program of study surely impacted their physical activity levels. According to Wittayapun et al. (2010), nursing students' perceived self-efficacy and perceived benefits were significantly and positively associated with health promoting behaviors ($p < 0.001$). Therefore, it can be concluded that the lowered level of their perceived self-efficacy in physical activity surely influenced their lower level of their physical activity. Similarly, students' higher levels of perceived barriers would hinder their physical activity level as well.

When looking at their perceived self-efficacy by item, it was interesting to find that their confidence to perform physical activity alone and to perform physical activity without supports from their friends and family were significantly improved overtime. Brown et al. (2003) examined nursing students' confidence levels and concluded that their confidence might be highest at two time points: before entering the program of study and during their program of study. Given the fact that physical activities can be performed individually without assistance from others, nursing students who usually found their time constraint may develop their confidence and skills to perform physical activity alone without having to coordinate with peers or family members.

Techniques that the nursing students used to increase their physical activity were another important components when we try to improve physical activity among this group. According to this study, it was evident that the students tended to utilize their own potentials to increase their engagement

in physical activity. The techniques predominantly used during the nursing students' first year included self-reevaluation, social liberation, and stimulus control while the techniques frequently used during their final year included social liberation, self-reevaluation, and environmental reevaluation. Among these techniques, self-reevaluation and stimulus control were techniques that students used rationales within themselves (internal techniques), where social liberation and environmental reevaluation were techniques that they used rationales in relations to social and environments (external techniques). It was interesting to note that the students used "internal techniques" more than "external techniques" during their first year. In their final year, the students utilized "external techniques" more. It can be explained that during their program of study, nursing students have exposed to other persons (patients, families, health care team, etc.) and that exposure helped created a better understanding in the relationship between them and their environments.

In addition to personal improvements that helped students perform physical activity better, support systems were other aspects that should be mentioned in terms of improving physical activity among nursing students. Several studies supported that systems or supporting facilities played a key role in physical activities as well as exercise behaviors (Tanatron, 1994).

Educational supports were other components that greatly influenced nursing students who, according to the Transtheoretical Model and Stages of Change theory, were in the beginning stages (Precontemplation, Contemplation, and Preparation Stages). People in these stages were in need of continuous information and advices to reduce and control barriers to physical activity (Laosupap et al., 2008; Mori et al., 2009; Noordman et al., 2013).

RECOMMENDATION

Research in physical activity among nursing students as well as among nursing professionals should be done continuously. A following-up study among this group when they entered their nursing professional is encouraged to understand changes in their physical activity stages of change over time as well as factors related to their behaviors. Larger scale studies were equally important to make a confident conclusion regarding nursing students' and nurses' physical activity stages of change. Knowledge from such studies can be used to initiate programs to promote physical activity among this group and make adjustment in their program of study to facilitate their change or maintenance in physical activity behaviors in the long run.

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Development Model of Active Aging for Rakphusungaryu Group in Boromarajonani College of Nursing, Nakhonratchasima[1]

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ABSTRACT

Background: Encouraging active ageing in citizen as they get older can enhance quality of life. Active ageing is the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age World Health Organization. (WHO, 2002)

Objectives: to study active aging Model for Rukphusungaryu group in Boromrajonani College of Nursing, Nakhornratchasima

Methods: This participatory action research consisted of conducting three phases. The sample was divided into two parts: 10 adult (lecturer, student, staff) who participated with the elderly activities, and 20 elderly who fully participated in the activity of member of elderly club of Boromarajonnani Nakhonratchasima Nursing College. Sample was gained by purposive sampling. Data were collected by in-depth interviewed, observation, note taking and questions of focus group.

Findings: The active ageing had 3 Phases: Phase I was development of good practices in academicservice activities to promote the potential of the elderly for Rukphusungaryu group in Boromrajonni College of Nursing, Nakhornratchasima, Phase II was evaluation of good practices used by the research team (concluded that the process of Encouraging active ageing in the elderly required the participation of the elderly, and empowerment concepts, and Phase III was the evaluation for participation in the promotion of Active Aging. At this phase the self - actualization and self – esteem of elderly were importance to promote active ageing for this population and activities of government agencies cannot be developed to meet the needs of seniors individually without the elderly need.

Conclusions: The process on supporting the elderly making a proper choice to find appropriate activities to promote health was to meet the individual needs.

Keywords: *Active ageing, Model*

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INTRODUCTION

This coming of the 21st century, the number of senior citizen by Thai National Statistic (2014) that Nakhon Ratchasima Province had biggest older population in Thailand. There were 336,276, which as 12.93 % of this city population which is ageing society and gradually increasing more elderly in the future. The preparation of infrastructure and other services needed for this change is crucial for both country development and elderly healthy future. The elderly must be healthy which get along with the "active ageing" concept. This concept focused on process lead to healthy, and social participation and security for the elderly (WHO, 2002).

Since 2006, Boromarajonani College of Nursing, Nakhonratchasima set up elderly support club project for elderly learning center of the college which elderly, elder family member, lecturer, nursing student can enroll and participate in any kind of the club activities. The club organizer was the club members. The club provides variety of elderly activities such as uncomplicated health care, research, innovation, develop and constructed new knowledge, academic knowledge conference. All the activities integrated quality control cycle of PDCA (Plan, Do, Check, Act) with knowledge management.

To promote the elderly member club through participation model of elder ageing society, researcher interested in active ageing model development gaining from each phased of the experience of the participation of the club member, to use for formal elderly capacity development and information for good practice, in order to set up model of active ageing in elderly in North Eastern part of Thailand.

OBJECTIVE

To develop active ageing model among elderly member club of Boromarajonani College of Nursing, Nakhonratchasima

METHOD

This qualitative method through elderly participation was performed by in-depth interviewed. Sample was 20 elderly who active participated in all activities of elderly member club for 1 year from October 2012-September 2014, and 10 of lecture/ staff/ nursing student who were part of activities performance. This research had 3 phases.

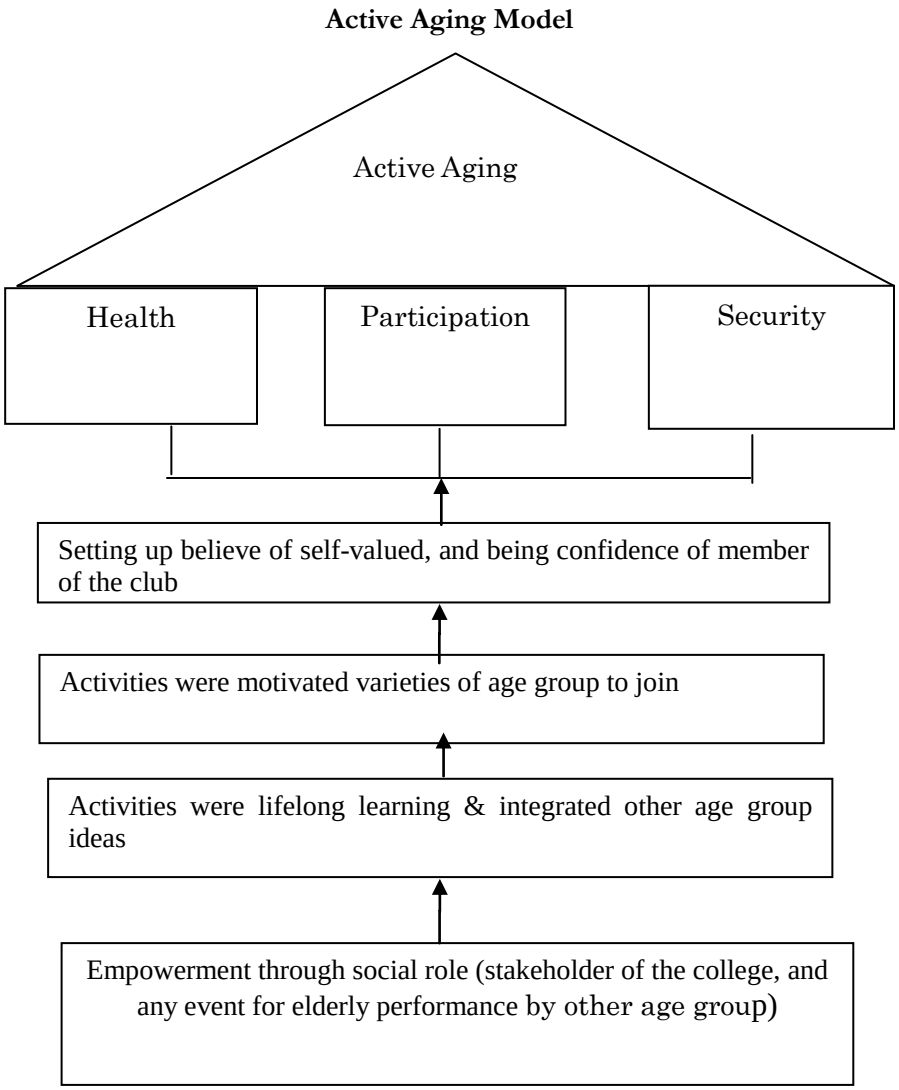
Phase I was **setting model** of active ageing among elderly of elderly member club of Boromarajonani College of Nursing, Nakhonratchasima. Research team study principal, concept and theory of active ageing and used WHO guideline to analyze the process of promoting health for elderly (WHO, 2002). Then, general information of elderly in the elderly club at Boromarajonani College of Nursing, Nakhonratchasima, from document of project evaluation research was studied (Haruethai Knogmaha, et all, 2013), including the college elderly research paper analysis. The data from observation, in-depth interviewed, and focus group was gained from 20 elderly, 10 other age group of the member club. The data were focused at process and method of active ageing based on the WHO guideline (WHO, 2002). Then the process and method were developed through brain storming and discussion by the elderly member club for promoting the potential of the elderly for "Rukphusungaryu group" (an elderly member club) at Boromarajonani College of Nursing, Nakhonratchasima.

Phase II was Checking the **model** by trial the model for one year then reflection on the model trial by the elderly member club of Boromarajonani College of Nursing, Nakhonratchasima.

Phase III was **evaluation of the active ageing model** for in feasibilities to the elderly member club of Boromarajonani College of Nursing, Nakhonratchasima. At this phase, all data were recheck, observed, interview, and focus group. Data triangulation was used to validate the above qualitative data. Then the data from the 3 phases were theme analysis.

RESULTS

The model of active ageing came through health education provide by this college. The model composed of 4 elements. 1) Empowerment through social role such as stakeholder of the college, and any event for elderly performance, 2) Activities were central to lifelong learning and integrated other age group ideas, 3) Activities were motivated varieties of age group to join. 4) The main activities set up believe of self-valued, and increase confidence of member of the club.



DISCUSSION

The aim of this study was to develop active aging model for elderly at Boromarajonani College of Nursing, Nakhoratchasima. After model trial founded the model had 4 stages.

1. Empowerment through social role such as stakeholder of the college, and any event for elderly performance. It was the social role to address the special and important of elderly to be crucial pole of society of the college, they were belong to and being permanent member. The elderly role of cultural embedded of ethical, culture, Thai manner were promoted through informal teacher of local teacher and special guest speaker at the college and the primary school at Hua Ta Lay. Such teaching activity was supported by the nurse student winning of National Thai Manner award.

2. Activities were central to lifelong learning and integrated other age group ideas. The elderly set communication skill to communicate with other age group and sharing their knowledge through radio broadcasting and newsletter. The elderly managed and edited the news for the radio for elderly and newsletter. This supported Prachonpatchanuek, P. (2007), and Rattana-Ubol, et al (2011) that active ageing society could promote through life- long learning.

3. Activities were motivated varieties of age group to join. This facilitated the socialization in terms of health care such as health screening, the college team sharing their ideas of elderly healthy with the community such as "Songkran festival" that the entire family member will unit and got blessing from elderly. Such day and activities integrated Thai culture with health support for elderly. That is the activities which meet the need of the elderly fostered the active aging activities (Ravee Saikasophon, 2013).

4. The main activities set up believe of self-valued, and increase confidence of member of the club. The service mind to care of elderly and good understanding of elderly by the college team from all the group sent massage of elderly recognition, respected, hospitality as same as one own cousin. This lead to elderly shared their experiences of their lives, open mind and Thai wisdom to share with the lecture, nurse student and college staff. They showed the role model of being active ageing from time to time lead to many supported elderly member club of staff, nurse student, such as Jaisai Rak Wai Gham. This was the other age support elderly to be part of society and decrease the "Agism" among elderly through activity participation. Rankawat, et al (2013) founded that the positive attitude to elderly could be used to predict active ageing. This activities supported elderly confident and feeling of safety led to elderly participation in social function and successful aging. Jerapron, 2006 founded that the elderly continue healthy life, and then expand life expectancy.

DISCUSSION

The active aging model could be used for support healthy aging. Embedded in the model were basic information of community, resident, factor of time and budget. There were 4 key success of the model: drawn the elderly believed to join, 2) address elderly role in society, 3) life -long learning, and 4) variety of age group can join. The future research suggestion: 1) should develop self-evaluation of active ageing tool, 2) study active ageing from different setting in order to picture the active ageing in the big picture.

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Self-care behaviors among elderly with hypertension from a Rural Northeast Region of Thailand

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ABSTRACT

The purpose of this descriptive study was to examine self-care behaviors among elderly with hypertension and residing in Kokkrachai Sub-district, Khon Buri District, Nakhon Ratchasima Province. The population in this study was composed of 296 elderly aged between 60 and 79 years old who had been diagnosed with hypertension and were registered as patients with three tambon health promoting hospitals namely: Kokkrachai, Mabkrad, and Nhong Bot. The samples were 74 elderly persons who were randomly selected using simple random sampling. The instrumentation employed in the study was divided into the following three sections: 1) Demographic Questions; 2) The Self-Care Behavior Questionnaire which explored elderly self-care behaviors in five areas and consisted of 32 rating-scale items; 3) The Self-Analysis Stress Test, which consisted of 20 rating-scale items. The reliability of Self-Care Behavior Questionnaires and Self-Analysis Stress test using Cronbach's alpha coefficients were 0.71 and 0.89, respectively. The data were analyzed using frequency, percentage, mean and standard deviation.

The results showed that the majority of the samples were female (n=48, 64.86%). The average age was 68.79 years. The samples were mostly married (n=56, 75.67%) and had educational levels ranging between Primary 1- 6 (n=68, 91.89%). The samples were mostly farmers (n=31, 41.89%) and the majority of their allowance came from the government's monthly allowance for elderly (n=43, 59.11%). Most of the samples did not drink and smoke (n=55, 74.32%). According to the findings, self-care behaviors were at a moderate level ($\bar{X}$=1.98 from 3 points, SD=0.03). Self-care behavior on the good environment and weather was at a good level ($\bar{X}$=2.37, SD=0.05). Medication adherence and keeping doctor's appointments were at a moderate level ($\bar{X}$=2.21, SD=0.08). Excretion behaviors were at a moderate level ($\bar{X}$=1.78, SD=0.08), while dietary behavior was at a moderate level ($\bar{X}$=1.68, SD=0.04) and exercise behavior was also at a moderate level ($\bar{X}$=1.54, SD=0.09). Most of the elderly were not in stressful situations (n=48, 64.86%) and the mean stress score was 14.74 (SD=0.94) which meant normal stress.

Keyword: Elderly, Hypertension, Self-Care Behavior

INTRODUCTION

In 2013, Thailand's elderly population accounted for 14.9 percent of the total population (Pramote Prasartkul, 2014), and Thailand is expected to become an aging society by 2025 (Ministry of Public Health, 2014). According to a survey on the health status of the Thai population from 2008-2009, the prevalence of hypertension was 44.00 percent in elderly aging from 60-69 years, 51.7 percent in elderly aging from 70-79 years and 55.90 percent in elderly aging 80 years and up (Wichai Ekapolakorn et al., 2010). In 2013, 41 percent of the elderly were found to have hypertension (Ekachai Piansriwachara et al., 2013). Hypertension has been named the "silent killer" due to the absence of any presenting symptoms in addition to the fact that it is a risk factor for enlarged heart muscles, myocardial infarction, stroke and renal disease (Prasert Assantachai, 2011). Moreover, half of all deaths caused by stroke and myocardial infarction are caused by hypertension.

Treatment for hypertension requires a reduction in blood pressure to less than 140/90 millimeters of mercury (mmHg) by the administration of blood pressure-lowering medication in conjunction with lifestyle changes (Schub, 2014). If the patients' salt intake is no more than 6 grams/day, systolic blood pressure will decrease by 2-8mmHg. Eating large amounts of vegetables and fruits decreases dietary fats, especially saturated fats, which leads to a decrease in systolic blood pressure by 8-14 mmHg. Furthermore, regular aerobic exercise of 30 minutes per day for nearly every day reduces systolic blood pressure by 4-9 mmHg (Thai Hypertension Society, 2012). According to the findings of Pacharawalai Lomplang, Nongnuch Oba and Chommanad Wanpornsiri (2011), dietary intake and exercise behaviors are negatively correlated with systolic blood pressure. In addition, according to tests of urine sodium levels in hypertensive patients seeking care at Siriraj Hospital in 2004 and 2010, the majority of patients consumed an average of 9 grams of salt per day (Wiranuch Robsantisuk, 2013) by eating salty foods at nearly every meal for more than three times per week with fatty food intake (18.53%) (Suthira Huntrakul and Wilaipan Somboonthanon, 2012); these patients ate what they and their families liked to eat (Jiriya Innathana et al., 2010) and would not exercise (96.30%) (Suthira Huntrakul and Wilaipan Somboonthanon, 2012) but would rather exert themselves while working to support themselves and family (Jiriya Innathana et al., 2010).

The researchers screened for hypertension in the elderly of Khokkrachai, Khon Buri , Nakhon Ratchasima, finding 151 elderly with systolic blood pressure equal to or higher than 140 and diastolic blood pressure equal to or higher than 90 mmHg. Of this group, 61 elderly had hypertension (18.71%), and according to the aforementioned screening, the elderly with hypertension receiving treatment from health service units continued to have blood pressure that was equal to or higher than 140/90 mmHg. Thus, the researchers are interested in studying the self-care behavior of the elderly with hypertension in order to apply the data obtained to promoting the health of hypertensive elderly patients.

OBJECTIVE

This research aimed to study the self-care behavior of the elderly with hypertension in Khokkrachai, Khon Buri, Nakhon Ratchasima.

METHODS

Sample

The sample size was set based on the criteria of 25 percent of a population of 296 people (Waro Pengsawasdee, 2008) by which a sample group of 74 subjects was obtained through simple random sampling.

Instrument

1. The instrumentation employed in the study was divided into the following three sections:

1.1 Demographic Questions was a checklist and fill-in-the-blank form covering gender, age, marital status, occupation, level of education, income, smoking history and alcohol consumption history.

1.2 The Self-Care Behavior Questionnaire was a rating scale divided into the following five aspects: 1) dietary intake (10 questions); 2) medication adherence and keeping doctor's appointments (5 questions); 3) exercise (6 questions); 4) defecation and urinary excretion (6 questions); 5) good environment and weather (5 questions). The total of 32 questions answered by choosing the practice frequency of self-care behavior on four levels, namely, never practice (practice less than 1 day/week), sometimes practice (1-2 days/week), frequently practice (3-4 days/week) and regularly practice (5-7 days/week). The four criteria for ranking self-care behavior are as follows:

0.0 - 0.75 = self-care behavior needs improvement.

0.76 – 1.50 = self-care behavior is fair

1.51 – 2.25 = self-care behavior is moderate.

2.26 – 3.00 = self-care behavior is good.

1.3 The Self-Analysis Stress Test containing 20 questions completed by specifying the frequency of symptoms and behaviors or feelings over the past two months composed of, namely, none at all = 0 points, sometimes = 1 point, frequent = 2 points and constant = 3 points. The ranking criteria for stress are as follows:

0 – 5 points mean stress is lower than normal

6 – 17 points mean stress meets normal criteria

18 – 25 points mean stress is slightly higher than normal

26 – 29 points mean stress is moderately higher than normal

30 – 60 points mean stress is much higher than normal.

Content validity was tested by three qualified experts then tested using Cronbach's Alpha Coefficient with Self-Care Behavior Questionnaire reliability score at 0.71 and Stress Evaluation and Analysis Form reliability score at 0.89.

Data analysis

Data was analyzed using the SPSS program. Demographic data were analyzed using frequency distribution, percentages and five aspects of self-care behaviors. Stress and stress management were analyzed using frequency distribution, percentages, mean values and standard deviation. Exercise and stress management were analyzed using frequency distribution and percentage.

RESULTS

1. Profile of Participants

A total of 74 subjects were females (64.86%) (n=48), with a mean age at 68.79 years. The majority of the subjects were married (75.67%) (n=56), completed primary education Year 1-Year 6 (91.89%) (n=68), worked as farmers (41.89%) (n=31) and earned 600-700 baht of elderly reimbursement

(58.11%) (n=43). The majority of the subjects did not drink alcohol and did not smoke (74.32%) (n=55), and the number of subjects who smoked and drank alcohol were equal at 25.68 percent (n=19).

2. Self-care behavior

Overall self-care behavior was moderate in five aspects ($\bar{X}$1.98, SD = 0.03). When individual aspects were considered, self-care behavior on good environment and weather was good ($\bar{X}$2.37, SD = 0.05), self-care behavior on medication adherence and keeping doctor's appointments, excretion, dietary intake and exercise were moderate ($\bar{X}$2.21, SD = 0.08), ($\bar{X}$1.78, SD = 0.08), ($\bar{X}$1.68, SD = 0.04) and ($\bar{X}$1.54, SD = 0.09), respectively as shown in Tables 1-6.

Table 1 Mean and Standard Deviation of Overall Self-Care Behaviors of the Elderly

Self-Care Behavior	$\bar{X}$	SD	Level
Dietary Intake	1.68	.04	Moderate
Medication Adherence and Keeping Doctor's Appointments	2.21	.08	Moderate
Exercise	1.54	.09	Moderate
Excretion	1.78	.08	Moderate
Good Environment and Weather	2.37	.05	Good
Total	1.98	.03	Moderate

Table 2 Mean and Standard Deviation of Dietary Behavior of the Elderly

Dietary Behavior	$\bar{X}$	SD	Level
1. High cholesterol food intake	2.04	.07	Moderate
2. Fruit and vegetable intake of more than five serving spoons per three meals.	2.07	.11	Moderate
3. Consumption of foods cooked in pork oil.	2.30	.09	Good
4. Fish sauce, MSG or salt added to food.	1.14	.13	Fair
5. Consumption of salty foods such as pickled vegetables, salted eggs, salted fish and pickled fish.	1.73	.12	Moderate
6. Avoidance of sweet foods.	1.43	.12	Fair
7. Avoidance of crunchy snacks on a regular basis.	1.46	.14	Fair
8. Consumption of fried foods.	1.99	.09	Moderate
9. Consumption of foods that lower blood pressure.	0.62	.11	Needs Improvement
10. Consumption of sweet fruits.	2.07	.08	Moderate
total	**1.68**	**.04**	**Moderate**

Table 3 Mean and Standard Deviation of Behavior in Medication Adherence and Keeping Doctor's Appointments of the Elderly

Medication Adherence and Keeping Doctor's Appointments	$\bar{X}$	**SD**	**Level**
1. Taking medication for hypertension as prescribed by doctors.	2.74	.09	Good
2. Meeting doctors on appointments.	2.75	.08	Good
3. Belief that you are not sick and so choose not to take medication.	2.36	.14	Good
4. Not taking herbal medicines, quack medicines or traditional remedies.	1.29	.17	Fair
5. Independently increasing or reducing dosages.	2.71	.09	Good
Total	**2.21**	**.08**	**Moderate**

Table 4 Mean and Standard Deviation of Exercising of the Elderly

Exercise	$\bar{X}$	**SD**	**Level**
1. Continuous exercise for thirty minutes.	1.45	.14	Fair
2. Light exercise for sixty minutes.	1.91	.13	Moderate
3. Pre-exercise warm-up	0.96	.12	Fair
4. Cool-down period before ending exercise.	1.08	.12	Fair
5. Tendon and muscle stretches after exercise.	1.95	.13	Moderate
6. Taking short rests after exercise and before performing other activities.	1.89	.13	Moderate
Total	**1.53**	**.09**	**Moderate**

Table 5 Mean and Standard Deviation of Exercising of the Elderly

Excretion	$\bar{X}$	**SD**	**Level**
1. Self-training to defecate on a regular schedule.	2.27	.12	Good
2. Self-training in fecal continence.	1.92	.15	Moderate
3. Clenching of gluteus maximus or anal muscles.	0.95	.14	Fair
4. Self-training in urinary continence	1.77	.15	Moderate
5. Avoidance of tea and coffee consumption while traveling.	1.53	.16	Moderate
6. Excretion preparedness.	2.28	.13	Good
Total	**1.79**	**.08**	**Moderate**

Table 6 Mean and Standard Deviation of Living Environment and weather of the Elderly

Good environment and weather	$\bar{X}$	SD	Level
1. Live in places with chemical fumes, mists, smoke, dust or smells.	1.70	.12	Moderate
2. Clean home (swept, mopped)	2.61	.07	Good
3. Doors and windows are opened for ventilation	2.49	.09	Good
4. Morning or evening sunlight shines inside the house	2.50	.10	Good
5. Shady home due to surrounding trees	2.55	.09	Good
Total	**2.37**	**.05**	**Good**

3. Stress – The sample group had normal stress levels ($\bar{X}$14.74, SD = 0.94); 64.86 percent of the sample group was not stressed (n=48), and 35.14 percent of the sample group was stressed (n=26). The amount of stress experienced by the sample group was mild (25.68%) (n=19), moderate (4.05%) (n=3) and severe (5.41%) (n=4) as shown in Table 7.

Table 7 Number and Percentages of Elderly with Stress and No Stress

Stress	n = 74	Percentage	$\bar{X}$	SD
No Stress	**48**	**64.86**		
0 – 5 points, below normal	*9*	*12.16*		
6 – 17 points, normal stress level	*39*	*52.70*		
Stress	**26**	**35.14**	14.74	.94
18 – 25 points, mild stress	*19*	*25.68*		
26 – 29 points, moderate stress	*3*	*4.05*		
30 – 60 points, severe stress	*4*	*5.41*		

DISCUSSION

The study found the overall self-care behavior of the sample group with hypertension to be moderate ($\bar{X}$1.98, SD = 0.03), which concurs with the findings of a study on the health care behaviors of the elderly in the eastern region and Samchuk District, Suphanburi (Pinnaret Kaatudom, Kanasorn Kaewdaeng and Thassamon Namwong, 2007; Benjaporn Sawangsri and Sermsiri Taengngam, 2013) which found the elderly to have moderate overall self-care behavior. When individual aspects were considered, the findings were as follows:

1. Self-care behavior on good environment and weather was at a good level, which concurs with a study conducted on the factors correlated with the self-care ability of the elderly with hypertension in the Public Health Service Center Elderly Club No.43 and finding the elderly to have good self-care ability in terms of residence (Sukit Thongpila, Nittatiya Noisipum and Sukanya Laoharattanahiran, 2010). The elderly reported that air contained chemical fumes, mist, smoke, dust or smells ($\bar{X}$1.70, SD = 0.12), as

they were aware of the chemical contamination in the air and water that resulted from the agricultural practices of the people in Khokkrachai.

2. Medication adherence and keeping doctor's appointments was at a good level ($\bar{X}$2.21, SD = 0.08), concurrent with a study conducted on the influencing factors of medication adherence in patients with hypertension by Sumalee Wantanakorn, Chutima Patidamronkul and Prani Khamchan (2008) and a study conducted on the health care behaviors of hypertensive patients residing in Ratchaburi by Jiriya Innathana, Rungthip Chaiyoyingyong, Nattaya Wongyara, Penchamat Khamthana and Benchawan Sriyothin (2010), which found that the patients with hypertension did not have insufficient medication.

3. Overall dietary behavior was moderate ($\bar{X}$1.68, SD = 0.04). The elderly ate fatty foods, fried foods and salty foods to a moderate level ($\bar{X}$2.04, SD = 0.60), ($\bar{X}$1.99, SD = 0.81) and ($\bar{X}$1.73, SD = 1.03), respectively. The elderly avoided crunchy snacks on a regular basis, avoided eating sweet foods, adding fishing sauce or pickled fish sauce into foods to an fair level ($\bar{X}$1.46, SD = 1.21), ($\bar{X}$1.43, SD = 1.09) and ($\bar{X}$1.14, SD = 1.18), respectively. The aforementioned findings concur with a study conducted by Suthira Huntrakul and Wilaipan Somboonthanon (2012), which found that subjects ate salty foods (for nearly every meal and more than three times per week) and fatty foods (18.53%). The findings also concur with a study conducted on the health care behaviors of the elderly with hypertension residing in Ratchaburi by Jiriya Innathana and colleagues (2010) and finding that the majority of the subjects did not control their diet, while the minority who thought to control their diet could control their diet only sometimes and not others. Furthermore, the subjects ate as they and their families wanted to and the subjects knew they had to control their salty food intake but paid no attention. However, the majority of the subjects understood that salty food meant fish sauce and salt. According to a study conducted in African American and Caucasian obese Americans, the DASH diet was found to be able to reduce systolic blood pressure by 4-8 mmHg as well as the risk of stroke and rate of sickness and death in patients with hypertension (Frisoli, Schmeider, Grodzicki & Messerli, 2012). In addition, a study conducted by Michel (2013) found the sample group that increased vegetable intake by 86 percent and reduced fatty food intake by 43 percent to be able to reduce systolic blood pressure (SBP) by 8-10 mmHg.

4. Self-care behavior on exercise was moderate, which concurs with the findings of a study conducted in the health care behaviors of hypertensive patients residing in Ratchaburi by Jiriya Innathana Rungthip and colleagues (2010) that found that the majority of exertion behaviors to have no model or formal, and to be only slight to moderate for supporting the subjects themselves and their families. According to the findings on promotion of exercise self-efficacy in hypertensive patients by Jewpattanakul (2012), 60 percent of the hypertensive patients achieved minimal exercise and that subjects exercising alone tended to quit exercising. In addition, the aforementioned findings concurs with a the findings on improving the self care ability of patients with hypertension to prevent complications by Suthira Huntrakul and Wilaipan Somboonthanon (2012), which found that 96.30 percent of the subjects did not exercise.

The exercise method most frequently employed by the elderly was arm swinging (77.03%) (n=57), which was performed on a regular basis (5-7 days/week) (47.30%) (n=35). And the second most frequently employed exercise method was brisk walking on a regular basis (5-7 days/week) (36.49%) (n=27). According to a study conducted in ordinary people who exercised at 60-70 percent intensity of the maximum pulse rate for 20-30 minutes/time on a regular basis for 3-5 times/week consecutively for eight weeks, systolic blood pressure and diastolic blood pressure dropped by 4.3 and 2.7 mmHg, respectively (Panthip Saengprasert, 2005). Exercise is a key strategy in preventing and combating hypertension and complications. If moderate exercise is performed on a regular basis, blood pressure can be lowered by 4.5-5.9 mmHg in persons aged between 50-64 years and 3.6-4.7 mmHg in persons aged

between 65-79 years (Lellamo and Volterrani, 2010). In addition, Rahman, S., Salek, A.K.M. (2009) stated that elderly who participate in light to moderate exercise programs to exercise regularly on a continuous basis for nine months have lower mean systolic blood pressure by 9 mmHg and lower diastolic blood pressure by 8 mmHg. And a study conducted by Michel (2013) found that subjects with increased exertion have lower systolic blood pressure by 8-10 mmHg.

5. Self-care behavior on excretion was moderate. If considering the individual behavior, two items were good, three were moderate and one was fair. The details are as follows:

Good self-care behavior were defecation and urinary excretion preparedness before traveling, self-training to defecate on a regular schedule; ($\bar{X}$2.28, SD = 0.13) and ($\bar{X}$2.27, SD = 0.12) respectively. Moderate self-care behaviors were self-training for fecal continence, self-training for urinary continence and avoidance of tea and coffee consumption while traveling; ($\bar{X}$1.92, SD = 0.15), ($\bar{X}$1.77, SD = 0.15) and ($\bar{X}$1.53, SD = 0.16), respectively. Fair self-care behavior involved clenching of the gluteus maximus and anal muscles ($\bar{X}$0.95, SD = 0.14). The prevalence of urinary incontinence in the Thai elderly ranges around 16-22 percent (Wanthin Sribenchalak and Panita Limpawattana, 2013), while the issue of defecation and urinary excretion are due to cell deterioration, including degeneration of the sphincter muscles, which causes incontinence and frequent urination. Therefore, the elderly should be near restrooms, and clothing should be easy to remove. And in some cases involving incontinence, adult diapers may be used. Meanwhile, for traveling and performing various activities, care has to be give to restroom access. Some elderly might face the issue of fecal incontinence, which is an important issue preventing the elderly from socializing. Therefore, before the elderly travel, they should be allowed to use the bathroom to defecate or urinate first. Furthermore, they should train to defecate on a regular schedule. If the elderly encounter urinary or fecal incontinence, caregivers and family members should seek advice from doctors, nurses or public health officials on strengthening excretory muscles or nerve medications to regulate excretion in order to improve fecal and urinary continence (Puangthong Kraipiboon, 2013).

6. The elderly were not stressed by 64.86 percent (n=48) with meant stress at $\bar{X}$= 14.74, SD = 0.94, followed by stressed by 35.14 percent (n=26). Stress was mild in 25.68 percent (n=19), severe in 5.41 percent (n = 4) and moderate at 4.05 percent (n=3). Mild stress means stress normally encountered everyday events that might not be perceived as stress or might be felt slightly by physiological, emotional and behavioral changes but can be endured with no impact on lifestyle. Stress relief methods include watching movies, listening to music, reading books and speaking to trusted acquaintances. Improving concentration is a stress relief method that lowers blood pressure and prevents constriction of the arteries, which leads to reduction in blood pressure by 7.7-10.31/3.5-7.6 mmHg (Somkiat Sangwattanaroj, 2006). The findings of the present research indicate that the elderly most frequently used talking to friends or consulting with family members whenever discomfort occurred (44.59%) (n=33), followed by regularly praying (37.84%) (n=28). The American Heart Association (2008) conducted a study in the elderly provided with a relaxation program by using wave sounds and calm noises for 12 minutes per session three times per week for four months and found that blood pressure could be lowered from 141/73 mmHg to 131/70 mmHg.

In conclusion, the elderly had a moderate level of self-care behavior, particularly on the avoidance of eating foods containing sodium by 1,500 milligrams per day and exercising 30 minutes per session for three times per week to help reduce blood pressure. However, the elderly continued to enjoy salty foods and added MSG, fish sauce or pickled fish sauce to their food, while exercise was focused mainly on arm swinging.

RECOMMENDATION FOR FURTHER RESEARCH

Based on the findings, the study to develop a method to promote and support the elderly in dietary behavior and exercise that can lower blood pressure to within the normal range is needed.

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Health Status and Physical fitness Among Elderly People in Phungteium[1]

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ABSTRACT

Background: Now Thailand is in a state of an Aging society where the number of elderly population is increasing every year. The phungteium is a tumbon in Nakhorn Ratchasima province which has highest recorded of elderly population in Thailand.

Objective: The purpose of this descriptive study was to determine the status of health and physical fitness among elderly at Pungteium district, Nakorn Ratchasima Province, Thailand.

Method: The sample comprised of 190 elderly volunteers who were residing at Pungteium district, Nakhorn Ratchasima Province, Thailand. Research instruments used to collect the data Data included body weight and height scale, mercury sphygmomanometer and physical fitness test equipment and set of questionnaire consisting of a Demographic Data Recording form, Thai elderly health and Sports Authority of Thailand Simplified Physical Fitness. Data were analyzed using descriptive statistics.

Finding: The results of this study showed that subjects were elderly women than the elderly men in all age groups. Physical fitness results showed that there was 86.3 percent flexibility in a low level. Performance of lung capacity was lower than normal standard. There was 80.1 percent reported that they were healthy, but the fitness by testing of strong hands, it was at a low level for 88.4 percent. The results of this study, hence, could be used as baseline information for health personnel service for appropriate planning of health promoting behaviors for elderly.

Keyword: *Health Status, Physical fitness, elderly fitness*

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IINTRODUCTION

Currently, Thailand is moving toward ageing society. Comparing with the population from the year 1960, there was elderly only 4.6 %, increase to 10 % in 2000 and expect to have 15 % in 2017 (National Statistical Office, 2008). In fact, elderly was a stage of many changes physical fitness, figure, economic status, social, environment and norms. The elderly need to adjust their life to these changes. Moreover, elderly needs to adjust of life depend on individual preference and ability of self-adjusted. Physical changes in term of decrease effectiveness of all organs leaded to decrease in healthy status both physical and mental. According to The National Social and Economic Development Plan No. 11 (AD 2555-2559), this country move forward to ageing society as same as the World trend, which the World elder will reach 81.4 million (The National Social and Economic Development Plan No. 11 (AD 2555-2559), 2011). This plan focuses on develop body and physical healthy. To support the plan, baseline information of elderly physical fitness and body function was needed. At the Pungteium district, Nakorn Ratchasima Province, Thailand, was the service site of nursing student learning of elderly care in community. The population was 6,608, with was 1,472 elderly (22.28%). This percent of elderly population was evidence of ageing society.

From the study of elderly health promotion and predicting factors of health promotion at the Pungteium district, reported that elderly practiced the activities to promote physical activities and inter personal relationship at a medium level. From the research of how to support the need of elderly, founded that the elderly need to have health screening at the community. This community did not have baseline health screening of all elderly. Thus it was essential to study health status and physical fitness in order to analyze the health status of this sub-district.

OBJECTIVES

The purpose of this descriptive study was to:

1. Determine the Status of Health and

2. Determine physical fitness among elderly at Pungteium sub-district, Nakhorn Ratchasima Province, Thailand.

METHODS

Descriptive research: cross-sectional surveying was performed by using survey at Pungteium district, Nakhon Ratchasima Province, Thailand.

The samples of 190 elderly, age 60 years old or above, resident of Pungteium district, Nakhon Ratchasima Province, Thailand, were recruited to the study. All participants, who agreed freely to take part in this study, gone through the physical tests and then 1) answered questionnaire of general data and health status, and 2) record in health record form for general population.

There were 2 groups of research tools: physical test tool and record form.

Physical test composed of scientific equipment such as weight scale, Height scale, mercury sphygmomanometer and physical fitness test equipment. The records were 1) a set of questionnaire consisting of a Demographic Data Recording form, and 2) Thai elderly health and Sports Authority of Thailand Simplified Physical Fitness. The test was divided into 4 parts: 1) body size, Body Mass Index (BMI), wrist and hip ratio, 2) body flexibility, shoulder flexibility by extension of the hand angle to touch at the back, 3) body balance and muscle strength by grip pressing, 4) respiratory and blood circulation, lung capacity test by peak flow meter, blood pressure and pulse rate.

Questionnaire was reliabilities testes by 30 elderly at Pungteium district, Nakhon Ratchasima Province, Thailand, and analyzed by Cronbach's Alpha Coefficient, was .93.

Data collection process was as followed. The researcher asked for letter of permission form the college director, and then brought the letter to ask for permission to the chief executive of Pungteium district. Then research met with researcher who were volunteered to participate to this research, and explain the detail of this research. Then the sample were answered the questionnaire, which some elderly need to read the question for them. The questionnaire then complete check and gained 190 questionnaires. The Data were analyzed using descriptive statistics such as frequency, percentage, mean, standard deviation.

Ethic consideration, the researchers meet with volunteer to explain all the details and process of participation of this research. The volunteers were free to leave at any time and all information was anonymous. The data were analyzed in terms of general information.

RESULTS

Results were as followed.

1. General information, from the 190 elderly, there were elderly women than the elderly men in all age groups. Female was 59.22%, male was 40.78 %. Majority of elderly stayed with family and retired. They were all Buddhism. The elderly age from 60-70 years old (mean = 68.72). About 95.22% had care giver, the

main care giver was daughter, graduate from primary school. Majority was retire (41.23%), agriculture (19.18%). Elderly had enough money for living expense but no money saving. They spend their free time for religion practice and activities.

2. Health status of the elderly, majority was healthy (80.1%). Chronic diseases among the elderly were hypertension 20.3%, eye problems were 19.5%, D.M. was 19.2 %. Majority of elderly was able to self-care independently.

3. Physical fitness, body mass of male and female was decrease gradually along with ageing. The WHR was not different of all age group. There was 76.4 % of elderly had body-flexibility at a low level. The upper body flexibility was not different when ageing. Hypertension and sugar level of male and female were similar. The mean of blood sugar level of elderly over 80 years old was high. Lung capacity was lower than normal capacity (70.1%). Testing of strong hands was at a low level for 88.4 percent.

Elderly physical fitness comparison with normal scale, found that both male and female had body mass index (BMI) lower than normal scale for 13 person (6.82). For the scale of wrist with hip (WHR), flexibility, body balancing, lung capacity, and hand grip were lower than normal scale.

DISCUSSION

Regarding general information, there were 190 elderly. There were elderly women than the elderly men in all age groups. Female was 59.22%, male was 40.78 %. This figure was similar to Thailand population ratio of female and male. Majority of elderly stayed with family and retired, married, graduate from primary school. About 95.22% had care giver, the main care giver was daughter. The elderly age from 60-70 years old (mean = 68.72). Majority was retire (41.23%), agriculture (19.18%). Elderly had enough money for living expense but no money saving. They were all Buddhism. They spend their free time for religion practice and activities. This was supported by Thai elder situation by the year 2010 that elderly activity were go to temple and prey for merit and listen to monk teaching. This is the Thai lifestyle at the rural area that graduated from primary school, main careers were grow rice and agriculture, extended family, generosity, and conservative to culture and religion activity which central to temple. Majority of elderly health status was healthy (80.1%). Chronic disease among the elderly were hypertension 20.3%, eye problems were 19.5%, D.M. was 19.2 % which supported by Vipat Kumarsit and Prasert Prasomrak (2010) that majority of elderly was able to self- care independently. About 12.63% of elderly don't participate in any social function. Elderly who participated to social function continuously was co-operated with family by sharing idea. Only 3 elderly (1.58%) did not participate in social function because their limited of body

movement such as sickness, eye disability. Only one elderly, healthy, who did not shared idea with family, but participated with social function by family supported, was over 80 years old. There were 24 elderly with health problem who continuously participated in social activities by family supports.

It was body mass index (BMI) of sample that both male and female had body mass index (BMI) lower than normal scale when ageing as ageing cause osteoporosis, body water decrease together with chewing problem since losing teethes, decrease test bud, eat less food (Prasert Suntachai, 2008). Both male and female had similar BMI, and decrease at the same rate. For the scale of wrist with hip (WHR) in male was higher than female at 60-69, and 80-89. The WHR of 70-79 was at a high level, while 80-89 was the least level which support by the study of Deerapat Boonjanaviroj, et al, (2011). The flexibility, body balancing, all the elderly of any group and gender were at the minus which mean less flexible than normal scale. The female touch her back better than male. In all age participants, it was found that they have better right hand when touch on top to another hand than the left hand on the top. The lower body flexibility by body bending, both gender decrease flexibility as ageing, but female had more body flexibility than male as the connective tissue and female hormone mark the better flexibility (Thailand sport office, 2003).

The results of this study, hence, could be used as baseline information for health personnel service for appropriate planning of health promoting behaviors for elderly in community. Health care provider should consider the uniqueness of people, in particular the case management system of physical fitness. The participation of elderly in social function addresses the important of elderly role of sharing idea with community and family. Thus elderly had more chance to be recognition by community.

SUGGESTIONS

Suggestions to conduct further research were:

1. Research to promote varieties of physical capacity building,
2. Develop innovation tool to enhance flexibility, strengthening muscle, and muscle duration, and lung capacity.

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Thanks to the director of the college for her mental and budget support. Thanks to community leader, participant and health care volunteered which contributed to this research success.

The conflict of interest were:

1. information gained of health status and physical fitness for data system development for the community to use for hospital plan and necessary health care services,

2. using for guideline of health education and elderly care service,

3. an evaluation of the elderly care project of nursing college and being resource for elderly plan and community preparedness of ageing society,

4. used for prevention in health promotion for elderly,

5. using knowledge of elderly for information for elderly study among nursing student.

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Health status among older adults who live in NakhonRatchasima and Chaiyaphum Provinces[1]

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Abstract

This study aimed to 1) study the body weight, Body Mass Index (BMI) and blood pressure among the older adults who live in urban and rural areas in NakhonRatchasima province, 2) study the body weight, BMI and blood pressure among the older adults who live in urban and rural areas in Chaiyaphum province and 3) compare the weight, BMI and blood pressure between the older adults who live in urban and rural areas in NakhonRatchasima and Chaiyaphum provinces.

Methodology: Survey research is used with the secondary data from urban health and rural health in NakhonRatchasima and Chaiyaphum provinces. The sample is consisted of 800 older adults aged 60 years and over among the population of 1,233,200 persons. The data is analyzed by using frequencies, percentages, means, standard deviations (SD). The T-test for independent sample was used to compare the differences between groups.

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Results show that the older adults from the study aged between 60-94 years old. The average age of the sample is 69.05yearsold. More than half (61.9%) of the older adults are females whether in overall or in each of the 2 provinces. Their average weight is 57.31kg.,with an average BMI of 22.95 kg/m^2. There are 356 persons (44.5%)that have normal BMIs. Their average systolic blood pressure is 123.63 mmHg and the average diastolic blood pressure is 76.49 mmHg.

The older adults in NakhonRatchasima province have the average age 69.98 years old and 47.8 % are normal BMI that more than the older adults in Chaiyaphum province with normal BMI are 41.3%, but the weight, BMI, systolic blood pressure and diastolic blood pressures of the older adults in Chaiyaphum province are higher than those of the older adults in NakhonRatchasima province.

The female older adults have higher BMI, systolic blood pressure and diastolic blood pressure than those of the male older adults.

The older adults from rural areas have higher BMI, systolic blood pressure and diastolic blood pressure than the older adults from urban areas.When comparing between older adults who live in urban and rural areas, it is found that BMIs and systolic blood pressures among older adults from rural areas are significantly higher than those from the urban areas. Other variables in health status appear to be no difference.

Keywords: *health status**,** older adults**,** urban health, rural health*

Introduction

According to the survey by National Health Statistic Office in 2014, it was found that older adults were comprised of 14.9 percent of all population. In Thailand, there were 10,014,619 older population. Among them, there are 4,514,812 males (45.1%) and female older adults total 5,499,887 persons (54.9%). Older population resided predominantly in the north-east part of Thailand with 31.9 percent of the overall older population. Boromrajonani College of Nursing, NakhonRatchasima is responsible in educating nursing graduates who will work in hospitals and health centers in both NakhonRatchasima and Chaiyaphum provinces. Although located adjacent to each other geographically, information regarding health status among older adults who resided in both provinces is still scarce. Therefore, a survey research that aimed at exploring health status among the older adults from NakhonRatchasima and Chaiyaphum province will bring correct understanding regarding the older adult population and will provide valuable information for health professionals to provide care that promote health status and quality of life among this population.

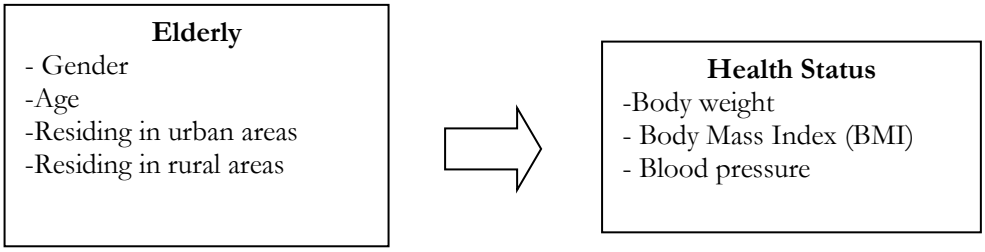
Objectives of the Study

This descriptive research aims at studying the following:

1. The body weight, Body Mass Index (BMI) and blood pressure among the older adults who live in urban and rural areas in NakhonRatchasima province.
2. The body weight, BMI and blood pressure among the older adults who live in urban and rural areas in Chaiyaphum province.
3. Comparing the weight, BMI and blood pressure between the older adults who live in urban and rural areas in NakhonRatchasima and Chaiyaphum provinces.

Conceptual Framework of the Research

The conceptual framework of this study is shown in the following diagram:



Basic Assumptions

This study aims at understanding the health status among the older adults who reside in NakhonRatchasima and Chaiyaphum provinces. Health status examined in this study include body weight, Body Mass Index (BMI), and blood pressure. The older adults who were recruited in this study are geographically grouped into whether they reside in urban or rural areas of both provinces. The data used in this study was collected from health facilities in both provinces.

Methodology

1. Population and Samples

Population in this study include 1,233,200 older adults aged 60 years and older both males and females who resided in either urban or rural areas in NakhonRatchasima and Chaiyaphum provinces. The sample were selected using multistage sampling techniques in order to obtain the total of 800 people from the population with 400 persons in each province. The samples in each province (400 persons) were divided into 2 equal group of 200 persons of older adults who reside in urban areas (inside the central district of the province) and rural areas (outside the central district of the province).

2. Research Instruments

Instruments used in this study were comprised of the followings:

1) Scales to measure body weights (kilogram unit)

2) Height measurements (centimeter unit)

3) Sphygmomanometers to measure blood pressures and stethoscopes

4) Health status cards for each older adult to record their names, ages, genders, addresses, body weights, heights, BMIs, and blood pressures.

3. Analyses of Data

The data obtained from the survey were analyzed as follows:

1) General characteristics of the samples were analyzed using descriptive statistics including frequencies, percentages, averages, and standard deviations.

2) The test of differences between means of body weights, BMIs, and blood pressures among older adults from Nakhon Ratchasima province and among older adults who resided in urban and rural areas were analyzed using T-test for independent samples.

Results

Section 1 General characteristics of the samples

1.1 General information of the samples

The age range of the samples was between 60-94 years (SD = 7.819). The majority of the samples were categorized in the young-old group (n = 485, 60.6%) followed by the middle-old group (n = 224, 28.0%) and old-old group (n=91, 11.4%) respectively. The majority of the older adults were females (n = 495, 61.9%). The samples in each gender equally resided in both provinces. For male samples (305 persons), there were 153 males from NakhonRatchasima and 152 males from Chaiyphum. For female samples (495 persons), there were 247 persons from Nakhon

Ratchasima and 248 persons from Chaiyaphum respectively. The general characteristics of the older adults included in the samples were shown in Table 1.

Table 1 General characteristics of the samples

Characteristics	Number	Percent
Overall		
Gender		
Male	305	38.1
Female	495	61.9
Total	***800***	***100.0***
Elderly subgroups		
Young-Old	485	60.6
Middle-Old	224	28.0
Old-Old	91	11.4
Total	***800***	***100.0***
NakhonRatchasima Province		
Gender		
Male	153	38.3
Female	247	61.8
Total	***400***	***100.0***
Elderly subgroups		
Young-Old	230	57.5
Middle-Old	94	23.5
Old-Old	76	19.0
Total	***400***	***100.0***
Chaiyaphum Province		
Gender		
Male	152	38.0
Female	248	62.0
Total	***400***	***100.0***
Elderly subgroups		
Young-Old	255	63.8
Middle-Old	130	32.5
Old-Old	15	3.8
Total	***400***	***100.0***

Section 2 Health status data

2.1 Body weight and Body Mass Index (BMI) of the samples

Body weight of the samples ranged between 38-95 kilograms (mean = 57.31, SD = 10.067). Body weight of the samples from NakhonRatchasima ranged between 38-95 kilograms (mean = 55.52, SD = 9.316).Body weight of the samples from Chaiyaphum ranged between 39-95 kilograms (mean = 59.11, SD = 10.473). The information regarding the samples body weight was shown in Table 2.

Table 2 Health status of the samples: Body weight of the samples

Health Status	Number	Min	Max	$\overline{X}$	SD
Overall					
Body Weight	800	38	95	57.31	10.067
NakhonRatchasima Province					
Body Weight	400	38	95	55.52	9.316
Chaiyaphum Province					
Body Weight	400	39	95	59.11	10.473

The body mass index (BMI) of the samples ranged between 12.58 and 37.11 kg/m^2 (mean = 22.7329, SD = 3.96054). When analyzing within each province, it was found that BMIs among the samples from NakhonRatchasima province were between 12.58-35.96 kg/m^2 (mean = 22.1099, SD = 3.72908).BMIs of the samples from NakhonRatchasima who resided in the urban areas were between 12.58-35.65 kg/m^2 (mean = 21.5426, SD = 3.71473) while those who resided in the rural areas had BMI between 15.58-35.96 kg/m^2 (mean = 22.6771, SD = 3.66552). BMIs of the samples from Chaiyaphum who resided in the urban areas were between 13.28-37.11kg/m^2 (mean = 23.3534, SD = 4.12663) while those who resided in the rural areas had BMI between 13.46-35.08kg/m^2 (mean = 23.3584, SD = 4.06304) as shown in Table 3.

Table 3 Health status of the samples: Body Mass Index (BMI) of the samples

Health Status	Number	Min	Max	$\overline{X}$	SD
Overall					
BMI	800	12.58	37.11	22.7329	3.96054
NakhonRatchasima Province					
BMI	400	12.58	35.96	22.1099	3.72908
From urban area	200	12.58	35.65	21.5426	3.71473
From rural area	200	15.58	35.96	22.6771	3.66552
Chaiyaphum province					
BMI	400	13.28	37.11	23.3559	4.08983
From urban area	200	13.28	37.11	23.3534	4.12663
From rural area	200	13.46	35.08	23.3584	4.06304

When analyzing the levels of BMIs among the samples, it was found that 356 persons (44.5%) were in a normal weight while 90 persons (11.3%) were found underweight; 164 persons (20.5%) were found overweight; 157 persons (19.6%) were found to be in obese class 1; and 33 persons (4.1%) were found to be in obese class 2.

Among the samples from NakhonRatchasima, there were 191 persons (47.8%) with normal weight, 53 persons (13.3%) underweight, 84 persons (21.0%) overweight, 62 persons (15.5%) with obese class 1, and 10 persons (2.5%) with obese class 2. Among the older adults who resided in urban areas, 97 persons (48.5%) with normal weight, 33 persons (16.5%) with underweight, 44 persons (22.0%) with overweight, 23 persons (11.5%) with obese class 1, and 3 persons (1.5%) with obese class 2. Among the older adults who resided in rural areas, 94 persons (47.0%) with normal weight, 20 persons (10.0%) with underweight, 40 persons (20.0%) with overweight, 39 persons (19.5%) with obese class 1, and 7 persons (3.5%) with obese class 2.

Among the samples from Chaiyaphum, there were 165 persons (41.3%) with normal weight, 37 persons (9.3%) underweight, 80 persons (20.0%) overweight, 95 persons (23.8%) with obese class 1, and 23 persons (5.8%) with obese class 2. Among the older adults who resided in urban areas, 81 persons (40.5%) with normal weight, 20 persons (10.0%) with underweight, 38 persons (19.0%) with overweight, 50 persons (25.0%) with obese class 1, and 11 persons (5.5%) with obese class 2. Among the older adults who resided in rural areas, 84 persons (42.0%) with normal weight, 17 persons (8.5%) with underweight, 42 persons (21.0%) with overweight, 45 persons (22.5%) with obese class 1, and 12 persons (6.0%) with obese class 2. The detailed information is shown in Table 4.

Table 4 Differences in Body Mass Index of the samples from different provinces and among older adults who reside in different areas

Body Mass Index (BMI)	Number	Percent
Overall		
Underweight	90	11.3
Normal	356	44.5
Overweight	164	20.5
Obese Class 1	157	19.6
Obese Class 2	33	4.1
NakhonRatchasimaprovince		
Underweight	53	13.3
Normal	191	47.8
Overweight	84	21.0
Obese Class 1	62	15.5
Obese Class 2	10	2.5
Residing in urban areas		
Underweight	33	16.5
Normal	97	48.5
Overweight	44	22.0
Obese Class 1	23	11.5
Obese Class 2	3	1.5
Residing in rural areas		
Underweight	20	10.0
Normal	94	47.0
Overweight	40	20.0
Obese Class 1	39	19.5
Obese Class 2	7	3.5
Chaiyaphum province		
Underweight	37	9.3
Normal	165	41.3
Overweight	80	20.0
Obese Class 1	95	23.8
Obese Class 2	23	5.8
Residing in urban areas		
Underweight	20	10.0
Normal	81	40.5
Overweight	38	19.0
Obese Class 1	50	25.0
Obese Class 2	11	5.5
Residing in rural areas		
Underweight	17	8.5
Normal	84	42.0
Overweight	42	21.0
Obese Class 1	45	22.5
Obese Class 2	12	6.0

2.2 Blood pressure of the samples

Overall, the systolic blood pressures (blood pressure during the contraction of the heart) of the sample were between 90-178 mmHg (mean = 123.63, SD = 14.793) while the diastolic blood pressures (during the relaxation of the heart) were between 20-101 mmHg (mean = 76.42, SD = 10.393).

The samples from NakhonRatchasima had the systolic blood pressure ranged from 90-178 mmHg (mean = 120.94, SD = 15.167) with the diastolic blood pressure ranged from 50-101 mmHg (mean = 75.88, SD = 9.599).The systolic blood pressures among the samples from the urban areas were between 90-178 mmHg (mean = 114.79, SD = 14.545) with their diastolic blood pressures between 52-101 mmHg (mean = 71.31, SD = 8.683).The systolic blood pressures among the samples from the rural areas were between 100-170 mmHg (mean = 127.09, SD = 13.176) with their diastolic blood pressures between 50-100 mmHg (mean = 80.45, SD = 8.209).

The samples from Chaiyaphum had the systolic blood pressure ranged from 95-178 mmHg (mean = 126.32, SD = 13.916) with the diastolic blood pressure ranged from 20-99 mmHg (mean = 76.97, SD = 11.116). The systolic blood pressures among the samples from the urban areas were between 95-178 mmHg (mean = 123.81, SD = 14.209) with their diastolic blood pressures between 27-99 mmHg (mean = 81.04, SD = 10.226). The systolic blood pressures among the samples from the rural areas were between 100-168 mmHg (mean = 128.84, SD = 13.177) with their diastolic blood pressures between 20-99 mmHg (mean = 72.89, SD = 10.480). The information is as shown in Table 5.

Table 5 Health status of the samples: blood pressure of the samples

Health Status	Number	Min	Max	$\overline{X}$	SD
Overall					
Systolic BP	800	90	178	123.63	14.793
Diastolic BP	800	20	101	76.42	10.393
NakhonRatchasima province					
Systolic BP	400	90	178	120.94	15.167
Diastolic BP	400	50	101	75.88	9.599
Residing in urban areas					
Systolic BP	200	90	178	114.79	14.545
Diastolic BP	200	52	101	71.31	8.683
Residing in rural areas					
Systolic BP	200	100	170	127.09	13.176
Diastolic BP	200	50	100	80.45	8.209
Chaiyaphum province					
Systolic BP	400	95	178	126.32	13.916
Diastolic BP	400	20	99	76.97	11.116
Residing in urban areas					
Systolic BP	200	95	178	123.81	14.209
Diastolic BP	200	27	99	81.04	10.226
Residing in rural areas					
Systolic BP	200	100	168	128.84	13.177
Diastolic BP	200	20	99	72.89	10.480

According to the data, the majority of the samples were with a normal systolic blood pressure (n = 679, 84.9%) and 699 persons (87.4%) with normal diastolic blood pressure, while there were a few with a high systolic BP (n = 121, 15.1%). The majority of the samples were with normal diastolic blood pressure as well (n = 699, 87.4%), while there were a few with high diastolic BP (n = 101, 12.6%).

The data of the samples from NakhonRatchasima showed that the majority of the sample had normal systolic (n = 337, 84.3%) and diastolic (n = 342, 85.5%) blood pressures. Most samples who lived in the urban areas had normal systolic (n = 189, 94.5%) and diastolic (n = 195, 97.5%) blood pressures. Most samples who lived in the rural areas had normal systolic (n = 148, 74.0%) and diastolic (n = 147, 73.5%) blood pressures.

The data of the samples from Chaiyaphum showed that the majority of the sample had normal systolic (n = 342, 85.2%) and diastolic (n = 357, 89.3%) blood pressures. Most samples who lived in the urban areas had normal systolic (n = 180, 90.0%) and diastolic (n = 168, 84.0%) blood pressures. Most samples who lived in the rural areas had normal systolic (n = 162, 81.0%) and diastolic (n = 189, 94.5%) blood pressures. The result is shown in Table 6.

Table 6 Health status of the samples: blood pressures

Blood Pressure Levels	Number	Percent
Overall		
Systolic BP		
Normal BP	679	84.9
Hypertension	121	15.1
Diastolic BP		
Normal BP	699	87.4
Hypertension	101	12.6
NakhonRatchasima province		
Systolic BP		
Normal BP	337	84.3
Hypertension	63	15.8
Diastolic BP		
Normal BP	342	85.5
Hypertension	58	14.5
Residing in urban areas		
Systolic BP		
Normal BP	189	94.5
Hypertension	11	5.5
Diastolic BP		
Normal BP	195	97.5
Hypertension	5	2.5
Residing in rural areas		
Systolic BP		
Normal BP	148	74.0
Hypertension	52	26.0
Diastolic BP		
Normal BP	147	73.5
Hypertension	53	26.5
Chaiyaphum province		
Systolic BP		
Normal BP	342	85.5
Hypertension	58	14.5
Diastolic BP		
Normal BP	357	89.3
Hypertension	43	10.8

Blood Pressure Levels	Number	Percent
Residing in urban areas		
Systolic BP		
Normal BP	180	90.0
Hypertension	20	10.0
Diastolic BP		
Normal BP	168	84.0
Hypertension	32	16.0
Residing in rural areas		
Systolic BP		
Normal BP	162	81.0
Hypertension	38	19.0
Diastolic BP		
Normal BP	189	94.5
Hypertension	11	5.5

Section 3 Comparisons of health status among older adults from NakhonRatchasima and Chaiyaphum provinces

When comparing the health status among the older adults from 2 different provinces, it was found that the samples who resided in Chaiyaphum province had higher BMI than those from NakhonRatchasima with means of 23.5588 (SD = 3.92679) and 22.3486 (SD = 3.43567) respectively. The samples who resided in Chaiyaphum also had higher systolic blood pressures than those from NakhonRatchasima with means of 126.33 (SD = 13.916) and 120.94 (SD = 15.167) respectively. The differences in means of both BMI and systolic blood pressure were statistical significant with T = 4.639 (p = .000) for BMI and T = 5.232 (p = .000) for systolic blood pressure. The average diastolic blood pressure among older adults from Chaiyaphum (mean = 77.10, SD = 10.620) was not significantly higher than those from NakhonRatchasima province (mean = 75.88, SD = 9.599) with T = 1.704 (p = .089) as shown in Table 7.

Table 7 Comparisons of health status between the two provinces

Health Status	Provinces		t-value	p-value
	NakhonRatchasima	Chaiyaphum		
Body Mass Index (BMI)	22.3486	23.5588	4.639	.000
Systolic BP	120.94	126.33	5.232	.000
Diastolic BP	75.88	77.10	1.704	.089

The comparisons of the health status variables between the samples who resided in urban and rural areas showed that the BMI among the samples from the rural areas was significantly higher than those from the urban areas with T = -2.021 (p = 0.044). The systolic blood pressures among the samples from the rural areas were also significantly higher than those from the urban

areas T = -8.664 (p = 0.000). No significant was found in diastolic blood pressure with T = -0.718 (p = 0.473). The results are as shown in Table 8.

Table 8 Comparisons of health status among older adults who resided in urban and rural areas

Health Status	Residing Areas			
	Urban	Rural	t-value	p-value
Body Mass Index (BMI)	22.6873	23.2202	-2.021	.044
Systolic BP	119.30	127.97	-8.664	.000
Diastolic BP	76.23	76.75	-.718	.473

Discussions

The average age of the samples in this study was 69.05 years (SD = 7.819) and it was similar to a previous health status survey among elderly from inner district of NakhonRatchasima which showed the average age of 70.4 years (SD = 7.51) (Petchprapai, 2015). The samples (n = 485, 60.6%) in this study were classified in a young-old group (60-69 years old) while middle-old and old-old were comprised of 224 (28.0%) and 91 (11.4%) respectively with the majority of females (n = 495, 61.9%). The findings supported the Ministry of Public Health Report (2015) stating that 59 % of the whole aging population was young-old, followed by 31% of middle-old and 10% old-old elderly while the female (53%) remained a higher proportion gender among elderly. Due to the fact that old age is a degenerative period where body and vital organs deteriorate, causing physical and psychological changes as well as greater chances of getting diseases. Male elderly usually had greater risk of getting the diseases due to risk behaviors such as drinking, smoking. It is believed that these factors all contribute to the shorter lifespan among male elderly.

Although the majority of the samples were found to have normal BMI (n = 356, 44.5%), it is concerned, however, that high percent of the elderly were overweight (n = 164, 20.4%), obese level 1 (n = 157, 19.6%), and obese level 2 (n = 33, 4.1%). In this study, a small number of the elderly were found to be underweight (n = 90, 11.3%). This finding supports the Ministry of Public Health (2015) reports that elderly with normal BMI were found only 40 while the greater part of the elderly (47%) are in fact overweight. Another study conducted by Wirojratana (2011) found that the majority of the elderly in the study samples were overweight (67.5%) and obese (46.3), respectively. Abnormal BMIs (both underweight and overweight or over) are associated with health problems especially high BMI is related to diabetes, hypertension, hyperlipidemia, arthritis, etc. Elderly with hypertension may have stroke (both ischemia and hemorrhage) which will eventually lead to disabilities and dependency in the long run.

It was found in this study that the elderly samples who resided in the rural areas had significantly higher BMI and blood pressure than those who resided in the urban areas. The findings supported the results from the study by Atthamaethakul & Sriwilai (2013) who conducted a research

called The Influences of Aging Health in TumbonKoobua, Ratchaburi province and found that elderly who lived in rural areas had worse mental health status than those who lived in urban areas. The result from this study also supported the study done by Park, Jaeoug, & Lee (2015) when the findings showed that living conditions in the urban areas can be predictive factors of health and well-being using self-rated subjective health status. The study showed that males with relatively younger age, living in the urban area, having high salary, working in a business or works that demand physical strengths, having high education, having normal body weight, having regular daily routine would have lower stress level. These factors were combined as a good predictor of self-rated subjective health status scores. The reasons why older adults who lived in the urban areas had lower BMI and blood pressure than those from the rural areas may because those from the urban areas had an easy access to quality food in the food outlet such as supermarket. Studies also showed that older adults aged between 60 and 90 years old who lived in the urban area consumed lower calorie food. It was found that the frequency of supermarket shopping was positively related to the quality of food provided (Deierlein, Morland, Scanlin, Wong, & Spark, 2014).

Recommendations

It is recommended from this study that health professionals in health care facilities that located in rural areas should pay more attention in promotion and prevention of the health among the older adults since overweight and obesity as well as hypertension are all related to health problems such as diabetes, kidney diseases, heart diseases, stroke, etc.

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Factors Relating Depression Among Adults With Chronic Illness In Purwokerto, Central Java,Indonesia

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Abstract: Depression is common mental disorder that found in adults with chronic illness. The number of depression among adults with chronic illness is increasing worldwide and particularly in Indonesia. Therefore, studies have shown strong associations between illness perception, illness uncertainty, and depression; but the different findings of studies investigating the effect of individual characteristics. The findings of this study will be useful as supporting data for local health care providers to develop future intervention programs and to design new strategies to reduce depression and to promote well-being among adults with chronic illness. This study was designed to identify factors relating depression among adults with chronic illness in Purwokerto, Central Java, Indonesia. A cross sectional design was used with total sample 283 adults with chronic illness, aged from 36 until 59 years old were required. Multi-stage random sampling was used in Public Health Centers of Purwokerto. Instruments included socio-demographic questionnaires, the Brief Illness Illness Perception Questionnaire, and Major Depression Inventory (MDI). Pearson product moment correlation were used for analyzing data. The result revealed that 62.2% respondents was no depression and 37.8% respondents was depression (Mean = 17, SD = 8.380). Age and duration of illness were not significantly relationship with depression among adults with chronic illness in Purwokerto, Central Java, Indonesia. Illness perception and social support were positive significantly relationship with depression among adults with chronic illness in Purwokerto, Central Java, Indonesia (p- value < .01).

Keywords: *factors relationship, depression, illness perception, social support*

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I. INTRODUCTION

Depression is a common mental disorder that significant contributor to the global burden of disease and affects people in all communities across the world. Statistically data reported that at least 350 million people affected depression and almost 1 million were death yearly due to suicide (World Mental Health Survey, 2012). Depression can be a risk factor to other illness, on the other hands; depression can be influenced by other health problem particularly for people with chronic illness (Srivastava, 2012). World Depression Health Center in 2014 reported that globally there was increasing number of depression in people with chronic illness from 25% in 2013 to 33% in 2014 (World Depression Health Centre, 2014). Therefore, without any action, this highly increasing of depression in adultss with chronic illness will be in worse situation, even can lead to unsuccesfull treatment or prevention of complication in chronic illness people.

Chronic illness is defined as a human experience of illness and suffering at least six months (Lubkin *et al*, 2009). Its may affect a person's mobility, independence, way of life, self perception, and interpersonal relationship (Fishleder *et al*, 2009). Chronic illness naturally leads people to feelings of uncertainty, grief, sadness, anger or fear. Its would come continuesly and disturb to their normal life, further influence them to depression (Anderson et al., 2001; Tylee & Gandhi, 2005).

Regarding to the personal characteristics, many studies were identified its relationship with depression in adults with chronic illness. Previous studies found that age were relationship to depression (Ranhoff, 2010). However, studies found that age were negatively associated with depression (Greco, 2013). Duration of having chronic illness is a factor that affects depression in adults with chronic illness. Several studies (Tylee and Gandhy,2005; Piete et al, 2007; Monroe, 2014) indicated that duration of having chronic illness was relationship to depression in adult with chronic illness. In contrast, a study was found that duration of having chronic illness has no relationship with depression in adults with chronic illness (Neville, 1993).

Illness perception can be one of influenced factor in individual's depression (Broadbent, 2006). A study by Iskandarsyah (2013) found that illness perception relationship to negative emotion that can continued as depression. Patients who perceived their illness as chronic or associated with negative consequences very frequently reported higher levels of depression (Tsay, 2002). Social support could help individual by providing alternative meanings of illness, suggesting for coping, assisting to develop specific intervention to reduce depression (Fishleder, 2009). Higher social support can reduce depression experienced, in contrast people with lower social support may present higher depression experienced (Greco, 2012). Social support can reduce depression directly and indirectly by facilitating information seeking and encourages reappraisal (Graff, Helzen, Romild & Stordal, 2011; Brashers et al., 2004; Mohr DC, Classe & Barrera, 2004). Therefore, study about social support are important to identify as predictors in depression.

The results of this study will be beneficial to health care providers, family and adults with chronic illness in Purwokerto to use as guideline towards developing interventions to decrease the

depression in adults with chronic illness and also its complication. Moreover the results of the study can be used as baseline data for Department of Health in Purwokerto and health centers to be awarded of prevalence and factors that effected to depression among adults with chronic illness.

II. METHODOLOGY

This study was cross-sectional design conducted among adults with chronic illness in six PHC including PHC Purwokerto Utara 1, PHC Purwokerto Utara 2, PHC Purwokerto Barat, PHC Purwokerto Selatan, Purwokerto Timur 1, Purwokerto Timur 2 in Purwokerto, Central Java, Indonesia during the months of August – September 2015. Independent variables included age, gender, occupational status, and illness perception; whereas, the dependent variable is depression among adults with chronic illness. The hypotheses of the study are there were relationships between age, gender, occupational status, illness perception with depression among adults with chronic illness.

The sample size of the study was 283 adults with chronic illness including hypertension, diabetes mellitus, heart disease, and stroke at least 6 months which selected by purposive sampling. The inclusion criteria were adults who have aged 36 until 59 years old, willingly to participate in this study, able to speak, read, and write in Bahasa Indonesia. Whereas, the exclusion criteria were adult who hospitalized during the data collection and diagnosed with all type of mental illness.

In this study, depression was devided into two catergories based on Major Depression Inventory Scoring. The lower level of depression scale was 0 – 19 means no depression and 20 – 50 means depression. Age was ranging from 36 to 59 years old. Duration of illness was start from 8 months to 20 years. Illness perception devided into three categories including poor perception ($\leq$ 47), fair perception (48 – 63), and good perception ($\geq$ 64). Social support was classified into three categories oncluding high ($\geq$ 67), moderate (50 – 66), and low ($\leq$ 49).

The data were collected by researcher and trained Health Assistant. They were trained about data collection procedure. Before the completed self administered questionnaires, participants were asked to read the information sheet and sign an agreement consent form. Participants were given time about 30 – 45 minutes to complete the questionnaires. Besides demographics data, the resulting self-administered questionnaires included questions addressing depression and illness perception.

The questionnaire is also prepared consistent with the objective of this research and three experts (1 from Thailand and 2 from Indonesia) was validated the content of the questionnaires. The reliability of the questionnaires to assessed illness perception, social support, and depression were tested. The Cronbach's alpha coefficients were .895, .965, and .782.

Data were coded, validated and analyzed using SPSS (version 21). Descriptive statistics were used to measure the contribution of demographic data (numbers, mean, percentage and standard deviation). The Point-biserial correlation coefficient was used to test the relationships between age, duration of illness, illness perception, social support with depression among adults with chronic illness.

The study received the approval of the Research Committee of the Ethical Review Board for Research Involving Human Research Subjects, Boromarajonani Collage of Nursing NopparatVajira (ERB, BCNNV) committee.

III. RESULTS

This part explains the general characteristics of the general characteristic of the participants including age, gender, duration of illness, level of education, income, and occupation.

Table 1. Number and percentages demographics data of participants (N = 283)

Demographic data	N	%
Age		
36 – 47	93	32.9
48 – 59	190	67.1
Mean ±SD = 50 ± 6.12.		
Diagnose		
Hypertension (only)	104	36.7
Diabetes mellitus (only)	96	33.9
Heart disease (only)	30	10.6
After stroke (only)	7	2.5
2 or more diagnoses	46	16.3
Duration of illness		
0 – 5 years	155	54.8
>5 years	128	45.2

Table 1 displayed that pparticipants' age of this study were range from 36 to 59 years old (mean = 50, SD = 6.12). Most of the participants were diagnosed with hypertension (50.5%) followed by diabetes mellitus (33,9%), multiple diagnoses (16.3%), heart disease (10.6%), and stroke (2,5%). The majority of illness duration of the participants was 0 – 5 years (54.8%) followed by who have duration of illness more than five years (45.2%).

Table 2. Number and percentages of depression (N = 283)

Variable	Number (n = 283)	Percentage (%)
Depression		
No depression (0-19)	176	62.2
Depression (20-50)	107	37.8
Mean ± SD = 17 ± 8.380, Range = 0 to 38		

Table 2 showed that depression was devided into two categories, including no depression and depression. Classification was based on summation of score in each statement. Results found that ppercentage of the participants with no depression was higher than those with depression with mean score was 17 (SD = 8.380). Most of the participants were no depression (62.2%) followed by praticipants who depression (37.8%).

Table 3 Number and percentage of illness perception (N = 283)

Variable	Number (n = 283)	Percentage (%)
Illness perception		
Good (≤ 47)	211	90.5
Fair (48 – 63)	27	9.5
Poor (≥ 64)	0	0
Mean ± SD = 38 ± 8.335, Range = 9 to 58		

Table 3 showed that illness perception was categories into three levels including good (≤ 47), fair (48 – 63), and poor (≥ 64). Almost all of the participants perceived their illness in good status (90.5%) and followed by participants who perceived their illness in fair status (9.5%).

Table 4 Number and percentage of social support

Variable	Number (n = 283)	Percentage (%)
Social support		
High (≥ 67)	237	83.7
Moderate (50 – 66)	40	14.1
Low (≤ 67)	6	2.2
Mean ± SD = 72 ± 8.684, Range = 24 to 84		

Table 4 showed that the majority of the participants had high social support in facing their chronic illness. Social support was devided into three categories, including high social support, moderate social support, and low social support. Mean of the social support score was 72 from the total score of 84 (SD = 8.684). Almost all of the participants (83.7%) stated that they got high social support followed by the participants who stated that they got moderate support (14,1%), and the participants who got low social support (2.2%).

Table 5 The correlation between age, gender, occupational status, illness perception with depression among adults with chronic illness.

Variables	Depression	
	R	***p-value***
Age	-.036	.547
Duration of illness	.035	.559
Illness perception	.296**	<.01
Social support	.151*	<.05

Note: **p < .01, *p<.05

Table 5 showed that age and duration of illness were not significantly relationship with depression among adults with chronic illness (*p*- value > .05). Furthermore, social support were significant relationship to depression (*p* -value < .05) and illnes perception were positive significant relationship with depression (*p* -value < .01).

IV. DISCUSSION

The result showed that majority adults with chronic illness in Purwokerto was no depression. A very limited studies regarding depression in chronic illness in Purwokerto have not been reported yet. These results can be the new information to the goverment and health care services. However, this results might influenced by many reason including the culture of Indonesian which still introvert when they have to talk about their mental illness and some of the PHC program which didn't focus yet to the mental illness prevention especially in chronic illness person.

This study showed that age and duration of illness were not significant relationship with depression among adults with chronic illness. Its contrast, previous studies found that age and duration of illness were related to depression (Ranhoff, 2010; Greco, 2014). Studies about personal characteristics on depression comparing in three adults groups found that higher age have contribute to suffered from depression (Ranhof, 2010). Several studies (Tylee and Gandhy,2005; Piete et al, 2007; Monroe, 2014) indicated that duration of having chronic illness was related to depression in adult with chronic illness. These result might be caused by some reasons, including the high range of illness duration in this study (8 months to 20 years). Theoritically, longer duration of having chronic illness would increase depression (Tylee and Gandhy,2005; Piete et al, 2007; Monroe, 2014). However, as people have realized that chronic illness couldn't totally cured, so they made their adaptation ability in facing chronic illness year by year.

This study showed that illness perception has significant relationship with depression among adults with chronic illness. Its supported by several studies which stated that illness perception have significant relationship with depression among adults with chroni illness (Broadbent, 2006). A study

found that higher illness perception was related to higher depresion in adults with chronic illness (Husson, 2013). These condition could explained by illness perception as perceptions of physiological illness, symptoms, and functional inability. So, whatever that people perceived about their illness, it can contribute to subsequent emotional and behavioral responses.

The result showed that social support has significant relationship with depression among adults with chronic illness. its supported by studies which stated that social support have significant relationship with depression among adults with chronic illness (Fishleder *et al*, 2009). Social support could help individual by providing alternative meanings of illness, suggesting for coping, assisting to develop specific intervention to reduce depression. Social support can reduce depression directly and indirectly by facilitating information seeking and encourages reapraisal (Greco, 2014). These finding also supported by the culture of Indonesian which have high social support. Its can explained by most of Indonesian have living together and support each other among family members including to facing chronic illness. Indonesian have living in the supported surrounding which provide some of information, financial source, and emotional support to the family member who have problem in their family.

Strength of study is this study was adopted Mishel's Uncertainty in Illness model as guideline to find the predictors of depression among adults with chronic illness in Purwokerto, Central Java, Indonesia. This study using a set of questionnaire with acceptable standard of reliability and was designed to be appropriate to cultural value of Indonesian people. Furthermore, the WHO translated process was used in this study to provide a proper set of translated questionnaire. This process also involved participants who gathered to discuss the questionnaire before the data collection as the part of translation process to made the questionnaire was easier to fill in data collection process.

Although all the objectives had been met in this study, but there were some limitations in this study. First, as the data were collected in Public Health Center (PHC) where participants received their treatment and under such environmental circumstances. It might be influence the participants' responses to the questionnaire. Moreover, the finding could not be generalized for the population of the adults with chronic illness who did not come to PHC. Second, the questionnaire was using self administered questionnaire method which have higher possibility in missing data.

Recommendation for further research should be conducted a real community situation not only in PHC and involve psychiatric to make a direct intervention in depression among adults with chronic illlness. Also, for the Ministry of Health of Purwokerto as a policy maker is needed to provide special intervention to treat chronic illness patient in reach wellness.

V. CONCLUSION

There was statistically significant relationship between income, occupation, and illness perception with depression. Adults who have higher illness perception will perform depression. However, age and

gender were not significantly associated with depression. This finding can be as a reference to implement new strategies to decrease depression among adults with chronic illness.

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Influence of media use on altruistic behaviors: A survey of media use in 36 cities in China[1]

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Abstract

Mass communication activities present to the audience a pseudo-environment through information selection, processing, reporting, and reconstruction, which deviates from the objective reality. The pseudo-environment shaped by different media platforms vary, and it directly or indirectly influence the audiences' psychological cognition and social behaviors. This study aims to describe Chinese urban residents' media use and investigates the effect of different media habits on altruistic behavior. The sample of the study consists of 1080 residents from 36 cities in China. The sample was weighted according to the age and gender distribution of China's census data. Participants of 30 - 44 years old accounted for the highest proportion (30.8%) and 50.7% are males. The results showed that (1) Internet has the highest penetration rate compared to other media (76.1%), and those who use Internet for 1-2 hours per day is the highest (17.7%); (2) participants' media use is multifarious and 69.8% spend time on traditional media and new media at the same time (including television, newspapers, and Internet, etc.); (3) Internet use is negatively correlated to altruistic behavior ($r = -0.10$, $p < .01$); (4) the mediation analysis showed that time spent on Internet have a direct and negative effect on social perception and interpersonal trust ($\beta = -.295$, $p < .001$; $\beta = -.127$, $p < .05$) and indirectly reduce altruistic behaviors.

Keywords: Media use; Altruistic behavior; Social Perception; Interpersonal trust

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Introduction

Scholars have done a lot of investigations and research on altruistic behaviors. According to the views of the sociologists and psychologists, the altruism is from the interests of others, and it is a spontaneous behavior with no obvious selfishness.

Human exists in a dual environment of society and nature. Therefore, altruistic behavior is generated under the dual effects of natural selection and social culture choice. The impact of socio-cultural value selection on human beings' altruism had exceeded the limits of natural selection acts. It avoids human beings' obvious tendency of self-interest to some extent.

The topic of "How do media development and transition influence the users' altruistic behavior" is the subject of this paper. Based on the literature and empirical research, the author carried out the preliminary exploration to the relation between media use and altruistic behavior with the influence of the mediators (i.e., social cognition & interpersonal trust).The purpose of altruistic behavior study is not only to add a indicator to evaluate social development, but also to improve interpersonal relationships.

Media Use and Altruistic Behavior

Many scholars are interested in individual media usage habit, they regard it as media users' personal character to do other aspects of analysis. In July 2015, the China Internet Network Information Center released "Thirty-sixth China Internet Development Statistics Report". According to the data of the report, the total number of Chinese Internet users has reached 668 million. With the development of China's Internet, it has preliminarily accomplished the "comprehensive networked" life. The means of public access to information is not limited to the fixed broadcast TV, radio program, and daily newspapers. Medium multivariate combination and the change in the way of gaining information have prompted public media usage habit to become fragmented.

Media has been used in our personal daily life. As we know, "perceptual world" is a material world in which all the statements are based on entity. Lippmann suggested that news media is a bridge between "the outside world and the pictures in our mind". When it came to the effect of new media, Lippmann put forward the concept of mimicry environment. Mimicry environment is the view of the world exists in our mind. With the increasing amount of information and the convenient access to information, most people's information is no longer attached to the perceptual experience. Therefore, our act is just the reaction to the pseudo environment, instead of the response to the real world.

Along with the development of information exchange methods, such as P2P, forum and Wiki, more altruistic behavior was listed on the Internet. Different from the real society, network society has its own outstanding characteristics. Some scholars consulted the study of altruistic behavior in the field of Social psychology, and discussed the motivation of altruistic behavior in network. While some other scholars induced the specific content of altruistic behavior and classified the forms of altruistic behaviors. There were also scholars to study the influence of the network community characteristics, social capital, convenient factors, as well as the browsing characteristics on the Internet altruistic behavior. Thus it can be seen that Chinese scholars mainly focused on the Internet when they study on the relation between the media use and altruistic behavior. Meanwhile, there were relatively more feature description and experience summary instead of systematic demonstration.

The Role of Social Perception and Interpersonal Trust

Humans' moral quality and sympathy are two important factors that affect altruistic behavior. Moral behavior and sympathy are closely related to the sense of general identity. Although it is believed that media affect the altruistic, but the mechanism is not clear. In this paper, the author assumed that social perception and interpersonal trust were two mediators of the link between media use and altruistic behavior.

Media Use, Social Perception, and Interpersonal Trust.

Scholars had already considered and validated the relation between media use, social perception and interpersonal trust. Contemporary social theory pointed out that the self-description of all members of the social category is the social identity, which included interests and consistency of their status identity, social trust and sense of belonging on the surrounding, etc. Generally speaking, the mass media in China always bears the duty to construct the mainstream ideology, which includes social cohesiveness and national identity. At the same time, the trust in interpersonal relationship is a positive response to situation. Different media users have different trust evaluation in interpersonal relationship, for instance, mobile phones, Internet and other new media's influence on trust evaluation was greater than traditional media such as television, newspapers. Moreover, different medium variables have different influence on social trust evaluation, compared with the variable of Media Dependency, variables of media use have more predictive power for trust evaluation.

Social Perception, Interpersonal Trust, and Altruistic Behavior.

As was verified by scholars, the level of interpersonal trust and altruism presents positive correlation. Good social perception, interpersonal trust will improve the individual altruistic behavior. American psychologist Lener first put forward the concept of "Belief in a just world ", which means "Individuals believe that they live in a world of justice, in which everyone gets what he deserves." Under the action of this belief, everyone believes his physics and the physical environment is stable and in good order. In 1999, DePalma and Madey proved that the higher individual holdings of just world belief, the stronger motivation to help others.

Xie Jin (2010) in his paper pointed out that individual altruistic behavior was proportional to the interpersonal trust and empathy. Individuals with high interpersonal trust and empathy presented higher level of altruistic behavior. Path analysis results showed that the structure of altruistic behavior had four aspects: high interpersonal trust, high empathy, low self-centered, and low Machiavelli.

Research Hypothesis

In this study, the author paid more attention to (1)the influence of the traditional media and new media (newspaper, TV, Internet) and the different combination of media use on the individual altruistic behavior; (2)which factor play a role in this process;(3)how to promote social altruistic behavior through the characteristics of the media.

Specific research hypotheses are as follows. Hypothesis 1: the use of media has a significant effect on altruistic behavior; Hypothesis 2: the use of media has a significant effect on social perception; Hypothesis 3: the use of media has a significant effect on interpersonal trust; Hypothesis 4: both social perception and interpersonal trust have significant effect on altruistic behavior; Hypothesis 5: social perception and interpersonal trust are the mediators of the relationship between media use and altruistic behavior.

Research Methods

(a) Sampling Design

The survey population is the permanent resident age between 16 and 84 in China. This survey used multi-phase composite sample. In the first stage, we selected four municipalities directly under the central government, 27 provincial cities, five cities under separate state planning from cities in China. The second stage, we adopted "Random number dialing" (RDD) sampling method and extracted 30 respondents in each city to inquire. Finally, we got 1080 samples. The third stage, according to China's sixth census data in gender, age distribution, we weighted the sample data.

(b) Sample Structure

For the means of telephone survey, the sample is younger than the real population distribution in china. Moreover, the majority of the respondents of mobile phone users and phone users are men. Therefore, there are more young men in our samples. In order to make the sample analysis more accurate and have a national universal conclusion, we weighted the sample according to the gender and age distribution of the sixth census. After the elimination of the "not disclosed" sample, the calculations of the proportion of all types of respondents are as table 1.

Table 1: Sample demographic information

	before weighted	After weighted
ex	Male 65.6%, female 34.4%	Male 50.7%, female 49.3%
ge	Age under 20 years8.1%, 20-29 years old 48.1%, 30-44 year old 31.1%, 45-59 year old 8.8%, 60 years old and above 3.9%	Age under 20 years9.0%, 20-29 years old20.7%, 30-44 year old30.8%, 45-59 year old24.1%, 60 years old and above 15.4%

(c) Measure

Social perception scale includes 3 questions on different aspects is used to measure the respondents' degree of recognition of the community. In the same way, higher scores indicate a higher degree of personal social identity. Interpersonal trust scale is used to measure the trust of interpersonal relationship. The rating of the scale is from 1 (not trust at all) to 5 (very trust) points. Table 2 shows the index and the scales in this analysis. Reliability (α) of scales are all higher than 0.7.

Table 2: The variables and the scale composition

variable(max, min)	connotation	Specific topics
Media use (0,9)	The time respondent uses different media per day	1. Average daily exposure to the newspaper
		2. Average daily exposure to the TV
		3. Average daily exposure to the Internet
Altruistic behavior Reliability-Cronbach's Alpha=0.773 (6,30)	Measure of altruistic behavior，according to the respondents' own concept of choice	1. You would try to help the people around you.
		2. You would do your best when you were asked for help.
		3. When you take a bus, you would like to give your seat to the elderly and the pregnant.
		4. When your company or school call for donations, you usually do not hesitate to donate money.
		5. If someone is in danger and the surrounding people were indifferent, you are willing to help.
		6. If an old man fell over, you are willing to help.
Social cognition Reliability-Cronbach's Alpha=0.778 (3,15)	Measure of social cognition，test respondents' identification degree of social harmony	1. Real society is harmonious.
		2. Real society is safe.
		3. Real society is fair.
Interpersonal trust Reliability-Cronbach's Alpha=0.745 (7,35)	Measure of interpersonal trust，according to the respondents' own degree of trust	1.Trust in colleagues
		2. Trust in leadership
		3. Trust in classmates
		4. Trust in neighbors
		5. Trust in friends
		6. Trust in family
		7. Trust in relatives

Research Results

The comparative analysis on altruistic behavior of residents with different media use habits

Through the analysis of sample data, 51.7% of respondents don't usually read newspaper. Respondents who read newspaper every day less than 1 hour accounted for 41.2%. On the whole, the respondents read newspaper on average for 0.33 hours a day. For majority of residents, television is a means of daily leisure. The time distribution of television use is more scattered. For urban residents, the use of television is unlike that of newspapers which only focus on the interval of less than 1 hour. There were 26.3% respondents do not watch TV. People who watch television for less than 1 hour a day accounted for the highest proportion of respondents (31.7%). Internet users customarily spent 1 to 2 hours (17.7%), 2 to 3 hours (13.3%), and less than 1 hour (11.2%) on Internet.23.9% of respondents did not use Internet, respondents who spent more than 3 hours per day on Internet accounted for 33.9%.

For Different media users' altruistic behavior score, the variance analysis results (Levene statistic = 1.958, $p = 0.058 > 0.05$; $F = 3.660$, $p = 0.001 < 0.05$) showed that significant difference existed among different groups of respondents. Diagram is as Figure 1.

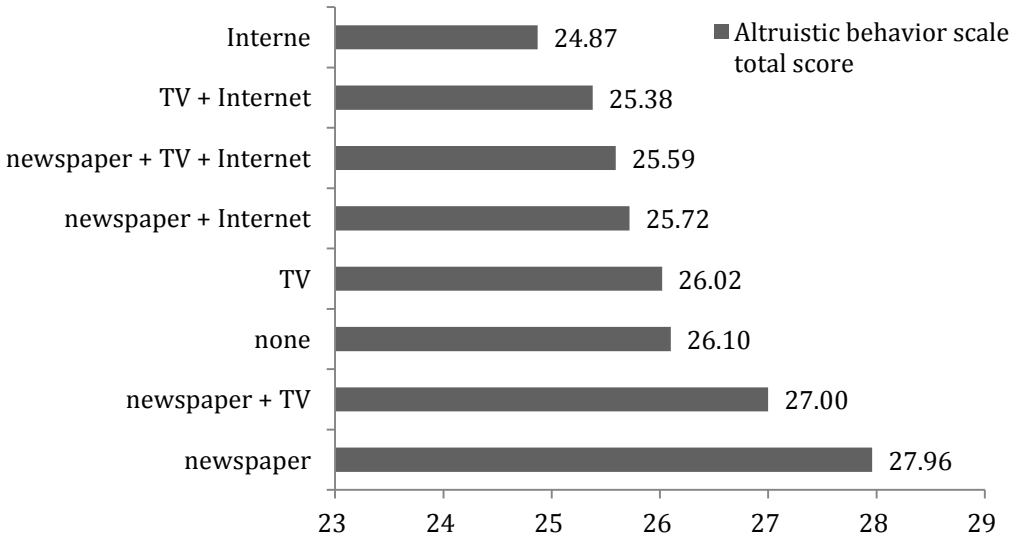

Figure 1: Altruistic score of different media used groups

The altruistic behavior scale scores from high to low are as follows. Newspaper (altruistic behavior scale score of 27.96), newspapers and TV (27.00), none (26.10),just watch TV (26.02), newspaper and the Internet (25.72), Newspaper and television and the Internet (25.59), TV and the Internet (25.38),just Internet (24.87).

Table 3: The respondents' media use habits and the total score of altruistic behavior scale

Media type	**Proportion (%)**	**Altruistic behavior score**
Newspaper, Television, Internet	29.7	25.59
Television, Internet	23.3	25.38
Internet	16.4	24.87
Newspaper, Television	10.3	27.00
Television	10.3	26.02
Newspaper, Internet	6.5	25.72
Newspaper	1.8	27.96
None	1.7	26.10

Mediation model of media use and altruistic behavior

(a) Correlation Analysis

Table5 presents the means, SDs, and inter-correlations of all variables in the present study. After all variables standardized, the correlation analysis is carried out. Table 4 shows the correlation coefficient between the variables involved in this study. Respondents' social cognition(r= -0.285, p=0.000), interpersonal trust(r= -0.097, p=0.012) and altruistic behavior(r= -0.101, p=0.004) all have significant negative correlations with their time spent on internet. Respondents' social cognition(r=0.261, p=0.000) and interpersonal trust(r=0.215, p=0.000) both have significant positive correlations with their altruistic behavior. According to table 4 correlation analysis results, we found a significant correlation between new media (Internet) use, altruistic behavior, social cognition and interpersonal trust. Furthermore, the author probed the influence of internet on the individual altruistic behavior.

Table 4: Means, SDs and Inter-correlations for Study Variables

Variable	Mean (SD)	Correlation coefficient					
		Newspaper	TV	Internet	Altruistic behavior	Social perception	Interpersonal trust
Newspaper	-	1	.233***	-.127***	0.001	0.059	0.061
TV	-	.233***	1	-.216***	0.055	**.240*** **	-0.023
Internet	-	-.127***	-.216***	1	**-.101** **	**-.285*** **	**-.097***
Altruistic behavior	25.638 3.721)	0.001	0.055	-.101**	1	**.261*** **	**.215*** **
Social perception	9.956 （2.860）	0.059	.240***	-.285***	**.261*** **	1	**.278*** **
Interpersonal trust	26.740 （3.496）	0.061	-0.023	-.097*	**.215*** **	**.278*** **	1

Note: ***. At the 0.001 level (bilateral) is significantly ; **. At the 0.01 level (bilateral) is significantly ; *. At the 0.05 level (bilateral) is significantly.

(b) Regression analysis

Three equations were tested using multiple regressions. In the first place, altruistic behavior was regressed on Internet usage to establish that there was an effect to mediate (path c in Figure 2a). Secondly, social cognition (or interpersonal trust) was regressed on Internet usage to establish path a_1 (or a_2) (Figure 2b) in the meditational chain. In the third equation, altruistic behavior was regressed on both Internet usage and social cognition (or interpersonal trust). This provided a test of whether social cognition (or interpersonal trust) was related to altruistic behavior (path b_1 or b_2) and an estimate of the relation between Internet usage and altruistic behavior controlling for social cognition (or interpersonal trust) (path c_1' or c_2'). To demonstrate that social cognition (or interpersonal trust) functioned as a mediator in this model, the strength of the relation between the predictor (e.g., Internet usage) and the outcome (e.g., altruistic behavior) should be significantly decreased (compare path c in Figure 2a with path c_1' in Figure 2b).

The statistical significance of this decrement in predictive power can be tested (Baron &Kenny, 1986; Frazier, Tix, & Barron, 2004). The difference in paths c and c'is equal to the product of paths a and b, and the statistical significance of the difference between c and c' can be estimated by testing the significance of the products of path a and b (Frazier et al., 2004). Shrout and Bolger (2002) also suggested another way of describing the amount of mediation, which was in terms of the proportion of the total effect that was mediated as defined by ab/c. This method did not test the statistical significance of the mediated effect; rather, it provided a way of describing the amount of mediation.

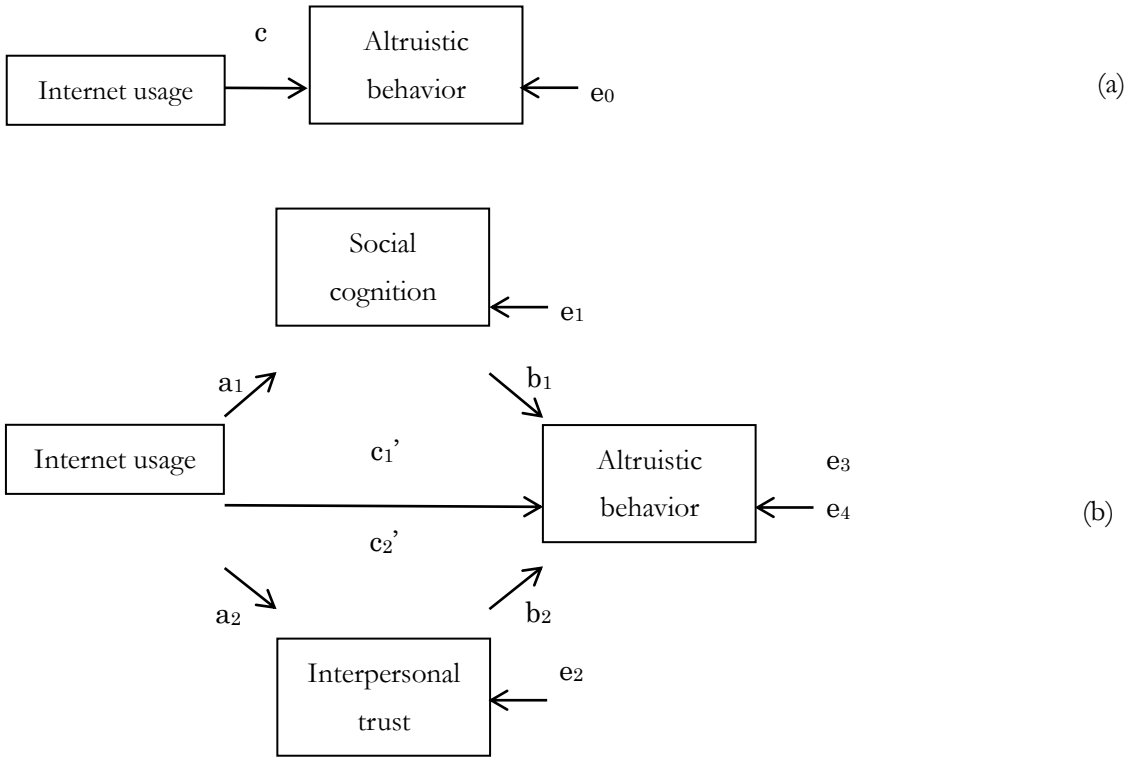

Figure 2: Model path diagram of hypothesis

Table 5 presents the analyses necessary to test the hypothesized model with social cognition (or interpersonal trust) as a mediator. Internet usage was significantly associated with altruistic behavior (B = -0.138, b = -0.101, $p < .01$), path c was significant and requirement for mediation in step 1 was met.

Internet usage was also significantly associated with social cognition (B = -0.295, b = -0.285, p < .01) and interpersonal trust (B = -0.127, b = -0.097, p < .05), and thus the condition for step 2 was met (path a_1 and a_2 was significant). Social cognition (or interpersonal trust) was significantly associated with altruistic behavior controlling for Internet usage (B = 0.327, b = 0.252, p < .01) and (B = 0.236, b = 0.210, p < .01). Path b_1 and b_2 was significant and condition for step 3 was met. This third regression equation also provided an estimate of path c_1' and c_2', the relation between Internet usage and altruistic behavior, controlling for social cognition (or interpersonal trust). There was a reduction in path c_1' and c_2' (B = -0.042, b = -0.031, p > .05) & (B = -0.081, b = -0.054, p > .05), indicating mediation.

Table 5: Regression equation to verify social perception and interpersonal trust as mediator

	Steps in testing for mediation	Path		E B	b
M_1- Social perception	1. Outcome: altruistic behavior Predictor: Internet usage	Path c	0.138	.047	-0.101**
	2. Outcome: Social perception Predictor: Internet usage	Path a_1	0.295	.031	-0.285***
	3. Outcome: altruistic behavior Mediator: Social perception Predictor: Internet usage	Path b_1	.327	.046	0.252***
		Path c_1'	0.042	.048	-0.031
M_2- Interpersonal trust	1. Outcome: altruistic behavior Predictor: Internet usage	Path c	0.138	.047	-0.101**
	2. Outcome: Interpersonal trust Predictor: Internet usage	Path a_2	0.127	.050	-0.097*
	3. Outcome: altruistic behavior Mediator: Interpersonal trust Predictor: Internet usage	Path b_2	.236	.046	0.210***
		Path c_2'	0.081	.061	-0.054

For two intermediate variables (social cognition and interpersonal trust), the product of paths a and b in equation of m=ax+e and y=c'x+bm+e were statistical significant. According to Baron & Kenny(1986), Sobel(1982), Goodman(1960), Mackinnon, Warsi, Dwyer(1995), the author used the product of paths a and b to do Sobel test[3] in order to determine whether it is partial mediation or complete mediation. The author put the standard error Sa and Sb into the formula and calculated the critical ratio to verify that the indirect effects of Internet use, after an intermediary role, on altruistic behavior was significantly different from 0. For our study (t_1=-5.695, p<.05, t_2=-2.276, p<.05), thus, social

[3] Sobel test equation

z-value = a*b/SQRT(b2*sa2 + a2*sb2)

cognition and interpersonal trust were a statistically significant mediators. According to the non-standardized regression coefficients in table 6, the product of c'_1 is -0.042 and that of c'_2 is -0.081, and both p values are more than 0.05 , thus, they were all complete mediation effect.

Discussion

Results of the study demonstrated the media use of urban residents in China presents a diversified trend. Social perception and interpersonal trust played an intermediary role between personal internet use and corresponding altruistic behavior. These findings showed the mechanism of the effect of Internet use on altruistic behavior. The individual Internet media has no direct effect on altruistic behavior, while it weakened the altruistic behavior by reducing the social perception and interpersonal trust of the individual.

In this paper, the results were consistent with the research and theoretical basis (Yang Chen, 2007) that the use of the Internet weakened altruistic behavior while social perception and interpersonal trust promoted altruistic behavior. So far, these relationships had been verified independently. However, in this paper, it was an attempt to use large-scale samples combined with the analysis of mediating effect.

These results had a meaning for promoting the residents' altruistic behaviors and avoiding the reduction of their social perception and interpersonal trust. Sometimes, it could be effective only by reducing the use of the Internet or screening out bad information on the Internet. However, changing people's personality and attitude could only improve their altruistic behavior for a short time. To achieve lasting and effective result, it is needed to improve the social perception and interpersonal trust. Although they are not easily to be changed, they are still malleable. The analysis showed that the combination of media use and the improvement of social perception and interpersonal trust may have the greatest positive effect on individual altruistic behavior.

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Using the Media to Contribute Human Relations in the Family and Focus on Attitudes of Youth in Bangkok[1]

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Abstract

The aim of this research was to study "Using the media to contribute human relations in the family and focus on attitudes of youth in Bangkok". The methodology of this study used the qualitative method by using in-depth interviewing to acquire the information from 146 youths, aged between 18-22 years who live in Bangkok.

The results showed that most communications in the family are three sequential kinds 1) interpersonal communication 2) telephone communication 3) online communication or communication on the internet. For this study, communication in different ways will be the opportunity to discuss, advice and contribute human relations in the family at various times during the day or even in the far distance, it also maintain more relationships in any occasion. In conclusion, using communication tools can still contribute human relations in the family.

Keyword **Media/ Human relationships**

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Introduction

"Family" is the social institute and it is undeniable that family effects to both physically and mentally growth. Though parents take care of children, cultivate their basic lives support and develop learning opportunity, the key factors are affection, warmth and good human relations in the family.

Currently, Thai family has more change and less interpersonal communication. According to the information technology about woman and family project (2007 cited in Jiraporn Chompikul: page 1, 2009) stated that "Thai family has changed in various issues such as family structure become a single family which parents have to work so they have less time, less support, ignore mental health care, leave their children alone to deal with stress.

The accidental family or unready new family caused by pregnancy will increase an abandoned baby and other social problems. Moreover, the increasing of migration to work in the city effects to the older people who live in the rural area with poverty and difficult to take care of children as parents and grandparents can do. Children will starve, grow up in poverty and point to the cycle of drugs and thugs. In addition, the older people who live longer by the innovation of medicine and public health need more family care from the younger people. For these reasons, they effect to the human relations in Thai family.

From the above information, it shows that Thai family was changed from previous and there is less interpersonal communication in the family nowadays so it is interesting to study on media to contribute a relationship. "Media" and "Communication" in a timely manner should be a part of better human relations in the family.

Objectives of study

To study youths' patterns of media use to contribute human relations in the family

Statements of problem

How does Thai youth use the media to contribute human relations in the family?

Expected result

1. Understand youths' patterns of media use to contribute human relations in the family 2. Guideline to use the media to contribute human relations in an appropriate manner

Scope of this study

This research focus on related issues as the following;

1. For scope of samples and sampling area, the researcher focus on finding information to contribute human relations of Thai youth in the family in Bangkok only. Due to research result showed that youth who live in Bangkok area use a variety of media than others who live in the upcountry.

2. This researcher focus on media linked to the concept of human relations in the family only because it is a main point of this research.

Literature review:

This research is based on media and human relations theory to study and analyze media to contribute human relations in the family. It can be explained in brief the concept of human relations as the following;

The Concept of Human Relations

"Human Relations" is an important issue to people who live together in a society and it is a lecture course in an academic institutions at various levels or a training course in an organization which requires the employee to learn how to live well with others. The definition of Human Relations will be shown as following;

Vichit Varutbangkul (cited in Vipaporn Mapobsook: p.12, 2000) stated that "Human Relations means sciences and arts of relationship contribution which bring the acceptant, co-operation to reach out the expectation goals. Human Relations is a skill to meet human needs. Due to human is a social animal, it is necessary to adjust themselves and interdependence. In academy definition (Nipon Kanthasevi: p.1, 1985) is "The condition of human to live together in peace and harmony or work together effectively and efficiently with human satisfaction".

In addition, Vichit Avakul (1999: 26) informed that "Human Relations is a human contact. It is a bridge to motivate, lead a friendship, develop one to be a beloved person, co-operated by all parties, present as a good persons in the society and demonstrate key aspects of leadership in the future. "

From these definitions, it can be concluded that human relations is a type of communication lead to a good interpersonal relationship and contribute to meet the needs of others. In addition, it can be informed that if we know how to contribute human relations, we will also have a good relationship at all levels.

Moreover, Bentley Barnabas (1991) explained a new way to contribute human relations by focusing on understanding human behavior. There are six main aspects to be demonstrated more powerful to deal with people;

1. People manner conducted by the condition of experience.

2. Those conditions were a result of human instinct to meet one's needs.

3. If we categorized and set the right sequence, we will find that human needs is not complicated at all.

4. To learn everything about a person to help us understand and able to predict their behavior.

5. Human mind is part of the body and its conditions are valuable to both physically and mentally.

6. To touch the mind route, it must pass through the sensation of organs.

Six main aspects of Bentley Barnabas are a part of study to analyze which is related to interpersonal human relations.

Besides, this research also focus on the media which it is an important tool to contribute human relations. It will be discussed as the following;

The Concept of Media

"Media" is one component of communication. It is also a key tool to communicate the information to a receiver as a sender needs. Media selective of receiver is also a factor to define a

communication purpose. Ubolrat Siriyuwasak (cited in Janjira Khunwong: P.8, 2013) explained about the utility of the receiver as following;

1. A receiver uses the media to escape from a reality and to relax or diversion which will be using the media to escape problems or get away from the routine.

2. A receiver uses the media to contribute personal relations with friends or colleagues to communicate or talk to others and open an opportunity to spend time with the family.

3. A receiver uses to establish personal identity such as personal reference, reality exploration and the information to support their beliefs.

Rubin (cited in John F.Cragan, 1998 and Janjira Khunwong: P.10, 2013) stated that this theory is based on 3 concepts; (1) Human use the media with a goal and motivation (2) Human use the media to meet their needs (3) Interpersonal communication will influence over other communication patterns.

Basic information about the "Media" above, it presented the media is a channel to communicate information and meet the senders and receivers needs in a different period. It is an important part to analyze sample data in the next step.

Research Methods

The data collection method is a qualitative research by using one-to-one interviews as a tool and focus on youths' patterns of media use to contribute human relations in the family. There are 146 youths, aged 18-22 years who live in Bangkok. Then, the findings from the data collection will be summarized in the next paragraph.

Results

The sample was 146 youths, aged 18-22 years who live in Bangkok. The result of this study is related to family members whom youths group are remind to communicate with, using the media to communicate with their family, period of communication, and purpose of communication with family. The results showed as the following;

Part 1: From youth interview both male and female, they remind to communicate with their parents due to they are intimate family members and live together so it is common to think of parents first. Moreover, other youth remind their brother and sister. For the reason, they are intimate family members and can talk about many topics so they think of brother and sister first. However, there are some youth remind their grandparents because they live together. A minority of youth remind other person such as neighbor because they live close to their families and able to talk with. It is an interesting point that youth will also think of others to communicate with.

Part 2: For the information to communicate with their family issue, 112 youth emphasize with face to face communication because of feeling expose in the different periods. In addition, 52 youth concern to the importance of telephone using as a tool to communicate with people when they are away from the family due to the ease of using and rapid communication. Other youth focus on computer technology tool such as the internet or famous online media because they can communicate when they are working or live away from family.

Part 3: For period to communicate with family issue, youth inform that the evening or early in the evening is an appropriate time to meet together. When everyone come back home, they can meet and talk more than other period. They will not communicate together in the morning and at noon due to they have to communicate with others who are not family members.

Part 4: For communication with family issue, most youth provide the information in the same way about general topic or daily life basis such as academic, food and daily activity. Some of them always keep in touch with their families to advice some problems such as health and love.

In summary, youth will remind parents, brother and sister, and grandparents respectively. Youth communicate with their family respectively by; 1). Face to face communication 2). Telephone using 3). Internet or other online media using. Evening period is an appropriate time to meet and communicate together. Main topic will be daily life basis.

Discussion

The results from this study show that face-to-face communication is a critical interpersonal communication pattern in Thai family. According to the attitude of youth, they communicate with family members when they meet and have available time. Face-to-face communication is related to contribute human relations due to acknowledgement, understanding and exchange of information needs. It demonstrated that communication is a tool to understand, rely on together and exchange for something else.

In addition, face-to-face communication is a tool to contribute human relations in the family and it is necessary to select message to lead the empathy and understanding. According to Aristotle (cited in Vichit Avakul: p.26, 1999), explained "Human is a social animal, react with other and living together. The purpose is to ensure the safety and survival together which is the human instinct".

Moreover, this research also shows that "media" is a key tool to contribute human relations in the family. It can be concluded that the attitude of the youth also use the media as a tool to communicate with family when they are away. Telephone is an important tool to communicate or discuss and request something from the family which is a part of human relations contribution in the family and would benefit for the receiver. As stated by Ubolrat Siriyuwasak (cited in Janjira Khunwong: P.8, 2013), the receiver use the media to contribute human relations and personal relations to talk or spend time with friend and others.

Recommendations

1. Further research should be included a quantitative research to extend an in-depth result on using the media of youth to contribute human relations in the family.

2. Further research should collect more sample data in a different area to analyze an in-depth result.

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Estate Agent Credibility in the Perspectives of Stakeholders

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ABSTRACT

This qualitative research is to examine credibility of estate agents in the perspectives of stakeholders. In-depth interviews were conducted to collected data from stakeholders in an estate business including buyers, Department of Land officers, and local agents. The study found that 1) in terms of an image of credibility, agents must possess an appropriate character and personality traits such as well-dressed, sociable, well-known among a local community and well-mannered because these traits help create the first impression. 2) In terms of a service, what stakeholders expect are as followed. Agents should present clear, accurate information. Agents must understand the estate and documents involved in order to prevent any mistakes or any problems after the sales. Honesty is also important for this profession because this is a high benefit business in which an agent might be tempted to be dishonest. 3) In terms of code of ethics, Thailand does not have any official code of ethic or regulations for professional estate agents. However, they should possess their own personal ethics. 4) Credibility in terms of knowledge, the more knowledgeable agents are in regards to estate and estate laws and regulations, the more competitive they are in the real estate business.

Keywords: Credibility, Real Estate Agent, Stakeholders

INTRODUCTION

Today real estate is important to Thailand's economy considering that a ratio of real estate in Gross Domestic products is as high as 40%. Real estate business is relating to the basic necessity, habitat, and it is associated with other businesses. Business is not too complicated to run and yields high returns in a long term. In 2010, the total value of all types of estate sold in Bangkok and the adjacent areas is 379,000 million baht (Thai Appraisal Foundation, 2015). Because of the high returns, many people want to go into this industry. With the high competition in the market, some real estate agents compete with each other to win clients' confidence and commissions. In Thailand, there is no official professional code of conduct for real estate agents. Some agents adhere to moral principles, doing business with honesty and integrity, while others just want to earn a large amount of money regardless of approaches. Once in a while, there are news reports on real estate agents' misconduct, leading to quite negative image of agents and the profession (e.g. ASTV Manager Online, 2015).

Therefore, the article was aimed at exploring what stakeholders including clients, officers from Department of Lands, and real estate agents.

RESEARCH OBJECTIVE

This study examined credibility of real estate agents in perspectives of stakeholders.

LITERATURE REVIEW

Literature in relation to credibility (e.g. Orawan Pilanowat, 2003; Convey & Merrill, 2006), trust (e.g. Convey & Merrill, 2006) and personal selling (e.g. Kotler, 1997) were reviewed to understand and identify expectations of real estate agents in terms of their credibility and other important professional qualities expected by stakeholders.

METHOD

This research used a qualitative research approach to collect data. In-depth interviews were conducted to get insightful opinions from key informants, which could be categorized into three groups of stakeholders as follows:

1) Three clients: Client#1 (a retired government officer), Client#2 (an actress) and Client#3 (a business owner)

2) Two officers from Department of Lands

3) Two local real estate agents

Moreover, related books, documents and websites were referred to in order to supplement the interviews.

RESULTS AND DISCUSSION

Credibility of real estate agents in terms of image

Image of estate agents has two sides, a positive side and a negative side. All interviewees have decent experience dealing their agents, thus they see a positive image such as honesty, providing accurate

information not adding the sale price from the one that was initially set. Negative image of agents is perceived through word of mouth, not from the informants' experience.

Result revealed that personality of agents also important. Clients like to do business with agents who are friendly and polite. Clients also look at the ways the agents dress, talk, greet, etc. One of the clients said that if she meets her agent in an office, she expects her agent to look business smart, which represents the credibility of the profession. But, if she meets her agent at a site, she expects her agent to wear something that shows he or she is ready to walk around. If her agent wear high heels to the site, that is very unprofessional for the occasion. Therefore, agents should pay attention to every detail including the ways they dress.

To decide whether to hire a registered agent or a local agent, stakeholders make considerations in terms of location. If a piece of land is located in Bangkok, they are more likely to choose registered agents. If a piece of land is located in upcountry, they are more likely to do business with local agents because these agents know the location well. Furthermore, stakeholders also considered age vital. Stakeholders believe that the older these local agents, the more experienced they are when it comes to negotiation skills, accurate information, and networking. All these factors combined leads to good reputation and credibility. This notion can be referred to Porntip Jongjerdsak's (1997) conceptualization of credibility, which can be defined as a receiver perceiving a sender as trustworthy, competent, and expertise. The more credible an agent, the more persuasive he or she appears.

Credibility of real estate agents in terms of being service providers

When seeking for service, stakeholders in Bangkok are likely to start searching information on the Internet. Stakeholders in other provinces look for information from billboards and local agents. Therefore, local agents who know a number of people in a community tend to acquire new clients from word of mouth. Since local agents are introduced to stakeholders by their acquaintances through word of mouth, stakeholders trust their local agents to some extent. Stakeholders have never done any background check on their local agents.

The reason clients choose to hire local agents instead of contacting a landlord directly is because it is difficult to do so. Witawat Rungruengphon (2014) said that hiring local estate agents are common in Thailand, especially in countryside. Local agents could be an individual or a juristic person. These local agents are usually a well-known person in town. They may be a part-time local agent, while actually they a full time local government officer or a community leader.

Most landlords agree to give negotiation power to local agents to sell pieces of land, including price setting and negotiation, on behalf of them. However, if clients wish to negotiate directly with landlords, local agents will coordinate a meeting for all parties. Therefore, the successful business process involves trust from all three parties, landlords, local agents and clients.

When using services offered by local agents, stakeholders expect accurate, easy-to-understand information as it is complicated. Communication techniques that can help stakeholders to comprehend this kind of information are vital. Presentation skills are important and can affect their credibility.

Besides, communication tools are important for this industry since most local agents and clients are based in different areas. Several years ago, communication between local agents and clients used to be problems because some local agents could not use the Internet, email or even fax to communicate with clients. The situation is getting better nowadays. All stakeholders, local agents, clients, and officers from Department of Lands, are catching up with technology available. Today, they communicate through Line application, email, mobile phone, etc. These seem to be basic communication tools that they have to help

them communicate and exchange information faster. These communication tools also help shorten a negotiation period, closing the deal faster than before.

Credibility of real estate agents in a dimension of ethics

First of all, local real estate agents should possess personal ethics towards themselves and their colleagues to help each other build credibility and good image for a real estate agent profession. In the course of a competitive situation like in the real estate market, verbally putting down your colleagues, seen as an opponent, is not an appropriate conduct. It ends up damage the entire industry, not just an individual.

Furthermore, it is very vital for agents to have ethics towards their clients. That is because honesty is ranked top among clients' expectations as clients choose agents to work for them as well as protect their interests. Intentionally adding prices to earn more commission, forging signatures, presenting false documents, etc. are illegal and hurt clients' trust. According to the interviews, all clients are most worried about local agents adding the price up unfairly. Typically, local agents get 3% sales commission. In addition to money, honesty include telling accurate fact regarding a piece of land. For example, if the land is generally more prone to flooding, local agents must say so. Thus, honesty is a very important characteristics for those who want to be excel in this industry. Honesty results in client's impression, satisfaction and loyalty.

In Thailand, hiring a local agent still relies on mutual trust and personal code of ethics of a local agent. There is no specific law or regulations to govern this profession, unlike other developed countries. National policy makers should pay attention to this gap because there are some local agents take advantage of the lack of specific rules to con clients and landlords such as overcharging, adding up the price unreasonably and faking some document for their advantage.

Credibility of real estate agents in a dimension of knowledge

Clients also expect their agents to be willing to serve and possess a high level of competency. Knowledge relating to estate and lands is what clients expect from their estate agents because clients usually lack of any information. Therefore, agents should be knowledgeable in lands and locations, a process of selling and buying lands, legal regulations involved, etc. Knowledge will enhance credibility of estate agents.

Furthermore, they should acquire recent knowledge. For example, they should be knowledgeable in new technology that will help them work more efficiently. New technology allows agents to exchange information with clients. Law and regulations relating to real estate is another area that real estate agents should be familiar with. This recommendation is similar to what Witawat Rungruengphon (2014) stated in "Real Estate Broker System" that in a real estate market, the real estate broker system plays an important role in developing real estate in many countries. For example, in the United States real estate business people are not allowed to sell real estate that they develop themselves unless they have a real estate license. This profession is considered a specialist that must have a certified license from the State. However, in Thailand, there is no law to regulate real estate agents. Some people starts to reinforce the law and license through the Real Estate Association.

RECOMMENDATION FOR FURTHER STUDY

This study focused on perspectives of local real estate agent. For future study, perspectives of registered agents and landlords should be explored to better understand the insights of this business.

Furthermore, real estate law and regulations in other countries, including the ASEAN countries, should be studied as a guideline to leverage Thailand's real estate law and regulations for the future standard.

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The Relationship between the Level of Online Media Exposure and the Perceived Benefits of the Online Media against the Attitudes of Nursing Students from Thailand, Myanmar and Indonesia towards the Elderly[1]

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Abstract

Background: At present, a reflection of our modern life appears to be the ability to access all types of information from a multitude of sources. This is especially true with the online space. We now have access to the world's news and opinions with just a click of a button. As health care workers, we have to stay abreast of the latest conversations and attitudes in the industry but with the over saturation of news and opinion, especially online, most of us will only retain a portion of it. We interpret and scrutinize the information and filter it with our own understandings, beliefs, expectations, and motivations along with our physical or emotional state at the time.

Currently the countries that compose the ASEAN are seeing their population becoming one comprised of a largely aging society. Health care professionals who maintain and promote the good health of the elderly have to take a modern approach to health care and health education. They need to be actively engaged in all types of media, both traditional and online and be able to see its benefits and to then in turn, implement. It is the nursing students of today who are the caretakers of the information given to them and then to grow, apply, and then transfer the knowledge of promoting the health care and health education of the elderly giving them a better quality of life in their later years.

With this in mind it is the intention of the researcher's to study the relationship between the level of online media exposure and the perceived benefits of the online media against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly.

Research Purposes: 1) To study the relationship between the level of online media exposure against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly. 2) To study the relationship between the perceived benefits of the online media against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly.

Methodology: The type of research used was a descriptive one and data was collected via a questionnaire accessed over the internet. The total samples were 2,425 undergraduate nursing students. Of the total, 1,367 were students from the Praboromarajchanok Institute of Health Workforce Development, Ministry of Health, Thailand while 736 were nursing students from Indonesia and 322 were nursing students from Myanmar. Data was analyzed by percentage, mean, standard deviation and correlation analysis using Chi-square.

Results: Most nursing students felt their exposure to the online media was moderate (M = 2.64, SD = .917) while most of the same students saw the perceived benefits as high (M = 4.01, SD = .559). The attitude of the students towards the elderly was seen to be at a moderate level (M = 4.31, SD = .407). The Chi-square results showed that the relationship between online media exposure and the attitude of nursing students towards the elderly was statistically significant ($p < .001$). The research displayed that the perceived benefits of the online media were not significantly related with the attitudes of the students towards the elderly ($p = .079$).

Keywords: Online media exposure, benefits of online media, attitudes towards the elderly

Introduction

Like many other countries around the world Thailand's society is aging, and aging at a steady rate. Many other countries that are in this situation have implemented policy plans for the elderly including promoting the idea of self help for the elderly to increase their quality of life.

In today's modern world there is a rapid change in communication technology due to the environment competition and economic conditions coupled with these conditions is the advancement in the technology used in communication. This causes the media and the way to pass on the information in various forms. Technology has played as a very important role in the field of information and communication between people. Selecting information quickly and accurately is what we desire. The information derived can be used for many purposes including financial or educational gains. One of the methods of deriving information is through online media. The development of online media has allowed a new way of communicating with a large amount of people at a very low cost compared to methods used in the past. However with the saturation of information that we have now it is important that we choose the information that is useful for us as the situation demands.

People's lives nowadays are changing follow the development of the technology. The consumption of information is now part of our daily lives as access to the Internet makes available information from all over the world quickly and at a relatively low cost. The Internet is now a place where one can have a digital presence and with it comes a social online presence by using popular applications such as Facebook, Twitter, Google plus and Hi-Fi even from a mobile device such as a phone or a tablet (Jantanasupaporn, S., 2011).

Therefore, the researchers are interested in studying the relationship between the level of online media exposure and the perceived benefits of the online media against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly. The study results will be useful to the relevant authorities so they can develop a useful guide for media exposure and be able to use these benefits for the elderly to support the increasing role of seniors in the future.

Research purposes

1) To study the relationship between the level of online media exposure against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly.

2) To study the relationship between the perceived benefits of the online media against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly.

Methods

The type of research used was a descriptive one and data was collected via a questionnaire accessed over the internet during January – May 2015. The total samples were 2,425 undergraduate nursing students. Of the total, 1,367 were students from the Praboromarajchanok Institute of Health Workforce Development, Ministry of Health, Thailand while 736 were nursing students from Indonesia and 322 were nursing students from Myanmar.

Measurements

Tools used in this research were online questionnaires comprising of 3 parts 1) Demographic data

2) the questionnaire of the attitudes of nursing students towards the elderly (The Thai version of Kogan's Attitude towards Old People: Kogan's OP) which had been tested for the accuracy of the content (validity) by three experts in the field of study of the elderly. Also it had been tested for reliability by testing with 700 students in Year 1-4 from 19 affiliated institutions with Praboromrajchanok, Ministry of Public Health, Thailand. Its reliability score was of .75. The self-administered questionnaire consists of the Kogan's Old People (KOP) scale and basic socio-demographic and medical education data. KOP consists of 17 paired statements, one of each pair positively framed and the other negatively framed. The stereotypes covered in the questionnaire include residential patterns, cognitive style, personal appearance, personality and discomfort with older people. Respondents were asked to indicate the level to which they agree or disagree using a 5-point Likert scale. The scores range from 34 (negative) to 170 (positive). The lower the KOP score, the more negative attitudes held towards elderly people with a neutral score of 102. There are 34 questions asked to indicate level of agreement on 7-point rating scale. Response options were: 1 = strongly disagree 2 = disagree 3 = slightly disagree 4 = neither agree or disagree 5 = slightly agree 6 = agree 7 = strongly agree Rating and interpretation, both individual item and overall value were from 1-7 and 34-238, respectively. Scoring and interpretation of each item were as follows: attitudes towards older adults as worse = 1-3, average = 3.1-5, good = 5.1-7. The rating and the overall score were as follows: attitudes towards older adults as worse = 34-102, average = 103-170, good = 171-238 (Runkawatt, V., Krirkgulthorn, T., Hansoongnoen, K., Yingrengreung, S., & Kheokao, J., 2014). 3) Measuring the online engagement targeting frequency being online, the sites visited and its perceived benefit. This questionnaire was a five-rating scale. The online survey on the behavior of using media included:

1) Frequency of online media use. Student were asked to estimate use for 11 online media channel per week using five response options; never = 1, 1-2 day (s) = 2, 3-4 days = 3, 5-6 days = 4, and every day = 5. Average mean scores were categorized into 5 groups; lowest level use (1.00-1.80), low level use (1.81-2.60), moderate level use (2.61-3.40), and high level use (3.41-4.20), and highest level use (4.21-5.00) respectively.

2) Opinion towards online media use. There are 10 questions assess perceived benefit of online media use. Students were asked to indicate level of agreement on 5-point rating scale. Response options were: 5 = Strongly agree, 4 = Agree, 3 = Neither agree or disagree, 2 = Disagree, and 1 = Strongly disagree. Average mean scores were categorized into 5 groups; lowest level use (1.00-1.80), low level use (1.81-2.60), moderate level use (2.61-3.40), and high level use (3.41-4.20), and highest level use (4.21-5.00) respectively.

Data analysis

Descriptive statistics included frequency distribution, percentage, mean, and standard deviation were used to describe the students' online media uses and perceived benefit of online media uses. Chi - square was used to test the correlation of the online media use and perceived benefit of online media use with the attitudes of the students towards the elderly.

Results

1. Demographic data
2. The attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly
3. The level of online media exposure
4. The perceived benefits of the online media

5. The relationship between the level of online media exposure against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly

6. The relationship between the perceived benefits of the media against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly

1. Demographic data

Most students from all three countries participated in this research were aged between 16 and 25 years (n = 2,377, 98.02 percent). Most of them were studying in 2nd year and 3rd year (n = 1,497, 61.73 percent). The majority of participants were female (n = 2,115, 87.22 percent). More than half of them had nursing practicum experiences at ward (n = 1,405, 57.94 percent) and had the experience of practicing in the community (n = 1,499, 61.81 percent). Half of them had never been trained or educated about seniors or ageing (n = 1,219, 50.27 percent). Almost 60 percent of them had an opportunity to talk to the elderly from once a month to every day (n = 1,443, 59.50 percent). Only 40 percent of participants had talked pleasantly and do activities with seniors at good to very good level (n = 952, 39.26 percent). Most of them preferred to work with people the same age or similar at age 22-59 years (n = 1,541, 63.55 percent). More than half of them had the elderly living together in the house (n = 1,336, 55.09 percent).

Table 1: Number and percentage of the demographic data

Demographic data	Thailand (n = 1367)		Myanmar (n = 322)		Indonesia (n = 736)		Total (n = 2425)	
	n	%	n	%	n	%	n	%
Age groups:								
16 – 25 years	1367	100	322	100	688	93.48	2377	98.02
26 – 52 years	0	0	0	0	48	6.52	48	1.98
Study years:								
First year	403	29.48	0	0	29	3.94	432	17.81
Second year	280	20.48	105	32.61	294	39.95	679	28.00
Third year	443	32.41	120	37.27	255	34.65	818	33.73
Fourth year	241	17.63	97	30.12	158	21.47	496	20.45
Gender:								
Female	1287	94.15	309	95.96	519	70.52	2115	87.22
Male	80	5.85	13	4.04	217	29.48	310	12.78
Nursing practicum experiences:								
In ward: yes	835	61.08	219	68.01	351	47.69	1405	57.94
no	532	38.92	103	31.99	385	52.31	1020	42.06
In the community: yes	894	65.40	319	99.07	286	38.86	1499	61.81
no	473	34.60	3	0.93	450	61.14	926	38.19
Undergone training about the elderly/ageing: Yes	823	60.20	103	31.99	280	38.04	1206	49.73
No	544	39.80	219	68.01	456	61.96	1219	50.27

Demographic data	Thailand (n = 1367)		Myanmar (n = 322)		Indonesia (n = 736)		Total (n = 2425)	
	n	%	n	%	n	%	n	%
Communication with the elderly: Never	52	3.80	25	7.76	82	11.14	159	6.56
Once in a while (rarely)	416	30.43	150	46.58	257	34.92	823	33.94
Every month	243	17.78	58	18.01	34	4.62	335	13.81
Every week	495	36.21	24	7.45	161	21.88	680	28.04
Everyday	161	11.78	65	20.19	202	27.45	428	17.65
Pleasant talk and participating in activity with the elderly: Never talk and never have activity together	7	0.51	25	7.76	49	6.66	81	3.34
Having pleasant talk and participating….at low level (1-6 times in a year)	364	26.63	105	32.61	178	24.18	647	26.68
Having pleasant talk and participating….at moderate level (7-12 times in a year)	390	28.53	96	29.81	154	20.92	640	26.39
Having pleasant talk and participating….at a good level (at least one hour every week)	441	32.26	49	15.22	164	22.28	654	26.97
Having pleasant talk and participating….at a very good level (at least an hour everyday)	113	8.27	46	14.29	139	18.89	298	12.29
Group of people to work with: Less than 12 years	59	4.32	6	1.86	8	1.09	73	3.01
13-21 years	82	6.00	58	18.01	94	12.77	234	9.65
22-35 years	625	45.72	140	43.48	404	54.89	1169	48.21
36-59 years	243	17.78	23	7.14	106	14.40	372	15.34
60-79 years	163	11.92	8	2.48	28	3.80	199	8.21
Age 80 years and over	21	1.54	3	0.93	7	0.95	31	1.28
Cannot specify	174	12.73	84	26.09	89	12.09	347	14.31
Having elderly living in the house: Yes	733	53.62	157	48.76	446	60.60	1336	55.09
No	634	46.38	165	51.24	290	39.40	1089	44.91

*Percentage of non-missing data; due to rounding percentage totals may not be equal to 100

*Pleasant talk and participating in activity with the elderly item had missing values

2. The attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly

The study found that the attitude of nursing students from three countries towards the elderly was at moderate (94.10%). Considering each country, it was found that attitudes towards the elderly of nursing students from Thailand, Myanmar, and Indonesia were at moderate (91.07%, 96.89% and 98.64% respectively) as shown in Table 2

Table 2: Number and percentage of the level of attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly

Attitudes towards the elderly	Thailand (n = 1367)		Myanmar (n = 322)		Indonesia (n = 736)		Total (n = 2425)	
	n	%	n	%	n	%	n	%
Worse	2	0.15	1	0.31	1	0.14	4	0.20
Average	1245	91.07	312	96.89	726	98.64	2283	94.10
Good	120	8.78	9	2.80	9	1.22	138	5.70
Total	1367	100.00	322	100.00	736	100.00	2425	100.00

*Worse = 34-102, Average = 103-170, good = 171-238

3. The level of online media exposure

The overall experience from nursing students from the three countries in regards to the engagement with the different online platforms was on average from the lowest level to a medium level (1,939 cases, representing 79.96 percent). And if considering each country by using the same level from lowest to medium level, students from Thailand used online media from lowest to medium level (n = 998, 73.01 percent). Students from Myanmar used online media from lowest to medium level (n = 319, 99.07 percent). Students from Indonesia used online media at lowest to moderate level (n = 622, 84.51 percent) as shown in Table 3. The results showed that the level of online media exposure of nursing students from Thailand was higher than those from Indonesia and Myanmar respectively.

Table 3: Number and percentage of the level of online media exposure

Level of online media exposure	Thailand (n = 1367)		Myanmar (n = 322)		Indonesia (n = 736)		Total (n = 2425)	
	n	%	n	%	n	%	n	%
Lowest	48	3.51	217	67.39	242	32.88	507	20.91
Low	320	23.41	88	27.33	201	27.31	609	25.11
Moderate	630	46.09	14	4.35	179	24.32	823	33.94
High	307	22.46	3	0.93	80	10.87	390	16.08
Highest	62	4.53	0	0	34	4.62	96	3.96
Total	1367	100.00	322	100.00	736	100.00	2425	100.00

*Lowest = 1.00-1.80, Low = 1.81- 2.60, Moderate = 2.61-3.40, High = 3.41-4.20, Highest = 4.21-5.00

4. Perceived Benefit of Online Media Use

The perceived benefit I have engaging with the online media from the nursing students of the three countries was seen to be between high and the highest level (2092 cases, representing 86.27 percent). Thai students perceived the benefits of online media at high to highest level (1,160 cases, representing 84.86%).

Nursing students from Myanmar perceived the benefits of online media at high to highest level (267 cases, representing 82.92%). Students from Indonesia perceived the benefits of online media at high to highest level (665 cases, representing 90.36%) as shown in Table 4.

Table 4: Number and percentage of the perceived benefit of online media use

Perceived benefit of online media use	Thailand (n = 1367)		Myanmar (n = 322)		Indonesia (n = 736)		Total (n = 2425)	
	n	%	n	%	n	%	n	%
Lowest	1	0.07	2	0.62	4	0.54	7	0.29
Low	7	0.51	2	0.62	11	1.49	20	0.82
Moderate	199	14.56	51	15.84	56	7.61	306	12.62
High	711	52.01	240	74.53	366	49.73	1317	54.31
Highest	449	32.85	27	8.39	299	40.63	775	31.96
Total	1367	100.00	322	100.00	736	100.00	2425	100.00

*Lowest = 1.00-1.80, Low = 1.81- 2.60, Moderate = 2.61-3.40, High = 3.41-4.20, Highest = 4.21-5.00

5. The relationship between the level of online media exposure against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly

The Chi-square test was performed to analyze the relationship between the level of online media exposure against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly. Even though it was shown that there was a significant correlation between the level of online media exposure against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly, more than 20% of cells with the expected counts less than 5 were found highlighting a restriction of Chi-square test. Therefore, Chi-square test was then re-analyzed without the selected those cells. Therefore the Kogan's OP overall score was converted to as average and good. The study showed that the level of online media exposure of nursing students from the three countries were significantly related to the attitudes of nursing students ($p < .001$) as shown in Table 5

Table 5: The correlation between the level of online media exposure against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly

Level of online media exposure	Attitudes towards the elderly		
	Average	Good	Total
Lowest	494	12	506
Low	577	29	606
Moderate	767	56	823
High	352	38	390
Highest	93	3	96
Total	2283	138	2421
$\chi^2 = 26.287$ df = 4 $p = .000$			

6. The relationship between the perceived benefits of the media against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly

The Chi-square test was performed to analyze the relationship between the perceived benefits of

the media against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly. Even though it was shown that there was significant correlation between the perceived benefits of the media against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly, more than 20% of cells with the expected counts less than 5 were found and this was a restriction of Chi-square test. Therefore, Chi-square test was then re-analyzed with the selected cells removed. So the Kogan's OP overall score was converted to as average and good. The study revealed that the perceived benefits of the media of nursing students from the three countries were not significantly related to the attitudes of nursing students (p = .079) as shown in Table 6

Table 6: The correlation between the perceived benefits of the media against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly

Perceived benefit of online media use	Attitudes towards the elderly		
	Average	Good	Total
Lowest	6	0	6
Low	20	0	20
Moderate	294	11	305
High	1245	70	1315
Highest	718	57	775
Total	2283	138	2421

χ^2 = 8.354 df = 4 p = .079

Discussion

1. The attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly

The study found that the attitudes of nursing students from three countries towards the elderly was at moderate (M = 146.46, SD = 13.83). Thai nursing students had the attitudes towards the elderly at moderate (M = 150.50, SD = 13.39). Myanmar nursing students had the attitudes towards the elderly at moderate (M = 142.45, SD = 13.93). Indonesian nursing students had the attitudes towards the elderly at moderate (M = 140.70, SD = 11.94). Unfortunately the author could not find related researches from Burmar and Indonesia; however research was available which represented Asian Nations of which these countries are a part of including the study of Lui, NL., & Wong, CH., (2009) which reported the attitudes towards the elderly in 152 junior doctors in Singapore and found that these doctors had attitudes towards the elderly at moderate, the mean KOP score was 114.4 ± 9.0.

Consistent with the study of Huang, Chin-Shan., (2013) conducting a study in 1,402 undergraduates who came from both Eastern countries and Western countries to study attitudes of these students towards the elderly and found that students who came from Western countries including the United States and United Kingdom had the level of attitudes towards the elderly higher than the students who came from Eastern countries including Japan, China, Taiwan, and Vietnam. The author suggested that this result is probably due to a loss of traditional respect for the elderly that was prevalent in the east but has gradually deteriorated overtime due to a modernized economy and society. These reasons can also be applied to the Thai experience in which the family in modern society is smaller in comparison to the families of just a few generations ago. The grandmother and grandfather in modern Thailand is not usually living with the children so therefore the grandchildren do not get a chance to learn about the old

cultures and the traditions which would usually be passed on from one generation to the next. Growing up in a family where the elderly live with their children and grandchildren will shape or influence Thai people's views of the elderly. The views will be influenced by direct contact or direct teaching coupled with school and religious studies which emphasize respect and gratitude.

Other Thai studies which are consistent with the finding of this study including; Setchoduk, K., (2015) who studied the attitudes towards the elderly by nursing students from a private university in Thailand, the author found that the attitude of nursing students towards the elderly was at moderate (M = 121.58, SD = 6.73). As well as the study of Runkawatt, V., Krirkgulthorn, T., Hansoongnoen, K., Yingrengreung, S., & Kheokao, J. (2014) found that the attitude of nursing students towards the elderly in Thailand was at moderate. (M = 150.1, SD = 15.8). In addition the study of Ubolwan, K., Krirkgulthorn, T., Kheokao, J., Sarkongdang, T., Vudhironarit, S. (2014) revealed the better view of attitudes towards the elderly. The authors found that 55 percent of nursing students in Thailand had a moderate attitude toward the elderly (M = 142.27, SD = 10.28), and 44.8 percent had attitude towards the elderly at high level (M = 169.11, SD = 8.93).

This study also showed that age, study year, nursing practicum experiences in ward and in the community, and having elderly member living in the house had no statistically significant correlation with the attitudes towards the elderly (p = .085, .139, .050, .079, .998). In contrast to these three findings representing Thai younger people attitudes towards the elderly including; the study of Setchoduk, K., (2015) showed that age and study year had statistically significant correlation with the attitudes towards the elderly (p < .001 and = .012 respectively). The study of Ubolwan, K., Krirkgulthorn, T., Kheokao, J., Sarkongdang, T., Vudhironarit, S. (2014) revealed that students with experience in working at ward and in the community caring for the elderly had significantly different attitude towards the elderly compared to students who had no such experiences (t = 5.88, p < .01, t = 4.53, p < .01, t = 3.82, p < .01 respectively). Tangchonlatip, et al. (2010) studied in working people aged 25-49 years and found that these participants who were with at least one elderly person in the family, and had been with the elderly when they were younger than 12 years had better attitudes towards the elderly at the early age than participants who had no elderly in the family, and never lived with the elderly at the age of 12 years. Participants who had elderly as a family member had better attitude towards the elderly at the late age. Students aged 15-17 years living in the family with better socioeconomic status or come from families with household incomes above 50,000 Bahts or more per month will have better attitudes towards the elderly at the early age. It is possible that these children grow up in households where no or there is little economic pressure or the elderly in the family had played economic role resulting in the positive image of the elderly. While students with having poorer socio-economic status, and grow up in a family where there is financial struggle tend to have a negative image of the elderly.

This study also revealed that gender, course taken or undergone training specific to the elderly/ ageing, frequency of communication with the elderly, having pleasant talk and participating in activity with elderly, and people they preferred to work with were statistically significant related to the attitudes of nursing students towards the elderly (p = .012, .007, .004, .030, .001). Consistent with these two findings including; the study of Setchoduk, K., (2015) revealed that gender, race, social interaction with seniors comprising of the experiences of caring the elderly and living with the elderly, and having a close relationship with the elderly had statistically significant correlation with the attitudes of nursing students towards the elderly. Tangchonlatip, et al. (2010) studied in working people aged 25-49 years and found participants who had a greater knowledge of the elderly had better attitudes towards the elderly at the early age than those with less knowledge about the elderly. Participants who had more knowledge about the elderly had better attitude towards the elderly at the late age.

2. The level of online media exposure

The level of online media exposure was found that the overall experience of nursing students from the three countries mostly used the online media at moderate level (M = 2.64, SD = .917). The study revealed that nursing students from Thailand had the moderate level of online media exposure (M = 3.01, SD = .698). Nursing students from Burma had lowest level of using online media (M = 1.61, SD = .536), while Indonesian nursing students had low level of online media exposure (M = 2.41, SD = .987). One of the reasons for these results can be explained by Internet penetration in the country of Myanmar. As of 2015, it is estimated that only 0.8% of the population have access to the Internet due to a number of reasons including electricity shortages (Media of Myanmar, 2015). In contrast, the Internet is integrated highly in the populations of both Thailand and Indonesia. Over one third of the population, approximately 8.6 million people access to Internet in Thailand (Internet in Thailand, 2015) while approximately 28% of Indonesia which equates to 71.19 million people access the Internet (Internet in Indonesia, 2015).

The findings of Kheokao, J., Panidkult, K., Hansoongnern, K., Karuncharernpanit, S., & Ruengdit, N. (2014) found that nursing students and students from Praboromrajchanok, the Institute of Public Health had level of online media exposure at moderate level (M = 1.86, SD = 1.217) which was consistent with the result of Thai nursing students. This study also revealed that Thai nursing students used Facebook and Line at the highest level (M = 4.46 and 4.25 respectively). They used online media to find information and to download video and music files at high level (M = 3.83. and 3.78 respectively). Agreeable with Kheokao, J., Panidkult, K., Hansoongnern, K., Karuncharernpanit, S., & Ruengdit, N. (2014) found that students used Facebook®, searching and downloading files, and Line® at high level (M = 3.26-3.44, 2.68-2.94, and 2.73 to 2.97 respectively). The authors reported that most students used online media for entertainment and for education (64.57% and 62.17% respectively).

Myanmar nursing students used Facebook and Line at moderate and low level (M = 3.11 and 2.15 respectively). Indonesian nursing students used both types of online media at high and moderate level (M = 3.55 and. 2.75 respectively). For the purpose of using online media to watch videos, listen to music and searching and downloading files, Myanmar students used online media for this purpose at lowest level (M = 1.48 and 1.64 respectively) and Indonesian students was at low level (M = 2.16 and 2.59 respectively).

3. The perceived benefits of the online media

The perceived benefit of online media use was found that the overall nursing students from the three countries recognized the benefits of using online media at high level (M = 4.01, SD = .559). Considering the overall items of the benefits of online media, this study revealed that students from Thailand, Myanmar and Indonesia had perceived benefits of the online media at high level (M = 4.01, 3.78 and 4.11 respectively). According with these two studies including; the study of Kheokao, J., Panidkult, K., Hansoongnern, K., Karuncharernpanit, S., & Ruengdit, N. (2014) found that students with the perceived level of online media was at high (M = 4.02, SD = .542). Students indicated that online media allowing them to access information quickly and also the information from the online media sources were up to date and accurate. Intawan, W., (2553) studied the behavior of media use of teenagers aged between 12 – 25 years in Chiang Mai, Thailand and found that most teenagers used online media for study purposes at high level.

Thai nursing students reported that online media provide quick access to all information/sources, keep them informed and updated, and help release stress from study load at the highest level (M = 4.60, 4.50 and 4.38, respectively), while nursing students from Burmar reported that online media keep them

informed and updated at highest level (M = 4.32), help release stress from study load at high level (M = 4.03), and provide quick access to all information/sources at moderate level (M = 3.36). Nursing students from Indonesia reported that online media keep them informed and updated at highest level (M = 4.33), help release stress from study load at high level (M = 4.20), and provide quick access to all information/sources at highest level (M = 4.41).

4. The relationship between the level of online media exposure against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly.

The study showed that the level of online media exposure of nursing students from the three countries was significantly related to the attitudes of nursing students ($p < .001$). That means if higher level of online media use in the students, the better level of attitude of students towards the elderly. Rationality together with this study revealed that the overall experience of nursing students from the three countries mostly used the online media at the moderate level (M = 2.64, SD = .917) resulting in the attitudes of nursing students from the three countries towards the elderly were at moderate (M = 146.46, SD = 13.83).

5. The relationship between the perceived benefits of the online media against the attitudes of nursing students from Thailand, Myanmar and Indonesia towards the elderly

The study revealed that the perceived benefits of the online media of nursing students from the three countries were not significantly related to the attitudes of nursing students (p = .079). That means even though students have the perceived benefits of the online media at higher level, it does not mean that their attitudes towards the elderly will be better. Agreeably with the study to find that the perceived benefits of nursing students from the three countries were at high (M= 4.01, SD = .559) whereas their attitudes towards the elderly were at moderate level (M = 146.46, SD = 13.83). Attitudes towards the elderly can be changed if people properly informed. The role of social media can plan important role in helping to develop a quality of care for the elderly in the future (Miller, CA., 2007).

Suggestions

From the results of this study, in order to allow students or people at the same age group to have a higher level of attitudes towards the elderly, lecturers should assign the task to motivate students to learn about the elderly through the online media or assign them to practice with the elderly in real situations in the community or ward to provide students with the experience of talking and joining activities with the elderly. To do this, students can learn the way the lives of the elderly both with sickness and normal status. Also students will be able to recognize the changes with age to build awareness of and attitudes toward the elderly in higher level. Getting to know the attitudes of people who are responsible for caring for the elderly both now and in the future can help to establish guidelines and policy in care for the elderly. Integrating IT in nursing education and by using tools such as social media to help promote creativity, knowledge management along with nursing education should be emphasized and promoted to achieve better outcomes in creating a positive attitude towards the elderly. Nursing students are just one part of the health team who must constantly stay abreast of new information and knowledge. An integral part of this should incorporate the use of online platforms. In this boundless world of the new digital age where geographic location is inconsequential, the use of social media and its effects on medical technology and nursing can be invaluable when used appropriately in shaping attitudes towards the elderly.

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Factors Relating Health Promoting Behaviors among Older Adults with Hypertension in Bengkulu City, Bengkulu, Indonesia

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ABSTRACT

Background: Hypertension is highly prevalent of non-communicable disease that has been recognized as a public health problem in worldwide, particularly in Indonesia. Uncontrolled hypertension will lead to serious complications and become risk factors for cardiovascular and renal diseases. Therefore to prevent the complications, a stable blood pressure level is required. To achieve this goal, health behaviors modification as management guideline for controlling blood pressure is important. Identifying the factors relating health promoting behaviors is required for the success of health behaviors modification.

Purpose: to identify the factors relating health promoting behaviors among older adults with hypertension in Bengkulu City, Bengkulu, Indonesia.

Methods: A Cross Sectional design was used. A total of 356 older adults with hypertension, aged 60 years and over were recruited. Multi-stage random sampling will be used in Public Health Centers of Bengkulu City. Instruments included personal factors, perceptions, social support, and situational influences. Bi-serial correlation coefficients, Spearman correlation, and were used for analyzing data.

Results: The result showed that age, education, income, self-efficacy, perceived barriers, perceived benefit, social support, and situational influences were significantly associated with health promoting behaviors. Meanwhile, gender was not significantly associated with health promoting behaviors.

Conclusion and Recommendation: In conclusion, the better level of health promoting behaviors can be reached by decreased of perceived barriers, increased of perceived self-efficacy, perceived benefits, social support, and situational influences.

Keywords: Health promoting behaviors, hypertension, older adults

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INTRODUCTION

Hypertension is highly prevalent of non-communicable disease that has been recognized as a public health problem in worldwide especially in the developing countries. Hypertension is one of cardiovascular diseases which frequently become a cause of death. The complications of hypertension account for 9.4 million deaths worldwide every years (WHO, 2013). Hypertension and its complications have thus become one of the frequent causes of death, together with stroke, coronary heart disease and kidney failure. Complication of hypertension is responsible for at least 50% of deaths due to stroke, 45% of deaths due to heart disease, and the rest 5% was related to kidney diseases and others (WHO, 2013).

The prevalence of hypertension is most threatening in older adult, with more than half of people aged 60 to 69 years old and three-fourths of those aged 70 years and older are affected. Based on a report by the Ministry of Health of Indonesia the prevalence of hypertension in 2008 in Indonesia was 37. 4% among older adult and by 2012, the figure increased to 41% among of the total population of older adult (MoH, 2012). Moreover Based on a report by Basic Health Research of Republik Indonesia (RISKESDAS) the prevalence of hypertension was increased from 7.6 percent in 2007 to 9.5 percent in 2013 (Riskesdas, 2013).

Health promoting behaviors have been defined in various ways. Health promoting behaviors defined by Conner and Norman (1996 as cited in Conner, 2002) is any activity undertaken for the purpose of preventing or detecting disease or improving health and well being. In another definition By Gocham, health promoting behaviors refers to behavior patterns, actions and habits that relate to health maintenance (Gocham, 1997). The definition of health promoting behaviors includes medical service usage, compliance with medical regimens, and self-directed health behaviors. Health promoting behaviors aim at raising the health status of individuals and communities. Promotion in health has a specific and more comprehensive meaning, as it includes improving, advancing, supporting, and encouraging, as well as placing health higher on personal and publics' agendas.

Previous findings have revealed the factors relating with health promoting behaviors were gender, age, and the educational (Ho et al, 2012; Pires and Mussi, 2011; Puraya, 2011; Costa et al, 2006). Also social support has shown in several studies a positive correlation with health promoting behaviors among older adult with hypertension, (Ho et al, 2012; Jaiyungyuen et al, 2012; Li and Zhang, 2013). Perceived self-efficacy as one of important factors to influence the behaviors has been found to have a positive correlation with health promoting behaviors among older adult with hypertension (Jaiyungyuen et al, 2010; Li and Zhang, 2013; Ho et al, 2012). In other recent studies, perceived barriers and perceived benefit have been found have positive correlation with health promoting behaviors among older adult people with hypertension (Thanavaro et al, 2010; Pires and Mussi, 2012; Ho et al, 2012). Other studies also looked into the role of facilities and situational in facilitating change of health promoting behaviors among older adults and found situational influences have a correlation with health promoting behaviors (Kamran et al, 2015; Shin et al, 2005; Hosseini et al, 2013; Sangpraset and Pradujkanchana, 2010).

Moreover, by the increasing of hypertension case among older adults in Bengkulu City, Indonesia the attention to health promoting behaviors is needed, but there are relatively few studies of health promoting behaviors in Bengkulu City, and research reflecting aspects of health promoting behaviors in a theoretical framework is still limited as for Bengkulu City, Indonesia. Identifying the factors relating health promoting behaviors within a theoretical framework is a prerequisite to devise guideline leading towards developing interventions with the objective of having better health promoting behaviors level. Therefore, with Health Promotion Model (HPM) by Pender et al (2011) as guideline, the current study was purposed to identifying the relationship among personal factors, self-efficacy, perceived barriers, perceived benefits, social support, situational influences, and health promoting behaviors among older adults with hypertension in Bengkulu City, Bengkulu, Indonesia.

METHOD

A cross-sectional study design was used. 356 older adults with hypertension in Bengkulu City were recruited to participate in the study. The study was conducted at four primary health center in Bengkulu City. The study was approved by Ethical Review Board of Boromarajonani College of Nursing, Nopparat Vajira. A written informed consent was obtained from each participant. The older adults were asked by face to face interview using structured questionnaires. Personal factors in this study included gender, age education, and income.

Older adults health promoting behaviors was measured using the HPLP II (Walker et al, 1995). The HPLP II is a 52-item summated behaviors rating scale that contains a 4-point Likert scale response option. In the study the questionnaire have been adjusted with the sample, and change become 45-item. The reliability with Chronbach's alpha was .902. Self-efficacy for health promoting behaviors was measured using the Self-rated Abilities for Health Practices Scale, developed by Becker et al, comprises of 14 items. The scale asks the respondents to rate their confidence using a scale ranging from 1 (not at all), 2 (a little), 3 (somewhat), to 4 (completely confident). The reliability with Chronbach's alpha was .811.

Perceived Barrier for health promoting behaviors was measured using Barriers to Health promoting behavior Scales (BAS) developed by Murdaugh (2002). The questionnaire consists of 12 items, The respondents will respond by four points scale, ranging from 1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree, with Chronbach's alpha was .744. Perceived benefit was measured using the Benefits to Health promoting behavior Scales (BES) introduced by Murdaugh (2002). The questionnaire consists of 12 items; with Crhonbach's alpha was .764. Social support was measured using the multidimensional scale of perceived social support (MSPSS) developed by Zimet et al (1988), with Chronbach's alpha was .832. And the situational influences was measured using situational influences questionnaire modified form situational influences questionniare developed by Nuryanto (2013), with Cronbach's alpha was .862.

Descriptive statistic were used to characterize the sample and to examine the distribution properties of variables. Cronbach's alpha coefficient was used to examine the reliability of the

measurement tools. Spearman's rank was used to identify the relationship between personal factors, self-efficacy, perceived barriers, perceived benefit, social support, situational influences, and health promoting behaviors.

RESULT

Three hundred fifty-six older adults who meet the study criteria were approached to participate in the study. The average of participants age was 65 years (SD=6.68), 215 (60.4%) were female.

Table 1 Health Promoting Behaviors (n=356)

Level of Health Promoting Behaviors	**Number**	**Percent (%)**
Good Health Promoting Behaviors	12	3.4
Fair Health Promoting Behaviors	266	74.4
Poor Health Promoting Behaviors	78	21.9
Mean=2.19, SD= .468		

Table 2 Min-max, mean, and SD of health promoting behaviors' factors (n=356)

Variables	**Min-max**	**Mean**	**SD**
Self-efficacy	10-40	27.01	6.15
Perceived Barriers	19-34	27.82	2.79
Perceived Benefits	28-41	34.34	2.43
Social Support	32-82	60.47	8.19
Situational influences	28-61	46.54	6.81
Education	1-24	9.31	4.11
Income	300,000-20,000,000	2,060,356	1,750,639

Table 3 Correlation between gender, age, education, income, Self-efficacy, perceived barriers, perceived benefit, social support, situational influences with health promoting behaviors (n=356)

Factors	Health Promoting Behaviors	
	r	p
Gender	.004	.946*
Age	.139	.009**
Education	.198	.000**
Income	.153	.004**
Self-efficacy	.371	.000**
Perceived Barriers	.161	.002**
Perceived Benefits	.275	.000**
Social Support	.319	.000**
Situational Influences	.201	.000**

** p = .01 (2-tailed)

* p = .05 (2-tailed)

Table 1 showed the majority of older adults with hypertension in Bengkulu City have fair health promoting behaviors. Table 3 shows personal factors including age (r=.004, p<.01), education (r=.198, p<.01), income (r=.153, p<.01) were statistically significant associated with health promoting behaviors. However, gender (r=.004, p>.05) was not statistically significant associated with health promoting behaviors. Others variables including self-efficacy (r=.371, p<.01), perceived barriers (r=.161, p<.01), perceived benefits (r=.275, p<.01), social support (r=.319, p<.01), and situational influences (r=.201, p<.01) were statistically significant associated with health promoting behaviors.

DISSCUSSION

This study highlights the importance of some factors that influence health promoting behaviors among older adults with hypertension in Bengkulu City, Indonesia. The personal factors including age, education, and incomes were found significantly associated with health promoting behaviors, these results were consistent from previous studies (Ho et al, 2012; Pires and Mussi, 2011; Puraya, 2011; Costa et al, 2006). The educational level was related to health promoting behaviors, when the educational level is higher the health promoting behaviors will also increase (Mundan, et al 2013).

The current study showed that income was related to health promoting behaviors, this result consistent (Pires and Mussi, 2011), explained that older adults with adequate income would perform better health promoting behaviors. Adequacy of income influence the ability of older adults to get the healthy food which is in their economic capability. More over the other factors that also related with health promoting behaviors was social support, which is include support from the family, the condition

of older adults in Bengkulu City mostly lived with their family and got support to perform health promoting behaviors.

The other factors that had association with health promoting behaviors among older adults with hypertension were self-efficacy, perceived barriers, perceived benefit, and situational influences. The older adults who perceived more barriers for health promoting behaviors tended to have lower health promoting behaviors performance. This finding supported by Pires and Mussi, (2012) Ho et al, (2012) Li and Zhang (2013). Moreover, the older adults who perceived higher self-efficacy reported higher health promoting behaviors score also. When the judgment of abilities to accomplish physical activity increased, the confidence to perform health promoting behaviors would be increased. However, those factors could not influence the health promoting behaviors without support from the environment, situational influences are also having association with the performing of health promoting behaviors among older adult with hypertension Kamran et al, 2015; Hosseini et al, 2013; Shahroodi and Shokravi, 2013).

CONCLUSION

This result of study supported Pender et al (2011) that health promoting behavior was influenced by self-efficacy, perceived barriers, perceiver benefits, social support, and situational influences. Therefore, it is importance that all professional and the government interacting with older adults with hypertension who have poor health promoting behaviors performance through related factors to improve the health promoting behaviors.

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Socio-economic and Cultural Factors to Decrease Alcohol Drinking in Thailand

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Abstract

As it is common with other nations, which alcohol is the widest spread legal recreation drug in Thailand. This research is qualitative research used in-depth interview, focus group, SWOT analysis, and in-formal participatory observation with community leaders 48 samples in 5 regions of Thailand. The structural questionnaires, content validity and analysis had been used for research results. The findings were; Thailand's drinking customs are characterized by culture and traditions to show happiness and cerebration. Drinking alcohol increase during New Years' celebration, Songkran Festival, Loy Krathong Festival, Traditional Boat Races held by communities and temples along the rivers in many areas of Thailand, as well as funeral ceremonies, ordination ceremonies. By social events; job promotion, student's graduate, the pay day, married ceremony, cerebration for the other success, such as win the sport race, etc, or even drinking alcohol increase as a result of negative situations such as : life stress, jobless, divorce, etc. And by economic concerning alcohol marketing and binge drinking promotion, sponsorship, media advertisement that influences availability of alcohol in drinking context. Nowadays alcohol use is also common among young people than before, despite the legally purchased alcohol has to be over 18 years old. The research recommend prevention efforts and public action strategies should be based on a thorough understanding of the complex mix of socio-economic, political and cultural factors that impact alcohol drinking and its associated harms. An important intervention that aim to reduce alcohol drinkers have to develop strategies both legislative by the enforcement of serving regulations, reducing the sale and supply, reducing place to sell, age limited for buyers, time, tax and price, with enforcement effective law us. As non -legislative prevention need the participation of community leaders, non-government organization, to be good role model by holding non-alcohol festival and traditions, refusing alcohol sponsorships, life skills development in school, and consistency wide mass media campaigns to provide information about risks associated with hazardous of drinking alcohol to general public.

Keywords: Socio-economic, cultural, alcohol drinking, Thailand

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Introduction

An alcoholic beverage is a drink which contains a substantial amount of the psychoactive drug ethanol (informally called *alcohol*, Wikipedia, https://en.wikipedia.org/ wiki/Alcoholic beverage, assessed on line, 2015). Drinking alcohol plays an important social role in many cultures. Affects of alcohol has potential for abuse and physical dependence. How big is the problem?

- In 2013, 10,076 people were killed in alcohol-impaired driving crashes, accounting for nearly one-third (31%) of all traffic-related deaths in the United States.[1]
- Of the 1,149 traffic deaths among children ages 0 to 14 years in 2013, 200 (17%) involved an alcohol-impaired driver.[1]
- Of the 200 child passengers ages 14 and younger who died in alcohol-impaired driving crashes in 2013, over half (121) were riding in the vehicle with the alcohol-impaired driver.[1]
- In 2010, over 1.4 million drivers were arrested for driving under the influence of alcohol or narcotics.[3] That's one percent of the 112 million self-reported episodes of alcohol-impaired driving among U.S. adults each year.[4]
- Drugs other than alcohol (e.g., marijuana and cocaine) are involved in about 18% of motor vehicle driver deaths. These other drugs are often used in combination with alcohol.[5]

Most certainly, alcoholism has become such a major issue in Thailand. The World Health Organization (WHO) released its "2014 Global report on alcohol and health" that Most certainly, alcoholism has become such a major issue in Thailand. In 2012, the death caused by drinking alcohol accounted in the top five in the "Years of Life Lost". Deaths from cirrhosis of the liver were 28.2 per 100,000 citizens for men and 8.7 for women. The death rate for road accidents using the same criteria was 70.3 for men and 18.5 for women. Thus there should be public hearings of stakeholders in the industry when a change in the excise tax is contemplated. Participants could include the Thai Hotel Association, Tourism Authority of Thailand, owners of five-star hotels, importers and distributors of alcohol products, owners of Thai distilleries and consumer groups. (http://www.who.int/substance_abuse/publications/global_alcohol_report/en/.2015) . It became the top factor in road accidents during major holiday seasons including Songkran. Especially young people**,** at all levels of blood alcohol concentration (BAC), the risk of being involved in a crash are greater for young people than for older people. Among drivers with BAC levels of 0.08 % or higher involved in fatal crashes in 2013, one out of every 3 were between 21 and 24 years of age (33%). The next two largest groups were ages 25 to 34 (29%) and 35 to 44 (24%). According to the National Statistical Office's 2011 report on alcohol consumption by province, the lowest drinking rates were in southern and central regions, especially in the three southern border provinces, while the highest rates were in the North and Northeast. The report also said teenagers in the North and Northeast were the heaviest drinkers in their age group. (Centre for Alcohol Studies,2013 , http://www.bangkokpost.com/lite/topstories/342488/alcohol-consumption-report-)More than half of Thais in all age groups could be classified as drinking at the levels associated with moderate to very high risk. (WHO,2000)

In a society, it may come as a surprise that Thailand ranks fifth worldwide in per-capita alcohol consumption. In big cities like Bangkok and Nakhon Ratchasima, we can see groups of younger women enjoying an after work beer. Most Thais drink only domestically produced beers and liquors, primarily for reasons of expense. Drinking Customs: As in most parts of the world, drinking is seen as a way of 'unwinding', hence evening, weekends and holidays are when most people hit the bottle. Any type of festival or wedding is an excuse for drinks to be shared. Even at a funeral, it's usual to see a few bottles of

Mekong or Lao khao around, as a funeral is meant to celebrate the living as well as commemorate the deceased. Despite its acceptance, alcohol is never permitted inside shrine building or monastic quarters within a wat compound. Deep in the rural countryside-areas, where farming is the main activity and incomes are meager, a colorless liquid (white liquor) is the beverage of choice . Lao Yaa Dawng (Herbal Liquor) that add herbs, roots, seeds, fruit or bark to Lao Khao, allow it to steep for a few days or weeks and you get Lao Yaa Dawng (pickle herb liquor) which preparations are purposed to have specific health-enhancing qualities. In rural area, people have long believed in the medicinal qualities imparted by these concoctions, such as pain relief etc. As Socio-cultural and economic factors that concern to alcohol drinking of Thais as mention above, this research had applied qualitative research used in-depth interview, focus group, SWOT analysis, and in-formal participatory observation with 48 community leaders in 5 regions of Thailand.

Objective:

To study and analyze how socio-economic and cultural factors affect the alcohol drinking in Thailand and how to decrease the alcohol drinking in Thailand

Methodology:

This research had applied qualitative research used in-depth interview, focus group, SWOT analysis, and in-formal participatory observation with 48 community leaders in 5 regions of Thailand. The structural questionnaires, content validity and analysis had been used for research results.

Research results:

The research result revealed that Thailand's drinking customs are characterized by; 1) culture and traditions to show happiness and cerebration. Drinking alcohol increase during New Years cerebration, Songkran Festival, Loy Krathong Festival, Traditional Boat Races held by communities and temples along the rivers in many areas of Thailand, as well as funeral ceremonies, ordination ceremonies. By 2) social events; job promotion, student's graduate, the pay day, married ceremony, cerebration for the other success, such as win the sport race, etc, or even drinking alcohol increase as a result of negative situations such as : life stress, jobless, divorce, etc. And by 3) economic concern with business marketing promotion with alcohol and binge drinking, sport sponsorship by alcohol company, media advertisement, also influence of alcohol in drinking context. Nowadays alcohol use is also common among young people than before, despite the legally purchased alcohol has to be over 18 years old.4) By media and environment context had shape young people's perceptions of alcohol and drinking norms to show the cerebrations and maturity. The SWOT analysis showed that all these factors (socio-economic and culture) integrated with urbanization had escalated alcohol consumption in Thailand. The region that has the most alcohol consumption in Thailand is the North-East region, with 6.7 million drinkers or 40 percent of the country, while the second most alcohol consumption, which is 23 percent of the country, is in the North region.

SWOT analysis result for decrease factors of alcohol drinking in Thailand ; Strength: 1) Thailand used 2% of sin-tax in reducing alcohol consumption campaign all over Thailand. 2) local leaders performed good role model in some area such as Srisaket province to initiate cerebrate festivals (funeral ceremonies, boat race festival) without alcohol and debt reducing from non-alcohol funeral ceremonies. 3) Thailand has increased tax of alcohol beverages. Weakness: Because of urbanization and information technology, culture of drinking alcohol for cerebration and happiness had diffused to young generation that increased the new drinkers both boys and girls. Threat: 1) Social and culture value of alcohol are believed for cerebrations and happy time,2) business promotion and alcohol marketing (alcohol business is monopoly business and can make high benefit). 3) weakness of using law enforcement 4) Alcohol can

be produced by local and import. 5) Open market of AEC with free trade agreement that increase availability of alcohol. Opportunity: If Educators, Law makers, Health Leaders, and Politicians integrated their work and push the alcohol consumption reducing program for the national priority it would be success point for the effective of alcohol reducing in Thailand.

Discussion and Recommendation :

The research recommend prevention efforts and public action strategies should be based on a thorough understanding of the complex mix of socio-economic, political and cultural factors that impact on alcohol drinking and its associated harms. An important intervention that aim to reduce alcohol drinkers have to develop Education and enforcement of laws by the enforcement of tax increase (the research evidence showed that if the price of alcohol is high the drinkers will decrease) also serving regulations, reducing the sale and supply, reducing place to sell, age limited for buyers, time, tax and price, with enforcement effective law use. Also one of the goals of any successful alcohol program is to move drinkers toward drinks that contain less alcohol, for example beer and wine rather than spirits. As non -legislative prevention need the participation of community leaders, non-government organization, to be good role model by holding non-alcohol festival and traditions, refusing alcohol sponsorships, life skills development in school, and consistency wide mass media campaigns to provide information about risks associated with hazardous of drinking alcohol to general public.

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The Development of the "Mai Dorg" Spokes-character to Communicate a Brand

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Abstract

The qualitative study aimed to create a symbolic spokes-character called "Mai Dorg" to be used in the toxic –free or natural based ingredient product and low involvement product. An in-depth interview method was used to collect data from 5 key informants selected from known experts who used spokes-character in their brand communication extensively. The findings which were used as baseline data in the designing phase were as follows. 1) The key concept used in creating the "Character" is the memorability. 2) The "Character" must depict the physical characteristic and story of the product that the character was intended to represent its brand. 3) The appropriate uses of a symbolic "Mai Dorg" spokes-character to communicate a brand were as follow. 3.1) Symbolic character such as "Mai Dorg" is appropriate to communicate a brand of the toxic –free or natural based ingredient product and low involvement product group. 3.2) Creating the "Character" before and later on matching with the product to be best represented on a particular brand is appropriate on Celebrity spokes-character more than on Non-celebrity spokes-character. 4.) The use of "Mai Dorg" spokes-character should be further tested among general consumers.

Keywords: Spokes Character, Maidorg, Communication, Brand, Development, Cartoon

Introduction

The use of spokes-character or trade character is an alternative ways to promote a product through brand endorsements strategy. This method creates a unique identity to the brand through the communication of the spokes-character. In marketing communications, using a character is well known to the consumers, such as cartoon characters or movie characters that are famous, which promotes the brand in an authentic way.

In Thailand, a research shows the the effects of a spokes-character in advertisements bring a positive response from consumers. Spokes-character that are well-designed, appropriate, and consistent will make consumers interested and recognize the brand. (Ratiporn Kumsup, 2545:240).

However, most research only measure the effectiveness of a spokes-character in Thailand's market without regarding growth approach for designing and developing the character of the spokes-character. Therefore, it is equally important to evaluate the spokes-character in Thailand, in terms of crafting its format and procedures that are designed for character development, which is appropriate in communication and brand promotion.

For this reason, this research aims to study the design and development of a spokes-character in the market, with relevance to the elements of character that enhances brand communication. Hence, framework from experts in developing prototype character of "Mai Dorg," as a cartoon character that is shaped like a sunflower, will be the framework for this design as a Line Sticker. Interviews from the opinions of developing characters of a spokes-character will be appropriate to determine the importance towards brand promotion. This study will focus on the following topics:

Objective

1. To study the expert's opinion in using spokes-character to promote brand
2. To find appropriate method in developing a spokes-character "Mai-dorg".

Review of Literature

Use of Spokes-character in advertising

1. The definition of a spokes-character: Schiffman and Kanuk (2000: 232) says that Spokes-character or Trade-Character is a method of using a Cartoon character to become a spokesperson for a product or service, in order to enhance consumer interest for the product or service according to their imagination. In addition, it also can be a metaphor or symbolism for the brand, as well as symbol of recognition in the product or service.

2. Types spokes-character: Callcolt and Lee (1994: 4) divides a spokes-character that are advertised in television as 5 types, according to their character, 1) Animate Human-real 2) Animate Human-fictional 3) Animal personification 4) Animal with animal qualities 5) Product personification, such as M&M, who uses spokes-character according to the type of Callcolt and Lee as an Animate Human-real as a spokes-character. The spokes-character shows the character or a role created for the advertisements according to Garretson and Niedrich (2004: 25) that the spokes-character is vital towards brand recognition.

2.1 A celebrity character is a method of using the personality of a famous individual to build a cartoon or animation according to their character in the movie, book, or comic. However, this will require legal rights and licensed to be issued for advertisements.

2.2 A non-celebrity character is distinctively made for advertisements. According to a research conducted by Callcott and Lee (1994: 1) content Analysis of TV advertisements categorized by the type of item and classification of Spokes-character used in television commercials consist of 3 main reasons is 1) to build famous character 2) specifically used for advertising, 3) promote the use of the product by the character.

Ideas on Character Development

The character should contain a unique style of their identity. Also, it should have an element of personality traits, such as shape, that is different from one character to another. In order to create a character that is unique and distinctive in nature, the following factors should be taken into consideration: 1) Concept 2) Shape and Form 3) Emotions and feeling 4) Emphasis 5) Photo management 6) Talent 7) Point and 8) Line

Facial expression of the character comprised of elements that build character's emotion and feeling which should be different from one another. The main aspects of its facial expression includes: 1) eyes which should distinctively show various emotions and feelings of the characters. 2) Nose that express emotions above the lips of the character which should be blended or curved in the same manner and 3) Lips which is as important as eyes in defining emotions and feelings of the character.

Methodology

This qualitative research had the following procedure

1. Designing the Character "Maidorg" as a spoke-character using concept of sun flower with white circle and personified as human by using the movement to make it cute and playful.

2. Interview 5 key informants who were specialists in cartoon design to get idea which later used to shape the spoke-character in advertisement or brand. The key informants came from 2 groups; creative designer and marketing and advertising team.

Group 1, creative designer comprised of 1) Mr. Sanya Rertprasertkarn, Designer in Character of bull line sticker "Tid Lom" 2) Dr. Sakda-Aeoy, political cartoonist and President of Cartoonist in Thairath Newspaper and 3) Mr. Narong Jarungtumchod, cartoonist of Daily News and Kai Hua Roj Comic

Group 2 Marketing and Advertisement Team consist of 1) Mr. Adisak Amornchat Managing Director of Isobar (Thailand) Dentsu Aegis Network 2) Teeranop Wangsilapakun Owner of graphic designing company, TNOP DESIGN in Chicago, U.S.

Research Findings

1. Designing idea

1.1 It was found that the main idea in developing a spokes character should be easily recognize such as a signature, hand print equipment color shape, innovative and that particular character could be adapt for use in other media formats

1.2 The designer should know the market demand such as the purpose of building the spokes-character and usability of the spokes-character differently, design the character and personality of the spokes-character to serve the needs of the market that is fit to promote brand.

1.3 Design and build the spokes-character with quality to make the spokes-character valuable, storable, and able to build further aspects of beauty and friendliness to consumers..

1.4) Designer should make the spokes-character suitable for every age and context, such as children, in order to meet further qualities of the target market and its consumers.

2. Aspects of designing a spokes-character should be relevant to product's color, qualities, attitudes, designs and other characters.

3. Opinions from key informants concerning character of "Mai dorg" as a spokes-character

3.1 Spokes-character " Mai dorg" is appropriate to represent the following product:

3.1.1 Natural products, lack of chemicals, environmental-friendly.

3.1.2 Beauty fashion, fun, related to low-level products.

3.1.3 Nutritional drugs and supplements.

3.1.4 Household product that has smell

3.2 Opinions on the target group of Spokes-character "Mai-dorg" as follows.

3.2.1 Appropriate for a person who likes diversity, woman who have pride in purchasing products that are different.

3.2.2) Appropriate for a person the society wo do not follow everyday trend.

3.3. Advice to develop Spokes-character "Mai-dorg" for future development.

3.3.1) Personality of Spokes-character "Mai-dorg" should be clearer and distinctive personality, which corresponds to the target groups' behaviors and interests.

3.3.2) the developer should add more emotions and movements to Mai-dorg.

3.3.3) Build a spokes-character after brand was built to connect the Spokes-character to the brand and the mindsets of consumers in the market to enhance creativity of the character through distinctive personality.

3.3.4) Build the character of Mai-dorg to become a celebrity Spokes-character before using it to represent a brand.

Conclusion

1) The importance of designing the character was the character's uniqueness in various aspects can further connect the character to the character to the brand and/or consumer asChawalit Duangaouta (2552) found that a character could be recognizable if used movement, shape, color, or tone of voice. Tanthai Sakulwijitsintu (2556:125-126) mentions about the product endorsements of cartoon characters and its relevance towards the distinction in color, signature, and other attributes evidently determines that the uniqueness of the character play a vital role in distinguishing each character from one to another.

2. The designing of the character. It was found that character's qualities and personality also show that the brand should be related to the character itself. Naris Pichedpan (2550) found that the picture of a pokes-character in Thai products can be linked to their consumer through the spokes-character used for advertisements.. This correlation defined the character, content, qualities and attributes of the products. For example, Unif Green tea's spokes-characters depicted the quality of healthy family brand and Japanese culture.

3. Developing the character of "Mai-dorg" for used bring two concerns, 1) "Mai- dorg" is appropriate to advertise products that are chemical-free, environmental friendly, fashion design of happiness, nutritious supplements and product that have smell.. The character that differentiates "Mai - dorg" are female who take pride in using the product, which symbolize the society that is not concerned about modern trend. Ratiporn Kumsup (2545:177) found that the spoke –character should be designed to advertise products that are relevant to their character to maximize promotion targets. This will define the actual purpose of the promotion which is uniquely correlated to the qualities of the character. Furthermore, the Naris Pichedpan (2550) also suggested different type of spokes-characters. Appropriate character for children was a non-celebrity character as it can enhance its future fame and popularity.

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Attitudes, Marketing Communication Exposure and Decision to Study in Communication Arts of the Senior High School Students in Bangkok.

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ABSTRACT

This quantitative research aimed to study 1) attitude towards the communication arts program, 2) exposure on marketing communication of the universities and/or communication arts program, 3) factor effecting the decision to study in communication arts program, 4) study the relationship of the attitude decision on study in communication arts program to the exposure of marketing communication of the universities and/or communication arts program and attitudes toward the communication among the senior high school students in Bangkok.. The 433 samples were drawn from students in high school in Bangkok using multistage sampling. The questionnaire was used to collect the data which were analyzed using descriptive statistics and inferential statistic. The results revealed that

1. Overall, the respondents had good attitude about to study in Communication Arts Program at moderate level with the highest mean score on curriculum dimension.

2. Overall, it was found that majority of the respondents 203 (46.9%) were in the group who had high level of exposure to the marketing communication of the universities and/or communication arts program with average mean score of marketing communication at moderate level ($\bar{x}$ = 3.76, S.D. = .510).

3. It was found that majority of the respondent, 147 or 34.6 % will definitely not choose to study communication arts. The level of the decision to study in Communication Arts Program of the sample was at low level ($\bar{x}$ = 2.436, S.D. = 1.3636). Factor effecting the decision was the readiness of the studio and the equipment which had the highest average mean score ($\bar{x}$ = 4.13, S.D.=.832).

4. Analysis of relationship between attitude towards the communication arts program and exposure on marketing communication of the universities and/or communication arts program revealed a positive statistical relationship (r = .135) at significant level of 0.01. Analysis of relationship between attitude towards the communication arts program and decision to study in the communication arts program revealed a negative statistical relationship (r = -.108) at significant level of 0.01. There was also negative statistical relationship between the marketing communication exposure and the decision to study in communication arts program (r = -.126) at significant leave of 0.01.

Keyword: Decision to study, Marketing Communication Exposure, Attitude toward communication arts program.

Introduction

Nowadays, trendy of value in educations of the senior high school students were changed from the past. In the past they focused on Faculty of Medicine, Faculty of Pharmaceutical Science or Faculty of Engineering. The information of Association of University Presidents of Thailand presented the statement of the admissions in year 2558that showed The Faculty of Communication Arts in Julalongkon University was a tenth of many faculty that 465 students decision to study in this program while 1,124 students decision to study in Faculty of Engineering Program and 821 students decision to study in Faculty of Law, and subordinate 688 in Faculty of Political Science. The next step that showed Faculty of Economics had 653 students and 652 students in Faculty of Arts. It was evident that the students who chose in Faculty of Communication Arts did not different from any programs.

It was interesting that trendy in decision on educations of the senior high school students were increased while the opportunity in careers of the graduate who studied in Communication Arts Program was increased and The Communication Arts Program was increased too in many Private University and Public university. The researcher attention to studied of attitude in Marketing Communication Exposure and Decision on study in Communication Arts Program of the senior high school students in Bangkok. The results can used for management in Communication Arts Program to accorded with the target group's attitude and the results can developed the guidelines in marketing communication of Communication Arts Program to be an effective in the future.

Objectives

1. To study the attitude in Communication Arts Program of Senior High School Students in Bangkok.
2. To study exposure on marketing communication of the universities and/or communication arts program of senior high school students in Bangkok.
3. To study factor effecting the decision to study in Communication Arts Program of Senior High School Students in Bangkok.
4. To study the relationship between the attitude, marketing communication exposure and decision on study in Communication Arts Program of Senior High School Students in Bangkok.

Methodology

This research was quantitative research by the survey research and data collection by questionnaire form. The researcher has performed the method of this research as follows:

Population and Sample

Population in this research was 24,137 Senior High School Students in Bangkok and the sample in this research was 433 Senior High School Students in Bangkok and used multistage random sampling.

Research instrument

The questionnaire was used to collect data for this research It comprised of questions which were grouped in to 4 parts to collect data as follows.

Part 1 .Demographic characteristic of the respondents included gender, level of education, program of studies, GPA, income of parent and age.

Part 2. Attitude towards Communication Arts Program comprised of 40 positive and negative statements related to respondents' attitude towards studying in communication arts program. The 5 Likert scale from the highest level of agree (5) to the lowest level of agree (1). All 40 statements were grouped into three dimensions; attitude on curriculum dimension, attitude on students' characteristics dimension and attitude on education opportunities.

Part 3. Exposure to marketing communication of the university and communication arts programs. This section comprised of exposure of the respondents to 27 channels of communication used by the universities and communication arts programs which included mass media channels, internet and social media, personal media and out of home media.

Part 4. Decision on study in Communication Arts Program.. The questions included 1) the effecting level (5-1 Likert scale) of 14 factors relating to the communication arts program toward decision to study in the program and 2) Intention to study in the communication arts program after finishing the high school.

Data Collection

The questionnaires were distributed to the high school students in 4 high schools in Bangkok Metropolitan area during August to September, 2558. Only 433 completed questionnaires were analyzed using the computer software.

Data Analysis

The data were analyzed using descriptive statistics; frequency distribution, percentages, means and standard deviation. The inferential statistics, ANOVA, t–test, LSD and Pearson correlations were used to test the hypotheses. The findings were presented in tables and analytically described.

Results

1. Attitudes toward the communication arts programs.

Overall, the respondents had moderately good attitude about to study in Communication Arts Program at moderate level ($\bar{x}$ = 3.81, S.D. = .450). By dimension, it was found that the respondent had the highest mean score on curriculum dimension ($\bar{x}$=3.87, S.D. = -470) followed by students characteristics dimension ($\bar{x}$ = 3.76, S.D. = .510) and the lowest mean score on education opportunities

dimension ($\bar{x}$ = 3.74, S.D. = .535), respectively. All average mean score were at moderate level as shown in Table 1.

Table 1 Level of the attitude of the study in Communication Arts Program of Senior High School Students in Bangkok was extracted by 3 dimensions.

Attitude toward Communication Arts Program	Mean	S.D.	Level
Dimension of Curriculums	3.87	.470	Moderate
Dimension of Student Characteristic	3.76	.510	Moderate
Dimension of Education opportunities	3.74	.535	Moderate
Sum attitude	3.81	.450	Moderate

2. Exposure on marketing communication of the universities and/or communication arts program of senior high school students in Bangkok.

Overall, it was found that majority of the respondents 203 (46.9%) were in the group who had high level of exposure to the marketing communication of the universities and/or communication arts program. However, average level of the total population revealed that the respondents had average mean score of marketing communication at moderate level ($\bar{x}$ = 3.76, S.D. = .510) as shown in Table 2.

Table 2 Exposure on marketing communication of the universities and/or communication arts program

Level of exposure	No.	%	Mean	S.D.	
High	203	46.9	1.69	.725	Moderate
Moderate	163	37.6			
Low	67	15.5			

3. Decision to study in communication arts programs

3.1 Factor effecting decision to study in communication arts programs

It was found that the readiness of the studio and the equipment had the highest average mean score ($\bar{x}$ = 4.13, S.D.=.832) followed the factor on education support of Communication Arts Program ($\bar{x}$ = 4.04, S.D.=.795 and the lowest average mean score was on the factor "many famous lecturers in

Faculty of Communication Arts" which had average mean score = 3.66, S.D.=.882, respectively. All average mean score were at high level. Details were shown in Table 3.

Table 3 Mean and standard deviation of the effecting level of factors relating to decision to study in Communication Arts Program.

Factors relating to decision to study in the program	Mean	S.D.	Level
1. The famous of Faculty of Communication Arts.	3.94	.805	High
2. Many famous lecturers in Faculty of Communication Arts.	3.66	.882	High
3. The student in Faculty of Communication Arts was promoted to competition in any activities and be the winner.	3.84	.810	High
4. Many quality alumni were in any industry.	3.86	.910	High
5. Most of Graduate is good quality.	3.88	.834	High
6. The participated with community in any activities.	3.82	.886	High
7. Focus in activities between learning.	3.93	.844	High
8. Learning accorded to modern situations.	3.94	.830	High
9. Many subjects for selected.	3.97	.862	High
10. All Times for learning.	3.91	.854	High
11. Readiness of the studio and the editing equipment.	4.13	.832	High
12. The education supports/facilities of communication arts program such as library and media labs	4.04	.795	High
13. Credit and fee for learning in Faculty of Communication Arts	3.75	.864	High
14. Activities for PR. Of Communication Arts Program.	3.89	.833	High
15. Scholarship of Faculty of Communication Arts	3.89	.930	High

3.2. Intention to study in Communication Arts Program

It was found that majority of the respondent, 147 or 34.6 % will definitely not choose to study communication arts program followed by 102 or 24% of respondents were not sure whether it is good to study communication arts program and the least 17 or 18.1 % of respondents will definitely choose to study in communication arts program, respectively. The level of the decision to study in Communication Arts Program of the sample was at low level ($\bar{x}$ = 2.436, S.D. = 1.3636) as shown in Table 4.

Table 4 Mean and Standard Deviation of The intention to study in Communication Arts Program

Intentions to study in communication arts program	n	%
1. The program is the dream choice and will study in this program immediately after graduation from high school	77	18.1
2. Will definitely choose to study in communication arts program	17	4.0
3. Need to find more information before making decision	82	19.3
4. Not sure whether it is good to study communication arts	102	24.0
5. Will definitely not choose to study communication arts	147	34.6

($\bar{x}$ = 2.436, S.D. = 1.3636)

4. Relationship between attitude toward the communication arts program and exposure on marketing communication of the universities and/or communication arts program

Analysis of relationship between attitude towards the communication arts program and exposure on marketing communication of the universities and/or communication arts program revealed a positive statistical relationship (r = .135) at significant level of 0.01. as shown in Table 5.

Table 5 The relationship between marketing communication exposure and the attitude in study on communication arts program of senior high school students

Variable	Attitude towards communication arts program	***p*-value**
Exposure on marketing communication of the universities and/or communication arts program	.135**	.005

*statistical significant at 0.01

5. The relationship between attitude towards communication arts program, marketing communication exposure and the decision on study in communication arts program

Analysis of relationship between attitude towards the communication arts program and decision to study in the communication arts program revealed a negative statistical relationship (r = -.108) at significant level of 0.01. There was also negative statistical relationship between the marketing communication exposure and the decision to study in communication arts program (r = -.126) at significant leave of 0.01. Details were shown in Table 6.

Table 6 The relationship between Attitude and the Decision on study in Communication Arts Program

Variable	Decision to study in communication arts program	*P* **- value**
Attitude towards communication arts program	-.108*	.026
Exposure on marketing communication of the universities and/or communication arts program	-.126**	.009

*statistical significant at 0.05
*statistical significant at 0.01

Discussion and suggestions

Overall and in each dimension, it was found that the respondent had moderately good attitude towards studying in the communication arts program. .This may be due to the popularity of the mass media and awareness of the advancement of the media technology in their daily lives' experiences. .This may be supported attitude theories which Jirawat Wonsawastdiwat and other (2547) explained that attitude was formed through learning and experience both directly or indirectly. The finding that the respondents had high level of marketing communication exposure may be indirect cause of the good attitude which was proven by the positive relationship found in this study. The result indicated that the social medial exposure was also high among the respondents indicated that they may get enough information to form the positive attitude towards the communication arts program, especially using Facebook.. Facebook is electronics media and it is the most favorite online media, easy to used and very interesting media. It can showed the picture and the sound at the same time and be straight with media exposure concept of Sayree Wongmontha (2543) indicated that it can gave many information and sent it to the receiver by sound and picture it was multimedia and many children interested because they can used by unlimited."

Marketing Communication exposure had relationship to attitude in study on communication arts program, it may be expose the information in high level it made them known about communication arts program was very well and made them had good attitude.It be straight by conceptual of the attitude factor that explain, the cognitive component was the part of personal believes of human in anything that they liked or disliked. If the human had knowledge or the opinion to something it is good they would have good attitude too.(Nuntirat Yupull, 2531: 32 cited in Kesinee Jutawijit, 2542: 77)

Interestingly, the study revealed the negative relationship between the attitude towards communication arts program, marketing communication exposure and decision to choose the communication arts program when the respondents graduate from high school. There was a need to find a better reason to explain these phenomena. It may be because of the content of the marketing communication from the universities or the programs were not really penetrated to those who intended

to study in the communication arts program as majority of the respondents did not show their interests to choose the communication arts program.

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Teaching for Patient; the Role of Nursing Student in Boromarajonani College of Nursing Nakhonratchasima[1]

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Abstract

Teaching for patient is essential due to understanding the health situation consequently the patient will improve their spirit at any stage of their disease. This study aims to study the patient opinion on the role of nursing students of Boromarajonani College of Nursing Nakhonratchasima to teaching for patient. In the study 102 participants participated. Data was collected by questionnaire made by researchers that passed the process of validity check by 3 experts. Reliability of the questionnaire were analysed by Cronbach's Alpha with .91 CI. Data was analysed by descriptive statistical analysis.

The study found that, majority of participant is male (78.4%), the age of participants between 15-60 years old (78.4%), native to Nakhonratchasima province (82.4%), married (46.1%), graduated from primary school (51%), vast majority are employees (36.6%), salary less than 9,000 Baht per month (82.4%), most participants were taught on the first floor of orthopaedics department (42.2%), the participants without experience of the teaching before (86.3%), most of knowledge's issue that the patient receive advice is food for patient who are fracture (39.2%) then self-care for patient who are post open reduction external fixation (22.5%) and self-care for patient who are post open reduction internal fixation (18.6%) respectively.

The opinion of the patient on teaching role of the nursing students in overall is on high level of agreement ($\bar{x} = 4.30, SD = .46$) highest average score is the student nurses teach with their willingness ($\bar{x} = 4.45, SD = .64$), the teaching consequence patient improve their self-care ability ($\bar{x} = 4.44, SD = .57$), the teaching helps them gain their knowledge on self-care ($\bar{x} = 4.39, SD = .65$). The lowest point of opinion is the appropriation place for teaching ($\bar{x} = 4.16, SD = .87$).

The study result shows that nurses should use this teaching method with patients in orthopaedics department to promote their self-care and increase their satisfaction for the quality of nursing.

Key word: The teaching for patient, client perception, nursing student and Korat Nursing College

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Background

Information is vital for patients because understanding in their health situation, signs and symptoms may help them improve their spirit to face any stage of disease. According to Rungnapa K., et al. (2556) information needs of ICU patient relative in Phrapokklao hospital is high level of need in all aspects which conform to the study of Patchanee S., et al. (n.d.) which survey the need of information in 170 clients in Nakhonpranom hospital, found that clients have highest level of need of knowledge on health and nursing care. Three hierarchy of information needs are; knowledge of health care, self-care when the patients return home to prevent recurrent illness, and the knowledge of their disease and knowledge of their self-practice in hospital. The study of Patcharin S., et al. (2551) compared the needs of crisis patients' family members in a general hospital in the eastern part area of Thailand between ideal information and actual information received. The study found that the information needed and the actual information received are different in both minor aspects and overall with statistic significant at level .05, ideal need of information is higher than actual information received.

As can be seen from the results, most of the patients who are admitted in the hospital will have many health problems, complicated problems which are difficult to understand; therefore information provided for patients' relatives is very important because they always expect the answer and explanation on their all questions. If service provider is able to explain all of their questions the consequence will be a higher level of clients' satisfaction (Nongyao K., et al.: 2547). As nurse instructors; it is important to improve knowledge, ability and nursing skills as well as improving quality of nursing care competency in order to help people to solve their health problem. This would fulfil the mission of the project of "Giving advice to improve patient and their relative self health performance". The project begin with dividing nursing students into small group to search information, produce brochures and posters, and pre-training the students with the aim to improve their knowledge on the process of the disease and care of health problems. Then, the students provide service to clients by teaching and giving advice to in-patient in orthopaedics department of Maharat Hospital, Nakhonratchasima. The study on patient's opinions on the teaching role of the nursing student may further benefit improving teaching quality performance.

Purpose

This study aimed to investigate the opinions of in-patients at the orthopaedics department on the teaching role of nursing students.

Research Methodology

The Samples

Purposive sampling was used to draw samples from patients who were admitted in the in-patient wards in the Maharat Hospital. These wards included the first and the fourth floor of orthopaedics department, female and paediatric orthopaedics department. The samples must be patients who ever received nursing advices from nursing students in the project "Giving advice on health performance to improve health promotion on patient and their relatives" between December 2556 –to May 2557. One hundred and two samples were recruited for this research project.

Measurement and Research instrument

Questionnaire was used to collect patients' opinion on the teaching role of nursing students from Boromarajonani College of Nursing Nakhonratchasima. The researchers constructed the questions which comprised of two parts as follow.

Part 1: General information of the patient which included gender, age, resident location, marital status, educational background, occupations, salary (Baht/month), ward, receiving advices, and topics adviced.

Part 2: Patient's opinion of the teaching role of nursing students.. There were 15 questions divided into 4 categories which asked opinions on; 1) Style of teaching, 2) Speaker, 3) Media and Facilities 4) Learning outcomes. The respondents were asked to rate their opinions on five Likert scales from 1 (strongly disagree/dissatisfied) to 5 (strongly agree/satisfied). The questionnaire was assessed for its validity by 3 professionals and try-out from 30 patients with Cronbach's Alpha 0.91.

Data collection and Data analysis

The data were collected by researchers. The research was conducted during December 2556 - May 2557. Permission to collect data in the ward was approved from the Hospital's director and head of department. After nursing student teaches patients who were participants, they were asked to answer the questionnaire. Data were analysed using computer package to calculate frequency, percentage, mean and standard deviation. The average mean score of the opinion was interpreted as follows.

Average mean score between 1.00 – 1.49 = strongly dissatisfied/disagree

Average mean score between 1.50 – 2.49 =dissatisfied/disagree

Average mean score between 2.50 – 3.49 =moderately satisfied/agree

Average mean score between 3.50 – 4.49 = satisfied/strongly agree

Average mean score between 4.50 – 5.00 = strongly satisfied/agree

Research ethic

The following measures were followed to maximize research ethic of this project.

1. Inform consent to participate in the project; researcher explains steps of study, benefit, process of study and participant's rights, cover their secret information, and the researcher's responsibility and researchers mobile phone number to contact researcher when the participant is facing problems, and feel free to join the project without bias from nursing care and life in the in-patient department if they would not participate in the project.

2. Keep participants information safe and participants are free to withdraw themselves from the project at all time.

Results

1. Participants' profile

Table 1 The frequency distribution and percentage of personal data of participants (n=102)

Personal data	Amount	Percentage
Gender		
Male	80	78.4
Female	22	21.4
Age		
15-60 years	80	78.4
> 60 years	15	14.7
< 15 years	6	5.9
Resident location		
Nakhonratchasima	84	82.4
others	18	17.6
Marital status		
Married	47	46.1
single	37	36.3
Widowed	7	6.9
Divorced/Separated	3	3.0
Not indicated	8	7.8
Educational background		
Primary school	52	51
Secondary school	26	25.5
Vocational/technical	6	5.9
Not Indicated	17	16.7
Occupations		
Employee	37	36.3
Agriculture/Farmer	25	24.5
Student	9	8.8
Unemployed	7	6.9
Not Indicated	19	18.6
Salary (Baht/month)		
< 9,000	84	82.4
9001 – 15,000	15	14.7
> 15,000	3	2.9
Ward		
Male-orthopaedic surgery 1st floor	43	42.2
Female and paediatric-orthopaedic surgery	38	37.3
Male-orthopaedic surgery 4th floor	21	20.6
Receiving advice		
Never	88	86.3
Have received	14	13.7
Topic of advice		
food for patient who are fracture	40	39.2
self-care for patient who are post open reduction external fixation	23	22.5
self-care for patient who are post open reduction internal fixation	19	18.6
Osteoporosis	11	10.8
Arms and Legs exercise for patient who are post open reduction internal fixation	9	8.8

Data in Table 1 revealed that most of sample are male (78.4%), age between 15-60 years old (78.4%), living in Nakhon ratchasima (82.4%), Married (46.1%), Educational level- Primary school (51.0%), Most of them are employees (36.3%), Salary < 9,000 Baht/month (82.4%) most of them received advice at male-orthopaedic surgery 1st floor (42.2%), Never have experience with this type of teaching before (86.3%) most knowledge issue on patient and their relative receive is food for patient who are fracture (39.2%) then self-care for patient who are post open reduction external fixation (22.5%) and self-care for patient who are post open reduction internal fixation (18.6%) respectively.

2. Opinion on the teaching role of nursing students

Table 2 Mean and standard deviation of the participants' opinion on the teaching role of nursing students

Evaluation Item	$\bar{x}$	S.D.	Level of opinion
Teaching style			
Interesting teaching style	4.25	.67	Strongly agree
Speaker			
Willingness	4.45	.64	Strongly agree
Open to ask, friendly to answer the question	4.35	.64	Strongly agree
Explain with confidence, clear and easy understand	4.35	.66	Strongly agree
Good understanding in their advice topic	4.28	.68	Strongly agree
Omniscient/clear answer and hit to the point of question	4.26	.72	Strongly agree
Media and Facilities			
Brochure provide good content and cover all the issues, clear, easy to understand and read and interesting	4.31	.76	Strongly agree
Poster; clear content, easy to understand and interesting	4.20	.77	Strongly agree
Appropriate place for teaching	4.16	.87	Strongly agree
Learning outcomes			
Improve self-care ability	4.44	.57	Strongly agree
Improve self-care knowledge	4.39	.65	Strongly agree
Have a chance to exchange knowledge	4.32	.69	Strongly agree
Increase confidence for self-care	4.32	.66	Strongly agree
Bring the knowledge to improve self-care	4.21	.68	Strongly agree
Bring the knowledge to advise others who are facing the same problem	4.21	.74	Strongly agree
Overall opinion	4.30	.46	Strongly agree

Data in Table 2 revealed that patients in the orthopaedics department had high level of opinions on teaching role of nursing student in overall ($\bar{x}$ = 4.30, SD. = .46), Third higher level of average score are the student willingness to advice ($\bar{x}$ = 4.45, SD. = .64), the teaching improved the patients self-care ability ($\bar{x}$ = 4.44, SD. = .57), the teaching improved patients self-care knowledge ($\bar{x}$ = 4.39, SD. = .65) in high level of opinion. Conversely, appropriate place to teach indicated the lowest score ($\bar{x}$ = 4.16, SD. = .87).

Discussion

According to the results; we found the important points are;

Patients in orthopaedics department had a strongly agree opinion on teaching role of nursing student in overall ($\bar{x}$ = 4.30, SD. = .46) Third higher level of average score were the student willingness to advice ($\bar{x}$ = 4.45, SD. = .64), the teaching improved the patients self-care ability ($\bar{x}$ = 4.44, SD. = .57), the teaching improved the patients self-care knowledge ($\bar{x}$ = 4.39, SD. = .65). It could be explained from the results that before teaching; the student would survey the health problems of the patient and their treatment, their needs, and issues; after that student must choose and prepare the topic related to the patient's health problems and the needs of the patients including asking the patients' need and comfortable time to listen. The individual health education teaching is teaching style if their relative visit should invite them to participate. In terms of the teaching style that may help patients and their relatives is to not be scared to ask questions because direct experience on their illness and teaching topic is needed to meet their needs. Patchanee S., et al. (n.d.). Research on client information need in Nakhonpranom hospital with 170 participants found that clients need knowledge for self-care performance in appropriate way when discharged from hospital and headed back home with the aim to prevent recurrent illness ($\bar{x}$ = 4.75, S.D. = .59). Required knowledge on their disease ($\bar{x}$ = 4.62, SD. = .71). Need knowledge for health care performance and self-care when they are admitted ($\bar{x}$ = 4.54, S.D. = .73). When considering the teaching topic, it was found that the issue which patient and their relative most receive advice was food for patient who are fracture (39.2%), then self-care for patient who are post open reduction external fixation (22.5%) and self-care for patient who are post open reduction internal fixation (18.6%) respectively. In addition the topics are hit to patient need and teach in small group which is patient and their relative to learn with nurse manager this may affect patient opinion in high level this conform to Gatunyoo M. (2555) said that teaching case by case leads to more effective results because advisor is able to advise the patient individually.

The patients had opinion to place of teaching in minimum opinion on appropriate area, it can be explained that on this study most of teaching activity is bedside teaching, patient restrict movement for this reason. Hence, bedside nursing is made while poster or teaching instrument was put on the floor with gap between bed to bed is tile this possibly made participants feel uncomfortable.

Suggestions

For curriculum improvement. : The patients strongly agree on teaching role of nursing students which may help patients improve their knowledge and ability of self-care. Therefore, in terms of education should integrate knowledge with academic service using project to continuously teach patients and their relatives. Not only improve student ability but also improve quality of nursing care.

For nursing practice. According to the data stated previously, patient 86.3% never received prior advice. Therefore, in-patient department should develop nursing quality by support for health educational teaching, manual of teaching, teaching instrument and appropriate place for teaching.

For further research : This study only focus on opinion, therefore, teaching result such as self-care knowledge, self-care behaviour should be conducted to confirm findings in this study.

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The Effect of Group Counseling Program Based on the Satir Model on Self – esteem of Aging Persons at the Elderly Welfare Foster Home, Ban Thammapakon, Wat Muang, Nakhon Ratchasima Province[1]

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Abstract

The purpose of this quasi-experimental study was to describe the effect of participation in the group counseling program based on Satir Model on the levels of self-esteem among aging persons at the Elderly Welfare Foster Home, Ban Thammapakon, Wat Muang, Nakhon Ratchasima province. Sixteen samples were randomly selected and assigned into experimental or control group. The experimental group received the intervention named "The Group Counseling Program Based on the Satir Model", while the control group received usual activities from the Elderly Welfare Foster Home. The intervention was conducted two sessions per week for five consecutive weeks, one hour and a half for each session, from September to October, 2014. The Self-esteem Assessment Form and the Group Counseling Program Based on the Satir Model were used to collect the data. Content validity was approved by 5 experts. Cronbach's alpha coefficient for the Self-esteem Assessment Form was .87. Descriptive statistics and t-test statistics were used for data analysis.

Results found that the average score of self-esteem in the experimental group after intervention (X = 109.37, S.D = 8.60) was higher than before intervention (X = 82.25, S.D = 18.63). There was a statistically significant difference of the self-esteem average score between before and after intervention in the experimental group ($p > .05$). The average score of self-esteem between the experimental (X = 109.37, S.D = 8.60) and control groups (X = 87.34, S.D = 19.49) after intervention was also statistically significant difference ($p > .05$). These results indicated that the group counseling program based on the Satir Model significantly improved self-esteem among aging persons and facilitated participants sharing positive feedback with peer. Therefore, the group counseling program based on the Satir Model could enhance spirituality of aging persons who are living in the welfare foster home.

Keywords: *aging, group counseling program, Satir Model, self-esteem*

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Background of the study

Self-esteem is an important aspect of the adaptive processes at all stages of life, especially in older adults. 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, including physical and cognitive decline, thus the aging process does not necessarily results in self-esteem decrease, regardless of the decline in many areas of mental activity. Measure of the self-esteem and interpretation of the pertaining results vary according to various theoretical models (Alaphilippe, 2008).

Many researches indicate that, after a lifetime peak that occurs somewhere around age 60, the typical individual experiences a precipitous self-esteem drop-likely due to major life changes such as becoming an empty-nester, retirement and the deaths of close friends and family members. The elderly can become vulnerable when they become of advanced age and they are no longer able to perform many of the same daily activities they used to. If the elders are used to being at home and being independent, it can be a difficult time for them to live with others in a place like welfare foster home. These changes can affect their self-esteem (Wheeler, 2014). Helping to build self-esteem and self-confidence in an elderly person can benefit everyone who is involved with the person's care. It takes time for seniors to adjust to a new way of living as in a welfare foster home when they believe they are losing their independence, and they are realize that someone else will be handing their care. Eyesight changes, fragile bones and other health issues can drastically affect the way that seniors are able to live happily in a welfare foster home. However, there are a few ways older individuals can cultivate healthier levels of self-esteem such as seek out social connection, promote feelings of independence, and cope with life changes by finding support (Botek, 2014).

The Satir Model has, as its base, this deeply spiritual core, a belief that all people can access, experience and live from this spiritual Life Energy. The older people experience often comes from how they experience their behaviors, their emotions, their cognition and their expectations. When invited to learn about these aspects of their internal experience as well as their spirituality and the yearnings it produces that give positive possibilities, people can often change through their whole intra-psychic system to live more in the present through their positive life energy. This intra-psychic system is often discussed in terms of the metaphor of an iceberg. Satir invited therapists to learn to be "deep sea divers" to journey with people into their depths and help them discover and own the internal experiences they had that were out of their awareness so that they could make new decisions about them (Banmen, J & Maki-Banmen, K, 2014).

Thailand faces a rapidly growing population of older persons. The population of older persons will increase from the current 6.4 million to 9.0 million in 2015, 12.9 million in 2025 and exceed 20 million in 2050. Life expectancy at birth increased from 52 years in 1950-55 to nearly 71 years in 2000-2005. It is projected to increase further to 76.8 years in 2025-2030 and 79.1 years by 2050. On an average, women are expected to outlive men by about nine years. As a result, the proportion of older persons in total population will increase to 14 percent in 2015, 19.8 percent in 2025 and nearly 30 percent by 2050. Such changes will imply a reduction in income per capita as well as increase in public expenditures on social security, health care and welfare of older persons. At the social level, the changing family structures will also imply a decline in family support to the elderly. Poverty among older persons stood at a high rate of 20.7 percent as per the 2002 Survey of the Elderly, compared to the national average of 9.8 percent. Due to the change in global social context and economic situation, Thai society has changed from traditional 'extended family'- a family extended to include grandparents and relatives to live in the same household-

into 'nuclear family'. Although Thai families still widely take care and support elderly, under rapid economic, social and demographic changes in the past few decades, family system which supports elderly person had been changed in Thailand (UNFPA THAILAND, 2006).

Population aged 80 years or more is referred to as the "oldest old". Increasing survival rate to age 80 years means that among the older persons, more and more will live up to 80 years. Currently, this is 36 percent and will increase to 56 percent by 2050. Similarly, life expectancy at age 80 years, the number of years an oldest old person can on average be expected to live beyond 80 years, is projected to increase. With an increasing proportion of Thais expected to reach age 80 years and on average live for more years beyond that, the proportion of the oldest old in the population is expected to register exponential growth. The population of the oldest old, currently estimated at 590 thousand, will increase to 1.3 million in 2025 and exceed 3.5 million by 2050. This means extended duration of social security and welfare payments and increasing need for care of old age morbidity and disability (UNFPA THAILAND, 2006).

Under the Ministry of Labor and Social Welfare, several residential services for the elderly have been developed. The Department of Public Welfare has operated homes for the elderly since 1953 with the main purpose of providing residential care to needy persons who meet the following criteria: over 60 years for females and 65 for males; homeless; no relatives to live with or unable to live happily with their own families. Services provided include lodging and food, clothing, personal and therapeutic activities for physical rehabilitation, recreational activities, traditional festival activities, social work services, and traditional funeral services.

In welfare foster home, women outnumber men as they constitute a majority of Thailand's older population. At birth there is an approximate balance in sex ratio with 103 males to 100 females. Due to higher female life expectancy, the ratio of male to female declines with age, and women outnumber men in older age groups. In 2005, women constituted 50.6 per cent of Thailand's older population and 66.9 per cent of the oldest old population. Projections show that women will continue to be more than 60 per cent of the oldest old population in 2025. A much higher proportion of older women than older men live without a spouse. The National Survey on the Elderly in Thailand in 2002 reported that 45 percent of older women, as against 15 per cent of older men, did not have a spouse. Older Thai women face other disadvantages relative to men: (a) lower level of literacy, (b) longer periods of widowhood, (c) living alone with significantly lower household income, (d) higher levels of morbidity and disability, and (e) lower likelihood of receiving formal retirement benefits or social security support. As such older women more than older men are exposed to poverty, neglect and abuse (UNFPA THAILAND, 2006).

The special emotional needs of elderly people living in welfare foster home, such as support their self-esteem, should not overlooked. Living to an old age, especially in welfare foster home, can create very sensitive issues for people if their value is understated. In order to assist elderly people to maintain their overall health and sense of well being it is important to help them feel needed with efforts to enhance their self-esteem.

Aim of the study

The aims of the study were to:

1) Determine the level of self-esteem of aging persons in the experimental group between before and after intervention

2) Compare the level of self-esteem of aging persons 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 group counseling program based on Satir Model enhance self-esteem of aging in the experimental group?

Hypothesis 1 Self-esteem at posttest of the experimental group would be higher than pretest.

Research Question 2 Does the group counseling program based on Satir Model increase self-esteem of aging in the experimental group after intervention?

Hypothesis 2 Self-esteem of the experimental group would be higher than the control group after intervention.

Research Methodology

Study design

A quasi-experimental study was conducted in order to determine the levels of self-esteem of among aging persons at the Elderly Welfare Foster Home, Ban Thammapakon, Wat Muang, Nakhon Ratchasima province.

Study Population

The study population consisted of all ages of female aging persons living in the Elderly Welfare Foster Home, Ban Thammapakon, Wat Muang, Nakhon Ratchasima province. A total of 16 female aging persons were recruited from 35 target population.

Sample

A simple random sampling and random assignment was adopted for this study. The inclusion criteria were female aging persons of all age groups, who were able to participate with group counseling, were able to communicate normally, evaluated their self-esteem between the low and quite high level, and voluntarily participated in this research. A total of 16 participants were recruited and randomly assigned into experimental and control groups, 8 persons for each group.

Research Instrument

A Self-esteem Assessment Form which was back translated by Nattaya Wongleekpai (1989, referenced by Kanda Pawong, 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 group counseling program based on Satir Model was developed by researcher. The Satir Model embraces four universal meta-goals as the focus of therapy (Banmen, J & Maki-Banmen, K, 2014). These are:

1. Raising self-esteem. Self-esteem is how the person experiences and judges him/herself in the present. It goes beyond how one feels about or perceives himself; it is at the level of one's essence and, therefore, is at the level of Being and consciousness. When one has high self-esteem, he/she is experiencing him/herself through his/her spiritual Life Energy, or Self.

2. Becoming a choice maker. When one is living from the level of Self, one's choices are towards freedom. One's choices are in the direction of health, happiness, peace and love. One feels empowered to choose wisely.

3. Becoming responsible. When one is living from the level of Self, one is conscious of his/her internal experiences and is responsible for all feelings, perceptions, expectations and yearnings as well as

one's behavior. Satir reminded us that all of our internal experiences belong to us. The Self is greater than all feelings, greater than all thoughts, greater than all unmet expectations. When we become responsible for our internal world, we experience the vastness of our Being. We then become responsible for our own growth towards becoming more fully human, as well.

4. Becoming congruent. Congruence is a deeply imbedded concept and goal of the Satir Growth Model. In her early communication model, Satir encouraged people to be "straight" – to say what they meant and do what they said. However, congruence as a meta-goal implies that people can grow to be in harmony with their own Life Energy and to experience the peace, joy, love and connection that exist there. When one is more congruent, one is free from negative experiences of the past as one is now living in the present at the level of Being. Other ways of describing congruence might include being integrated, real, genuine, or authentic. There is an expectation in the Satir Growth Model that therapists have attained a fairly high level of congruence in their lives and can be congruent while working with their clients.

Validity and reliability of the study

The content validity of the Group Counseling Program Based on Satir Model was approved by three experts. Cronbach's alpha coefficient for the Self-esteem Assessment Form was .87.

Experimental design

A quasi-experimental pretest-posttest control group design was completed. Prior to the initial commencement of the group counseling program based on Satir Model, all participants signed an informed consent agreement and completed a demographic information questionnaire. Subsequent to the complete of the pretest assessment, the treatment group participated in the group counseling program that would be held two sessions per week for five consecutive weeks, one hour and a half for each session. The control group received the usual care from the welfare foster home staffs. After completion of the program, both the treatment 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 treatment 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 treatment group and control group were calculated.

Results

Sample characteristics

Sixteen participants (100% responding rate) completed the Self-esteem Assessment Form. The socio-demographic characteristics of the respondents are illustrated in Table 1.

Table 1 Socio-demographic characteristics of respondents (N = 16)

Characteristics	Frequency (n)	Percentage (%)
Age (years)		
60 - 69	7	43.75
70 - 79	4	25.00
80 - 89	2	12.50
≥ 90	1	6.25
Gender		
Female	16	100
Male	0	0.00
Marital status		
Single	4	25.00
Married	2	12.50
Widow /Separate/divorce	10	62.50
Underlying disease		
Yes	12	75.00
No	4	25.00
Education		
Elementary School	8	50.00
High School	3	18.75
High Vocational Certificate	4	25.00
≥ Bachelor degree	1	6.25
Monthly Income (Thai Baht)		
500 - 1,000	10	62.50
1,001 - 2,000	3	18.75
2,001 - 3,000	1	6.25
Other	2	12.50

As seen in table 1, 43.75% (n = 7) of participants was aged 60-69 years old, 100% of participants (N = 16) was female, most of their marital status was widow, separate, and divorce (62.50%) 75% of participants has underling diseases, their educational level was elementary school (50%), and monthly income was 500 - 1,000 Baht.

Research question 1

Does the group counseling program based on Satir Model enhance self-esteem of aging 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 statistically significant difference between pre-and post-intervention within the experimental group.

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	82.25 (18.26)	109.37 (8.06)	3.79	7	.01*
	Control group				
Self-esteem	101.62 (7.20)	87.37 (19.49)	2.61	7	.03*

*p<.05

Research question 2

Does the group counseling program based on Satir Model increase self-esteem of aging 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 intervention. The result of testing found that there was statistically significant difference between the experimental and control groups after intervention.

Table 3 Independent Sample Test between group after intervention

Self-esteem / Group	M (SD)	*t*	df	p (1-tailed)
Experimental	109.37 (8.60)			
		14	2.92	.01*
Control	87.37 (19.49)			

*$P < .05$

Discussions

The present study examined the effect of a group counseling program derived from Satir Model on self-esteem level of aging at welfare foster home. Participants in the treatment group attended the group counseling program that was held two sessions per week for five consecutive weeks, one hour and a half for each session, whereas participants in the control group received usual care from the welfare foster

home staffs. 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 the group counseling program on the dependent variables.

Exposing the experimental group to the group counseling program based on Satir Model significantly increased their self-esteem. This may be linked to the fact that exposing the experimental group to group counseling program enables them to aware of their doing and wants, and to plan and implement 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 treatment was effect on her decision-making and the responsibility for dealing with situation in her life that would be more helpful (Banmen, J & Maki-Banmen, K, 2014).

The experimental group experience psychological support from the counselor and other clients. Namely, the group counseling program based on Satir Model that 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 treatment, participants who participated in the group counseling program exhibited higher self – esteem than did participants who received usual care. 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, 2014).

Conclusion

These results indicated that the group counseling program based on the Satir Model significantly improved self-esteem among aging persons and facilitated participants sharing positive feedback with peer. Therefore, the group counseling program based on the Satir Model could enhance spirituality of aging persons who are living in the welfare foster home. The model we created here can serve as a reference for the future application in welfare foster home care.

Implications

The study results confirmed that elderly people who are assisted in maintaining a strong sense of self-worth via boosting their self-esteem really are overall more healthy in mind and body. The special emotional needs of the elderly who are living at welfare foster home should therefore always be highlighted. Advances in medical science which help many people live longer serve little real benefit for the elderly without a focus on also helping the elderly maintain a high quality of life. Working to boost the self-esteem of the elderly may very well be significant manner to help maintain such as high quality of life for older people.

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Activities of Daily Living in the Elderly: Comparisons between Nakhonratchasima and Chai-yapoom

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Abstract

Background: Activities of Daily Living (ADL) is an essential tool for measuring the ability in the elderly. Estimates of the number of older people with problems performing ADL are enhanced public long-term care program.
Objectives: The objective of this study was to examine the activities of daily living among Thai elderly in Nakhon Chai Burin district.
Methods: A multi-stage sampling was used to recruit 168 the elderly from 2 city municipality of Nakhon Chai Burin district. A total number of 70 elderly were from Nakhonratchasima city municipality and 98 elderly were from Chai-yapoom municipality. Quantitative data were collected by using Barthel ADL index. In addition, data were analyzed using frequency and percentage.
Results: The results showed that about 97 percent of the elderly do not receive help with any of five ADL (ADL > 12). It found that 95.7 percent of the elderly in Nakhonratchasima city municipality and 100 percent of the elderly in Chai-yapoom municipality could independently perform activities of daily living (ADL > 12)..

Keywords: Activities of Daily Living (ADL), Elderly, long-term care program

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Background and Significance of the Problems

Thailand is one of the developing countries having the population structure leading to the Aging society like the same as some other countries. According to a survey of the National Statistical Office in 1994, 2002, and 2011, it was found that a number and proportion of the elderlies increased rapidly; that was, 6.8, 9.4, 10.7, and 12.2 percent, respectively. Based on a survey in 2014 in which data were collected from a sample group of 83,880 households in every province of the country, it was found that there were 10,014,705 elderlies which accounted for 14.9 percent of the country population; 40.9 percent lived in the municipality and the rest (59.1%) lived outside the municipality. Northeastern region was found to have a highest number of elderlies (31.9%), followed by central region (25.6%), northern region (21.0%), and southern region (12.0%), respectively. The first top-five provinces having a highest number of elderlies were Nakhonratchasima, Khonkaen, Chiangmai, UbonRatchathani, and Nakhon Sri Thammarat, respectively. Thailand becomes to be the Aging society due to the success in the policy on population and family planning which results in a continual decrease in birth rate. Also, the progress in medicine, public health, and technology cause population in the country are long-lived. An increase in a number of elderlies (60 years old and above) which reaches more than 10 percent of the country population whereas there is a decrease in a number of youths and workforce age has an effect on socioeconomic condition of the country. Thus, it needs to manage a long-term elderly care-taking system aiming to make them have a good quality of life (National Statistical Office, 2014).

According to data of the Health Intervention and Technology Assessment Program: HITAP in 2013 based on 13,642 elderlies in 12 health service areas (280 provinces), it was found that 28 percent of the sample group of elderlies had desired health behaviors, i.e. 3 days of exercise per week; drinking glasses and above of clean water per day; always eat vegetables and fruits; avoid drinking alcoholic beverages or smoking cigarette. This collaborated with four aspects of desired positive factors: 1) joining the elderly club; 2) always participate in community activities; 3) using a manual on elderly health care; 4) having more than 20 teeth. The following were undesired behaviors which were risky to health deterioration: Overweight and obeseness which were found in males for 43 percent and females for 50 percent. This was because most of them were deficient due to some diseases e.g. diabetes (18%), high blood pressure (41%), and osteoarthritis (9%). Few of them engaged in depression, physical infirmity, and bedridden. Besides, it was found that only 5 percent were healthy (Khomin, 2014: p.5). Struggling elderlies is different depending on their background and health. Importantly, they must survive without the difference; that is, elderlies must live in the society happily with dignity. In other words, elderlies must stay with their families in the society. Their self care-taking must include both mind and good social relationships. Close relationships with family members, relatives, and friends can help elderlies perceive their value, be proud of themselves, and be happy that those people accept them (Oopayothin,2012: p. 36). Body deterioration in various aspects of elderlies, i.e. eye-sight, listening, smelling, touching, body balancing and function of body structures makes elderlies have many problems e.g. Alzheimer's disease, urinary incontinence, constipation, falling down easily, bad balancing, short sleeping and various chronic diseases such as diabetes, high blood pressure, and heart disease.

For mind aspect, elderlies usually have problems related to stress, depression, loneliness, lack of self-confidence, etc. All of these cause elderlies be able to carry out activities well in livelihoods (Worapongpichet, 2012: p. 138). Loss of competency in daily life activities will increase based on age. For example, those having age range between 65-74 years (11-14%) loss walking competency and 23-25 percent of those who are 75 years old and above cannot walk in their house. It is found that 1.8 percent of Thai elderly's loss the ability in walking which will lead to the ability in other aspects of activity of daily living (ADL) such as bathing, dressing, eating, etc. All of these result in bad effect on health of elderlies: health-bedsore, disorder of various body organs; mind-depression, delirium; and social impacts-this in particularly on the families that have to take care of elderlies who cannot do daily life activities throughout 24 hours (Atsantachai, 2009).

According to a survey on the elderly population in Thailand in 2014, it was found that most of the elderly population was in northeastern region (3,192,932 persons). The Nineth Health Service Region (Nakhon Chai Burin) joins the operation on public health for the elderlies covering 4 lower northeastern provinces: Nakhonratchasima : 423,934 persons (109,798 in the municipality and 314,136 outside the municipality), Burirum : 228,544 persons (67,464 in the municipality and 161,080 outside the municipality), Surin : 212,999 persons (29,112 in the municipality and 183,887 in the municipality and 145,112 outside the municipality (National Statistical Office, 2014).

Regarding health situation provided by Nakhon Chai Burin, fiscal year 2012, it was found that all of the provinces had elderlies of group 1 (Social – based – able to help themselves and others): Burirum (98.9%), Nakhonratchasima (98.2%), Surin (97.6%), respectively. Likewise, it included group 2 (home-based-able to help themselves but not others) and group 3 (bed-based-unable to help themselves) with 0.9 percent all. Elderlies of group 3 were visited at home once a month by concerned personnel in each of the provinces (95.5% Chaiyaphum, 81.3% NakhonRatchasrima, 58.8% Surin, and 28.6% Burirum) (The Fifth Health Center, Nakhonratchasima, 2013).

Based on data investigation in Nakhonchaiburin area, the researchers found that the elderly care-taking could be done coverly in Chai-yapoom and Nakhonratchasima provinces. Hence, it was interesting to conduct a comparative study in terms of the ability in activities of daily living of elderlies in the municipalities of Nakhonratchasima and Chaiya-poom provinces where elderlies of group 3 were taken care most by the Nineth Health Service region, Nakhon Chai Burin district. This aimed to analyze and predict health behaviors on health problems. Besides, it could be data analyzing traits of appropriate elderly care-taking which meets needs of elderlies.

Objective of the Study

Specifically, this study aimed to examine the activities of daily living among Thai elderlies in Nakhon Chai Burin district.

Research Methodology

The data in this survey were obtained in aged 60 and over living in the municipality. About the quantitative data: The researchers asked for permission of the sample group and informed them objective of the study and their rights protection. Then explained about the test paper on the ability in activities of daily living and checked completeness of data. In addition, Data in the test paper of Health Department, Ministry of Public Health were applied form Barthel ADL Index with a total score of 20.

Population and Sample

It consisted of 70 elderlies in the municipality, Nakhonratchasima province and 98 elderlies in the municipality, Chaiya-poom province.

Protection of the sample group's rights

The researchers did it by providing them data, explain objective of the study, and informing their rights to give up the program and deny giving data. Obtained data would be kept confidently.

Research Instrument

The questionnaire consisted of 2 parts:

Part 1. General data of the sample group i.e. sex, age, and chronic disease

Part 2. The ability in activities of daily living and Brathel ADL Index

Results of the Study

This descriptive research aimed to examine the activities of daily living among Thai elderlies in Nakhon Chai Burin district. Results of the study consisted of 4 parts as follows:

Part 1. General data of the sample group

Part 2. Comparison of the ability in activities of daily living between the elderlies in Chaiya-poom and those in Nakhonratchasima province.

Part 3. Comparison of the ability in activities of daily living between the elderlies having chronic disease and those who have not

Part 4. Comparison of the ability in activities of daily living among the elderlies of different ages.

Part 1. General data of the sample group

Participants in this study were 70 elderlies in Nakhonratchasima province and 98 elderlies in Chai-yapoom province.

Table 1. General data of the sample group

Data of the elderlies	Chai-yapoom (N=98)		Nakhonratchasima(N=70)	
	Frequency	%	Frequency	%
Age				
60 – 69 years	74	75.5	38	54.3
70 – 79 years	24	24.5	19	27.1
80 years and above	-	-	13	18.6
Chronic disease				
No	42	42.9	33	47.1
Yes	56	57.1	37	52.9
Ability in activities of daily living				
0-4 score	-	-	1	1.4
5-11 score	-	-	2	2.9
12 – above	98	100	67	95.7

According to Table 1, it shows that most of the elderlies in Chai-yapoom province had age range between 60-69 years (74 persons or 75.5%). Most of them had chronic disease (56 persons or 57.1%). All of them had the score on the ability in activities of daily living for 12 and above. Meanwhile, most of those in Nakhonratchasima province had age range between 60-69 years (38 persons or 54.3%). Most of them had chronic disease (37 persons or 52.9%). Most of them had the score on the ability in activities of daily living for 12 and above (67 persons or 95.7%).

Part 2. Comparison of the ability in activities of daily living of the elderlies in Chai-yapoom and those in Nakhonratchasima province

Table 2. Comparison of an average mean score on the ability in activities of daily living of the elderlies in Chai-yapoom and those in Nakhonratchasima province

	Nakhonratchasima		Chai-yapoom		Mann-Whitney U Test	
	Mean Rank	Sum of Rank	Mean Rank	Sum of Rank	Z	P-value
Ability in activities of daily living of the lderlies	121.46	8502.50	58.10	5693.50	-9.205	.000*

* P value ‹ .05

Table 2 shows that the elderlies in both Chai-yapoom and Nakhonratchasima provinces had statistically difference in an average mean score of the ability in activities of daily living.

Part 3. Comparison of the ability in activities of daily living between the elderlies having chronic disease and those who have not

Table 3. Comparison of an average mean score on the ability in activities daily living of the elderlies in Nakhon Chai Burin health service district who have chronic disease and those who have not

	Have no chronic disease		Have chronic disease		Mann-Whitney U Test	
	Mean Rank	Sum of Rank	Mean Rank	Sum of Rank	Z	P-value
Ability in activities of daily living of the elderlies	92.84	6963.00	77.77	7233.00	-2.207	.027*

* P value ‹ .05

Table 3 shows that there is a statistically significant difference at .05 in an average mean score of the elderlies having chronic disease and those who have not. That is, the elderlies who have chronic disease have a higher average mean score than those who have not.

Part 4. Comparison of the ability in activities of daily living among the elderlies of different ages

Table 4. Comparison of an average mean score on the ability in activities of daily living of the elderlies having different ages in Nakhon Chai Burin health service district

		N	Mean Rank	Chi-Square	Df	Sig
Age group	60-69 years	112	84.9	.763	2	.414
	70-79 years	43	80.63			
	80 years and above	13	99.08			

Table 4 shows that the difference in ages of the elderlies in Nakhon Chai Burin health service district had no effect on the difference in the ability in activities of daily living. That is, there is no difference in an average mean score of the elderlies.

Discussions

This study selects the sample group living in Muang Municipality where there are a lot of elderlies and there are home visit service covering everyone. However, they have a rather low level of reliant condition. This study found that the ability in activities of daily living of the elderlies (ADL) equivalent to 0-4 is not found in Chaiya-poom whereas one person is found in Nakhonratchasima (1.4%). Besides, it is found that almost 100 percent can do activities of daily living almost completely (ADL is more than 12). This is similar to that of other related researches which find that only 1 percent (ADL = 0-4) of the elderlies cannot help themselves. This also confirms to a study of Boonchalucksi (2010) who found that the elderly care-taking must be perfect and done by a multi-professional team. Besides, administrators

must have vision on long-term care-taking development and good care-taking must be practiced since the initial elderly stage. The above measures found that there are difference of ADL between Nakhonratchasima and Chaiya-poom.

In addtition, Having chronic disease exert an effect on ADL. It is plausible that some chronic diseases (for example, poor vision or heart disease) could result in compensatory of performing a task. These results are difference from the study of Wilaiporn Kumyong. (2011). because of her study may measure ADL in the latent stages of chronic disease.

Age showed no association with the mean ADL sum score for all age groups. Most of elderlies in this study were in age group (60-69 years). Additionally, 13 of elderly in age group (80 years and above) had no disease and no limited functional capacity that had no impact on ADL score.

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Factors Influencing to Media Exposure Behavior of Nursing Students Thailand, the Republic of Union Myanmar, and Indonesia[1]

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Abstract

Background: Media exposure is an important driver of the innovation diffusion and has a significant impact on any opportunity for a reader, viewer, or listener to see or hear an advertising message in a particular media vehicle. There are many ways in which media can support and inform nursing and the greater healthcare community. The factors that may facilitate or influent performance of the behavior in using media will explore the opinion of nursing students in three countries of Asia in this research.

Objectives: The purposes of this research were to study 1) the relationship of genders, age, year class, internship experience and the behavior level of media exposure nursing students Thailand, the republic of Union Myanmar and Indonesia, and 2) the influence of genders, age, year class, and internship experience with media exposure behavioral of nursing students Thailand, the Republic of Union Myanmar, and Indonesia.

Methods: The survey approach was used for conducting answers via online during January-May 2015. The field studies were located 1) at Boromarajonani College of Nursing Nakhon Ratchasima, Saraburi, Chakrirat Ratchaburi, and Bangkok in Thailand (n = 1374), 2) at University of Nursing Rangoon and Mandalay in the Republic of Union Myanmar (n = 322), and 3) Indonesia at Stikes Bali, Stikes Hang Tuah Tanjung Pinang, and Stikes Bukit Tinggi of West Sumatra (n = 736)**.** Included 2,432 participants who were the nursing students in Bachelor Degree of Nursing science. The Cronbach's Alpha method was used for reliability .814. Data were collected by using the quantitative information that was analyzed by using frequency, percentage, average, standard deviation, Spearman's rho correlation analysis, Mann Whitney test and Kruskal Wallis test

Results: The results showed that the samples were 12.91% male and 87.09% female of nursing students. The averages of ages were 20.14 year old (*SD* = 2.72). The analysis presented that 1.1) the relationship between age, gender, year class, and internship experience and behavior level of media exposure of nursing student Thailand were low correlated significant at .05, 1.2) the relationship between age, year class, internship in community and behavior level of media exposure of the republic of Union Myanmar were positively correlated a significant at .05, 1.3) the relationship of ages, gender and behavior level of media exposure were negatively correlated significant at .05 in nursing student Indonesia. Finally, Mann Whitney U test and Kruskal Wallis test indicated the influence of ages, genders, year class, and internship experience with media exposure behavioral of nursing students had a significant at .05.

Conclusion: Results of the hypotheses test at the statistical significance level of 0.05 suggested that behavioral media exposure is conceptualized as the type and frequency of using of social media. These behaviors are depend on ages, gender, year class, and internship experience which usage of media could concern the nature of context and culture of each country.
Key words: Behavior Media Exposure, Nursing students, Thailand, The Republic of Union Myanmar, Indonesia

I. Introduction

Behavior is the action or any activity in people who have desired to do until it is showed identity in their own. Behavior can evaluate and show to another for understanding connection. Social media involves communication through words, images, and multimedia. Students and educators may benefit from case discussion, interaction between students and faculty. (Alison C. Essary, 2011). Social media offers mechanisms for collaboration, networking, and learning. (Schmitt, T., Sims-Giddens, S., Booth, R.,2012). Online survey research was reported that behavior of 3574 undergraduate nursing students enrolled in college of nursing in Thailand Ministry of Public Health during April-May 2014 found that most students used media exposure through Facebook, Line, Instagram, and TV. Their reasons were for entertainment and internet surfing. They used internet in everyday for 2 hours (Kheokao, J., 2015). Online means the channel or the ways to present news or information rapidly. The information channel is well-known at the present day that is World Wide Web. It will represent news business, politic, education, health, fashion etc. Online uses computer for communication via electronics. It was classified the styles of

sending information via online 6 types: 1) E-mail for sending information from person to the other, 2) bulletin board system, 3) online newspaper and magazine, 4) Online newswires, 5) Usenet newsgroup, and 6) Web-site based bulletin board.

Nowadays people use online via internet for social network. Social network consists of many types of social media that people use to be the ways to communication although they are so far to live in many countries. The social media is divided into six main types that are collaborative projects (e.g., Wikipedia®); blogs and microblogs (e.g., Twitter®); content communities (e.g., YouTube®); social networking sites (e.g., Facebook®); virtual game worlds (e.g., World of Warcraft®); and virtual social worlds (e.g., Second Life®). (Barry, J., Hardiker, N., (September 30, 2012). Zocialrank.com in 2014 was reported that the subscribers in Facebook all over the world are growing up 3%. People who use Facebook increase to 1,191 million. Asian group, it revealed that people of Indonesia had the highest of users in Facebook 64 million. People in Philippine was the second of users 36 million, and the third ranking is Thailand that had people who used Facebook 26 million. Social media is the second popular under Facebook that was You Tube (people visited 26.5 million), the third social media was Twitter (people used 4.5 million), and the last was Instagram (people used 1.7 million). The results showed that users by age were started at 13 years to over 55 years. In this age group was 32% between 18 and 24 years in using Facebook. (http://www.daat.in.th/ index.php/thailand-social-media-landscape-2014/).

However, we have little known how relationship and different factors between the personal data (age, gender, year class and internship) of nursing students and behavior media exposure in the nursing student in Thailand, the Republic of Union Myanmar, and Indonesia. In this study, we designed to conduct the web-based survey to assess the frequency of using media in a week and frequency of using online media within a week. We believe that the results will help the teachers in understanding of using media in students in current globalization.

Objectives

1) To study the relationship of genders, age, year class, internship experience to the behavior level of media exposure nursing students Thailand, the Republic of Union Myanmar, and Indonesia
2) To study the influence of genders, age, year class, internship experience with media exposure behavioral of nursing students Thailand, the Republic of Union Myanmar, and Indonesia

II Methodology

A. Participants

The nursing students were in Bachelor Degree of Nursing science. Sampling was consisted of 2432 participants. The field studies were located at 3 countries as following:

1. Boromarajonani College of Nursing in Nakhonratchasima, Saraburi, Chakriraj, and Bangkok in Thailand, was consisted of 1367 participants.
2. University of Nursing Rangoon and University of Nursing, Mandalay in Myanmar, was collected of 322 participants.
3. Indonesia was conducted from the nursing students at 3.1) Stikes Bali 3.2) Stikes Hang Tuah Tanjung Pinang, and 3.3) Stikes Bukit Tinggi of West Sumatra amount 736 participants.

B. Measurement

The questionnaires were consisted of 1) personal data: country, age, student year, gender, and experience at patient care ward and at community, and 2) behavior of media exposure consist of frequency of media exposure in a week (C1: 4 items) and frequency of online media use within a week (C2: 11 items). The Chronbach's alpha was reliability .814. The students were asked to indicate level of 5-point scale from 1 = never, 2 = 1-2 days, 3 = 3-4 days, 4 = 5-6 days, and 5 = everyday. Average mean scores were categorized into 5 groups, lowest level use (1.00-1.49), low level use (1.50-2.49), moderate level use (2.50-3.49), high level use (3.50-4.49) and the highest level use (4.50-5.00), respectively. Data were collected by using survey via online that posted on the colleges' websites. Nursing students agreed freely to take part in this study.

C. Data analysis

The personal data were analyzed by using frequency, percentage, average, standard deviation, Spearman's Rho correlation analysis, and comparison by using Mann Whitney test and Kruskal - Wallis test.

III. Results

a. Descriptive analysis result

This part will show the results of personal characteristic (table 1 - 2), frequency and percentage of media exposure using in a week (table 3), and frequency and percentage of online media exposure using within a week (table 4.1-4.2).

The characteristic of total ages in nursing students 3 countries were average 20.14 years (*SD* = 2.72). Participants gave the data who were studying at 1-4 year class except the nursing students from Myanmar had not the first class year. Most of nursing students who participated were 87.09% female and 12.91% male. Nursing students Thailand were 56.50% the highest participants, 30.26% were the students of the Republic of Union Myanmar, and 13.24 % were the nursing students in Indonesia. The results show in table 1.

Table 1 Demographic Characteristic of ages, year class, and gender in nursing students

Thailand, the Republic of Union Myanmar, and Indonesia.

Variables	Nursing Student Thailand	Nursing Student Myanmar	Nursing Student Indonesia	Total
Ages averages	20.04	18.03	21.24	20.14
SD	1.21	.87	4.27	2.72
	(17-24 years)	(16-21 years)	(16-52 years)	
	n = 1374	n = 322	n = 736	n = 2432
Variables	Nursing Student Thailand	Nursing Student Myanmar	Nursing Student Indonesia	Total Years
Year class (A4)				
1	403 (29.33%)	0 (0%)	29 (3.94%)	432 (17.77%)
2	281 (20.45%)	105 (32.61%)	294 (39.94%)	680 (27.96%)
3	443 (32.24%)	120 (37.27%)	255 (34.65%)	818 (33.63%)
4	247 (17.98%)	97 (30.12%)	158 (21.47%)	502 (20.64%)
Gender (A5)				
Female	1290	309	519	2118
	(93.9%)	(96%)	(70.5%)	(87.09%)
Male	84	13	217	314
	(6.1%)	(4%)	(29.5%)	(12.91%)
participants	1374	322	736	2432
Percent	56.50%	13.24%	30.26%	100%

The results describe in table 2: the setting of nursing practicum experiences was found that nursing students who practiced in patient care ward were Thailand (61.21%), Indonesia (68.01%), and the Republic of Union Myanmar (47.69%). They had experienced in community: Thailand (65.50%), the Republic of Union Myanmar (99.07%), and Indonesia (38.86%). Both nursing students in Thailand and the Republic of Union Myanmar had experienced in community more than in patient care ward, but nursing students in Indonesia practiced in patient care ward more than community.

The results show in table 3 was showed that nursing students Thailand used media exposure in a week: never used (65.6%) or low lever used (*M* = 1.83, *SD* = .97) in listen radio. They used media on 1-2

days in a week that had moderate level use (*M* = 2.88, *SD* = 1.204) for watching TV program. They had also both low level used in reading newspapers (*M* = 2.20, *SD* = .991), and reading magazine/journal (*M* = 2.15, *SD* = .890) respectively.

Nursing students the Republic of Union Myanmar had low level used of media exposure in a week on 1-2 days in reading magazine/journal (*M* =2.34, *SD* = 1.05), reading newspapers (*M* =2.32, *SD* = 1.215), listen radio program (*M* =2.40, *SD* = 1.355), and using moderate level in watching TV program (*M* =3.18, *SD* = 1.314).

Table 2 Internship experience of nursing students Thailand, the Republic of Union Myanmar, and Indonesia.

Nursing practicum experience	Thailand	the Republic of Union Myanmar	Indonesia	Total
2.1 In patient care ward				
Yes, I have	841 (61.21%)	219 (68.01)	351 (47.69%)	1411 (58%)
No, I don't have	533 (38.79%)	103 (31.99%)	385 (52.31%)	1021 (42%)
2.2 In community				
Yes, I have	900 (65.50%)	319 (99.07%)	286 (38.86%)	1505 (61.9%)
No, I don't have	474 (34.5%)	3 (0.93%)	450 (61.14%)	927 (38.1%)

Nursing students Indonesia had high level use (*M* = 3.97, *SD* = 1.40) in watching TV program on everyday, low level use (*M* =2.35, *SD* = 1.315) in listen radio program, low level use (*M* =2.31, *SD* = 1.192) in reading magazine/journal, including they had never reading newspaper at low level use in a week (*M* =2.22, *SD* = 1.237).

Nursing students in overall 3 countries used media exposure in moderate level for watching TV program (average score rang between 2.50-3.49), but in using listen radio program, reading newspaper, and reading magazine/journal were used in low level (rang between 1.50 - 2.49).

Table 3 Frequency, percentage, means (*M*), and *SD* of media exposure in a week (C1): Nursing students Thailand, the Republic of Union Myanmar and Indonesia

media exposure in a week	Country	**Never**	**1-2 days**	**3-4 days**	**5-6 days**	**Every day**	***M***	***SD***
Watching TV	Thailand	73 (5.3%)	**639 (46.5%)**	280 (20.4%)	149 (10.8%)	233 (17.0%)	2.88	1.204
	Myanmar	18 (5.6%)	**111 (34.5%)**	75 (23.3%)	30 (9.3%)	88 (27.3%)	3.18	1.314
	Indonesia	35 (4.8%)	153 (20.8%)	63 (8.6%)	34 (4.6%)	**451 (81.3%)**	3.97	1.400
	Total				moderate level use		3.25	1.369
Listen Radio	Thailand	**612 (44.5%)**	525 (38.2%)	140 (10.2%)	59 (4.3%)	38 (2.8%)	1.83	.969
	Myanmar	89 (27.8%)	**131 (40.7%)**	35 (10.9%)	17 (5.3%)	50 (15.5%)	2.40	1.355
	Indonesia	232 (31.5%)	**249 (33.8%)**	113 (15.4%)	53 (7.2%)	89 (12.1%)	2.35	1.315
	Total			Low level use			2.06	1.169
Reading newspapers	Thailand	307 (22.3%)	**676 (49.2%)**	255 (18.6%)	76 (5.5%)	60 (4.4%)	2.20	.991
	Myanmar	80 (24.8%)	**147 (45.7%)**	43 (13.4%)	17 (5.3%)	35 (10.9%)	2.32	1.215
	Indonesia	**254 (34.5%)**	246 (33.4%)	114 (15.5%)	61 (8.3%)	61 (8.3%)	2.22	1.237
	Total				Low level use		2.22	1.102
Reading Magazine Journal	Thailand	297 (21.6%)	**712 (51.8%)**	262 (19.1%)	74 (5.4%)	29 (2.1%)	2.15	.890
	Myanmar	50 (15.5%)	**180 (55.9%)**	48 (14.9%)	20 (6.2%)	24 (7.5%)	2.34	1.054
	Indonesia	203 (27.8%)	**287 (39.0%)**	123 (16.7%)	64 (8.7%)	59 (9.0%)	2.31	1.192
	Total			Low level use			2.22	1.015

Average mean score: lowest level use (1.00-1.49), low level use (1.50-2.49), moderate level use (2.50-3.49), high level use (3.50-4.49) and the highest level use (4.50-5.00), respectively.

As showed in table 4.1, Most of nursing students used online media within a week in Facebook in everyday that were nursing student Thailand, and Indonesia. Myanmar used it at low level.

Using online media within a week in nursing students Thailand were used at high level in everyday on using Facebook (*M* = 4.45, *SD* = .95), Line (*M* = 4.24, *SD* = 1.207), media clip (*M* = 3.82, *SD* = 1.165), and search engine (*M* = 3.77, *SD* = 1.088). They used at moderate level in Instagram (*M* = 3.24, *SD* = 1.630) and web board/ bulletin (*M* = 3.15, *SD* = 1.307).

In every day it showed that using online media within a week in nursing students Indonesia who used media exposure at high level in Facebook (*M* = 3.56, *SD* = 1.526), but they used media at moderate level in using Line *(M* = 2.75, *SD* = 1.765), Instagram (*M* = 2.66, *SD* = 1.781), and search engine (*M* = 2.59, *SD* = 1.600). At low level, they used in media clip (*M* = 2.16, *SD* = 1.413), and web board/ bulletin (*M* = 1.73, *SD* = 1.219).

In every day it represented that online media within a week in nursing students the Republic of Union Myanmar were used at low level on using Line (*M* = 2.15, *SD* = 1.589), search engine (*M* = 1.64, *SD* = .970), media clip (*M* = 1.48, *SD* = .897), web board/ bulletin (*M* = 1.27, *SD* = .690), and Instagram (*M* = 1.15, *SD* = .575), respectively.

Table 4.1 Frequency and percentage of online media use within a week (C2): Nursing students Thailand, the Republic of Union Myanmar and Indonesia.

Online media	**Country**	**Never**	**1-2 days**	**3-4 days**	**5-6 days**	**Everyday**	***M***	***SD***
6.Facebook	Thailand	25 (1.8%)	53 (3.9%)	142 (10.3%)	218 (15.9%)	936 **(68.1%)**	4.45	.951
	Myanmar	112 (34.8%)	29 (9.0%)	24 (7.5%)	27 (8.4%)	130 **(40.4%)**	3.11	1.783
	Indonesia	101 (13.7%)	131 (17.8%)	97 (13.2%)	76 (10.3%)	331 **(45.0%)**	3.56	1.526
					High level use		4.00	1.384
2 Line	Thailand	82 (6.0%)	83 (6%)	133 (9.7%)	197 (14.3%)	879 **(64.0%)**	4.24	1.207
	Myanmar	188 **(58.4%)**	36 (11.2%)	21 (6.5%)	17 (5.3%)	60 (18.6%)	2.15	1.589
	Indonesia	305 **(41.4%)**	99 (13.5%)	51 (6.9%)	34 (4.6%)	247 (33.6%)	2.75	1.768
					High level use		3.51	1.681
3. Instagram	Thailand	339 (24.7%)	173 (12.6%)	189 (13.8%)	164 (11.9%)	509 **(37%)**	3.24	1.630
	Myanmar	296 **(91.9%)**	13 (4.0%)	9 (2.8%)	0 (0%)	4 (1.2%)	1.15	.575
	Indonesia	334 **(45.4%)**	78 (10.8%)	57 (7.7%)	39 (5.3%)	228 (31.0%)	2.66	1.781
					moderate level use		2.79	1.721
8 web board /Bulletin	Thailand	143 (10.4%)	346 (25.2%)	356 (25.9%)	219 (15.9%)	310 **(22.6%)**	3.15	1.307
	Myanmar	267 **(82.9%)**	34 (10.6%)	15 (4.7%)	20 (0.6%)	4 (1.2%)	1.27	.690
	Indonesia	482 **(65.5%)**	112 (15.2%)	56 (7.6%)	33 (4.5%)	53 (7.2%)	1.73	1.219
					moderate level use		2.47	1.448
10 Media Clip	Thailand	38 (2.8%)	183 (13.3%)	299 (21.8%)	320 (23.3%)	534 **(39.9%)**	3.82	1.165
	Myanmar	222 **(68.9%)**	67 (20.8%)	20 (6.2%)	3 (0.9%)	10 (3.1%)	1.48	.897
	Indonesia	344 **(46.7%)**	173 (23.5%)	80 (10.9%)	38 (5.2%)	101 (13.7%)	2.16	1.413
					moderate level use		3.01	1.542
9 Search engine	Thailand	24 (1.7%)	169 (12.3%)	352 (25.6%)	377 (27.4%)	452 **(32.9%)**	3.77	1.088
	Myanmar	196 **(60.9%)**	72 (22.4%)	36 (11.2%)	10 (3.1%)	8 (2.5%)	1.64	.970
	Indonesia	279 **(37.9%)**	143 (19.4%)	91 (12.4%)	48 (6.5)	175 (23.8%)	2.59	1.600
					moderate level use		3.13	1.478

Average mean score: lowest level use (1.00-1.49), low level use (1.50-2.49), moderate level use (2.50-3.49), high level use (3.50-4.49) and the highest level use (4.50-5.00), respectively.

The results illustrated in table 4.2: Most of nursing students among 3 countries had never used online media within a week which were game online, social cam, Twitter, Weblogs, and E-mail. They used them at low level (average score rang 1.50-2.49). Nursing students the Republic of Union Myanmar used Twitter at the lowest level (M = 1.16, SD = .650).

In using online media during 1-2 days within week, the most popular of media exposure in 68.8% of nursing students Thailand were E-mail (*M* = 2.34, *SD* = 1.148), web blog (*M* = 2.22, *SD* = 1.360), game online (*M* = 2.09, *SD* = 1.295), Twitter *(M* = 2.01, *SD* = 1.466), and social cam (*M* = 1.70, *SD* = 1.266), respectively which these media were used at low level use.

The popular media in nursing students of the Republic of Union Myanmar used at low level in E-mail (*M* = 1.52, *SD* = 1.060), web blog (*M* = 1.44, *SD* = .926), game online (*M* = 1.48, *SD* = 1.039), social cam (*M* = 1.36, *SD* = .963), and Twitter *(M* = 1.16, *SD* = .650), respectively.

Finally, nursing students Indonesia liked to use media within 1-2 days by using E-mail (68.8%; *M* = 2.53, *SD* = 1.409) at moderate level use. They used in web blog (28.3%; *M* = 2.01, *SD* = 1.370), and playing game online (26.7%; *M* = 2.10, *SD* = 1.410) at low level use. They used media in everyday which were Twitter (45%; *M* = 2.43, *SD* = 1.605), and social cam (44.6%; *M* = 1.99, *SD* = 1.482) at low level use.

Table 4.2 Frequency and percentage of online media use within a week (C2): Nursing students Thailand, the Republic of Union Myanmar and Indonesia. (Next)

Online media	**Country**	**Never**	**1-2 days**	**3-4 days**	**5-6 days**	**Everyday**	***M***	***SD***
11 Online Games	Thailand	595 **(43.3%)**	413 **(30.1%)**	148 (10.8%)	78 (5.7%)	140 (10.2%)	2.09	1.295
	Myanmar	244 **(75.8%)**	38 (11.8%)	19 (5.9%)	4 (1.2%)	17 (5.3%)	1.48	1.039
	Indonesia	366 **(49.7%)**	164 **(22.3%)**	69 (9.4%)	40 (5.4%)	97 (13.2%)	2.10	1.410
					Low level use		2.02	1.317
4 Social Cam	Thailand	958 **(69.7%)**	171 (12.4%)	72 (5.2%)	52 (3.8%)	121 (8.8%)	1.70	1.266
	Myanmar	272 **(84.5%)**	19 (5.9%)	10 (3.1%)	8 (2.5%)	13 (4.0%)	1.36	.963
	Indonesia	454 **(61.7%)**	85 (11.5%)	56 (7.6)	33 (4.5%)	108 **(14.7%)**	1.99	1.482
					Low level use		1.74	1.315
5 Twitter	Thailand	812 **(59.1%)**	194 (14.1%)	100 (7.3%)	75 (5.5%)	193 (14%)	2.01	1.466
	Myanmar	297 **(92.2%)**	11 (3.4%)	7 (2.2%)	1 (0.3%)	6 (1.9%)	1.16	.650
	Indonesia	326 **(44.3%)**	137 (18.8%)	68 (9.2%)	42 (5.7%)	163 **(22.1%)**	2.43	1.605
					Low level use		2.03	1.482
7 WebBlogs	Thailand	581 **(42.3%)**	320 (23.3%)	211 (15.4%)	108 (7.9%)	154 (11.2%)	2.22	1.360
	Myanmar	241 **(74.8%)**	48 (14.9%)	17 (5.3%)	5 (1.6%)	11 (2.4%)	1.44	.926
	Indonesia	396 **(53.8%)**	145 **(19.7%)**	64 (8.7%)	52 (7.1%)	79 (10.7%)	2.01	1.370
					Low level use		2.06	1.339
1 E-mail	Thailand	262 **(19.1%)**	709 **(51.8%)**	202 (14.7%)	73 (5.3%)	128 (9.3%)	2.34	1.128
	Myanmar	235 **(73.0%)**	48 (14.9%)	14 (4.3%)	8 (2.5%)	17 (5.3%)	1.52	1.060
	Indonesia	194 **(26.4%)**	274 **(37.2%)**	76 (10.3%)	66 (9.0%)	126 (17.1%)	2.53	1.409
	Total				Low level use		2.29	1.251

Average mean score: lowest level use (1.00-1.49), low level use (1.50-2.49), moderate level use (2.50-3.49), high level use (3.50-4.49) and the highest level use (4.50-5.00), respectively.

b. Correlation between personal data and media exposure behavior

The results of personal data were found that they were non-normally distributed. Therefore, the relationship of genders, age, year class, and internship experience to the behavior level of media exposure nursing students Thailand, the Republic of Union Myanmar, and Indonesia were analyzed by Spearman's Rho correlation as showed in table 5.

Table 5 The relationship of genders, age, year class, internship experience to the behavior level of media exposure nursing

Personal variable	behavior of media exposure (C1 and C2)					
	Thailand n =1374		Myanmar n = 322		Indonesia n = 736	
	r	*p-v*alue	*R*	*p*-value	*r*	*p*-value
Age	.089**	.001	.134*	.016	-.078*	.035
Gender	.063*	.020	.076	.174	-.110**	.003
Year Class	.097**	.000	.206*	.000	.019	.613
Experience ward	-.099**	.000	-.340**	.000	-.068	.067
Experience community	-.063*	.019	.041	.466	-.067	.071

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Spearman's rho correlation shows the age, gender, year class in nursing students Thailand were positively correlated to behavior level of media exposure significant at .05, but experience both patient care ward and community were negatively correlated to behavior level of media exposure significant at .05.

Nursing students the Republic of Union Myanmar, the relationship of year class was more than age and gender; these were positively correlated to behavior media exposure at significant .05. Their experience in patient care ward was negatively correlated to behavior media exposure at significant .05 ($p <$ .001).

Nursing students Indonesia, the factors of age and genders were negatively correlated to behavior media exposure significant at .05. The results show in table 5.

c. Comparison different between the personal factors and media exposure behavioral

Table 6.1 Mann-Whitney test showed the different between the personal factors and media exposure behavioral of nursing students

Factor of personal data	Behavioral of nursing students in using media					
	Thailand (n = 1374)		Myanmar (n = 322)		Indonesia (n = 736)	
	U	*p*-value	*U*	*p*-value	*U*	*p*-value
Gender	45962.50	.020	1562.00	.174	48503.00	.003
Practice at ward	197864.50	.000	6538.50	.000	62285.00	.067
Practice at community	196879.50	.019	361.50	.466	59274.50	.071

$p <$ .05

Gender

A Mann-Whitney test indicated that there is difference significant at .05 between gender (female and male), experience in patient care ward and community (yes, no), and behavior of media exposure. The results showed that there were greater for nursing students Thailand who was female (*Mdn* = 584) than nursing students who was male (*Mdn* = 46). Moreover, the more to be female (*Mdn* = 706), the less to be male (*Mdn* = 38) had behavior of media exposure that was decreased, $U = 45962.50$, $p = .020$.

Behavior of media exposure of nursing students Indonesia who was female (*Mdn* = 262) used media exposure more than nursing students who were male (*Mdn* = 90), *U* = 48503.00, *p* = .003, *r* = -.110.

Internship experience

Behavior of media exposure in nursing students Thailand who had experienced with patient care ward (*Mdn* = 410) or community (*Mdn* = 434) were greater than the students who had not experienced at ward (*Mdn* = 220) and community (*Mdn* = 196). Alternatively, students who had more experience at ward (*Mdn* = 431) or more experience at community (*Mdn* = 466) or had not experienced at ward (*Mdn* = 313) or nor at community (*Mdn* = 279). These experience had low correlated with using media exposure (ward: *U* = 197864.50, *p* ‹ .001, *r* = -.099; community: *U* = 196879.50, *p* ‹ .05, *r* = -.063).

Behavior of media exposure in nursing students the Republic of Union Myanmar was greater for students who had experienced in patient care ward (*Mdn* = 118) than for nursing students who had not practiced at there (*Mdn* = 27), *U* = 6538.50, *p* ‹ .001, *r* = -.340. The results show in table 6.1

Table 6.2 Kruskal Wallis test shows the influence of age and year class with media exposure behavioral of nursing students

Factor of personal data	Thailand (n = 1374)			Myanmar (n = 322)			Indonesia (n = 736)		
	Df	Chi-square	*p*-value	df	Chi-square	*p*-value	df	Chi-square	*p*-value
Age	7	25.19	.001	5	2.83	.234	24	40.31	.020
Year class	3	16.52	.001	3	44.46	.000	3	19.06	.000

p ‹ .05

Age and Year class

A Kruskal - Wallis test was conducted to evaluate difference of age and year class. The results indicated that there is a significant difference at .05 between age and behavior of media exposure (using media in a week and using online within a week) for nursing students Thailand and Indonesia. There is a significant difference at .05 between year class and behavior of media exposure in all 3 countries.

Follow-up test were conducted to evaluate pairwise differences among age. The results indicated that behavior of media exposure was greater in nursing students Thailand who was 19 years (*Mdn* = 180) than in nursing students who were 21 years (*Mdn* = 166), 20 years (*Mdn* = 155), 22 years (*Mdn* = 75), and 18 years (*Mdn* = 43) respectively significant difference at .05.

Nursing students Indonesia, behavioral media exposure was greater for age of students was 20 years (*Mdn* = 134) than for age of students was 19 years (*Mdn* = 87), for age of students was 21 years (*Mdn* = 63), and for age of students was 22 years (*Mdn* = 22), respectively significant difference at .05.

Moreover, behavior of media exposure in nursing students Thailand was the highest in the third year (*Mdn* = 221). Which the third year was greater than the first year (*Mdn* = 162), the second year (*Mdn* = 132), and the fourth year (*Mdn* = 115), respectively significant difference at .05.

Behavior of behavior media exposure in nursing students Myanmar were the greatest of 3 class in the third year (*Mdn* = 75) than in the fourth year (*Mdn* = 43), and more than in the second year (*Mdn* = 27), respectively significant difference at .05.

Consequently, behavior of media exposure of nursing students in the second year (*Mdn* = 148) was greater than the third year (*Mdn* = 105), the fourth year (*Mdn* = 91), and the first year (*Mdn* = 8), respectively in nursing students Indonesia significant difference at .05.

IV. Discussion

This research had 2 objectives: 1) the relationship of personal factors (genders, age, year class, and internship experience) and the behavior level of media, and 2) to study the influence of genders, age, year class, and internship experience with media exposure behavioral of nursing students Thailand, the Republic of Union Myanmar, and Indonesia.

Overall of participants for nursing students of Thailand, the Republic of Union Myanmar, and Indonesia

Participants were nursing students Thailand were 56.50% the highest participants, 30.26% were the students of the Republic of Union Myanmar, and 13.24 % were the nursing students in Indonesia.

The characteristic of total ages in nursing students 3 countries were average 20.14 years (*SD* = 2.72). Participants gave the data who were studying at 1-4 year class except the nursing students from Myanmar had not the first class year. Most of nursing students who participated were 87.09% female and 12.91% male. Internship at hospital, nursing students had experience was 58%, and don't have experience 42%. Internship at community, students had experience 61.9%, don't have experience 38.1%.

Media exposure in a week, the moderate popular is watching TV program (*M* = 3.25, *SD* = 1.37). Nursing students in 3 countries like to use at low level in reading newspaper (*M* = 2.22, *SD* = 1.10), reading magazine/Journal (*M* = 2.22, *SD* = 1.02), and listen radio (*M* = 2.06, *SD* = 1.17). TV is a traditional media which it is not expensive. Most family or college was bought it. It shows real life via the channel, which people can see together.

Online media within a week, there are two media which the highest popular was Facebook (*M* = 4.00, *SD* = 1.39), and Line (*M* = 3.51, *SD* = 1.69). This result is similar to statistic in surveyed by Zocialrank.com in 2014 that found in Asian and all over the world, Facebook is the most subscribers, and increasing people to use 3% in every year. The online media at moderate level was used that was searching engine (*M* = 3.13, *SD* = 1.48), media clip (*M* = 3.01, *SD* = 1.54), Instagram (*M* = 2.79, *SD* = 1.72), and web board (*M* = 2.49, *SD* = 1.45). Finally, Students used online media at low level use that was E-mail (*M* = 2.29, *SD* = 1.25), web blog (*M* = 2.06, *SD* = 1.34), Twitter (*M* = 2.03, *SD* = 1.48), online games (*M* = 2.02, *SD* = 1.32), and social cam (*M* = 2.02, *SD* = 1.32).

Correlation and different between personal factor and behavior media exposure

Behavior media exposure consisted of average mean or rank of media exposure in a week and online media within a week to calculate for analysis. The results showed that personal factors were correlated with behavior media exposure at the lowest correlation significant at .05 for nursing students Thailand, Myanmar, and Indonesia. Every personal factors for nursing student Thailand were correlated both positively and negatively with behavior level of media exposure (age: r = .089, p = .001; gender: r = .063, p = .020; year class: r = .097, p = .000; experience at ward: r= -.099, p = .000; at community: r= -.063, p = .019) respectively. In nursing students the Republic of Union Myanmar, there were the relationship between age (r = .134, p = .016), year class (r = .206, p = .000), and experience at ward (r = -.340, p = .019) with behavior media exposure a significant at .05. Nursing student Indonesia, there were age (r = -.078, p = .035), and gender (r = -.110, p = .003). The results showed in table 5.

When analyzed by conducting 1) Mann Whitney for 2 independence variables of gender (female and male) and internship experience in ward and in community (yes, I have or No, I don't have), and 2) Kruskal Wallis H test for more 2 independence variables of age (Thailand: 17-24 years; Myanmar: 16-24 years; Indonesia: 16-52 years); year class (year class 1-year class 4). Then factors were significantly different that were follow-up pairwise comparison.

The results in table 6.1 – table 6.2 showed that the personal factors in Thai nursing students have influenced with behavior media exposure in their life. The factor of age and gender had influenced to behavior media exposure for nursing students of Thailand and Indonesia significant differently at .05. Age 19 years for nursing students Thailand and 20 years for students Indonesia were the highest age rank in using media exposure of their each group. It was explained that age will reflect to the experience in their life. The more age will have more experience than the younger age. The people will have more thinking and intelligent which following up their age. In pairwise comparisons was found that 19-20 years of age that students had moderate level in using media in students of Thailand and of Indonesia. They had behavior in watching TV and listen radio during 1-2 days in a week. Facebook and Line are the most popular of using online media within a week by using in everyday (table 4.1).

Both nursing students of Thailand and of Indonesia countries, female sex had frequency rank of using media exposure in a week and within a week more than male sex. This results reflected that female

and male are the characteristic of each people who have individual different both physical and psychology. Many pieces of research are reflected that female and male have different in the reasons, emotion, value and attitude. Their culture and social environment are indicated their roles and activity differently (Parama Satawatin, 2546). This research represented female who have behavior in using media in a week and online media within a week more than male due to female's desire are differ from the males' sex. Female are sociable to communicate with the others while male like to close their own social and their sports. Moreover, religion has affected to believe that it will reflect to action behavior. Islam is the religion in nursing Indonesia has influenced to their decision in using media exposure.

For student year, we found that the third year had the highest rank of using media exposure a differently significant at .05 for nursing students Thailand and Myanmar. Nursing students Indonesia in the second year (n = 39.94%) that they had using media exposure higher than the third year students (n = 34.65%). Thai nursing students, who had experienced in patient care ward (n = 61.21%) and in community (n = 65.50%), had a statistic differently significant with using the behavior of using media exposure, differed from the students who had not experienced at ward. But students of Myanmar, who had experienced at hospital (68.01%), have differently significant from the students who have not experienced at hospital (31.99%). It is described that over than theory then experience of nursing students is promoted in practicing both hospital and community. Students have to search by themself for their home-work by reading from textbook and using online media also. Education system has influenced to the students' thinking and believing which are forced from curriculum and their teacher. Experience and learning will grow up in students' brain in each year class. Nursing curriculum has the different content in each year. The third year is different significant from another class in this case. Researcher interviewed in 2 female and 2 male of nursing Indonesia from Stike Lomborg (two people are studying in the fourth year and the others in the second year) who visited and shared the culture and presentation their study research at Nakhonratchasima nursing college (on 9 September, 2015), and conducting data by interviewing in nursing students Thailand who are studying in the first year class (3 people), the second year (2 people), the third year (1 person), and 1 person of the fourth year in the same place above (on 14 October, 2015). The results from interviewing can conclude that the studying in the third year, they have to search many document for writing and reading their homework which have both in research in nursing subject and nursing care problem in curriculum. The second year, they use online media more than the first year because their teachers train students to induct many information and write the report. In the first year the students who had passed to postpone in the second year and so on, included the freshly year said that they believe and will use the academic document from their teachers, because they are confident in the context. Finally the fourth year students, they have short semester in theory learning. Mostly they go out to practice in community and they are prepared the knowledge for testing their license for graduation. Thus they decrease in using online media due to hard studying.

V. Conclusion

The personal factors of age, gender, student year, and internship are characteristic demography that are internal force to behavior in using media exposure in Thai nursing students. Indonesia, there are the factors of age, gender, and year class that of which reflect that the more age and the more of year class will promote experience in learning and knowledge. Nursing students of Myanmar have the factor of age and experience in hospital, which will influence to behavior of using media exposure. It is concluded that each factor of personal has influenced to behave of using media exposure. It is similar to Nihan ÖZGÜVEN, and Burcu Mucan (2013) explored the relationship between personality traits and social media use. They found that personality traits were determined the level of social media use.

Suggestion that for preparing the students to life long learning in new era, teachers could promote themselves to use online media in learning and teaching for nursing students in all over the curriculum. The teachers could apply online media in teaching by depending on their culture and individual styles of learning in nursing students also.

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The Happiness of Nursing Students Studying at Boromarajonani College of Nursing Nakhonratchasima[1]

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Abstract

This survey research aimed to describe the happiness among nursing students, to compare the happiness levels among learning classes, and to determine affecting factors which reduce their happiness levels while studying at Boromarajonani College of Nursing, Nakhonratchasima, Thailand. The target population was 697 nursing students studying in the academic year of 2014. The proportions of 98 samples were randomly drawn from each learning class using simple random sampling technique. The Happiness of Nursing Students Questionnaire was used for data collection. Content validity was approved by 3 experts. Cronbach's alpha coefficient of this questionnaire was .92. Descriptive statistics and one-way ANOVA were used for data analysis.

Results showed that the average happiness score among nursing students was at moderate levels ($\bar{x}$ = 3.50, S.D.= 0.44). There was a statistically significant difference of happiness levels among learning classes ($p < .05$). The first three factors that reduce their happiness levels were an unstable schedule included many learning activities from instructors (n = 32, 32.65 %), an inflexibility of the dormitory rules (n = 29, 29.59%), and many extra-curricular activities (n = 16,16.33 %). The study results indicated that instructors should provide stable schedule and appropriate learning activities to fit with the time schedule. The dormitory rules needed to revise for providing their free time to participate with many extra-curricular activities. The recreational and relaxing activities should be promoted to increase the happiness level among those nursing students.

Keywords: happiness, nursing student

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Background of the study

Happiness is an important aspect in the construct subjective well-being. Some time happiness becomes synonymous of subjective well-being (Safaria, 2014). Happiness is often defined empirically by direct rating of the people's happiness, long-term balance of positive and negative affect, or life satisfaction (Lyubomirsky, 2001). In this sense, happiness refers to a state of well-being. Happiness, by definition, is a mental or emotional state of well-being characterized by positive or pleasant emotions ranging from contentment to intense joy (Jaisri, 2015). Happiness is a lifelong pursuit and one of the most cherished goals in life. It is considered essential for one's psychological adaption.

The relevance of the scientific study of happiness in nursing students has been emphasized (Jones & Johnston, 1997; Ratanasiripong & Wang, 2011; Tully, 2004). Nursing students have to deal with a variety of stressful circumstances both in their classroom and in clinical practice areas. They need to manage their own emotions because an affective deficit in self-regulation can lead to lower subjective happiness. Happiness affects the psychological, social, education, and culture dimensions of all individuals. Nursing students who evaluated situation as less stressful showed a higher satisfaction with life and happiness (Ratanasiripong & Wang, 2011; Ruiz-Aranda & Gala-Pineda, 2013).

Many studies reveal the important of happiness in nursing college (Ratanasiripong, Ratanasiripong, & Kathalae, 2012; Ratanasiripong & Wang, 2011; Rhead, 1995), i.e., nursing students reporting greater happiness show more appropriate classroom behavior, higher school grade, better peer and teacher relationships, better physical health, and greater participation in classroom and extracurricular activities. On the other hand, nursing students who report low level of happiness are more likely to report mental health problems, peer victimization, poor relationships with parents and teachers, and a variety of risk behaviors such as alcohol and drug use, eating problem, or violence-related behavior (Huebner, 2010). Research on happiness and subjective well-being reported that age, race, gender, or economic status do not predict happiness. Instead, the results indicated that happy people tend to be optimistic, have high self-esteem, have a sense of personal control, be involved in meaningful close relationship, and hold a strong religious faith (Mayers & Diener, 1995).

The aims of nursing education today are to produce quality nursing students to become good citizens who are mentally and physically healthy in order that they can live with others happily. Boromarajonani College of Nursing, Nakhonratchasima is under supervision of Praboromrajchanok Institute where Bachelor of Nursing Science program is provided in both theory and practice. The nursing education philosophy of this college focuses on producing good nursing students with mentally and physically healthy. In doing so, Boromarajonani College of Nursing pays attention to both an intelligence quotient and an emotional quotient of nursing students. The college administrators and related persons of the college always provided a positive environment for students' learning and created an atmosphere for happiness learning.

The happiness circumstances in nursing school will create a relaxed atmosphere in which the students feel free and easy to involve themselves into the classroom activities. Meanwhile the instructors must accept and understand the differences among students in order that students can develop their learning potentials. According to academic benefit, nursing students of Boromarajonani College of Nursing, Nakhonratchasima have to stay in dormitories provided by nursing school through their nursing program. Living in the dormitory with many students can lead to many stressful circumstances for some nursing students. Assessment of nursing students' happiness is very important because they are encountered to a variety of stresses and tensions during their college life (Shojaei, Ebrahimi, Parsa yekta, & Nikbakht nasr abadi, 2012).

Aim of the study

The aims of the study were to:

1) Describe the happiness among nursing students

2) Compare the happiness levels among learning classes

3) Determine affecting factors which reduced the happiness levels of nursing students while studying at Boromarajonani College of Nursing, Nakhonratchasima, Thailand.

Research Methodology

Study design

A descriptive survey was conducted in order to determine the levels of the happiness among nursing students and among learning classes. The affecting factors which reduced the happiness levels of nursing students while studying at Boromarajonani College of Nursing, Nakhonratchasima, Thailand were also identified.

Study Population

The study population consisted of all ages of nursing students in the academic year of 2014. A total of 697 nursing students were recruited from different levels of study, with 180 students in the first year of study, 152 were second years, 235 were third years, and 130 were fourth years. The 15% rate of population from each learning class was applied to recruit the representative participants.

Sample

A simple random sampling with proportional method was adopted for this study. The inclusion criteria were nursing students of all age groups, who attended mandatory nursing classes during the period of data collection. A total of 98 participants were recruited from each study level, with 25 of the first year, 21 of the second years, 34 of the third years, and 18 of the fourth years.

Research Instrument

Happiness was assessed as the perceived current state of being happy. The four pages, an anonymous, self-administered questionnaire, named "The Happiness of Nursing Students," which was applied from "HAPPINOMETER: The Happiness Self Assessment (Kittisuksathit, et al., 2012), was used to collect data. The questionnaires had both closed and open-end questions. It was composed of three parts requesting demographic information from respondents, identifying personal opinion that contributed to happiness level, and explaining their most important affecting factors which reduced their happiness level. The Happiness of Nursing Students questionnaire was composed of forty questions with 9 dimensions- happy body, happy relax, happy heart, happy soul, happy family, happy social, happy brain, happy money, and happy learn- with a 5-point Likert scale (1 = minimum, 2 = a little, 3 = moderately, 4 = very, 5 = maximum). Higher scores indicated higher levels of happiness.

Data collection procedure

Data collection was carried out simultaneously in all learning classes by eight trained research assistants. Copies of questionnaires were distributed along with unmarked envelops. The envelopes were sealed by the participants immediately after the questionnaires were completed. Students were not required to identify themselves by writing their name on the questionnaire and confidentiality was emphasized. They were also asked to sign for the consent form. The exercise took about 20-25 minutes to

complete and they handed them back to the research assistants immediately upon completion.

Ethical considerations

Participation was voluntary and informed written consent was obtained from each participant prior to collecting data. Questionnaires were not linked to the signed informed consent in order to maintain anonymity. Human rights, anonymity (Students' names were not used) and confidentiality were maintained throughout the study.

Validity and reliability of the study

The content validity of questionnaires was approved by three experts. A preliminary survey of 40 nursing students from different levels of study was conducted prior to data collection. Nursing students who participated in the preliminary survey understood the meaning of each question and were able to complete the questionnaire in 20-25 minutes. Cronbach's alpha coefficient for the Happiness of Nursing Students questionnaire was .92.

Data analysis

The collected data were analyzed. Two tailed *p* values less than .05 were considered significant. The general characteristics of participants were analyzed with descriptive statistics. Differences of happiness among learning classes were evaluated with a one-way analysis of variance along with a post-hoc Scheffe's test.

Results

Sample characteristics

Ninety eight participants (100% responding rate) completed questionnaires. The socio-demographic characteristics of the respondents are illustrated in table 1.

Table 1 Socio-demographic characteristics of respondents (N = 98)

Characteristics	Frequency (n)	Percentage (%)
Age Groups (years)		
18 - 20	39	39.80
21 - 23	55	56.12
24 - 26	4	4.08
Gender		
Female	98	100
Level in College		
1th year	25	25.5
2nd year	21	21.4
3rd year	34	34.7
4th year	18	18.4

As seen in Table 1, 56.12% (n = 55) of respondents was aged 21-23 years old, 100% of participants (N = 98) was female, 34.7% (n = 34) was third year student.

Mean scores of study variables

Each item of happiness was rated so that "minimum' was 1 point and "maximum" was 5 points. The overall mean score of happiness of nursing students was at moderate level ($\bar{x}$ = 3.50, SD = 0.44). Most of the mean scores of happiness were higher than the respective median scores, excepted for the happy relax mean score (M = 2.96, SD = 0.65). The first three highest mean scores of happiness was happy heart (M = 4.02, SD = 0.54), happy soul (M = 3.84, SD = 0.63), and happy family (M = 3.74, SD = 0.86), respectively. The first three lowest mean scores of happiness was happy relax (M = 2.96, SD = 0.65), happy money (M = 3.08, SD = 0.72), and happy learn (M = 3.31, SD = 0.58), respectively. Data for the study variables are shown in Table 2.

Table 2 Mean Score of Variables (N = 98)

Variables	Rank	Min	Max	*M* ± *SD*
Happy heart	1-5	3.66	4.24	4.02 ± 0.54
Happy soul	1-5	3.48	4.06	3.84 ± 0.63
Happy family	1-5	3.11	4.38	3.74 ± 0.86
Happy brain	1-5	3.35	3.99	3.66 ± 0.70
Happy society	1-5	2.92	4.00	3.54 ± 0.69
Happy body	1-5	1.66	4.66	3.40 ± 0.47
Happy learn	1-5	2.93	3.90	3.31 ± 0.58
Happy money	1-5	2.70	3.47	3.08 ± 0.72
Happy relax	1-5	2.12	3.61	2.96 ± 0.65
Overall	1-5	2.88	4.03	3.50 ± 0.44

Differences in happiness among student learning classes

Differences in happiness according to student learning classes of the respondents are illustrated in table 3. There were statically significant differences in happiness among student learning classes (*P* < .05)

Table 3 *Results* of the one way ANOVA for happiness among the student learning classes (N = 98)

	Student learning classes					
Variable	Sum of Squares	df	SS	MS	F	*P*
Happiness	Between Groups	3	2.969	.990	5.698	.001*
	Within Groups	94	16.330	.174		
	Total	97	19.229			

*$P < .05$

The result of Post Hoc test on happiness among student learning classes

The result of Post Hoc test on happiness among student learning classes is illustrated in table 4. There were statistically significant differences in happiness between the fourth (M = 3.74) and the third (M = 3.32) years, and also between the fourth (M = 3.74) and the second (M = 3.29) years (p >.05). The fourth year (M = 3.74) had higher happiness than the second (M = 3.29) and the third (M = 3.32) years whereas the second year had the lowest happiness.

Table 4 The result of Post Hoc test on happiness among student learning classes (N=98)

Student learning classes/ Happiness	1th year (M = 3.59)	2nd year (M = 3.29)	3rd year (M = 3.32)	4th year (M = 3.74)
1th year (M = 3.59)	-	.30	.27	.15
2nd year (M = 3.29)	.30	-	.03	.45*
3rd year (M = 3.32)	.27	.03	-	.42*
4th year (M = 3.74)	.15	.45*	.42*	-

*P < .05

Affecting factors reduced the happiness among nursing students

Based on the responses of a single open-end question from 69 participants, "What kinds of activities or factors affected in reducing your happiness the most, and in what reasons?" The 46.37% (n = 32) of respondents reported that unstable learning schedules and too many learning activities were the most important affecting factors in reducing their happiness. They also reported that the school's rules, especially checking the numbers of students who stayed overnight in the dormitories at a night time during weekday, was their disturbance (42.02%, n = 29). Other issues which affected their happiness such as extracurricular activities during their vacation or weekend (11.59%, n = 8), they don't have enough time to rest and sleep (11.59%, n = 8), the relationships among friends, school-mate and teachers (10.14%, n = 7), and too many learning assignments (5.79%, n = 4) were illustrated in Table 5.

Table 5 Affecting factors reduced the happiness among nursing students (N = 69)

Affecting factors	Frequency (n)	Percentage (%)
Unstable learning schedules and many learning activities	32	46.37
Checking the numbers of students who stayed overnight at a night time during weekday	29	42.02
Extracurricular activities on their vacation or weekend	8	11.59
Don't have enough time to rest and sleep	8	11.59
The relationships among friends, school-mate and teachers	7	10.14
Too many learning assignments	4	5.79

Discussion of finding

In overall, the study results revealed the incidence of moderate happiness among nursing students. The senior group presented the highest level of happiness whereas the sophomore group presented the lowest level compared to freshman and junior. The most interesting finding of our current survey was that happy relax, happy money, and happy learn were perceived by nursing students to be important affecting factors to their happiness. The happy relax mean score was at the lowest level compared to others which was corresponding with the answers of a single open-ended question, i.e., don't have enough time to rest and sleep or checking the numbers of students who stayed overnight in the dormitories at a night time during weekday. According to nursing school's rules and for academic benefits, all of nursing students studying at Boromarajonani Nursing College have to stay in the dormitories provided by nursing school. Living together as one big family in the dormitories might be an important affecting factor to reduce their happiness since they have no private place and time to be with themselves or have not enough quiet time and place to rest and sleep.

Happy learn was also at the lower level compared to other happy dimensions. This could be another important affecting factor to reduce happiness among these participants. The answers of a single open-ended question revealed that unstable learning schedule and too many learning activities and learning assignment might cause them feel have no free time to relax. In this study, happy money was another source of affecting factor. Although research on happiness and subjective well-being reported that economic status do not predict happiness (Mayers & Diener, 1995), happy money among these participants was at lower level compared to other happy dimensions.

Happy heart and happy soul are the heart of nursing study. The results of this study demonstrated that nursing students seem to have moderate happiness; however, happy heart, happy soul, and happy family were the first three highest level of happiness among these participants. In Thai society, Thai adolescences' behavior is partly determined by the type of family they grown up in, such as a nuclear family or extended family, and how they live, i.e., by themselves or in a dormitory. An adolescence who grows up in a loving family – has a good relationship with her parents and other family members, interacts and exchanges ideas, is taught discipline and other facts of life – is less likely to get distress than one who grows up in a family lacking such features (The United Nations Population Fund Thailand Country Office and the Office of the National Economic and Social Development Board, 2014). In addition, the economic and social status of the family affects the methods of nurturing, teaching and developing of values, as well as the educational opportunities of the adolescence. One of the item scores of this study regarding happy family showed that the family activities among students and other family members is also an important key factor for helping them happy. However, other studies have found that family factors have little or no significance in the incidence of distress ((Manopaiboon, et al., 2003). The results of this study also revealed that happy brain and happy society do constitute a happy matter among these participants.

Conclusion and recommendation

A conclusion based on the current research finding is that nursing students seem to demonstrate moderate happiness. The senior group presented the highest level of happiness whereas the sophomore group presented the lowest level compared to freshman and junior. Therefore, it is necessary to consider appropriate plans and interventions to improve and retain the happiness among nursing students in the acceptable levels and thus improve their mental health. A recommendation for future research is to use qualitative research methods to obtain deeper understanding of the reasons for the high prevalence of unhappy observed in nursing students.

Limitations of the study

This study only concentrated on female nursing students at one college and could not explore the views of male students on the same topic.

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Effects of Social Support by Visiting Volunteers on Psychological Well-being and Functional Ability of Elderly with Stroke at Saraburi Hospital

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ABSTRACT

Background: Social support is an important factor for promoting psychological well-being and functional ability in daily living among elderly stroke patients.

Objectives: This pilot study evaluated effects of social support by visiting volunteers on psychological well-being and functional ability in daily living of elderly stroke patients admitted at Saraburi Hospital.

Methods: This quasi experimental, one group pre-post test design, was conducted in July – August 2013. Subjects comprised of eight elderly patients hospitalized due to ischemic stroke. Each patient was visited twice for social support related to emotion, instrument, information, and appraisal by nursing students. The instruments used for data collection were the psychological well-being, visual analogue scale, and the functional ability in daily living (Bathel ADL Index).

Results: Finding revealed moderate level of psychological well-being and functional ability in daily living among post-stroke elderly patients. Mean scores of psychological well-being was increased from 4.13 (S.D.= 3.09) to (6.34 (S.D.= 1.92) whereas the functional ability in daily living was increased from 11.00 (S.D=5.50) to (13.13 (S.D. = 5.94).

Conclusions: Although study limitation from small sample size, this study suggests an alternative for promoting psychological well-being and ability in daily living by nursing students on hospitalized of elderly due to stroke.

Keywords: Elderly, **S**troke, Psychological well-being, ADL, Volunteer

Background

A Cerebrovascular disease or stroke is a clinical event that disrupts patients' lives, usually causing physical limitations as well as possible cognitive deficits depending on the specific localization of the brain damages. A disease can compromise or complicate the patients' limb dysfunctions which not only affected the quality of life (QoL) of the patient's bus also can seriously threaten their next of kin as well. Caring for a stroke survivor is highly stressful, which can negatively affect a caregiver's physical and psychological well-being which Yu and others [1] reported that these people generally have poorer quality of life than the general population.

As stroke is chronic illness that increases with age therefore this decrease is commonly found among the elderly. Its affects approximately 80 % of people age over 65 and is a leading cause of mortality among aging population. Number of stroke cases in Thailand were 150,000 – 200,000. Prevalence of stroke in Saraburi was the fifth among 77 provinces in Thailand. The incidents were increased from 391.6 per 100,000 populations in 2010 to 484 per 100,000 populations in 2012 [2].

Most stroke survivors live with impaired functional ability and required rehabilitation. Rehabilitation programs are common treatments in the managing of stroke consequences and they can significantly ameliorate functional status and the performances in activities of daily living, although studies are not always in agreement on the size of such positive effects [3]. The longitudinal data from the study conducted by F. Tramontia and others [4] showed a relevant improvement of functional status at the end of rehabilitation programs in the hospital and social supports seems to be extremely important in sustaining patients' and caregivers' adaptive coping strategies. Social support was categorized into four types: Emotional support, Instrumental support, Informational support, and Appraisal support. The emotional support is associated with sharing life experiences in empathy and caring manners. Instrumental support involves providing of necessary devices to assist a person through their network such as neighbors and health personnel. Informational support involves the providing advice and information that address problems. Appraisal support involves providing feedback, and useful information for self-evaluation. Social support from family, neighbor, community, and healthcare personnel can promote physical and psychological health [5].

Saraburi Hospital is a tertiary care facility that delivers health services under limited resources and financial pressure. Shortage of nursing staff and high turnover rate is the issue of concern at the hospital. As it was found that social support impacts physiological and psychological well-being especially among post-stroke elderly [6] this study propose to provide social support using nursing student volunteers to hospitalized elderly suffering from stroke as the mean of promoting psychological well-being and fast recovery among post-stroke elderly. Therefore,

providing social support to elderly stroke patients through hospital visit by nursing student volunteers may benefit psychological well-being and functional health in daily living.

OBJECTIVE

This study evaluated effects of social support by visiting volunteers on psychological well-being and functional ability in daily living of elderly stroke patients admitted at Saraburi Hospital.

Conceptual Framework

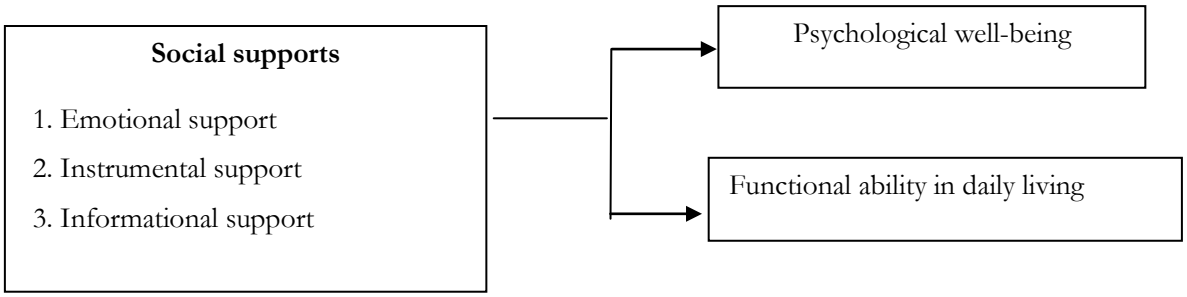

Figure Conceptual framework of providing social support to elderly with stroke

METHODS

This quasi experimental research, one group pre-post test, was conducted at hospital setting in July – August 2013. The Institutional Review Board approval was obtained from Boromarajonani College of Nursing Saraburi, and Saraburi hospital, Thailand. Post-stroke elderly patients were approach at bedside by the trained volunteers nursing students. All participants were informed of their rights before participating in this study.

Participants

Participants comprised of 8 elderly patients with stroke admitted to medical unit at Saraburi hospital, Thailand. Inclusion criteria were age > 60 years, able to speak, read, and write Thai, the Thai Mental State Examination (TMSE) score > 23, and good conscious with Glasgow coma score = 15.

Instruments

Research instruments used in this study including the instrument for data collection about personal information, psychological well-being, functional ability in daily living, and the hospital visiting program by volunteer nursing students

1. The instrument for data collection comprised of:

1.1 The personal data form related to demographic data, health status, and history of illness information.

1.2 The psychological well-being was assessed using visual analogue scale of facial expression which modified from the Faces rating scale for pain assessment. Score ranged from 0 to 10. This scale was developed in previous study. The content validity was .92 and scale reliability was .84 [7].

1.3 The Functional ability in daily living (Bathel ADL Index) comprised of items including eating, grooming, get out of bed, using rest room, walking inside the house, put on/off cloth, walk up/down stair, take a shower, bowel movement, and urination. Score range from 0-20. Patients were categorized to four groups: total dependence (0-4), severe dependence (5-8), moderate dependence (9-12), and low dependence ($\geq$ 13). Scale reliability in this study was .95. The scale reliability was .89.

2. Hospital visiting volunteer program

The visiting volunteers for providing social support to post-stroke elderly patients were focused in three domains: emotion, information and instrument. Nursing student volunteers were trained by nurse instructor to follow the guidebook before make the initial visit to the elderly patients. Each patient was visited twice during admission in the evening for 40 minutes. For the first visit, baseline data of patient, psychological, and functional ability were assessed by volunteer nursing students. After established rapport, the volunteers used dialoged technique for enhancing good feeling and giving information related to self-care practice for stroke rehabilitation. Medical instruments and self-care practice booklet were also provided to improve ADL. One week after the first visit, the volunteers give the support as same as the first process. Posttest data, the psychological well-being and functional ability were assessed after finishing this visit.

Data analysis

Descriptive statistic was used to analyze personal characteristic and health data. Mean scores of psychological well-being and functional ability were used to compare between the first and second visits.

RESULTS

Participant characteristics

The post-stroke elderly participated in this study were hospitalized due to ischemic stroke. There were five males and three females. Age ranged from 60-69 for two cases, 70-79 for five cases, and over 80 for one case. For marital status, five were married, and three were widow/single. For primary caregivers, three cases were taking care by spouse whereas the rest were taking care by children. All patients were.

For co-morbidity, the single chronic condition of hypertension was found in five cases. The two chronic conditions found in two cases were hypertension with dyslipidemia and hypertension with diabetes. The three chronic conditions found in one case were hypertension, diabetes, and dyslipidemia. For body weight, only one case was in normal range (18.5-23.4) whereas the rest were underweight (BMI< 18.5) for one case, overweight (23.5-28.5) for three cases, and mild obesity (28.5-34.9) for one case.

Psychological well-being and Function ability

Psychological well-being among elderly patients with stroke was at moderate level at first visit mean = 4.13 (S.D. = 3.09). There was an increased mean score of psychological well-being at the second visit but still at moderate level, mean = 6.34 (S.D. = 1.92). The effect size of .87 indicated large impact of these visiting volunteers on psychological well-being of post-stroke elderly.

Function ability on daily living of post-stroke elderly was at moderate level of dependence living during the first visit mean = 11.0 (S.D. = 5.50). The mean score was increased to 13.13 (S.D. = 5.94) after the program as showed in Table 1.

Comparison of mean score changes among post-stroke patients after receiving social support from nursing student visiting volunteers. For psychological well-being, seven out of eight patients were found to have increasing mean score whereas one case was found decreased. For functional activity in daily living, four cases were increased and four cases were the same.

Table 1 Psychological well-being and function ability of post-stroke elderly

Variables	Mean	S.D.	Effect size
Psychological well-being			
Pre-test	4.13	3.09	0.87
Post-test	6.34	1.92	
ADL			
Pre-test	11.00	5.50	0.37
Post-test	13.13	5.94	

DISCUSSION

This study evaluated impacts of providing social support related to emotion, information, instrument, and appraisal to elderly patients with stroke during hospitalized. Baseline data showed

moderate level of psychological well-being and functional ability in daily living among post-stroke elderly. Results of hospital visited by volunteer nursing students showed the improvement of mean scores of ability in daily living and psychological well-being among elderly patients with ischemic stroke. This may because the four dimension of social support in this study identified with the Social support theory. Literature also support that stroke knowledge is important for improvement of self-care ability and healthy states [5].

Social support had benefits to mental health and ability to face with problem and stress among patients [5]. Psychological support was proved to reduce stress that causes heart disease and hypertension among working adult [8]. The study conducted on 110 unemployed workers showed benefit of social support on physical and mental health [9]. Supports from family had significant impact on compliant with therapeutic behavior of patients [7], and health promoting behaviors such as annual exam, fitness activity, food consumption, and disease prevention [10]. Previous study found that patients with family support had healthy behavior better than patients receiving regular care [11].

CONCLUSIONS

This finding provide supports to alternative use of nursing students in visiting elderly patients with ischemic stroke during admission to promote psychological well-being and activity in daily living. In time of hospital staff shortages trained and qualified nursing students could be an important supporting human resources therefore nursing schools should take this result into their considerations when reviewing the nursing curriculum. Communicating with the post-stroke elderly patients should be specially trained especially in the psychological aspect. Not properly trained stroke caregivers may probably engage in a higher psychological risk themselves.

STUDY LIMITATION

The interpretation of finding in this study is limited due to small number of participants recruited through inpatient unit. There was difficulty in communicating with post-stroke elderly patients during hospital visits.

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The Impact of Mobile Broadband Infrastructure on Technological Innovation: An Empirical Analysis

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ABSTRACT

Innovation is one of the drivers of national competitiveness and economic growth. Considering well-established information and communication technologies (ICT) infrastructure is essential for the national level of innovation, the ICT infrastructure such as mobile broadband has an impact on the innovation.

Using longitudinal panel data, this study examines whether mobile broadband diffusion, R&D expenditure, education, income, and corruption perception index (CPI) have influenced technological innovation.

The results of the data analysis suggest that mobile broadband infrastructure is one of the key drivers of technological innovation. This finding implies that mobile broadband diffusion stimulates knowledge-based innovation and contributes to economic growth. The study also finds that R&D expenditure is an influential factor of innovation, which implies that the improvement of knowledge capital by R&D investment can promote innovations. In addition, education and corruption perception index are positively associated with innovation, indicating that human capital and government efficiency can boost innovations.

Keywords: Mobile broadband infrastructure, Innovation, R&D expenditure; Corruption perception index

I. INTROUCTION

Technological innovation is one of the drivers of national competitiveness and economic growth. Considering well-established information and communication technologies (ICT) infrastructure is an influential factor of national level of innovation, ICT infrastructure such as broadband has an impact on the innovation. For instance, broadband infrastructure can contribute to business expansion, product innovation, and new business creation (ITU, 2012). Also, the collaborative innovation network formation through fixed and mobile broadband infrastructure can serve as platforms for sharing of ideas that are critical to innovation (Jerome, 2011).

Broadband is defined as a network offering a combined speed of equal to, or greater than, 256 kbit/s for downstream connections and 64kbit/s for upstream connections, which may include more diverse broadband technologies such as mobile broadband and portable Internet (ITU, 2003; OECD, 2001). There has been a steady growth of broadband diffusion throughout the world. There were over 711 million active fixed broadband subscribers and 2,315 million active mobile broadband subscribers at the end of 2014 (ITU, 2014; see Figure 1). In terms of penetration rate, there were over 9.8 percent for fixed broadband and 32 percent for mobile broadband at the end of 2014 (ITU, 2014)

Considering the potential economic impacts of broadband, it is necessary to examine the drivers of innovation including broadband infrastructure in knowledge-based economies. Especially mobile broadband infrastructure is an increasingly important component of the ICT infrastructure with diverse implications for innovations.

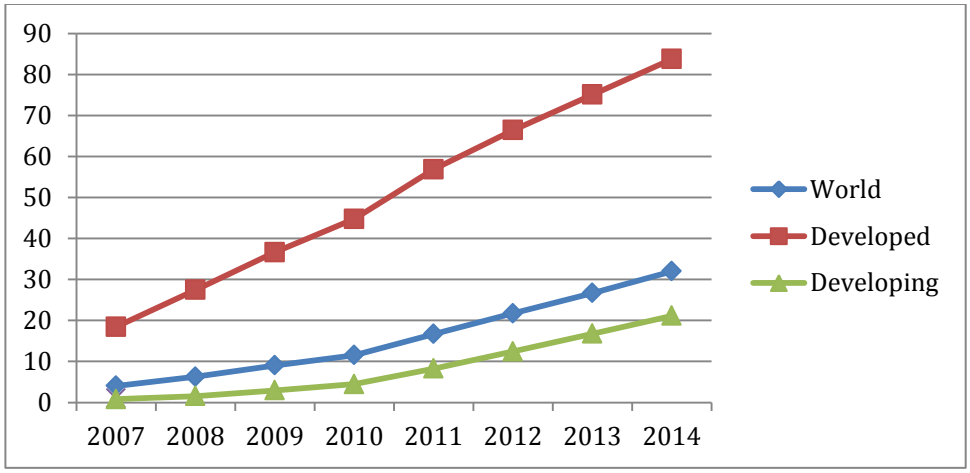
The number of patents applications has been widely used to measure technological innovation. According to the OECD (2013), the number of total patent filed grew from 88,304 in 1999 to 187,858 in 2013. OECD countries made up about 86.67percent of world patent (OECD, 2013).

In spite of a growing body of scholarship on economic impact of broadband, few empirical studies have examined the nexus between the diffusion of mobile broadband and technological innovation at the macro-level. Also, very few empirical studies have investigated whether institutional factor such as corruption perception index (CPI) affects innovation. In addition, there is also insufficient research on whether the level of education influences technological innovation.

Using longitudinal panel data from 44 countries, this study examines whether mobile broadband diffusion, R&D expenditure, education, income, and CPI have influenced technological innovation.

The data for the estimation of technological innovation cover the period from 2002 to 2012. This study employs fixed effects regression analysis for the data analysis. The study provides policy implications for countries seeking to promote innovation.

Figure 1 Global mobile broadband diffusion, 2007-2014



Source: International Telecommunication Union (2014)

II. SURVEYING THE LITERATURE

1. The Impact of Broadband Infrastructure on the Economy

Broadband infrastructure is recognized as a contributor to economic growth, productivity, employment, and national competitiveness (ITU, 2003). Also, broadband infrastructure stimulates innovation and attracts foreign investment (ITU, 2011). Well-established broadband infrastructure is essential to achieve countries' social, economic and scientific goals (ITU, 2012).

There is a growing body of scholarship on economic impact of broadband. Previous studies mainly focused on the impact of broadband infrastructure on economic growth, productivity gains, and job creation. For instance, previous empirical studies measured the economic impacts of the broadband infrastructure on growth (Koutroumpis, 2009; Lehr et al., 2006). By incorporating a simultaneous approach methodology that endogenizes supply, demand and output, Koutroumpis (2009) estimated the economic impact of broadband infrastructure on growth in OECD countries and found that there are increasing returns to broadband telecommunications investments. Some empirical studies found that broadband diffusion has an impact on GDP growth (Koutroumpis, 2009; Qiang & Rossotto, 2009). However, it appears that the impact of broadband varies widely, from 0.25 to 1.38 percent for every increase in 10 percent of broadband penetration (ITU, 2012). Utilizing multivariate regression analysis, Lehr et al. (2006) also found broadband diffusion enhanced economic growth and performance, and that the economic impact of broadband was measurable. Crandall and Jackson (2001) reported that a $63 billion investment in broadband in the United States resulted in a cumulative increase of $179 billion to the GDP, allowing the maximization of consumer surplus generated by new services, savings in transportation time, and new computer applications. Ford and Koutsky (2005) found that broadband infrastructure led to a 28 percent improvement in economic growth. Recently, Thompson and Garbacz (2011) found that mobile broadband had an important direct impact on GDP.

Also, previous studies on the impact of broadband on productivity found positive effects of broadband on productivity. For instance, Waverman (2009) examined the economic effect of broadband infrastructure on the GDP of 15 OECD nations between 1980 and 2007. It was estimated that for every 1 percent increase in broadband penetration in high and medium income

countries, productivity grows by 0.13 percent (Waverman, 2009). In addition, previous studies examined the impact of broadband infrastructure on job creation. For example, Atkinson et al. (2009) estimated that a $10 billion investment in broadband in the United States resulted in a total 180,000 jobs per year.

Furthermore, broadband infrastructure and technological innovations are closely interlinked. Broadband infrastructure can be a key driver of knowledge-based innovation at the macro-level. Diffusion of broadband infrastructure accelerates innovation by introducing new consumer applications and services (ITU, 2012). Ubiquitous broadband Internet access has promoted networked innovation and collaboration among universities, industries, and governments. With the diffusion of broadband networks, collaborative innovation networks can serve as platforms for the incubation and sharing of ideas that are critical to innovation (Jerome, 2011).

In spite of a growing body of scholarship on economic impact of broadband, there is no empirical work examining the impact of broadband infrastructure on technological innovation. Especially many studies focused on economic impact of fixed broadband infrastructure. Considering there has been a steady growth of mobile broadband adoption, it is necessary to examine whether mobile broadband infrastructure affect technological innovations.

Based on the literature review, the following research question is proposed:

RQ 1: Does mobile broadband infrastructure affect technological innovations?

2. R&D and Education

The size of R&D spending and employment is considered as one of important determinants of national innovative capacity (Furman & Hayes, 2004; Furman, Porter & Stern, 2002). Also, R&D plays a key role in building the knowledge-based innovation system through the interactions of academia, industry, and government (Leydesdorff, 2006). Therefore, R&D expenditures have generally been used as a measure of inputs in the national innovation system (Castellacci & Natera, 2013; Daniell & Persson, 2003; Krammer, 2009; Leydesdorff, 2006). For example, Castellacci and Natera (2013) included a total R&D expenditure as one of the innovative capabilities and examined relationships between innovative capability and absorptive capacity. Also, Daniell and Persson (2003) analyzed the Swedish regional R&D activities to evaluate the national innovation system.

Previous empirical studies found that R&D expenditure is one of drivers of innovation. For instance, using 17 OECD countries data from 1973 to 1996, Furman et al. (2002) found that the aggregate R&D spending is one of the determinants of national innovative capacity. Employing Stochastic Frontier Approach (SFA), Fu and Yang (2009) found that a gross expenditure on R&D in GDP is associated with innovation measured by the number of patents granted 3 years later. In addition, using a firm-level data, Horbach (2008) found that the improvement of the technological capabilities (knowledge capital) by R&D triggered environmental innovations.

Also, education is one of the determinants of innovation. Often, a role of higher education is assessed in the context of the national innovation system. In the triple helix model, higher education plays a key role as a provider of trained persons and basic knowledge (Etzkowitz, 2003). As Etzkowitz and Dzisah (2007) suggested, although the university is the highest educational institution that fulfills its mission of research and education to motivate the process of innovation, mass primary and secondary education should precede the extensive development of tertiary educational capabilities (Etzkowitz & Dzisah, 2007).

Previous empirical studies found that education is one of the drivers of innovation. For instance, Castellaci and Natera (2013) found human capital measured by the level of education is one of the drivers of scientific and technological output. Furman et al. (2002) found a positive relationship between education resources and new patents. Also, utilizing 29 countries panel-data, Varsakelis (2006) found that the investment of a society in the quality of education affected the output of innovation activity.

Based on the literature review, the following research questions are proposed:

RQ 2: Does R&D expenditure affect technological innovations?

RQ 3: Does level of education affect technological innovations?

3. Income and Corruption Perception Index

Previous studies examined the relationship between socio-economic factor such as income and innovation (Allred & Park, 2007; Castellacci & Natera, 2013; Fu & Yang, 2009). For example, Allred and Park (2007) used population and per capita GDP to test firm innovation investment. Some empirical studies supported the positive influence of income on the innovation (Castellacci & Natera, 2013; Fu & Yang, 2009). For instance, Castellacci and Natera (2013) found that income measured by the GDP per capita affected scientific and technological output. Also, using Stochastic Frontier Approach (SFA), Fu and Yang (2009) found that gross GDP per capita is one of the determinants of patenting efficiency.

National innovation system theory suggests that institutional factors are determinants of national level of innovation (Edquist, 1997; Lundvall et al., 2002). As Mauro (1995) suggests, corruption and bureaucratic inefficiency are negatively associated with high levels of investment and innovation. Varsakelis (2006) examined the relationship between institutional factor such as CPI and innovation. The study found that CPI affected innovation.

Based on the literature review, the following research questions are proposed:

RQ 4: Does income affect technological innovations?

RQ 5: Does CPI affect technological innovations?

III. RESEARCH METHOD

1. The Empirical Model

To examine influential factors of technological innovation, this study employs a regression model. The study formulated the following fixed-effects regression model[1)]:

$$LnT_{it} = \beta_{0it} + \beta_{1it}*lnMobileBroadband + \beta_{2it}*RD + \beta_{3it}*EDU + \beta_{4it}*INC + \beta_{5it}*CPI + \delta_i Z_i + \varepsilon_{it} \quad (1)$$

In the empirical model, the dependent variable (T_{it}) is technological innovation in country i by time t. Since the distribution of the dependent variable in this regression model is

[1)] Based on the previous studies, fixed broadband penetration and the total number of researchers in a country were considered as independent variables. However, fixed broadband penetration is highly correlated with mobile broadband, and the total number of researchers was highly correlated with R&D expenditure. Therefore these factors were not included in the empirical model.

rightly skewed, data transformation with logarithm was employed. The independent variables included in the proposed research model were mobile broadband penetration (*MobileBroadband*), R&D expenditure (*RD*), education (*EDU*), income (*INC*), and corruption perception index (*CPI*). Mobile broadband penetration was also log-transformed to normalize right-skewed data. In the empirical model, β_{0it} is constant, Z_i represents country dummies, and ε_{it} is the error term.

For the regression model, 367 observations from 44 countries were used. To control for the unobserved heterogeneity among countries, this study utilized the fixed-effects regression model. For the empirical model, the data covers the period from 2002-2012. This study also conducted the data analysis for 34 OECD countries only. For the 34 OECD countries' data analysis, 297 observations were used.

2. Measurement and Data Sources

Table 1 shows the variables and data sources for the regression model. Since patents are acknowledged to provide a reliable and unbiased indication of national innovative effort (Huang et al., 2011), technological innovation was measured by the number of patent applications per one million inhabitants. Technological innovation was measured by number of patent applications in previous studies (Hipp & Grupp, 2005; Vasakelis, 2006).

The number of mobile broadband subscribers per 100 inhabitants was employed to measure mobile broadband penetration. R&D expenditure variable was measured by the R&D expenditure as a percentage of GDP. In the model, the level of education was measured by the gross enrollment ratio at secondary schools. Income was measured by GDP per capita. Finally, corruption perception index (CPI) from Transparency International (TI) was included in the empirical model.

Data were collected from the OECD, ITU (International Telecommunication Union), World Bank, and Transparency International (TI). Table 2 lists the 61 countries represented in the panel dataset.

Table 1 Description of variables

Variables	Measurement	Data sources
Technological innovation	Number of patent applications per 1,000,000 inhabitants	OECD
Mobile broadband penetration	Number of mobile broadband subscribers per 100 inhabitants	ITU
R&D expenditure	Research and development expenditure (percentage of GDP)	World Bank
Education	School enrollment, secondary (percentage of GDP)	World Bank
Income	GDP per capita	World Bank
CPI	Corruption Perception Index	Transparency International

IV. EMPIRICAL RESULTS

Table 2 presents the descriptive statistics of our variables. On average, 44 countries applied 83 innovation patents per one million inhabitants between 2002 and 2012, ranged from 0.031 to 345.5. The mean number of innovation patents per one million inhabitants for OECD countries was 107. The average number of mobile broadband penetration was 22, and 1.5 percent of their GDP was invested on R&D expenditures, on average.

Table2 Descriptive statistics

Variables	Obs.	Mean	Std. Dev.	Min.	Max.
Technological innovation	484	83.397	92.457	0.031	345.512
Mobile broadband penetration	421	22.262	26.216	0.000	111.800
R&D expenditure	528	1.516	1.064	0.042	4.523
Education	528	96.872	18.862	21.450	159.150
Income	528	28676.150	16389.560	2738.344	97409.760
CPI	527	5.943	2.315	1.900	9.700

Table 3 shows a correlation matrix of the variables. Most of our independent variables were not highly correlated referring to .70 benchmark for the strength of correlation. While the correlation between income and CPI is 0.76 which is higher than benchmark, the multicollinearity check among independent variables indicates that none of their variance inflation factors (VIFs) are higher than 10.0. Thus, all independent variables are included in the model.

Table3 Correlation matrix

Variables	Technological innovation	Mobile broadband penetration	R&D expenditure	Education	Income	CPI
Technological	1					
Mobile broadband penetration	0.390***	1				
R&D expenditure	0.883***	0.502***	1			
Education	0.441***	0.243***	0.485***	1		
Income	0.569***	0.276***	0.526***	0.560***	1	
CPI	0.729***	0.284***	0.679***	0.672***	0.762***	1

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 4 reports the results from our estimation of the relationships among mobile broadband penetration, R&D expenditures, education, income, CPI and technological innovation. In all specifications, the directions of the coefficients of mobile broadband penetration are positive and statistically significant at 0.05 level. The regression coefficient for mobile broadband penetration in a complete model, specification (3), was 0.013, which indicated that one percent increase in mobile broadband penetration would increase innovation by 0.013 percent when holding other factors constant. The regression coefficients for R&D expenditure are also positive and statistically significant in specification (2) and (3). In specification (3), the regression coefficient for R&D expenditure was 0.145, which indicated that, as R&D expenditure per GDP increase 1 percent, the innovation would increase 15.6 percent. The R-squared for the complete model (3) was 0.37. In addition, the signs of coefficients for education, income, and CPI are all positive and statistically significant which are consistent with our expectations. Additionally, we ran a Hausman test for a complete model (4) using STATA's HAUMAN, and the result indicated that a random-effect model is resoundingly rejected at 0.01 level (Chi-squared: 58.09). It appears the results of fixed effects model are robust. We also ran the same specifications using a one-year lagged mobile broadband penetration to see lagged influence on technological innovation, and found that the sign and significance level of mobile broadband penetration did not change.

Table 5 indicates the results of the reduced sample using 34 OECD countries. The regression coefficients for mobile broadband penetration are still positive and statistically significant at 0.05 level in all three specifications. The regression coefficient of broadband penetration in a complete model (3) was 0.019 which was relatively larger than 0.013 in table 4 with all countries included. The regression coefficients for R&D expenditure are also positive and statistically significant in specification (2) and (3). In specification (3), the regression coefficient for R&D expenditure was 0.142, which was smaller than 0.145 in table 4 with all countries included. The R-squared for the complete model (3) was 0.35. In addition, the signs of coefficients for income and CPI are all positive and statistically significant which are consistent with our expectations. The regression coefficient for education was also positive but not statistically significant at 0.05 level. In addition, we ran a Hausman test for a complete model (4) using STATA's HAUMAN, and the result indicated that a random-effect model is resoundingly rejected at 0.01 level (Chi-squared: 51.22). It seems the results of fixed effects model are appropriate. Utilizing the reduced sample, we also ran the same specifications using a one-year lagged mobile broadband penetration to see lagged influence on technological innovation, and found that the sign and significance level of mobile broadband penetration did not change.

Table 4 Regressions of technological innovation (Fixed effect model): All counties

VARIABLES	(1)	(2)	(3)
Mobile broadband penetration	0.033***	0.027***	0.013**
	(0.005)	(0.005)	(0.005)
R&D expenditure		0.182***	0.145***
		(0.059)	(0.052)
Education		0.006**	0.005**
		(0.002)	(0.002)
Income			0.000***
			(0.000)
CPI			0.177***
			(0.030)
Constant	3.478***	2.585***	0.507
	(0.014)	(0.245)	(0.319)
Observations	367	367	367
R-squared	0.132	0.177	0.364
Number of countries	44	44	44

Notes:

1. The number of innovation and mobile broadband penetration are log-transformed to normalize right-skewed data.
2. We also ran the same specifications using a one-year lagged mobile broad band penetration to see lagged influence on innovation, and found that the sign and significance level of mobile broadband penetration did not change.
3. We checked a multicollinearity of independent variables and their VIFs are less than 5.
4. We ran a Hausman test for a complete model (4) using STATA's HAUMAN, and the result indicated that a random-effect model is resoundingly rejected at 0.01 level (Chi-squared: 58.09)
5. Standard errors in parentheses.
6. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 5 Regressions of technological innovation (Fixed effect model): OECD counties

VARIABLES	(1)	(2)	(3)
Mobile broadband penetration	0.029***	0.023***	0.019***
	(0.005)	(0.005)	(0.005)
R&D expenditure		0.176***	0.142***
		(0.054)	(0.048)
Education		-0.000	0.002
		(0.002)	(0.002)
Income			0.000***
			(0.000)
CPI			0.197***
			(0.029)
Constant	4.135***	3.805***	1.593***
	(0.015)	(0.257)	(0.381)
Observations	297	297	297
R-squared	0.131	0.166	0.354
Number of countries	34	34	34

Notes:

1. The number of innovation and mobile broadband penetration are log-transformed to normalize right-skewed data.
2. We also ran the same specifications using a one-year lagged mobile broad band penetration to see lagged influence on innovation, and found that the sign and significance level of mobile broadband penetration did not change.
3. We checked a multicollinearity of independent variables and their VIFs are less than 5.
4. We ran a Hausman test for a complete model (4) using STATA's HAUMAN, and the result indicated that a random-effect model is resoundingly rejected at 0.01 level (Chi-squared: 51.22)
5. Standard errors in parentheses.
6. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

V. DISCUSSION AND CONCLUSION

Employing fixed effect regression models, this study examined the influential factors of technological innovation in 44 countries. One of the main purposes of this study was to examine whether mobile broadband infrastructure contributes to technological innovation.

The results of the data analysis show that mobile broadband infrastructure is a key driver of technological innovation. Table 4 and Table 5 show that mobile broadband infrastructure variable is statistically significant in explaining innovation in 34 OECD countries as well as in 44 countries. This finding implies that mobile broadband diffusion stimulates knowledge-based innovation and contributes to economic growth in these countries. Also, considering that a one-year lagged mobile broadband diffusion variable is also significant, the impact of mobile broadband infrastructure on innovation may not be discontinued in a short period of time.

In terms of the economic impact of broadband infrastructure, the significance of mobile broadband diffusion in the model is consistent with previous empirical studies, which found the economic impacts of broadband infrastructure (Garbacz, 2011; Koutroumpis, 2009; Lehr et al., 2006; Qiang & Rossotto, 2009 et al., 2009). It appears that mobile broadband infrastructure promotes innovation by introducing new consumer applications and services (ITU, 2012).

Also, mobile broadband infrastructure may stimulate networked innovation and collaboration among universities, industries, and governments, which is critical to innovation. In addition, mobile broadband is essential infrastructure for promoting open innovation, which can stimulate creativity and collective intelligence across the entire innovation process.

The results of the data analysis also suggest that R&D expenditure is an influential factor of innovation. This finding is consistent with previous empirical studies on drivers of national innovation (Castellaci & Natera, 2013; Fu & Yang, 2009; Furman et al., 2002; Horbach, 2008). As Leydesdorff (2006) suggested, it appears that R&D plays an important role in building the knowledge-based innovation system through the interactions and triple helix collaboration among academia, industry, and government. Also, this finding implies that the improvement of knowledge capital by R&D investment promotes innovations.

The findings of this study also indicate a significant positive relationship between education and innovation. This finding suggests that education plays a key role by providing human capital and knowledge, which is essential for innovation in a country. This finding is consistent with previous empirical studies, which examined the relationship between the level of education and innovation (Castellaci & Natera, 2013; Furman et al., 2002; Varsakelis, 2006).

In addition, the results of the data analysis also indicate that income is a statistically significant factor in explaining innovation. The finding implies that financial status of a country as a socio-economic factor is an economic environmental factor, which affects national level of innovation. This result is consistent with previous empirical studies (Castellaci & Natera, 2013; Fu & Yang, 2009).

Furthermore, the findings of this study indicate a significant positive relationship between corruption perception index and innovation. As Mauro (1995) suggested, corruption could be as a proxy for the relative performance of the governmental institutions. Considering Mauro's (1995) study, this finding implies that the high levels of governmental institutions' performance promote innovation. In other words, as an institutional factor, the governmental institutions efficiency affects innovative productivity (Varsakelis, 2006)

This study is limited by the relatively small number of observations. Utilizing more observations, future studies may include more diverse independent variables in the empirical model. For instance, future studies may include stock of international patent as an independent in the empirical model. Also, future studies could examine the effects of other factors (e.g., social media penetration, smartphone diffusion) on innovation.

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Nation Photo Center's Work-Process Adjustment for Convergence Journalism

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Abstract

This study aims to examine the policy of Nation Multimedia Group (NMG) regarding the work-process adjustment that Nation Photo Center is required to be adopted as a means of adjusting themselves to be a part of convergence journalism. Research data were collected through the method of in-depth interviews with four NMG executives and two photographers from Nation Photo Center. The research findings suggest that the emergence of new media has adversely affected newspaper business. To fight with the falling of newspapers sales, NMG executives have come up with the policy to transform Nation Photo Center into a full-fledged news-convergence unit. All Nation Photo Center's photographers are required to have various skills and adopt the multimedia mindset in carrying out their works. They must be able to take still photos as well as to record motion pictures that will be used by NMG's newspapers and TV stations. Moreover, they must produce news reports for NMG's online media. The researcher utilizes three major theories to gain an understating of the NMG executives' policy regarding the transformation: (1) Persuasive Discussion Theory (2) Burning Platform Theory and (3) Leader Pressure Theory. The study results also suggest that the new work process at Nation Photo Center has created the online engagement and communities over the NMG's online outlets. In conclusion, NMG executives' policy in turning Nation Photo Center into a news-convergence unit and requiring its photographers to be multi-skilled has contributed to the enhancement of NMG's potential, its competitiveness as well as its ability to stay afloat in the media industry on a sustainable basis.

Keywords: Nation Photo Center; Work-Process Adjustment; Convergence Journalism

Background and why changes are important

The fast and drastic development of the information technology has greatly affected the media landscape. The conventional methods of reporting did not fulfill consumers' needs. New forms of media emerged to challenge the old ones. It forced everyone to adapt in order to survive.

The print media was the first media type to be affected. Circulations dropped all over the world over the past 10 years. The Thai print media were not spared. Big corporates like the Nation Multimedia Group, which began its print business 45 years ago, could not escape the upheaval.

Tris Rating, which ranks performances of corporates, reported that NMG's print incomes were on a continuous decline over a five-year period starting in 2008. During the time, Internet content and online communications became a lot more popular. (Krungthep Turakij Online, 2014) That prompted NMG to re-engineer itself and embrace the concept of "Convergence Newsroom". That was to enable all reporters and photographers to fully utilize all new tools so they could move into the era of new media. The concept was faster news processing and faster news delivery to consumers through all channels. A key is the quality of "Nation newsmen" (True convergence reporters, 2014).

Mindy McAdams, a digital journalism educator, wrote that all reporters must be ready for changes and adaptation. Everyone must learn to use the mobile phones to take photos. Everyone must learn simple video editing. Everyone must be encouraged to adjust his or her role and work process and embrace multi-skills. These factors directly concern work and profession of news photographers.

David Mccirley and Nick Mcgowan-Lowe (2009) said that news photographers were directly affected from the big changes and needed to adapt themselves, both at personal and organizational levels. News photographers were required to possess multi-media skills to serve several platforms including online and broadcast platforms. NMG's Convergence Newsroom sought to facilitate the adaptation. News photographers were trained to take videos in addition to still shots. Editing skills became necessary. All these made this researcher interested in the thinking and policies of the NMG management. After all, a study of the present and future of news photographers against the backdrop of lay-off reports worldwide is useful. It can reflect changes, necessities and survival strategies of people in the profession of news photography.

Research objectives

1. To study NMG's management policies related to changing Nation's Photo Center to fit the Convergence Newsroom system.

2. To study the new work process of the Photo Center within the new system.

Methodology

Quality researches are obtained through in-depth interviews and secondary data. The researcher uses information gained from both methods for processing, analyzing and explaining phenomena that needed studying and, finally, comparing them with related theories and researches.

Literature Review

1. Management thinking related to media operations taking place amid major changes Kowit Kangsanant (2010) said about implementing management directions that the first step must be to "Induce". It's in human nature to resist changes, therefore fine-tuning attitudes of workers to make them accept changes are important. The management can take the following steps or theories in order to chart new directions.

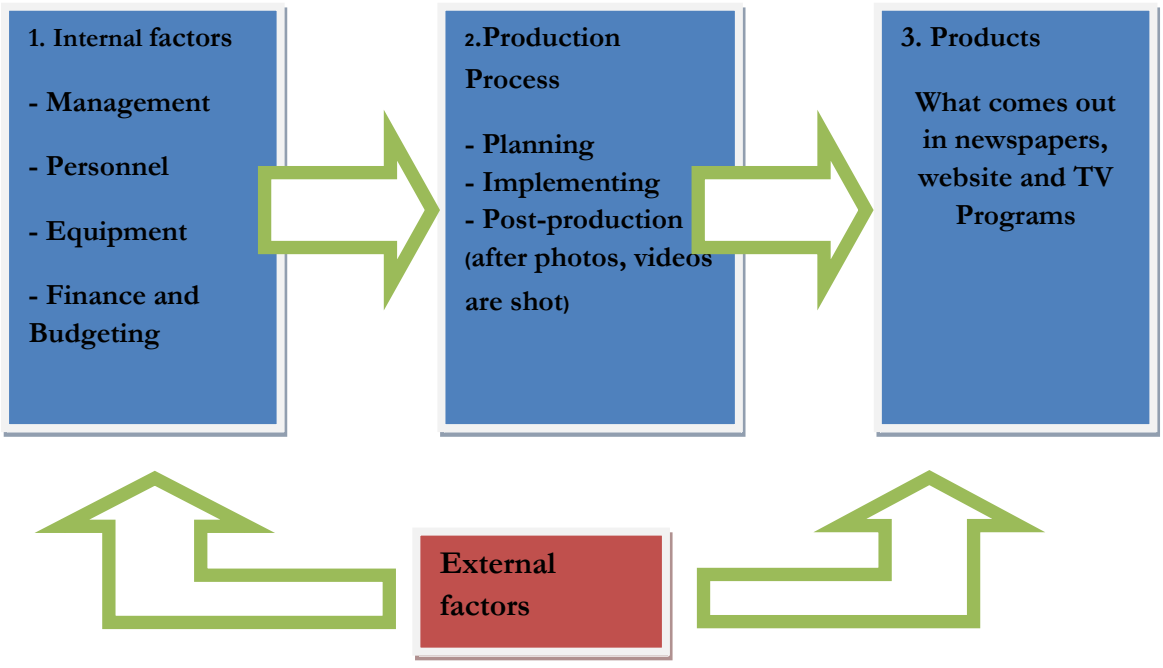
1.1 Induce through dialogues. Conversations are a good way to engage people targeted for attitude or behavioral changes. The dialogues will help improve understanding and willingness to accept new directions. The management has to keep in mind the options available for the employees and avoid imposing drastic changes on them. The dialogues enable the management to know what the employees are thinking and what presents key obstacles that need to be overcome.

1.2 The "Burning House" approach. This helps create awareness and spread it quickly. Most people continue to behave or do things the ways they are familiar with unless they feel some urgency or emergency. To implement needed changes, the management is responsible for making sure the employees realize the necessity and urgency. A corporate in crisis is like a burning house. The employees should be made to be aware of the real situation so a quick change in attitude can occur.

1.3 Pressure from the top and leading by example. This calls on corporate leaders to show seriousness regarding changes. The seriousness ensures employees can't stay still or go about the same old ways. Pressure from the top plus seriousness shown by the executives who are also willing to facilitate major changes lead to across-the-board awareness among employees. Effecting big changes and making them sustainable is impossible without constant pressure from the top.

2. News photography production process of the Thai print media

According to Booppha Boonsomsuk, fundamental things framing the operations of the Thai print media include (1) internal factors, (2) production process, (3) products and (4) external impact. When photographers are concerned, a graphic can look like this:



Research results

1. Easing of Nation's photo center into the Convergence Newsroom

Changes required by the management affected personnel allocation and addition of new skills. The management realized photographers' fundamental understanding of news angles and how to come up with relevant photos. This made photographers the key element in the production of still photos and videos. Another requirement was for photographers to be able to do their own reporting.

To achieve the attitude and behavioral changes, the management had to get photographers out of their "comfort zone" _ the one-dimensional job that involved only the taking of still photos. The management persuaded the photographers to accept changes by pointing at the upheaval in America and Europe, where lay-offs of photographers were common.

After that, NMG Editor-in-Chief Suthichai Yoon focused on making the chief photographer the example of changes. This stemmed from the belief that unit leaders must first accept changes and show they can do it. This did not only motivate their subordinates, but also gave the leaders good ideas of how working processes and structures should be adjusted to suit new direction. The subordinates would also get good advice from the leaders.

The NMG management kept a close look on photographers and monitor their progress toward the new goals through the daily news meetings.

To make the convergence become full scale and the most effective, the management invested in technological infrastructure and tools. Support for the photographers include (1) the development of the so-called NCES (Nation Convergence Editorial System) for managing and filing of still photos and videos and (2) the provision of photo and video shooting equipment as well as transmission devices. The equipment and devices were sponsored by the management either wholly or by half.

Training was provided by the management for video shooting and editing. Photographers also learned to work with reporters in the new-media environment including the utilization of the online social media in reporting news. The training encouraged creativity and enabled photographers to sit down with their other editorial colleagues to make effective news-gathering plans. Other incentives included higher salaries for photographers who were able to fulfill the management's policies.

2. Photographers' work process in the Convergence Newsroom

As several media outlets of the NMG used different still photos and videos, the photographers had to be well-organized and possess good multi-media skills. The photos and videos must serve all outlets, namely newspapers, web sites and TV programs.

The multi-media requirement prompted the photographers to utilize and monitor the online community in their day-to-day work. It helped with manpower allocation planning each day. The photographers also actively contributed to new-media operations by uploading photos or video materials immediately after key incidents or events. This helped keep news consumers interested in NMG overall coverage.

Analyzing research results

1. The policy of changing the work process of Nation's Photo Center to suit the Convergence Newsroom

The move toward the new media and reforming Nation TV news presentation are consistent with studies by Sudarat Ditsayawantana, Chantra Wattanakul and Amornrat Mahitthiruk (2014). They called print media organizations a hub of intellectual products which is disseminating their content through more diversified outlets. In the case of Nation's Photo Center, it was re-organized and re-engineered to fit into the Convergence Newsroom. The driving concept was the thought that the photographers already had good news-reporting foundations and knew how to take good news photos, so they should play a key role in the new system. They were made to play a big part in producing still photos and videos and filing reports themselves to NMG online and TV outlets. The re-organized work did in fact increase the number of still photos for the different newspapers. The photographers also helped fulfill the intended streamlining of news teams covering stories each day.

NMG's policy was also consistent with "Photo-journalists: An Endangered species in Europe" written by David Mccairley and Nick Mcgowan-Lowe (2009).

When analyzing methods of the NMG management concerning the restructuring of the Photo Center for the Convergence Newsroom in accordance with the study on "Corporate changes in the aspects of supportive and behavioural elements" by Kowit Kangsanant (2010), the NMG management applied 3 main strategies. The 3 methods were used to eradicate a resisting viewpoint that adding skills would undermine news photography. The strategies, encouraging news photographers to walk out of their "comfort zone", include (1) to induce, (2) to create a sense of emergency, or impression of a "burning house", and (3) to put photographers under pressure from the top leaders.

1. The "induce" approach

NMG chairman and editor-in-chief Suthichai Yoon held meetings with photographers and tried to persuade them to understand the needs for changes. The photographers were told that multi-skills were necessary, specifically the video shooting and editing skills. They were also asked to study and understand the online community. Examples from other countries were related. The photographers were made to be aware of problems affecting print businesses overseas which led to lay-offs of employees and photographers in some cases.

2. The "Burning House" approach

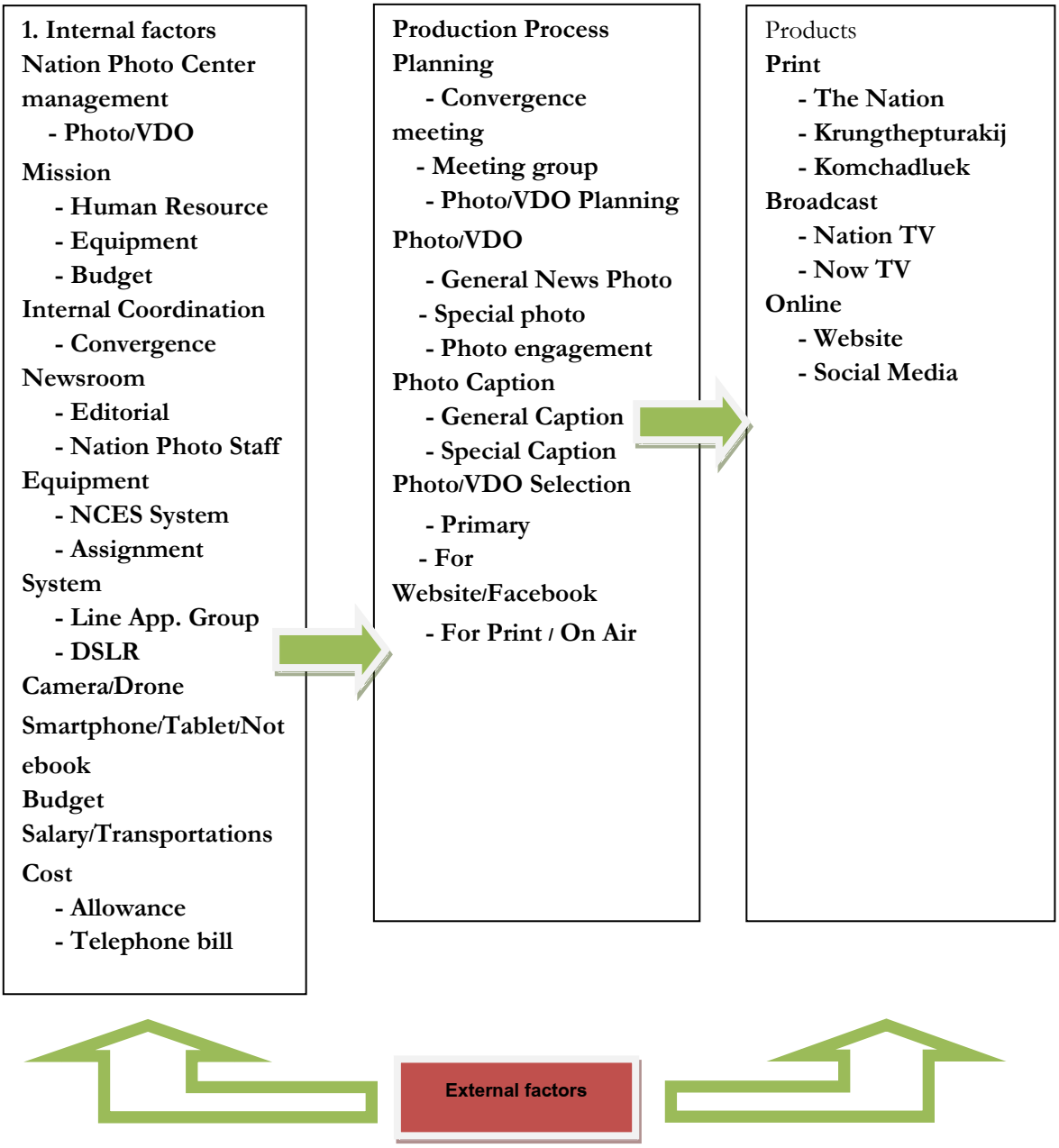
NMG chairman and editor-in-chief Suthichai Yoon often warned photographers of the imminent "danger" threatening print media businesses including the NMG itself. He demanded that all photographers quickly get out of the "Comfort Zone" _ or the conventional ways of performing their professional duty that overtime have bred ignorance and too much nonchalance. He emphasized the needs for multi-skills.

3. The "pressure from the top" approach

NMG chairman and editor-in-chief Suthichai Yoon actively stimulated changes by putting pressure on senior photography personnel. Intense observation and monitoring took place during news meetings. He closely watched how senior photographers utilized the online media to support their work. Serious, unequivocal orders were given for all news teams to work more closely together, both on the day-to-day basis and on special assignments.

2. Photographers' work process in the Convergence Newsroom

NMG's Photo Center was designed to be systematic and have close working relations with other parts of different editorial departments. The structure and management system were in accordance with "News photography production process of the Thai print media" by Booppha Boonsomsuk. She said fundamental things affecting the Thai print media include internal factors, production process, products and external impact.



How NMG's Photo Center is managed, operates and destinations of its products. The graphic is based on key elements highlighted by Booppha Boonsomsuk.

1. Internal factors. NMG's Photo Center has a clear mission that is somewhat different from those of other media companies. NMG photographers are responsible for delivering both still photos and videos for print publications, TV programs and websites belonging to the corporate. Formerly, NMG photographers were only tasked with delivering still photos.

2. **Production process.** NMG's Photo Center has a systematic work process. Work is assigned by the chief photographer or his deputies. The chief photographer, or in case of his absence his deputies,

attends the Convergence Newsroom meeting every day, during which taken photos are presented and editors' ideas for new work and upcoming events are shared. Still photos and videos are kept in the Nation Convergence Editorial System (NCES) for effective use. A LINE group chat named "Nation Photo" was set up to speed up work, cooperation and coordination.

When looking at the work process in comparison with Booppha Boonsomsuk's analysis, we can see that NMG's Photo Center is different from its counterparts of other media organizations. The key difference is the predominant "multi-media" thinking pattern. In addition to still photos, NMG photographers are required to keep in mind that they are expected to deliver broadcast materials, too. In the past, the photographers selected still photos after their "work" was done. Due to benefits of the new media, the consumers prefer immediate content and the consumption has no time limits. NMG's online strategies focus mainly on the "real time" approach. Photos and videos are in constant demand and must be in constant supply, especially when big stories break.

3. Products. NMG's still photos and videos are required to be of good quality, creative, fully legal and ethical and tell a thousand words. They must have high market values when compared with business rivals and must serve the needs of consumers. Captions must be clear-cut to serve immediate use online, in publications and TV programs.

4. External impact. The changing media landscape affected NMG's Photo Center, as new-media content became increasingly preferable. The NMG's Convergence Newsroom concept was a response to that. News gathering and reporting underwent revamps. Soft news was also increased in NMG's TV news broadcast. The NMG Photo Center had to adapt itself to serve the new industrial landscape, marked by the growing popularity of the new media.

"Visual Storytelling in the Age of Post-Industrialist Journalism" talks about growing importance of using photos or videos to tell a story. It's not about creating new types of news photography, but it's about emphasizing on strengths and presenting them through various forms, thus enabling them to go across platforms. "Visual Storytelling in the Age of Post-Industrialist Journalism" reflects the changes at the NMG Photo Center, where multi-skills are needed and continuous use of photos and videos to serve the consumers is required.

For videos, the word "interesting" does not come from technical or complex editing. The real-life nature is what makes the videos interesting. The videos are normally about stories of the hour, or serve human interests. They must concern issues that have great or direct impact on viewers or society. The photographers do not only record the events or click the shutters, but also make their content including written words, still photos and videos ready for presentation on various platforms.

Suggestions

This research was focused on the NMG's Photo Center and its role in the Convergence Newsroom. Next researches should have comparative studies involving the photographers of other media organizations. Such researches will help make it clearer how Thailand's news photography will evolve.

There should also be researches concerning the copyrights and the increasing use of still photos and videos taken by others. The current copyrights law (the 2015 act) addresses the problems of online copyrights violations, so the researches can help determine how the legal measures are doing and how what's going on regarding online copyrights is affecting the career of the photographers and other media professionals.

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Morning News Watching Behavior and Exposure to Marketing Communications of Chow Nee Tee Mo Chit (Morning News Program of TV Channel 7) of Traders in Fresh Markets in Bangkok

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Abstract

This study investigated morning news watching behavior and exposure to marketing communication of Chow Nee Tee Mo Chit (Morning News Program of TV Channel 7) of traders in fresh markets. Questionnaire was used to collect data from 300 traders in fresh markets in Bangkok Metropolitan area. Frequency distribution and percentage were used to analyze the data. Findings were as follows.

1. Demographic profiles. It was found that there were more female samples (68.0%) than male samples (32.0). Most of them aged between 41-50 years old (28.3%) and received elementary school certificate (43.0%), were owner of the store in the markets (77.7%) and had income between 10,001 – 15,000 baht/month (26.3%).

2. Morning news watching behavior. It was found that most of them watch morning news program (71.0 %), 23.8 percent watch Chow Nee Tee Mo Chit news program, 45.1 percent spent time between 30-60 minutes to watch morning news program, and 38.5 percent watch news program interchangeably from different channels and 34.9 percent turn on the TV for news program as companion while attending to other chore.

3. Behavior of watching Chow Nee Tee Mo Chit news program. It was found that 63.7 percent watch Chow Nee Tee Mo Chit news program as frequent as 16 to 20 days in a month, 33.9 percent watch this program for 2-3 years, 46.2 percent watch news program interchangeably is program with other channel and 39.2 percent want to watch this program to get news update.

4. Exposure to marketing communication of Chow Nee Tee Mo Chit news program. Findings revealed that 83.2 percent of the Chow Nee Tee Mo Chit viewers were exposed to SMS on the screen that inform promotional news of the program while 16.8 percent visit Facebook of the program. Among those who reported seeing SMS on the screen while watching the program, most of them (55.3%) read only the message that catch their attention, 59.6 percent noticed the SMS messages but did not participate in activities as invited. Among those who participated, 69.1 percent joined the religious tour "Mother's religious tour on August". Among the users of Program's Facebook, 42.9 percent visited Facebook to update on daily news or activities to keep abreast with the news, local and international.

Keywords: morning news exposure; marketing communication of the news program; Channel 7 morning news

Introduction

Since the year 1988-1989, television news time has changed and varied, especially morning news program at 6.00 – 6.30 am as seen in various titles and channels (Duangthip Woraphan, 1989, p.135). News talk programs and semi-news talk programs came into existence. News audiences changed their behavior from reading newspapers and listening to radio to watching television. Consequently, morning news program became the main source of revenue for television channels. There have been competitions on quality, timeliness, accuracy, credibility of news reporters who do not only compete among channels but also with other types of media such as newspapers and online newspapers (Suparat Thitikulcharoen, 2000).

Chaoni Thi Mochit is one of the morning news programs that is made to compete for morning news audience interest. It is produced by Media of Medias Co., Ltd., presenting variety of news, using celebrity marketing as the marketing communication. Its strength is having experienced and knowledgeable reporters with diversity of news and in depth, accurate, understandable contents, shown on Channel 7 on Monday – Friday at 6.00 – 7.00 pm. It was firstly on air on Monday, 1st June 2009 (Manager Newspaper, 28 May 2009). The strength of Channel 7 is having stronger market share of mass audience compared to Channel 3, which has a market share of 28.1%, Ranking 2nd, while Channel 7 has a market share of 31%, ranking 1st (Nannaphat Piumsomboon, 2009).

Chaoni Thi Mochit Program had to be more recognized to meet the requirements of audiences in Bangkok and other provinces. It launched special activities and changed program format to attract audience interest so as to expand audience in Bangkok and other provinces, adding to existing audiences of Channel 7 (Sopakan Thanamee, 5 August 2015).

Currently, Chaoni Thi Mochit Program has 3 main reporters, presenting latest news and events on timely manner, keeping audiences updated, in the form of vibrant informal news talk, providing in-depth news and events which are of audience interest, using technic of virtual studio and VDO wall, presenting domestic and international news and events, using new media method as a part of marketing communication.

From the above phenomenon, the researcher aims at understanding exposure and opinions towards the marketing communication of Chaoni Thi Mochit Program run by Channel 7, focusing on audiences who work as vendors in fresh market in Bangkok. The research result throws light on current marketing communication of television channels and exposure, as well as a reflection of Chaoni Thi Mochit Program's approach to audience to meet their future requirements.

Research objectives

1. To study the exposure of audiences who work as vendors in Bangkok to Chaoni Thi Mochit Program

2. To study opinions of audiences who work as vendors in Bangkok towards marketing communication of Chaoni Thi Mochit

Research methodology

This research is a quantitative research by means of surveying. The researcher used questionnaires to collect data; the sample is randomly selected on non-probability basis by accident sampling. The screen question collects data under condition of purpose sampling. The researcher inquired from 300 audiences who

have watched Chaoni Thi Mochit and exposed to marketing communication of the program. The researcher collected data from fresh markets all over Bangkok.

Instrument

The researcher used questionnaire as a tool to collect data, made from various documents, theories, concepts, requirements of Chaoni Thi Mochit Program as well as other related research and revised from existing questionnaires as a guide to create a proper and comprehensive tool in terms of content and objectives of the study, focusing on 5 audiences (focused group) who work as venders in fresh markets in Bangkok to present and interpret data analysis result. In this regard, the researcher has analyzed and presented in the form of tables and descriptions in the following 5 parts:

Part 1: General demographic data of audiences

Part 2: Questions about morning news-watching behaviours of audiences who work as vendors in fresh markets

Part 3: Questions about audiences who have watched Chaoni Thi Mochit Program

Part 4: Questions about exposure to marketing communication of Chaoni Thi Mochit Program (Special campaigns)

Part 5: Suggestions for improving marketing communication of Chaoni Thi Mochit Program (Special campaigns)

The researcher used 30 questionnaires to try out with a relevant sample group to examine reliability through Cronbach's Alpha Coefficient and processed the received data with SPSS Program (Statistical package for the social science program). It was found that examination result of Alpha Coefficient of the questionnaires was at 0.949. Additionally, the questionnaire content for focused group has been examined by apparel of experts. It can be concluded that the questionnaire is capable for collecting data.

Research result

1. Demographic characteristics: the majority of sample group is female (204 women), accounting for 68%, followed by male counterparts (96 men), accounting for 32%. The average age is 43 years old, minimum of 15 years old and maximum of 73 years old. The group comprises of 233 self-employed workers, business owners, and freelancers, accounting for 77.7%, followed by 62 employees, accounting for 20.7% and other occupations i.e. 5 students, accounting for 1.7%. The average income per month is 10,001-15,000 baht, accounting for 26.3%.

2. Morning news – watching behavior of audiences who work as vendors in fresh markets: the majority (213 people) of the sample group has watched morning news programs, accounting for 71%; 87 members of the sample group have never watched morning news program, accounting for 29% respectively. The majority (171 people) of the sample group has watched Chaoni Thi Mochit Program, accounting for 23.8%, followed by Ruenglao Chaoni Program (162 people), accounting for 22.6%. The majority (171 people) has watched Sanam Khao Chetsee Program accounting for 23.8%. The majority (117 people) opened the program as accompaniment for doing other activities, accounting for 38.5%

3. As for members of the sample group who have watched Chaoni Thi Mochit Program, the majority (109 people) watches it 16-20 days per month, accounting for 63.7%; 58 people have watched it continuously

for 2-3 years, accounting for 33.9%; 79 people switch with other programs, accounting for 46.2%; 141 people aim at following news, accounting for 39.2%.

4. Exposure to marketing communication of Chaoni Thi Mochit Program (Special campaigns): the majority (113 people) acknowledges other channels, accounting for 39.25%; 58 people do not acknowledge other channels, accounting for 33.9%; 94 people expose to marketing communication from on screen SMS, accounting for 83.2%; 19 people acknowledge from Facebook, accounting for 16.8% respectively. As for pop-up of activity participation, the majority (56 people) follow with no interest, accounting for 59.6%; 26 people do not follow, accounting for 27.7%. Among special campaigns, 65 people choose Singha Pa Mae Patibattam, literally meaning "take mom to meditate in August" as the most recognized activity, accounting for 69.1%; 13 people choose "Namjai Soo Namtuam", literally meaning kindness against floods, accounting for 13%. The majority (96 people) acknowledge activities from on screen SMS, accounting for 95.7%. Through Facebook fan page of Chaoni Thi Mochit program, 19 fan page members appeared on screen, accounting for 6.3%. 10 members of the sample group have seen Facebook fan page of Chaoni Thi Mochit program; 10 members have visited the fan page, accounting for 52.6%, 9 members never visited the program's fan page, accounting for 47.4%. The majority (6 people) visits the fan page due to interest in past news and to follow activities, accounting for 42.9%; 4 people closely follow news situations, accounting for 28.6%. 10 people never shared news posted in the fan page, accounting for 83.3%; 2 people ever shared news, accounting for 16.7%., 2 people found that the most interesting special campaigns of Chaoni Thi Mochit is giving opinions to receive gifts from the program, accounting for 66.7%; 1 person invited fan club in travel program to Chaoni Thi Mochit program, accounting for 33.3%.

5. Suggestions: the program is set on a short time period. The majority finds that participating in the program's special campaigns is difficult, therefore not interesting. The sample group's exposure to other channels is poor due to lack of skill and knowledge.

Discussion

From the research on exposure and opinions of audiences who work as vendors in Bangkok towards marketing communication of Chaoni Thi MochitProgram run by Channel 7, it was found that the majority of the sample group is interested in the form and content of Chaoni Thi Mochit Program but exposes to marketing communication of the program at low level, not effecting opinions of sample group towards the program. The majority pays heed to program's content to follow news.

This situation leads to a reverse of incentive to attract audiences to watch the program from using special campaigns to developing format and content so as to stimulate frequency of exposure to marketing communication of television program. Television remains a major media of marketing communication with rural audiences as seen from on screen SMS which is widely recognized by the sample group as an efficient communication.

Facebook fan page or other channels in the new media sector remain a major approach to reach audiences aged 20 – 30 as this group watch the program at minimum, accounting for 16.3% but use online media at maximum. The majority of audiences who watches Chaoni Thi Mochit Program does not have proper access to technology; hence marketing communication which involves technology is exposed at low level. Therefore, marketing communication needs to be developed alongside the content, which is the core that draws the attention of audiences to watch the program.

From the survey, it was found that Chaoni Thi Mochit Program focuses on existing audiences who have watched and followed the program and there are not outstanding activities to make new audiences involved. Moreover, the research result suggests that news reporters are a significant part in the making the program recognized. This is different from other programs whose title and reporters are memorable figures (Personal Selling).

They use communication in which sellers attempt to help and persuade buyers to buy products and services or to cause mind reactions (Marketing Communication Mix (Seri Wongmontha, 1997 cited in Chotrat Srisuk) such as Ruenglao Chaoni, Sanam Khao Chetsee.

Suggestions

1. To enhance outstanding point by having reporters involve in marketing communication to better approach audiences

2. Chaoni Thi Mochit Program should improve campaigns and gift rewards to be more interesting so as to have more audiences participate by asking major sponsors for discounted promotion exclusively for audiences of Chaoni Thi Mochit.

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Does National Identity Matter?
Effect of National Identity on Acceptance of Foreigner as Korean Citizen?

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ABSTRACT

Analyzing the 2010 Korean General Social Survey, this study examines the effect of national identity on the acceptance of different ethnic groups as Korean citizens or 'Kookmin (國民, 국민)'. We hypothesize that Koreans will gradually develop a more open attitude toward foreigners as daily interactions with them become more frequent. However, the impact of ethnic identity remained strong. Strong ethnic identity seems to function as an obstacle toward accepting immigrants as 'our people'. This is the result of the distinctive meaning that Koreans attach to the title 'citizen' or 'Kookmin'. On the other hand, respondents who hold strong civic identity are less likely to accept North Korean defectors and Korean Chinese as Korean citizens. This result seems to reflect the notion that Koreans tend to be afraid of these newly incoming Koreans because they will lack civilian properties necessary for Korean citizenship. Lastly, national pride has no influence on the acceptance of foreign immigrants as citizens. Hence, such result indicates that Koreans are reluctant to accept other ethnic groups as citizens due to their strong national identity and more importantly, ethnic identity.

Ⅰ. Introduction

As globalization has advanced, immigrant workers and marriage immigrants have rapidly entered the Korean society. However, in the past, Korea was close to an emigration state. Beginning from the mid-20th century, a number of migrations transpired: labor migration to Germany in the 1960s, mass labor migration to the Middle East in the 1970s-1980s[1], and permanent residence immigration to America since 1965. Nonetheless, with the entry of marriage immigrants and foreign workers, Korea progressively transformed to an immigration state. In 1993, the industrial trainee system introduced industrial trainees from 15 Asian countries, mainly arranged in 3D industries. In addition, female marriage immigrants from China and Southeast Asia largely increased in the late 1990s (Lee, 2011). As a result of these changes, immigration has become more common. In late 2012, the number of foreign residents in Korea has grown to more than 1.5 million (Foreigner policy, 2012), placing foreign immigrant integration at the center of major Korean policy issues.

The success or failure of a new social integration considerably depends on the awareness and attitudes of Koreans in accepting diversities and differences (Kim, Hwang and Lee, 2007). Thus, it is important to understand the ways in which native Koreans treat foreign immigrants as minority groups. Although Koreans have an opportunity to interact with foreigners on a daily basis, they still express indifference and repulsion toward interracial harmony and unity. This trend is clearly evident in social distance research. According to the results from the Korean General Social Survey 2010, Koreans accept Americans and Europeans as visitors, but convey negative attitudes toward North Korean defectors and Chinese visitors. Further, the results reveal that Koreans positively respond to foreign immigrants as coworkers, neighbors or friends, but are reluctant to accept such immigrants as citizens or family (Kim and Shin, 2011).

Previous studies on social distance toward foreign immigrants present some suggestive points concerning the acceptance of foreign immigrants. First, Koreans are more inclined to accept immigrants from advanced countries. They maintain a more favorable disposition toward Europeans and Americans compared to those from less advanced countries. In short, the country of origin as well as the economic level of an immigrant's home country significantly influences Koreans' attitudes toward foreigners. Second, Koreans impart a special meaning to the word 'family'. A strong belief in a one nation-state engenders resistance toward the acceptance of foreign immigrants as their children's spouse or their own spouse. Third, Koreans are reluctant to accept foreign immigrants as citizens. To Koreans, the title 'citizen' or Kukmin (國民)' holds meaning and value equal to or greater than the 'society member' or simply possessing Korean nationality. Koreans are more inclined to recognize a Korean national as an in-group member (Kim and Shin, 2011; Kim et al., 2007; Yoon and Song, 2009; Lee, Choi and Choi, 2010; Hwang et al., 2007). As the title, 'citizen', remains as the dividing boundary between local citizens and foreigners, conditions for being a citizen are decided by the ability to share an identity with others. More specifically, the national identity of Koreans is a strong determinant of foreign immigrant acceptance.

Most notably, with regard to the 'citizen' item, the social distance between Koreans and foreign immigrants violate the hierarchical assumption of the Bogardus scale. In the original scale, for example, if people accept members of other groups as coworkers, neighbors or friends, they are expected to naturally accept them as citizens as well. Accepting foreigners as citizens is placed at the bottom of the social

[1] Labor migration to Germany began with the dispatch of miners and nurses, whereas labor migration to the Middle East began during the construction boom (Lee, 2011).

distance scale. However, the results indicate that Koreans value the 'citizen' component more importantly than expected. This inconsistency with the basic assumption of the Bogardus scale occurred with every immigrant group, except for North Korean defectors. Hence, such results indicate that the Bogardus scale does not properly reflect Koreans' strong commitment to their identity as 'citizens' or 'Kukmin (國民)'. Although there has been great interest concerning the social distance between nationals and different ethnic groups, only a few studies account for the varying acceptance patterns toward foreigners (Kim and Shin, 2011; Lee et al., 2010).

One can better understand Koreans' reluctance to accept foreign immigrants as citizens with an examination of national identity. National identity is the cohesiveness a country uses in order to maintain a nation-state and establishes links with other countries (Smith and Kim, 2006); furthermore, national identity affects both prejudice and social distance toward foreign immigrants. Moreover, national identity is composed of both ethnic-genealogical and civic-territorial dimensions. The former is related to blood, tradition, culture and collective memory. The latter involves one's rights and obligation as a citizen (Smith, 2000; Jones and Smith, 2001).

This study aims to examine the effect of national identity on Koreans' acceptance of foreign immigrants as citizens. In particular, this study focuses on the varying influences of ethnic-genealogical and civic-territorial national identity on foreign immigrant acceptance. Additionally, the effect of national pride creates another dimension of national identity and therefore should be analyzed when considering the acceptance of foreign immigrants as citizens. Furthermore, this study examines the role of national identity in creating varying acceptance patterns among different ethnic groups.

Ⅱ. Theoretical Background

1. Multi-cultural acceptability with social distance

As contact with foreign immigrants becomes more frequent, members of a society are expected to have a more open attitude toward respecting cultures of different nations. Intergroup understanding and tolerance are the necessary preconditions to peacefully resolving the number of issues stemming from migration. The concept 'multi-cultural acceptability' is used to measure the level of understanding and attitude toward foreign immigrants.

'Multi-cultural acceptability' refers to the degree to which one group accepts other groups of diverse backgrounds as members of society (Yoon and Song, 2011; Hwang et al, 2007). Also, it includes mutual respect regarding the coexistence and avoidance of segregating people from different cultural backgrounds. Thus, the attitude held by the majority group is key to building a peacefully coexisting and harmonious society. Majority acceptance is particularly crucial in establishing social integration when a society is largely composed of immigrants (Kim and Shin, 2011; Min et al., 2010). Equally important to note, progressive political inclination raises the level of multi-cultural acceptability, whereas Confucian values lower such acceptability. Likewise, multi-cultural acceptability is influenced by many factors and can be observed in various ways. The social distance scale is most useful when diagnosing the multi-cultural acceptability of the majority or overall level of social integration (Kim et al., 2009). German sociologist Simmel first discussed the concept of 'social distance' as a pattern of unique interactions in his article, "The Stranger." Later, Park (1923), a student of Simmel, asserted that interpersonal or intergroup social distance could be measured in the same manner as physical distance. Bogardus (1928) learned the

concept of social distance from Park and as a result, contributed greatly to the empirical study of racial problems in the American society. Although many scholars define social distance in various ways, the term is commonly related to intergroup psychology or near or remote level of interpersonal connection between a person and a group (Chung et al., 2010). Because social distance can be expressed numerically through subjective emotion or cognition, it is possible to also observe the objective distance between a person and a group.

Beginning with America, scholars from many countries began to apply the concept of social distance to their research. In Korea, studies on social distance include a focus on region, stratum and occupational groups (Kim and Kim, 1990; Choi and Kim, 2000; Lee, 2001), social distance between foreign workers and the Korean society (Kim, 1998; Kim et al., 2009), race and national preference of Korean university students (Jang, 2001), and attitudes toward minority groups (Kim, 2004).

Bogardus developed a representative scale to measure social distance. Moreover, it was developed to ascertain how the majority white population treats other ethnic groups in the American society. A questionnaire using the Bogardus scale asks the respondents whether they are for or against other ethnic groups visiting their country in becoming citizens, coworkers, neighbors, friends, their children's spouse and one's own spouse. The Bogardus scale is a hierarchical Guttman scale. If a respondent agrees with a particular item on the scale, it indicates that the respondent also agrees with the items listed on the lower end of the scale (Hwang et al., 2007). The Bogardus scale is the oldest and most influential prejudice and attitude measurement tool.

Nevertheless, because the Bogardus scale was designed to handle the racial problems affecting the American society, it is difficult to equally apply it to countries and societies with different historical and cultural backgrounds. For example, research conducted on different countries within Asia reveal that respondents regarded accepting foreigners as citizens as more important than accepting them as coworkers (Chung et al., 2010). In Korea, the acceptance pattern of North Korean defectors is the only element consistent with the hierarchical assumption of the Bogardus scale (Kim and Shin, 2011). Thus, we cannot generally apply the calculation method of the Bogardus scale to every society. Furthermore, the tool proves to be an unsuitable measure for studies that do not properly consider the specific historical and cultural context of a nation; as such, modifications are required for the measurement of Korean attitudes.

Before discussing multi-cultural acceptability, it is important to evaluate the characteristics of foreign immigrants currently residing in Korea. This is especially crucial because the majority of current immigrants are foreign workers entering through the employment license system or immigrating as marriage migrants. Foreign immigrant women are a unique phenomenon appearing in only some Asian countries; marriage migrants have begun emerging in Korea since 2000 (Kim and Shin, 2011; Chung et al., 2010). Consequently, empirical studies on multi-cultural acceptability emphasize the evaluation of Koreans' acceptance of foreign immigrants, social distance toward foreigners and attitudes toward minority groups (Yoon and Kim, 2010).

Choi (2007) diagnosed the level of Korean multi-cultural acceptance using the concept of multi-cultural citizenship. According to this study, Koreans were open-minded toward the culture and people of America and Western Europe. However, they remained exclusive toward the cultures and people from Asia's developing countries (e.g., China, Vietnam, Mongolia and Bangladesh). Furthermore, Koreans tend to give special meaning to the word 'citizen (Kukmin 國民)', which is placed on the second lowest rank of the Borgardus scale. While many Koreans are willing to accept foreigners as coworkers and friends,

they are reluctant to accept them as citizens, thereby violating the hierarchical assumption of the Borgardus scale.

2. Relationship among National identity, National Pride and the Acceptance of Foreign Immigrants

National identity has received significant attention as a key factor affecting multi-cultural acceptability, multi-racial and multi-cultural societies, attitudes toward a different nation or racial group, and attitudes on immigrants and migration policies (Chung et al., 2010). Koreans' strong attachment to their identity as 'citizens' affects their perception of foreign immigrants, which also plays a significant role in their reluctance to accept foreign immigrants as citizens.

National identity is the way that members of a state conceive and discuss nationhood; moreover, it is a self-awareness tool used to define who is and is not a citizen (Brubaker, 1992). Some scholars define national identity as a sense of belonging, or feeling like a member of a nation, and image sharing or collective identity (Gellner, 1983; Hjerm, 1998; Jones and Smith, 2001). Such collective identity emerges from people who share historical territory, myth and tradition, public culture, legal rights and obligations, and a single economy. In addition, national identity includes socio-political factors that have developed relatively recently as well as a cultural commonness formed over a long period of time, such as communal life and cultural homogeneity. Further, there is a selective emphasis on certain parts of—and the restructuring of—social, political and economic situations. As a result, the emergence of national identity appeared through the thoughts and beliefs of individuals with a simultaneous embodiment of social and collective characteristics (Smith, 1991).

Brubaker (1992) argues that the time and process involved in forming a modern nation-state differ among countries, whereas collective self-knowledge differs between citizens or people. He divided national identity into blood-based national identity and civic national identity. Koreans with a blood-based national identity tend to regard nationals of a political community and members of a blood community as identical. Emphasis is placed on collective commonness, namely blood-based national identity and origin of language and homogeneity; these qualities are strong in Germany, Korea and Japan. Conversely, civic national identity defines people as a community sharing a common political goal regardless of their blood-cultural genealogy. Such identity appears in multiracial nations or states formed through revolutions, such as in America, France and China. People of these countries place importance on equal political and civic rights between members. Smith (1991) divided national identity into an ethnic-genealogical factor and a civic-territorial factor. The ethnic-genealogical factor is attributive and includes being descendants of the same ancestors, shared tradition and culture, and collective memory sharing of a joint political destiny. On the other hand, the civic-territorial factor includes exercising one's right and obligation as a citizen, and is acquisitive and voluntary (Smith, 2000; Jones and Smith, 2001).

However, evidently, not all countries can divide their national identity into ethnic-genealogical and civic-territorial factors. In most cases, the two factors are united. In fact, the national identity of many countries is affected by the population's ethnic identity and civic identity simultaneously (Jones and Smith, 2001). Also, on the individual level, civic identity and ethnic identity are not mutually exclusive (Jang, 2010). Hjerm (1998), which is built upon Smith's research, extended the classification into ethnic, civic and multiple national identities, often emphasizing both ethnic and civic factors. Pluralists with weak national identity and people with strong civic identity are unlikely to view foreigners unfavorably. Heath and Tilley (2005) indicated that it is necessary to modify Smith's classifications because the two factors

can be compatible. In such cases, they classified the factors as 'ethnic-cum-civic,' and divided them into the following two groups: civic only and neither civic nor ethnic. People who demonstrate both factors are highly probable to show racial prejudice, while those with a higher regard for the civic factor maintain a more favorable attitude toward multi-culturalism.

Additionally, Hjerm (1998) found commonalities between Australia, Germany, England and Sweden with respect to national identity. Because people who place stress on ethnic and civic factors have the highest possibility of xenophobia, these countries all contain the smallest number of pluralists. States that are strongly affected by the ethnic factor tend to support a restricted immigration policy (Brubaker, 1992; Joppke, 1999). On the individual level, xenophobia is not significantly relevant to civic identity; however, a correlation between xenophobia and ethnic identity does exist (Hjerm, 1998). Jones and Smith (2001) compared national identity between countries using the ISSP (International Social Survey Programme) in 1995 as well as studied the relevant factors. They discovered that the when the level of globalization and cultural diversity is higher and the level of post-industrialization is higher—meaning more open and inclusive—the degree of emphasis on both ethnic and civic identity is lowered. People who are wealthier and attain a higher level of education have a generous attitude toward multi-culturalism. Accordingly, people who are older as well as those with a low level of income and education respond negatively to immigrants within the Korean society. This attitude is primarily due to the perceived threat, that foreign immigrants will take the jobs of Koreans and therefore, make their lives difficult (Chung et al., 2010).

When delving into domestic research and the relationship between national identity and attitude toward multi-culturalism among Koreans, Chinese and Japanese university students, both ethnic identity and civic identity affect multicultural acceptance interdependently rather than independently (Kim, Choi and Kim, 2001). A study on Koreans' attitude toward multiculturalism revealed that Koreans responded negatively toward the influx of foreign immigrants. Moreover, Koreans agreed that it is important to provide equal legal and institutional rights and status to legal immigrants; yet, they responded skeptically to the possibility of integrating immigrants of a different culture into the Korean society. Also, with to the individual's multi-cultural acceptability, the influence of economic interest is limited, whereas the concept of national identity reveals a more significant effect (Jang, 2010).

Previous studies predominantly held the notion that ethnic identity strongly influences the perception of foreign immigrants due to firm faith in a single nation-state comprised of homogeneous Koreans. However, at times, the civic factor played a greater role than the ethnic factor. This is because the present conception of national identity among Koreans is gradually escaping the 'blood-based national identity' of the past (Jang, 2001; Seol and Chung, 2002; Chung, 2004; Choi, 2006). In the same vein, according to the 2010 Korean General Social Survey, the most important requirements reported for being a Korean citizen were as follows: feeling like a Korean (94%), possessing Korean citizenship (89%) and respecting the political system and law of Korea (86%). While Koreans still give weight to ethnic identity, there is a steadily growing trend to place more importance on civic identity. Further, the cognition of nation and blood ties is still solid, but is slowly changing.

National pride is defined as the positive emotions that people feel about their nation, which stems from one's national identity. The 1995-1996 and 2003-2004 ISSP research on national identity divided national pride into two categories: general national pride and domain-specific national pride. Domain-specific national pride is a measure of the positive sentiment associated with national achievement in a particular aspect. However, it does not reflect nationalism, imperialism or jingoism. General national pride is a measurement of the degree to which the respondent believes his or her country is better than other countries. Thus, the actor shows a significant degree of loyalty to the state as opposed to merely acting on his or her own moral judgment. Generally, national pride is related to patriotism and

nationalism. Patriotism is one's affection or devoted loyalty to his or her country, whereas nationalism entails a strong devotion to the state, thereby placing one's own country ahead of other counties. National pride coexists with patriotism and is a precondition of nationalism. Nationalism is an extended form of national pride, which is not the same as nationalism (Smith and Jarkko, 1998; Smith and Kim, 2006). If nationalism is connected to ethnocentrism, people only recognize the culture and value of their own group and believe other cultures and racial groups to be inferior. Because national pride has a significant relation to patriotism and conservative tendency, national pride affects multi-cultural acceptability (Min et al., 2010).

Having pride as a citizen is related to one's social identity because individual shapes his/her identity through a sense of belonging. Individuals desire to have and maintain positive emotions cultivated within the in-group. In addition, the comparative process that takes place between the in-group and out-group members affects intergroup relationships (Tajfel, 1982). The social identity theory asserts that people generally support in-group members and negatively view out-group members. Therefore, people superiorly regard their own nation and ethnic group while deeming those from other ethnic and racial backgrounds as morally and culturally inferior. However, there is concern that this tendency will produce ethnic exclusionism and xenophobia (Hwang et al., 2007).

Generally, national pride is high in a single-race nation. However, it is also strong within the majority group of a multiracial nation as well as in the majority group wielding cultural control over their immigrants within the nation (Coakley, 1990; Jokay, 1996). Using data from the 1995 ISSP, Hjerm (1998) analyzed the relationship between the level of national pride in Australia, Germany, England and Sweden along with the acceptance of foreign immigrants. He proved that national pride was divided into a political dimension and an ethnic-cultural dimension. He also argued that national pride not only generates xenophobia, but maintains it as well. Studies conducted in Korea indicate that stronger feelings of Korean national pride result in stronger exclusive attitudes toward multiculturalism. National pride is one of the most important determinants in exclusive attitudes toward multiculturalism (Maeng, 2009). The national pride of men is stronger than that of women; moreover, as age and level of education are higher, the greater is the tendency to express one's national pride. Research also revealed that in terms of political orientation, people who are closer to the moderate side of the spectrum, as opposed to the conservative or progressive end, have a lower degree of national pride. Additionally, national pride among minority groups is lower than that of the majority group (Smith and Kim, 2006; Seo, 2008). As aforementioned, national pride is closely connected to the materialization of a multicultural society, that is multiculturalism and acceptance of foreign immigrants as citizens.

Previous studies confirm that national identity is a primary factor in the acceptance of foreign immigrants. Therefore, this study asserts that national identity and national pride affect the acceptance of foreign immigrants as Korean citizens. The stronger the ethnic identity and national pride of Koreans, the more likely nationals will respond negatively to accepting foreign immigrants as citizens. In this regard, this study attempts to clarify the relationship between national identity and the acceptance of foreign immigrants as Korean citizens.

Ⅲ. Data, Measures and Methods

1. Data and Methods

For the purpose of analyzing this study, we used data from the 2010 KGSS 'Immigration and International Migration' module compiled by the Survey Research Center of Sungkyunkwan University. The replication of the 2010 national identity module was collected with the support of IOM (International Organization of Migration) and Migration Research and Training Center (IOM-MRTC). The survey's population consisted of adult males and females over the age of 19 throughout the country. To ensure reliable data collection, we employed a multi-stage area cluster sampling method. We also conducted field surveys in which researchers interviewed participants one-on-one from June 27, 2010 to August 31, 2010. The number of samples was 2,500 and the number of available cases ultimately collected was 1,576 cases (with a valid response rate of 63.9%). In our analysis, we used the factor analysis, multiple regression and logistic regression in order to evaluate the relationship between national identity and the acceptance of other ethnic groups as citizens.

2. Dependent variable

The dependent variable is classified as 'acceptance of foreign immigrants as citizens'. Results from the 2010 KGSS measured social distance using the Bogardus scale. The respondents answered for or against the following items: North Korean defectors, Korean Chinese, Chinese, Japanese, Southeast Asians, Americans and Europeans; 1) visiting their country, 2) becoming citizens, 3) becoming a coworker 4) becoming a close neighbor, 5) becoming a close friend, 6) becoming their children's spouse, and 7) becoming their spouse. Table 1 shows the frequency and percentages of those in favor of social distance from each foreign immigrant group.

Table 1 Social distance toward foreign immigrant groups (favorable response) (unit: %, person)

	North Korean defector	Korean Chinese	Chinese	Japanese	Southeast Asian	American	European
visitor	79.5	86.0	83.6	86.0	88.1	92.5	91.4
	(1,253)	(1,355)	(1,317)	(1,355)	(1,388)	(1,458)	(1,441)
citizen	77.8	68.9	52.8	52.7	56.8	64.0	61.6
	(1,226)	(1,086)	(832)	(830)	(895)	(1,008)	(971)
coworker	76.1	76.6	70.1	73.6	73.1	81.7	79.6
	(1,200)	(1,208)	(1,105)	(1,160)	(1,152)	(1,287)	(1,254)
neighbor	76.1	76.0	69.8	73.2	73.0	81.1	78.6
	(1,200)	(1,198)	(1,100)	(1,554)	(1,150)	(1,278)	(1,238)
friend	67.9	68.2	62.7	68.3	66.8	76.3	74.4
	(1,070)	(1,075)	(988)	(1.077)	(1,053)	(1,203)	(1,173)
children's spouse	38.9	34.1	28.4	35.3	28.4	40.2	37.7
	(613)	(538)	(447)	(557)	(447)	(634)	(594)
one's own spouse	36.0	32.2	26.0	31.6	25.5	34.6	34.2
	(568)	(508)	(498)	(498)	(402)	(545)	(539)

While the percentages convey that most respondents prefer Americans and Europeans as visitors to Korea, the percentage of those preferring visits from North Korean defectors and Chinese people is the lowest among all immigrant groups. The respondents strongly expressed objections toward Japanese and Chinese immigrant groups becoming Korean citizens. The order, according to nationality, in which Korean nationals prefer to accept foreigners as coworkers, neighbors, and friends is as follows: American, European, North Korean defectors, Korean Chinese, Japanese, Southeast Asian and Chinese. The positive response rate for accepting foreigners as citizens, children's spouse and one's own spouse remained quite low. Aside from North Korean defectors, Koreans generally seem to accept foreign immigrant members accordingly: visitors, coworkers, neighbors, friends, citizens, child's spouse and one's own spouse.

The number and percentage of Korean nationals willing to accept foreign immigrants as citizens reflect the preference for immigrant groups in the respective order: North Korean defectors, Korean Chinese, American, European, Southeast Asian, Chinese and Japanese. Excluding North Korean defectors, the results revealed that Koreans demonstrated a considerably lower positive response rate toward accepting foreign immigrants as citizens. This study emphasized the question of whether foreign immigrants deserve citizenship and furthermore, analyzed the dependent variables with respect to the

acceptance of North Korean defectors, Korean Chinese, Chinese, Japanese, Southeast Asians, Americans and Europeans as Korean citizens.

3. Independent variables and control variables

The independent variables of this study are Koreans' 'national identity' and 'national pride'. Questions on national identity asked about the degree of importance with regard to the necessary conditions to be considered as a Korean. The respondents selected one of the following: very important (1 point), somewhat important (2 points), not particularly important (3 points) and of no importance (4 points). The questions pertained to the following conditions: being born in Korea, having Korean citizenship, living in Korea most of one's life, speaking Korean, following cultural traditions of Korea, respecting the political system and law of Korea, feeling like a Korean, having Korean ancestors, and speaking fluent Korean. This variable, 'national identity', was inversely recoded during the analysis process. A factor analysis was conducted to confirm whether the nine items measuring national identity were accurately divided into two groups -- ethnic identity and civic identity. Two factors resulted from the factor analysis test. When the standard of the factor loading was 0.3 by the principal component analysis and varimax rotation method, the definitive pattern matrix was divided into two factors. According to the results from the factor analysis, one factor (ethnic identity) has an explanation power of 46.18% and a credibility reliability of 0.78; the second factor (civic identity) has an explanation power of 11.57% and a credibility reliability of 0.76. The item 'ethnic identity' included 'being born in Korea, having Korean citizenship, having Korean ancestors, living in Korea most of one's life and speaking fluent Korean'. 'Civic identity', on the other hand, included 'feeling like a Korean, respecting the political system and law of Korea, following the cultural traditions of Korea and speaking Korean'.

National pride was measured using a question related to the respondents' pride in being a Korea citizen. The respondents selected one of the following options: 'very proud (1 point), somewhat proud (2 points), not particularly proud (3 points), not proud at all (4 points)'. This variable was inversely recoded and analyzed.

The control variables are sex, age, education level, household income, subjective stratum consciousness, political orientation, employment state, etc. Sex was coded as male=1 and female=0, and age was listed as under 30s (=1), 30s (=2), 40s (=3), 50s (=4) and over 60s (=5). Education level was divided as follows: less than high school education (=0) and above college education (=1); the monthly household income was logged. Subjective stratum consciousness was measured from the lowest class (1 point) to the highest class (10 points), and political orientation was measured on a five-point scale (very progressive, somewhat progressive, moderate, somewhat conservative and very conservative). Religious status was as follows: non-religious (=0), Christianity (=1), Catholicism (=2) and Buddhism (=3). Employment status was divided into unemployed (=0) and employed (=1). Lastly, variables relating to residential areas were treated as dummy variables and divided into the following categories: Seoul and Gyunggi region (Seoul, Gyunggi, Incheon); Gangwon region; Chungcheong region (Daejeon, Chungbuk, Chungnam) Yeongnam region (Busan, Ulsan, Daegu, Kyeongbuk, Kyeongnam); and Honam region (Gwangju, Chunbuk, Chunnam, Jeju).

Ⅳ. Result

1. Social distance toward foreign immigrant groups

This section examines how ethnic identity, civic identity and national pride relate to social distance. Seven items included in the Bogardus scale measured social distance: visitor, citizen, coworker, neighbor, friend, spouse of children and spouse. The social distance index was calculated by counting the favorable responses for each item without following the basic hierarchal assumption of the Bogardus scale. All seven items were used to measure social distance in Model 1; however, one item,'citizen', is excluded in Model 2. We excluded the 'citizen' item while constructing the index in Model 2 in order to observe how the results of social distance toward foreign immigrants would vary from the results in Model 1.

Table 2 contains the results from Model 1, which shows that ethnic identity significantly impacts social distance toward all foreign immigrant groups. However, civic identity is statistically significant only for North Korean defectors, whereas national pride is statistically significant only for Korean Chinese.

The influence of socio-demographic characteristics is the same as in previous studies. Men have less social distance than women; furthermore, those with higher educational attainment as well as those who are more politically progressive have significantly less social distance. In addition, the older generation feels closer to North Korean defectors and Korean Chinese while the younger generation feels closer to Europeans. When compared to non-religious people, Catholics have significantly less social distance toward North Korean defectors, whereas Buddhists have significantly less distance toward Korean Chinese. Furthermore, people in Chungcheong and Honam, compared to those in Seoul and Gyunggi, possess more negative attitudes toward Japanese, Southeast Asians, Americans and Europeans. Also, compared to residents in Seoul and Gyunggi, people in Yeongnam are less likely to feel close to Korean Chinese.

Table 2 Effects of ethnic identity, civic identity and national pride on social distance: Model 1

Variables		North Korean defector	Korean Chinese	Chinese	Japanese	Southeast Asian	American	European
Controls	Sex	.900*** (.128)	.670*** (.126)	.306* (.131)	.346** (.127)	.396** (.001)	.279* (.113)	.418*** (.116)
	Age	.126* (.054)	.179** (.053)	.043 (.055)	-.058 (.053)	.061 (.237)	-.077 (.047)	-.138** (.049)
	Education Level	.580*** (.139)	.447** (.137)	.323* (.143)	.563*** (.138)	.476*** (.000)	.271* (.123)	.502*** (.126)
	Household Income	.107 (.059)	.097 (.058)	.106 (.060)	.086 (.058)	.044 (.439)	.067 (.052)	.048 (.053)
	Subjective stratum consciousness	-.038 (.039)	.031 (.038)	.052 (.040)	.066 (.039)	.010 (.789)	-.001 (.034)	-.002 (.035)
	Political orientation	-.242*** (.063)	-.222*** (.061)	-.183** (.064)	-.155* (.062)	-.195** (.001)	-.190** (.055)	-.152** (.057)
	Religion (Christianity)	.290 (.158)	-.011 (.155)	-.043 (.162)	.039 (.157)	.019 (.903)	.173 (.140)	.085 (.143)
	(Catholic)	.537* (.237)	.126 (.233)	.182 (.243)	.140 (.236)	.056 (.808)	.151 (.210)	.151 (.215)
	(Buddhism)	-.073 (.163)	-.345* (.160)	-.294 (.167)	-.082 (.162)	-.033 (.837)	-.011 (.144)	.028 (.148)
	The state of employment	.133 (.138)	-.046 (.135)	.003 (.141)	-.044 (.137)	.083 (.534)	-.080 (.122)	-.053 (.125)
	Residential Area (Gangwon)	.312 (.379)	.116 (.372)	.479 (.389)	.312 (.376)	.115 (.754)	.305 (.335)	-.155 (.344)
	(Chungcheong)	-.045 (.203)	.022 (.200)	-.272 (.209)	-.518* (.202)	-.403* (.041)	-.537** (.180)	-.455* (.185)
	(Yeongnam)	.166 (.156)	.324* (.153)	.062 (.160)	.060 (.155)	-.015 (.924)	-.161 (.138)	-.160 (.142)
	(Honam)	-.119 (.192)	.026 (.189)	-.120 (.197)	-.385* (.191)	-.441* (.018)	-.708*** (.170)	-.562** (.174)
Independent variables	Ethnic Identity	-.177*** (.033)	-.151*** (.032)	-.177*** (.034)	-.154*** (.033)	-.176*** (.000)	-.153*** (.029)	-.170*** (.030)
	Civic Identity	.090* (.036)	.066 (.036)	.059 (.037)	.040 (.036)	.058 (.098)	.058 (.032)	.056 (.033)
	National Pride	.151 (.093)	.184* (.091)	.183 (.095)	.082 (.092)	.141 (.119)	.027 (.082)	-.016 (.084)
R^2		.122	.088	.072	.099	.081	.094	.125
N		1289	1289	1289	1289	1289	1289	1289

*p<.05, **p<.01, ***p<.001 (Note: standard error in parentheses.)

Table 3 also lists the results of Model 2, which measures 'social distance' with six items, excluding 'citizen'. Ethnic identity, sex, education level and political orientation have statistically significant effects on social distance toward all foreign immigrant groups. Civic identity is significant only for North Korean defectors, and national pride is significant only for Korean Chinese and Chinese.

Although Model 1 and Model 2 measure social distance differently, no major difference exists between the two models; further, the influence of socio-demographic characteristics is almost identical. Males and younger members of a society feel closer to foreign immigrants. Furthermore, social distance between nationals and immigrants decreases in large cities where the population of foreign immigrants is larger and where those with higher education and household income tend to reside (Kim and Shin, 2011; Hwang et al., 2007). Ethnic identity is significant for all foreign immigrant groups, whereas civic identity and national pride remain significant for only one or two groups.

Table 3 Effects of ethnic identity, civic identity and national pride on social distance: Model 2

Variables		North Korean defector	Korean Chinese	Chinese	Japanese	Southeast Asian	American	European
Controls	Sex	.852*** (.112)	.620*** (.108)	.311** (.112)	.324** (.109)	.382*** (.105)	.270** (.096)	.385*** (.099)
	Age	.104* (.047)	.171*** (.045)	.055 (.047)	-.042 (.046)	.070 (.044)	-.062 (.040)	-.107 (.041)
	Education level	.489*** (.122)	.383** (.118)	.304* (.122)	.511*** (.118)	.446*** (.115)	.261* (.105)	.466*** (.108)
	Household income	.080 (.051)	.069 (.049)	.093 (.051)	.082 (.050)	.045 (.048)	.064 (.044)	.046 (.045)
	Subjective stratum consciousness	-.031 (.034)	.028 (.033)	.041 (.034)	.047 (.033)	.000 (.032)	-.008 (.029)	-.008 (.030)
	Political orientation	-.217*** (.055)	-.198*** (.053)	-.170** (.055)	-.135* (.053)	-.168** (.052)	-.171*** (.047)	-.137** (.048)
	Religion (Christianity)	.247 (.138)	-.017 (.133)	-.052 (.138)	-.003 (.134)	-.006 (.130)	.090 (.119)	.019 (.122)
	(Catholic)	.431* (.207)	.013 (.200)	.035 (.208)	.070 (.202)	-.011 (.196)	.072 (.179)	.065 (.183)
	(Buddhism)	-.110 (.142)	-.314* (.137)	-.306* (.142)	-.124 (.138)	-.080 (.134)	-.074 (.122)	-.058 (.126)
	The state of employment	.071 (.120)	-.047 (.116)	-.026 (.120)	-.056 (.117)	.039 (.114)	-.116 (.104)	-.078 (.106)
	Residential Area (Gangwon)	.285 (.331)	.125 (.320)	.422 (.332)	.251 (.322)	.120 (.313)	.276 (.285)	-.080 (.293)
	(Chungcheong)	.006 (.178)	.052 (.172)	-.178 (.178)	-.494** (.173)	-.346* (.168)	-.480** (.153)	-.423** (.157)
	(Yeongnam)	.165 (.136)	.252 (.132)	.068 (.136)	.036 (.133)	.006 (.129)	-.138 (.117)	-.136 (.121)
	(Honam)	-.116 (.168)	-.014 (.162)	-.104 (.168)	-.322* (.163)	-.337* (.158)	-.579*** (.145)	-.488** (.148)
Independent variables	Ethnic identity	-.155*** (.029)	-.123*** (.028)	-.148*** (.029)	-.126*** (.028)	-.141*** (.027)	-.122*** (.025)	-.137*** (.025)
	Civic identity	.076* (.032)	.048 (.031)	.043 (.032)	.038 (.031)	.047 (.030)	.043 (.027)	.044 (.028)
	National pride	.134 (.081)	.166* (.079)	.164* (.081)	.069 (.079)	.126 (.077)	.029 (.070)	-.008 (.072)
R^2		.126	.090	.075	.100	.081	.095	.127
N		1289	1289	1289	1289	1289	1289	1289

*p<.05, **p<.01, ***p<.001 (Note: standard error in parentheses.)

Another noteworthy finding is that foreign immigrant groups can be grouped according to the relationship between the types of national identity and social distance. Immigrant groups in this study are divided into three groups: 1) North Korean defectors and Korean Chinese; 2) Chinese, Japanese, and Southeast Asians; and 3) Americans and Europeans. Koreans tend to recognize each group as having similar characteristics. The results seem to indicate that Koreans view North Koreans and Korean Chinese as one group because they are members of the same ethnic group. Hence, one can argue that the separation that Koreans create between eastern and western nations—China, Japan, Southeast Asia, and America and Europe—is a direct reflection of the difference in perception that Koreans hold toward both groups. This division also appears to reflect Koreans' perception toward different ethnic groups in terms of their level of economic development. Similarly, Kim et al. proved that the social distance scale could be reconstructed differentially according to ethnic groups by using the knowledge space theory (Kim et al., 2013). According to their study, ethnic groups can be divided into four groups: 1) Americans and Europeans; 2) Japanese, Chinese and Southeast Asian; 3) North Korean defectors; and 4) Korean Chinese. Likewise, our results demonstrate that Koreans' social distance towards foreign immigrants need to be understood in the context of Korea's varying patterns of acceptance toward different ethnic groups.

2. Acceptance of foreign immigrants as 'citizen'

In this section, we applied the binomial logistic regression analysis in order to evaluate the acceptance of foreign immigrants as Korean citizens. Model 3 <Table 4> includes ethnic and civic identity while Model 4 <Table 5> includes national pride. For a comprehensive analysis, Model 5 includes ethnic and civic identity as well as national pride.

Model 3 indicates that ethnic identity is significant for all of the foreign immigrant groups, and civic identity is significant for North Korean defectors, Korean Chinese and Americans. More specifically, ethnic identity significantly decreases the likelihood that Koreans will accept all ethnic groups as Korean citizens. Conversely, civic identity significantly increases the likelihood that Koreans will regard North Korean defectors, Korean Chinese and Americans as Korean citizens.

Table 4 Acceptance of foreign immigrants as Korean citizens: Model 3

Variables		North Korean defector	Korean Chinese	Chinese	Japanese	Southeast Asian	American	European
Control	Sex	.349* (.153)	.251 (.131)	-.012 (.119)	.101 (.120)	.081 (.121)	.058 (.125)	.171 (.125)
	Age	.150* (.061)	.045 (.054)	-.050 (.050)	-.070 (.050)	-.030 (.050)	-.060 (.052)	-.137** (.052)
	Education level	.623*** (.170)	.316* (.144)	.070 (.130)	.209 (.130)	.115 (.132)	.030 (.137)	.148 (.136)
	Household income	.149* (.061)	.119* (.057)	.051 (.055)	.013 (.055)	-.002 (.055)	.015 (.056)	.017 (.056)
	Subjective stratum consciousness	-.035 (.045)	.018 (.039)	.042 (.036)	.076* (.036)	.043 (.037)	.031 (.038)	.023 (.037)
	Political orientation	-.168* (.074)	-.133* (.064)	-.061 (.058)	-.088 (.059)	-.112 (.059)	-.083 (.061)	-.066 (.060)
	Religion (Christianity)	.325 (.189)	.065 (.161)	.064 (.146)	.199 (.148)	.147 (.149)	.419** (.157)	.331* (.154)
	(Catholic)	.959** (.359)	.656* (.278)	.645** (.230)	.310 (.225)	.298 (.228)	.365 (.235)	.390 (.235)
	(Buddhism)	.236 (.188)	-.145 (.163)	.053 (.151)	.175 (.153)	.202 (.154)	.290 (.158)	.383* (.159)
	The state of employment	.394* (.158)	.010 (.140)	.116 (.128)	.047 (.129)	.175 (.130)	.145 (.134)	.091 (.134)
	Residential Area (Gangwon)	.136 (.448)	.039 (.376)	.241 (.353)	.255 (.357)	-.020 (.355)	.125 (.373)	-.331 (.357)
	(Chungcheong)	-.328 (.229)	-.131 (.202)	-.375* (.190)	-.095 (.190)	-.223 (.192)	-.243 (.197)	-.129 (.197)
	(Yeongnam)	-.043 (.184)	.385* (.164)	-.012 (.145)	.113 (.147)	-.079 (.148)	-.086 (.153)	-.098 (.152)
	(Honam)	-.007 (.233)	.217 (.200)	-.050 (.179)	-.257 (.180)	-.431* (.180)	-.568** (.182)	-.325 (.184)
Independent	Ethnic identity	-.148*** (.040)	-.140*** (.035)	-.119*** (.031)	-.116*** (.031)	-.151*** (.032)	-.147*** (.033)	-.151*** (.033)
	Civic identity	.101* (.043)	.096* (.037)	.068* (.034)	.008 (.034)	.050 (.035)	.070 (.036)	.054 (.036)
Model Chi-square		89.597***	69.888***	50.822***	65.419***	63.019***	62.462***	80.781***
-2 log likelihood		1199.552	1503.446	1736.030	1718.947	1697.120	1617.924	1632.277
Cox & Snell R^2		.067	.053	.039	.049	.048	.047	.061
N		1292	1291	1292	1291	1291	1291	1291

*p<.05, **p<.01, ***p<.001 (Note: standard error in parentheses.)

Table 5 shows that national pride has no impact on the acceptance of foreign immigrants as citizens. Previous studies indicated that strong national pride negatively influenced the acceptance of foreign immigrants and was sometimes connected to xenophobia. Thus, we hypothesized that the evidence of national pride would decrease the acceptance of foreign immigrants as citizens; however, this is not true for all of the foreign immigrant groups. Unlike the results from the multiple regression analysis, in this model, the influence of national pride on accepting foreign immigrants as citizens is non-existent.

Table 5 Acceptance of foreign immigrants as Korean citizens: Model 4

Variables		North Korean defector	Korean Chinese	Chinese	Japanese	Southeast Asian	American	European
Control	Sex	.354* (.151)	.296* (.130)	.012 (.118)	.152 (.119)	.118 (.120)	.095 (.124)	.204 (.123)
	Age	.077 (.059)	-.019 (.052)	-.103* (.048)	-.131** (.048)	-.108* (.048)	-.125* (.050)	-.202*** (.050)
	Education Level	.700*** (.167)	.390** (.142)	.127 (.128)	.262* (.128)	.195 (.130)	.108 (.135)	.226 (.133)
	Household Income	.166** (.061)	.137* (.057)	.070 (.054)	.030 (.055)	.009 (.054)	.027 (.055)	.022 (.055)
	Subjective stratum consciousness	-.025 (.044)	.027 (.039)	.044 (.035)	.079* (.036)	.051 (.036)	.038 (.037)	.033 (.037)
	Political Orientation	-.167* (.073)	-.122 (.063)	-.062 (.058)	-.081 (.058)	-.113 (.058)	-.079 (.060)	-.066 (.060)
	Religion (Christianity)	.289 (.188)	.099 (.161)	.057 (.146)	.195 (.147)	.145 (.148)	.426** (.156)	.342* (.153)
	(Catholic)	.873* (.346)	.558* (.268)	.567* (.226)	.241 (.221)	.227 (.223)	.296 (.231)	.327 (.230)
	(Buddhism)	.203 (.185)	-.138 (.161)	.032 (.150)	.138 (.151)	.176 (.152)	.270 (.156)	.367* (.157)
	The state of Employment	.370* (.156)	-.017 (.139)	.086 (.127)	.014 (.128)	.148 (.128)	.116 (.133)	.058 (.132)
	Residential Area (Gangwon)	.072 (.451)	-.063 (.376)	.137 (.351)	.143 (.353)	-.148 (.352)	.010 (.370)	-.451 (.354)
	(Chungcheong)	-.334 (.225)	-.143 (.199)	-.384* (.188)	-.101 (.188)	-.223 (.189)	-.244 (.194)	-.128 (.195)
	(Yeongnam)	-.029 (.182)	.375* (.162)	-.020 (.144)	.115 (.145)	-.079 (.146)	-.089 (.151)	-.091 (.150)
	(Honam)	-.074 (.226)	.152 (.195)	-.090 (.176)	-.255 (.177)	-.445* (.177)	-.588** (.179)	-.342 (.180)
Independent	National Pride	.077 (.105)	.038 (.092)	.038 (.084)	-.015 (.085)	-.012 (.085)	-.061 (.088)	-.092 (.088)
Model Chi-square		77.700***	54.726***	35.720**	46.232***	38.121**	43.096***	59.274***
-2 log likelihood		1232.524	1537.613	1764.187	1752.038	1737.306	1654.364	1669.227
Cox & Snell R^2		.058	.041	.027	.035	.029	.033	.045
N		1302	1301	1301	1301	1301	1301	1301

*p<.05, **p<.01, ***p<.001 (Note: standard error in parentheses.)

Finally, table 6 presents the result of simultaneously controlling ethnic identity, civic identity and national pride in the equation. The results produced in model 5 are almost identical with the results of

model 3 and model 4. That is, ethnic identity is significant for all immigrants groups, whereas civic identity is significant for North Korean defectors, Korean Chinese and Americans. Yet, national pride is not significant for any of the immigrant groups. The reasons as to why civic identity is influential only for North Korean defectors, Korean Chinese and Americans should be varying according to their ethnicities. Despite Koreans' belief that North Korean defectors and Korean Chinese should be immediately accepted as our citizens, for example, because they share the same blood, culture and history, they tend to be afraid of the notion that these newly incoming Koreans lack civilian properties necessary for Korean citizenship. In brief, Koreans are willing to accept North Korean defectors and Korean Chinese as Korean citizens. Yet, at the same time, they seem to be asking North Korean defectors and Korean Chinese to acquire those civilian properties essential in the Korean society.

<Table 6> Acceptance of foreign immigrants as Korean citizens: Model 5

Variables		North Korean defector	Korean Chinese	Chinese	Japanese	Southeast Asian	American	European
Control	Sex	.336* (.153)	.255 (.132)	-.012 (.120)	.102 (.121)	.072 (.122)	.058 (.126)	.166 (.125)
	Age	.144* (.062)	.041 (.055)	-.053 (.050)	-.070 (.050)	-.035 (.051)	-.062 (.052)	-.136** (.052)
	Education level	.630*** (.170)	.318* (.144)	.068 (.130)	.206 (.130)	.117 (.132)	.028 (.137)	.147 (.136)
	Household income	.148* (.062)	.129* (.057)	.054 (.055)	.015 (.055)	-.005 (.055)	.016 (.056)	.010 (.056)
	Subjective stratum consciousness	-.036 (.045)	.015 (.039)	.041 (.036)	.076* (.037)	.043 (.037)	.030 (.038)	.026 (.037)
	Political orientation	-.167* (.074)	-.125 (.064)	-.060 (.059)	-.086 (.059)	-.117* (.059)	-.087 (.061)	-.072 (.061)
	Religion (Christianity)	.296 (.191)	.060 (.163)	.046 (.147)	.186 (.149)	.118 (.151)	.405* (.158)	.320* (.156)
	(Catholic)	.945** (.359)	.648* (.278)	.631** (.231)	.300 (.225)	.287 (.228)	.362 (.235)	.388 (.235)
	(Buddhism)	.250 (.189)	-.147 (.163)	.054 (.151)	.177 (.153)	.204 (.154)	.282 (.158)	.386* (.159)
	The state of employment	.398* (.158)	.002 (.141)	.111 (.129)	.041 (.130)	.183 (.130)	.151 (.134)	.095 (.134)
	Residential Area (Gangwon)	.135 (.448)	.036 (.376)	.233 (.352)	.247 (.356)	-.025 (.355)	.120 (.373)	-.334 (.358)
	(Chungcheong)	-.332 (.229)	-.137 (.202)	-.387* (.190)	-.106 (.191)	-.229 (.192)	-.246 (.197)	-.131 (.197)
	(Yeongnam)	-.028 (.185)	.380* (.164)	-.019 (.146)	.107 (.147)	-.080 (.148)	-.098 (.153)	-.101 (.152)
	(Honam)	-.016 (.233)	.208 (.200)	-.063 (.179)	-.268 (.181)	-.439* (.181)	-.570** (.183)	-.327 (.184)
Independent	Ethnic identity	-.154*** (.041)	-.143*** (.035)	-.122*** (.031)	-.117*** (.031)	-.153*** (.032)	-.146*** (.033)	-.150*** (.033)
	Civic identity	.097* (.043)	.092* (.037)	.065 (.034)	.006 (.034)	.049 (.035)	.072* (.036)	.056 (.036)
	National pride	.121 (.109)	.089 (.095)	.079 (.087)	.054 (.087)	.065 (.088)	-.005 (.091)	-.027 (.090)
Model Chi-square		89.579***	70.576***	51.017***	65.143***	63.539***	62.217***	80.322***
-2 log likelihood		1195.009	1498.214	1730.043	1713.400	1690.963	1613.464	1626.948
Cox & Snell R^2		.067	.053	.039	.049	.048	.047	.061
N		1288	1287	1288	1287	1287	1287	1287

*p<.05, **p<.01, ***p<.001 (Note: standard error in parentheses.)

In conclusion, the effects of ethnic identity on the social acceptance of foreign immigrants as citizens are statistically significant for all immigrant groups. However, civic identity significantly impacts only North Korean defectors, Korean Chinese and Americans. While this result supports the hypothesis that ethnic identity would strongly and negatively affect the acceptance of foreign immigrants, the expectation that civic identity would have the same impact remains partially supported. Lastly, the results show that national pride is entirely insignificant for all immigrant groups.

Ⅴ. Conclusion

The materialization of a multicultural society requires changes in the perception of foreigners that correspond with a new social form. Koreans' attitudes and perceptions are critical to the overcoming problems with immigration and facilitating a new social integration (Kim et al., 2011; Min et al., 2010). Social distance is a well-used method to analyze intergroup prejudice and treat racial problems. Previous studies on social distance (2010 KGSS) revealed that Koreans responded negatively to the idea of foreign immigrants becoming Korean citizens or family members. They argued that strong ethnic identity and weak civic identity among Koreans engendered this reluctance to accept foreigners as Korean citizens. Thus, this study attempted to elucidate the effects of national identity on the acceptance of foreign immigrants as citizens. To this end, we included different types of ethnic and civic identity as well as national pride as important explanatory factors.

This study aims to examine the effect of national identity on the acceptance of foreign immigrants as citizens among Koreans. According to the results from the Korea General Social Survey 2003-2010, Koreans' acceptance of other ethnic groups as a co-worker, neighbor and friend has improved. However, they are still reluctant to accept foreign immigrants as family members and as Korean citizens. This result is inconsistent with the hierarchical assumption of the Bogardus scale, which regards visitor, citizen, coworker, neighbor, friend and spouse as a cognitively ordered evaluation of closeness between nationals and other ethnic group members. According to the Bogardus scale, accepting someone as a spouse indicates much more closeness than accepting someone as a citizen. Interestingly, while Koreans do not accept Korean Chinese, Chinese, Japanese, Southeast Asians, Americans and Europeans as Korean citizens, they accept them as friends. This result violates the hierarchical assumption of the Bogardus scale, thereby leaving the acceptance pattern of North Korean defectors as the only variable consistent with the hierarchical assumption.

Although there has been great interest concerning the social distance extant among different ethnic groups, there are few studies accounting for the varying acceptance patterns. In Korea, the word 'citizen' contains a special meaning. It implies something more than 'an ordinary member of society'. As follows, this paper focuses on the role of national identity in creating Korea's varying acceptance patterns toward different ethnic groups. National identity is defined as a sense of belonging to a group or collective identity generally divided into two types: ethnic identity and civic identity. Ethnic identity emphasizes blood relationships, linguistic origins and homogeneity, whereas civic identity stresses equal political and civil rights. This study argues that the varying acceptance patterns toward different ethnic groups can be understood by investigating the ways in which national identity affect attitudes towards foreign immigrants. In particular, compared to civic identity, ethnic identity has more influence on the nationals'

attitudes toward different ethnic groups. Similarly, national pride has the same impact on social distance toward other ethnic groups as ethnic identity.

Analyzing the 2010 Korean General Social Survey, this study examines the effect of national identity on the acceptance of different ethnic groups as Korean citizens. Civic identity and national pride are primary independent variables. The control variables are sex, age, education level, household income, subjective stratum consciousness, political orientation, employment status, etc. We employed the factor analysis, multiple regression and logistic regression to show the relationship between national identity and acceptance of different ethnic groups as citizens.

In sum, ethnic identity negatively influences the acceptance of foreign immigrants as citizens. Because the Korean culture has a tendency to emphasize blood homogeneity among Koreans, respondents holding strong ethnic identity are more likely to show a low rate of acceptance toward other ethnic groups. We hypothesized that Koreans would gradually develop a more open attitude toward foreigners as daily interactions with them become more frequent. However, the impact of ethnic identity remained strong. Strong ethnic identity seems to function as an obstacle toward accepting immigrants as 'our people'. This is the result of the distinctive meaning that Koreans attach to the title 'citizen' or 'Kukmin' (Brubaker, 1992; Yoon and Song, 2009). Ultimately, strong ethnic identity strengthens social distance toward foreign immigrants.

Next, respondents holding strong civic identity are more likely to accept North Korean defectors, Korean Chinese and Americans as Korean citizens. According to the 2010 Korean General Social Survey, the most important requirements to be considered as a Korean are as follows: feeling like you are Korean (94%), possessing Korean citizenship (89%) and respecting the political system and law of Korea (86%). The results convey that the impact of civic identity is limited and relatively less compared to ethnic identity.

Third, national pride has no influence on the acceptance of foreign immigrants as citizens. Indeed, national pride has the potential to lead to ethnic exclusionism or xenophobia. However, contrary to popular opinion, its effect on the acceptance of foreign immigrants as Korean citizens is insignificant. These results indicate that Koreans are reluctant to accept other ethnic groups as citizens due to their strong national identity, but more so their ethnic identity.

Moreover, the impact of ethnic identity is most significant in the willingness to accept foreign immigrants as citizens. Therefore, ethnic identity should be regarded as the most important factor in explaining the formation of attitudes and perceptions toward immigrant groups.

This study lacks a specific discussion about how national pride relates to multi-cultural acceptability. Also, it lacks the discussion on grouping phenomenon according to similar characteristics in the acceptance and perception of foreign immigrants. This topic may be connected with hierarchical nationhood (Seol and Skrentny, 2009), which recognizes many ethnic and racial groups discriminatorily. For example, because Koreans tend to consider the historical relationship and level of economic development of an immigrant's home country, Koreans' attitudes toward foreigners appear to be more complicated than reflected in this study. Therefore, a more elaborate analysis should be considered for future research.

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Evaluating a Health Promotion Project and Quality of Life For Raks Elderly Group[1]

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ABSTRACT

Background: Aging is a process of change related to gradually decrease in physical, psychological and social. These people are faced with functional difficulties and social role changes. Therefore, a health promotion and social space creation is extremely important to contribute self-esteem and quality of life for the elderly. Boromarajonani College of Nursing Nakhonratchasima is an organization whose mission is to provide academic services to the community and society. The Institute has established "Raks Elderly group" for the learning and academic services to the elderly in the province of Nakhonratchasima. Activities within the group are made up of members with health promotion activities and create social space for members.
Purpose: This study is to evaluate a health promotion project and quality of life for Raks elderly group.
Methods: An evaluating research was applied by using CIPP model to evaluate the context, input, process and output of activities to promote health and quality of life in Raks elderly group. The study was conducted from Raks elderly members who were participate and be involved in a health promotion project. Purposive samplings of 92 were answering the questionnaires and 38 were in a focus group. Data were collected by using a CIPP questionnaire and quality of life by WHOQOL-BREF-THAI. Analysis a coefficient Cronbach alpha of a CIPP questionnairewas .81 and WHOQOL-BREF-THAIA analysis was .92. In addition, data were analyzed using frequency, percentage, average, standard deviation, and content analysis for qualitative data.
Results: Findings of the CIPP survey's question and Quality of life were as follow:
Context phrase: The most frequently cited were the purpose of the project is consistent and appropriate. The mean was 4.69 (SD = 0.26).
Input phrase: It was found that Personnel, budget, performance materials and the overall opinion is at the highest level. The mean was 4.80 (SD = 0.20).
Process phrase: It was found that the efficiency of project implementation was in a high score. The mean was 4.28 (SD = 0.42) and the implementation of the activities was at the highest score. The mean was 4.51 (SD = 0.27).
Product phrase: The output from the focus group concluded that the benefit event encompasses both physical and mental was an incentive to work and want to join every activity. The group is a source of knowledge and brains. The knowledge gained from the activity can be useful and can provide knowledge to others.
The overall quality of life was in the good level of 68.5 percent. About 54.3 percent and 55.4 percent rated the physical well being and environment well being in the moderate level. About 68.5 percent and 63 percents rated that the psychological well being and social well being in the good level, respectively.
Keywords: *Evaluating, Health Promotion, CIPP model, Quality of Life, Raks Elderly Group*

Background and Significance of the Problem

Change of popular structure in Thailand makes an increase in a number and proportion of the elderlies rapidly and continually. In 1994, a number of the elderlies in the country accounted for 6.8 percent of the total population and reached 14.9 percent in 2014 (National Statistical Office, 2014). This can be said that Thailand became to be the ageing society (United Nation, 2007). As a matter of fact, the elderlies are in the age of physical change which various body organs' function become to be deteriorated. That is, the body often has chronic illness due to the accumulation of body interaction or the past livelihood behaviors and environment (Srithamrongsawat and Boonthamcharoen, 2010). This makes a decrease in the capability to do various activities.

According to a study on spiritual health of the elderlies in Thailand, it was found that their spiritual health is at a moderate level (Sabphrawong et.al, 2012). Spiritual problems arise from the felling of self capability loss. That is, a decrease in physical health which has not enough power to do daily life activities well like before. Also, the elderlies feel lonely or may be depressed because they lack of interaction with others (APA, 2015). Various changes have an effect on spiritual conditions and a level of happiness of the elderlies. Based on a study on quality of life of the elderlies, as a whole, it was found at a moderate level and physical and social mind were found at a moderate level, too (Tongdee, 2014). Hence, the construction of a spiritual power for the elderlies by their participation in activities is a way to strengthen their mind (Boonpairatsakul, 2009). Due to these changes and situations, the development of various system of the elderlies' body must be done by the promotion of health, security, and participation (WHO, 2012). This aims to make the elderlies be self-reliant, able to do some things beneficial to themselves, the family, and the society.

Boromarajonni College of Nursing NakhonRatchasima, Thailand is an educational institute having a mission to provided academic services for the society. Thus, there was the establishment of the Raks Elderly Group in 2006 aiming to provide academic services on health promotion to its members and be a learning source for students and nursing teachers. There are diverse activities for health promotion such as health assessment, exercise, provision of knowledge about health care, Dharma, sports, academic venue, and educational tour. In the previous years, the Raks Elderly Group was assessed and found to be at high level. For sustainability and systematic development, however, it needs to have the project assessment by using the research process.

There are many forms of project assessment by using the research process. The popular forms include: the four level assessment of Kirkpatrick comprising: reaction evaluation, learning evaluation, behavior evaluation, and result evaluation (Kirkpatrick, 1998); value judgment assessment of Robert E. Stake; are assessment based on objectives of Ralp W. Tyler; and an assessment for decision-making of Daneil L. Stufflebeam (Ritcharoon, 2014). It is the CIPP Model project assessment which comprises the assessment of context, input factors, and process. Besides, it is the continual assessment for a complete operation. There is data collection as determined and obtained data are prepared to be the information system in order to implement the project and improve immediately (Stufflebeam, 2000).

This study is a research for the assessment of theRaks Elderly Group project and wisdoms of the Korat elderlies: activities for health and potential promotion of the Raks Elderly Group. Also, it is the assessment of quality of life of group members joining activities. This aims to systematically development the project continually for sustainability. The CIPP model is chosen because it has the efficiency in the development and improvement of the project. It also helps the value assessment when the project ends. In addition, it can be a guideline for administrators to make a decision on the project management and the provision of academic services which is consistent with the mission of the college.

Objectives of the Study

Specifically, this study aimed to assess the project in accordance with the assessment form of CIPP Model. It was the quantitative and qualitative assessment of context, input factors, and outcome of the project. Also, it aimed to explore quality of life of Raks Elderly Group members participating in accordance with WHOQOL-BREF-THAI.

Research Methodology

1. Quantitative data The researchers asked permission from the sample group and informed them objectives and rights protection of the sample group. Also, the researchers explained about the questionnaire and checked the completeness of data.

2. Qualitative data It was collected from focus group discussion in which the researchers and the committee were narrators.

The focus group discussion lasted 2 hours and the group members were asked permission to make a record on conversation.

Population and Sample Group

Population in this study consisted of Raks Elderly Group members participating in all activities throughout a 2014 fiscal year. Both sample groups were obtained purposive sampling and the criterion of sample group selection was that they must join all activities of the project throughout the year.

1. The sample corresponding the questionnaire on opinions about context, input factors, process, and outcome of the project consisted of 92 persons obtained by using the formula of Yamane. They also corresponded the questionnaire on quality of life.

2. The sample group for focus group discussion consisted of 38 persons: 8 Teachers and staff of the committee for the Excellence on Academy Center; 15 committee members of the Raks Elderly Group; and 15 members of the Raks Elderly Group. They were divided into 2 groups of focus group discussion and obtained data were compared.

Right Protection of the Sample Group

The researchers carried out the rights protection of the sample group by providing data of the researchers then explained objectives and steps of the study. Also, the researchers informed the sample group about disclaimer from the project, refusal of data giving, confidence keeping of data, and presentation of results of the study.

Research Instruments

Instrument employed in this study were as follows:

1. Questionnaire. It consisted of 2 parts: Part 1. Socio-economic attributes of the sample group i.e. sex, age, marital status, educational attainment, occupation, and incomes, and Part 2. Opinions of the sample group about context, input factors, process of project implementation, and outcome of the projects. This was a close-ended questionnaire together with 5 rating scales of Likert comprising the following: highest, high, moderate, low, and lowest.

2. Focus group discussion. The research team and the committee of the Raks Elderly Group were narrators and it lasted 2 hours. This aimed to make participants to join activities on discussion focusing on the benefits of the project, adaptation of knowledge and experience gained from activities and dissemination of knowledge gained from the project activities.

3. Questionnaire on quality of life of WHOQOL-BREF-THAI. It consisted of 26 items (5 rating scales with the score between 26-130). Obtained data were compared with normal criteria as set (Mahatnirunkul, et.al., 2002).

Research instrument quality testing

1. A questionnaire on opinions of the sample group content consistency was tested by scholars ad validity was found by bringing the questionnaire to try out with the population (30 persons) who were not included in the sample group. Alpha coefficient of Cronbac was employed for the computation and the validity value was 0.81

2. The instrument was for measuring quality of life prepared by the World Health Organization, Thai version (WHOQOL-BREF-THAI). The reliability value of the instrument was found that at 0.92

Data Analyses

Quantitative data were analyzed by using the Statistical Package. Frequency, percentage, mean, and standard deviation were used for descriptive statistics. Content analysis was used for qualitative data.

Results of the Study

Socio-economic attributes of the sample group

The sample group consisted of 92 elderlies. Most of them (68.5%) were female and their age range was 35-92 years and married (67.4%). Less than one-half of them (38.6%) were bachelor's degree holders and 62.62 percent were retired officials. Most of the sample group had an income for more than 20,000 baht per month.

Table 1: An average mean score and standard deviation value based on levels of opinions about context, input factors, process of project implementation and outcome of this project

Assessment items	$\bar{x}$	SD	Level of opinions
Context of the project			
- Rationales of the project are clear	4.81	0.48	Highest
- Objectives are clear and can be measured/evaluated	4.56	0.53	Highest
- Objectives were consistence with mission of the college	4.76	0.51	Highest
- Objectives were consistent with needs of the sample group	4.86	0.50	Highest
- Goals of the project is possible	4.33	0.60	Highest
OVERALL	4.66	0.26	Highest
Input factors of the project			
- Skills of the personnel	4.63	0.42	Highest
- Appropriateness of budgets	4.87	0.82	Highest
- Adequate materials/equipment	4.83	0.30	Highest
- Appropriateness of project venue (place)	4.88	0.44	Highest
OVERALL	4.80	0.20	Highest
Project implementation process			
• Based on the efficiency of the project implementation			
- Project preparation	4.10	0.74	High
- Assessment	4.28	0.33	High
- Report conclusion	4.15	0.65	High
• Based on activity doing			
- Health assessment	4.60	0.37	Highest
- monthly academic meeting	4.51	0.45	Highest
- Annual meeting/intramural games	4.50	0.24	Highest
OVERALL	4.35	0.27	High
Outcome of the project			
- Knowledge and understanding	4.45	0.34	High
- Satisfaction with the project	4.80	0.51	Highest
OVERALL	4.62	0.60	Highest

Opinions of the sample group about context, input factors, process, and outcome of the project

1. Context of the project. As a whole, most of the sample group agreed to the context of the project at a highest level ($\bar{x}$ = 4.66, SD = 0.26). Considering each item, most of the sample group agreed at a highest level in terms of objectives of the project which were consistent with needs of the sample group ($\bar{x}$ =4.86, SD = 0.50). This was followed by rationale of this project were clear and appropriate ($\bar{x}$ = 4.81, SD = 0.48).

2. Input factors of the project. As a whole, most of the sample group agreed to it at a highest level ($\bar{x}$ = 4.80, SD= 0.20). Considering each item, most of the sample group agreed at a highest level in terms of appropriateness of the project venue or place ($\bar{x}$ =4.88, SD = 0.44). This was followed by appropriateness of budgets ($\bar{x}$ = 4.87, SD = 0.82).

3. Process As a whole, most of the sample group agreed to the process at a high level ($\bar{x}$ = 4.35, SD = 0.27). Considering each item, most of the sample group had a highest level of an agreement in terms of health assessment ($\bar{x}$ = 4.60, SD = 0.37). This was followed by monthly academic meeting ($\bar{x}$ = 4.51, SD = 0.45).

4. Outcome of the project. As a whole, most of the sample group agreed to outcome of the project at a highest level ($\bar{x}$ = 4.62, SD = 0.60). Considering each item, most of the sample group had a highest level of an agreement in terms of satisfaction and followed by knowledge ($\bar{x}$ = 4.45, SD = 0.34).

The focus group discussion about benefits and motivation in the activity participation, knowledge source, and activity dissemination could be concluded as follows:

1. Participation in group activities must be beneficial to physical and spiritual aspects of group members.

Many of the elderlies cited about the benefits obtained from the activity participation that it was beneficial to their body and mind "The activities were perfect because it included Dharma, body exercise, and knowledge about health." It was mostly beneficial on knowledge, physical health, and spiritual health. "Knowledge in Dharma can heal mind."

2. Internal and external motivation for activity participation makes group members participate in the activities continually.

Most of the elderlies had motivations to participate in the activities since there was a warm welcome and there were nice new friends. Part of the elderlies impressed etiquette and preferred manners of the teachers in project. Another motivation was faith in the process and techniques of the project. Many of the elderlies were members of many clubs had the motivation as follows: "I was a member of many club but I think that this project is very perfect in terms of staff, finance, welfare, and the project venue is not far." Besides, public relations and grouping channel such as radio programs of the members and decided to join the activities continually.

3. The Raks Elderly Group made the college is a source of knowledge and wisdoms of the Korat elderlies.

The elderlies perceived that the college is "Knowledge source and brains" because all concerned personnel there respect the elderlies as people have knowledge and experience. The college is like a big treasure as a source of learning with moral support.

4. Benefits gained from the activity participation which can be disseminated to others.

Benefits from various activities were disseminated by group members. Besides, there was knowledge exchange among the elderlies. Some of the elderlies joined laughing for health contest and were winners.

Table 2: Quality of life of Raks Elderly Group members who joined the project

QOL domain	Level of QOL		
	Low	Moderate	High
Total QOL	-	31.5	68.5
Physical domain	-	54.3	45.7
Psychological domain	-	31.5	65.8
Social relationships	-	37.0	63.0
Environment	-	52.8	47.2

In Table 2, the level of quality of life of the Raks Elderly Group members was mostly found at a high level (68.5%). Considering each aspect, it was found that the quality of life in terms of spiritual and social aspects were at a high level (65.8 and 63.0%, respectively). However, physical and environmental aspects were found at a moderate level (54.3 and 52.8%, respectively).

Discussion

Context of the project

Most of the sample group had a highest level of an agreement on the consistency with needs of the group. The project aimed to promote health and potential of group members. The project assessment is the determination of a direction for the assessment leading to project design (Ritcharon, 2014). Thus, the project objective setting aimed to response to needs of the group receiving benefits and satisfaction based on their needs. This would make the project be successful with sustainability. Any activity which was consistent with needs of the elderlies would

be motivation to participate in the activity. Consequently, the elderlies were pleased to be part of the activity (Khaichaiyaphum, 2011).

Input factors

Most of the sample group had a highest level of an agreement in terms of the appropriateness of the project venue ($\bar{x}$ = 4.88, SD = 0.44). Many of the elderlies who were members of many clubs had motivation that "The group of this college is more perfect than other groups in terms of personnel, finance, welfare, and location." The activities were held in the college auditorium which was appropriate in terms of quantity, quality, and convenience facilities. (Wongwiseskuland and Tangpharkphoom, 2013).

Process of the project implementation

Most of the sample group had a high level of an agreement in terms of the assessment ($\bar{x}$ = 4.28, SD = 0.33). An effective project should have periodical project assessment by using various data collection methods. Qualitative and quantitative data must be assessed as well as stakeholders like project personnel, beneficiaries, and project proponents (Bousonte, 2014). For activities, it was found that most of the sample group dah a high level of an agreement in terms of health assessment ($\bar{x}$ = 4.60, SD = 0.37). Fundamental health assessment was an activities making the elderlies participate in the activity on self health perception and aware of health care-taking.

Outcome of the project

Most of the sample group had a highest level of an agreement in terms of satisfaction ($\bar{x}$ = 4.80, SD = 0.51). Many of the elderlies claimed about the benefits of the activity anticipation that it was beneficial to both physical and spiritual aspects. For the spiritual aspect, they were proud to be a member of the group because they were happy and impressive to have new good friends. (Wongpanarakand and Chaleoykitti,2014).

Focus group discussion

It was found that the activity participation is beneficial to both physical and spiritual aspects and it was the motivation to join the activities continually. The Raks Elderly Group was a source of knowledge and the benefits of activities could be disseminated to interested people. Regarding factors affecting the success of the project based on the focus group discussion, the following were found: 1) the elderlies who were members of the Raks Elderly Group were ready to participate in the project activities. They were healthy with adequate incomes and parts of them were official retirees. They were willing to cooperate with group activities. 2) The elderlies who were committee members had leadership and it was the motivation for group members to

participate in group activities. 3) The teachers running the project activities had potential with service-minded and they expected that the Raks Elderly Group would be successful and sustainable. 4.) Administrators supported activities of the group in terms of place, budget, and other. (WHO, 2015).

Finding showed that the Raks Elderly Group members had a high level of quality of life (68.5%). Considering each aspect, it was found that the quality of life based on spiritual and social aspects was found that at high level (65.8 and 63.0%, respectively). The program promoting health of the elderlies was essential to carry out continually in order to develop quality of life of the elderlies (Ounnapiruk, 2014). Besides, it was found that quality of life of the elderlies after participating in the group activities was higher than before (From $\bar{x}$ = 24.06, SD = 3.35 to $\bar{x}$ = 24.26, SD = 3.37). Results of the study conform to a study of Brawn (2014) which found that the elderly group forming could promote their well being.

Suggestions

1. Health promotion activity holding for the elderlies should be responsive to needs of the elderlies based on benefits and satisfaction.

2. Health promotion activity holding for the elderlies should fully make use of wisdoms and potential of the elderlies.

3. It should have the elderly empowerment in the social space and continual monitoring.

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Community Participation on Elderly Health Promotion: Ban Phungtheam, PhraThong Kham District, Nakhon Ratchasima Province

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Abstract

Presently in Thailand, the proportion of elderly population is increasing. The Ban Phungtheam is a village in Nakhon Ratchasima province .This province has the most elderly population of the country. Ban Phungtheam is a learning resource of nursing students for more than 10 years ago. Ban Phungtheam has 215 elderly people accounted for 14.66 % of the total population.

Research Purposes:

This study aims at examining health status and health promotion behaviors for the elderly with involvement of the community.

Methodology:

This study was a participatory action research (technical AIC).The project consisted by conducting in three phase.

Results:

Phase 1: Community needs assessment: it was found thatthe vast majority of the community resident responded to the survey (98%) wanted the elderly to have the health status checked up. Phase 2: The researchers conducted the health status checked up and provided health and behavior promotion program for the elderly. There were 205 elderly from Ban Phungtheam, Phra Thong KhamDistrict, Nakhon Ratchasima Province participated in the program. At the endo of the program, it was found that the majority of elderly (80.1 %) reported being in good health status. Chronic diseases and symptoms that were major health problems among the elderly included musculoskeletal problems (43.8%), vision problems (31.5%), and urinary control (19.2%). More than half of the elderly (61.2%) reported having at least one health problem. Most elderly can assist themselves with daily routines. The elderly aged 80 years or above reported having depression. There were 40.1 per cent of the elderly reported not participating social activities. Phase 3: Creating development plan through community participations and there were 4 projects as an outcome including: 1) Exercise to promote health among community residence project, 2) Care-provider for elderly training project, 3) Community nutrition for elderly training project, and 4) Health wisdom for elderly care in the community project. All projects were financed by Phungtheam Sub-district Administrative Organization.

Keywords: Community participation, Health promotion,Elderly

Introduction

The increase of elderly population during the rapid changes of the society affects health and way of life among elderly. World population is increasing continuously from 6,070.6 million in 2000 to an estimated of 7,851.4 million in 2025. The population structure of the world and Thailand has been changed in the similar ways. Elderly population (persons with 60 years of age and over) is expected to increase from 10 percent in 2000 to 15 percent in 2025. This reflects the changes from the majority of the population from children to elderly according to the projections by the Office of the National Economics and Social Development Board of Thailand. However, the rapid increase of aging population incorporating with the rapid changes from rural-based society to urban-based society in Thailand during the past decades have greatly impacted the wellbeing among the elderly. Therefore Thailand national policy has been formulated to reflect such changes in the population. Several Acts that directly focus on elderly have been approved and enacted to help improving the health among the elderly.

According to the national survey done by the Department of Health under the Ministry of Public Health Thailand, it was found that 26 percent of the elderly have a desirable health behavior as compared to the goal set by the Ministry of Public Health at 30 percent. Among the health behaviors surveyed, the behaviors that the elderly practiced less frequently started from least practice included exercising at least 15-30 minutes per day for at least 3 days per week (57%) , drink at least of 8 glasses of clean water (65%), eat fruits and vegetables regularly (66%), refrain from drinking alcohol beverages (83%), and refrain from smoking (84%). It was also found that elderly had illness/health problems including hypertension (41%), Diabetes Mellitus (18%), degenerative arthritis (9%), disabilities (6%), depression (1%), and being bed-ridden (1%). Among them, only 5 percent received medical examinations and health check-ups and were disease-free.

Community participation is an important factor of successful program because it allows the participations from families and community toward health for all. Literature reviews in elderly health promotion suggested that community participation in solving community's problems would help correct the problems that direct to their needs (Thaniwattananon, 2001). Additionally, research in community health promotion also shows that successful health promotion for elderly in communities requires community members to take part in the thinking process as well as during decision making and using community resources and social capital. It is suggested that local governments such as sub-district administrative organization (SAO) in each community should take an active role in promoting health among elderly based on local social and cultural contexts (Nanthabootr, 2008).

Ban Phungtheam (AKA Phungtheam village) is located in Phra Thong Kham District, Nakhon Ratchasima Province. It has the population of 1,146 with 205 elderly population,resulting in 17.89 percent of population from all age groups. This village is one of settings where Boromarajonani College of Nursing, Nakhon Ratchasima selected to develop a model and a resource setting in health promotion among elderly through community strengthening process. Kannika Hansoongnoen et al. (2013) conducted

a study to explore factors that predicted health behaviors among elderly from this village and found that general health promoting behaviors were in an appropriate level. Health promoting behaviors was found to be at a high level included nutrition, stress coping, responsibility in health and spiritual health. Health promoting behaviors that were in a moderate level included physical activity and interpersonal relationships. It was also found that perceived benefits of health promoting behaviors, perceived self-efficacy, social support, and perceived barriers of health promoting behaviors could be predictors of health promoting behaviors at a significantly high level (84.5%; at $p = 0.05$). Therefore the researcher selected this village as a setting to examine health promotion programs among elderly with community participation approach using Appreciation Influence and Control (AIC) technique. Using such technique would provide opportunities for all participants to communicate and exchange knowledge, concepts and experiences and information with each other. This process would allow the clear understanding in problems and issues the community really has and would open to the brainstorming and creative problem solving. This technique is consisted of knowledge generation (Appreciation), creation of development guidelines (Influence) and creation of practice guidelines (Control). The outcomes from the study using AIC technique would offer the better understanding in health promotion program planning, implementation, and evaluation for elderly in Ban Phungtheam and other locations.

Objective of the Research

This research aims at studying factors and methods in promoting health among elderly through the community participation.

Methods

This action research utilized a participatory planning process or AIC technique. The research divided the study into 3 phases: 1) Community needs assessment, 2) Implementation, and 3) Community Planning. Activities included in each phase are described as follows:

1. Community needs assessment

1.1 Collecting general data of the community i.e. geographical location of the village, population, and qualitative data such as socio-economic data, culture and traditions, beliefs, local wisdoms, and local lifestyles.

1.2 Contacting Phungtheam Sub-district Administrative Organization (SAO) and related parties for collaborations and supports throughout this research. The researchers provided information regarding objectives of the study, methodology of the study and timeline of the study and ask for consent from participants to join the study.

1.3 The researchers organized a meeting to provide information to local government authorities including CEO of Phungtheam Sub-district Administrative Organization, four members of SAO administrative board, director of Phungtheam Sub-district health promoting hospital, principal of

Phungtheam Primary School, Phungtheam village chief, and Phungtheam Buddhist temple's abbot in order to seek for mutual understanding of the research process.

1.4 Current situations about the elderly population resided in Phungtheam village (Moo 1) of Phungtheam sub-district, Phra Thong Kham District, Nakhon Ratchasima Province were received from CEO of Phungtheam Sub-district Administrative Organization, Phungtheam village chief, director of Phungtheam Sub-district health promoting hospital, and representatives from Phungtheam village through interviews and focus groups.

2. Implementation

2.1 Meetings were conducted with associated parties including representatives from elderly population, community leaders, and village health volunteers using AIC technique in order for the researchers to obtain information regarding health promotion for elderly in Phungtheam village. The information obtained during this process were used for planning health promotion activities for elderly in the community.

2.2 The implementation of the process were done using AIC technique on health promotion for elderly population through the participations of government officials, elderly representatives, community leaders, and village health volunteers.

2.3 Evaluations of the project/program to promote health among elderly in the community were administered.

3. Community Planning

The community planning process for the next fiscal year was done with collaborations and inputs from CEO of Phungtheam Sub-district Administrative Organization, director of Phungtheam Sub-district health promoting hospital, representatives of principal of Phungtheam Primary School, Phungtheam village chief, representatives from elderly population using AIC technique.

Research Instruments and Data Analyses

Instruments used in this study included:

1. Physical fitness records for elderly population (simple form) developed by the Sport Authority of Thailand (Sport Authority of Thailand Simplified Physical Fitness Test – SATST). Data from this section were analyzed using descriptive statistic.

2. Focus groups guided questions: The focus groups were done with elderly who agreed to provide the information. There were 40 elderly who provided information in the focus groups.

3. Additional information were retrieved from two community forumswhich was done with 30 community representatives. The representatives included elderly, village chief, community leaders, village health volunteers, family representatives, CEO of Phungtheam Sub-district Administrative Organization and administrative board, director and nurses from Phungtheam Sub-district health promoting hospital, Phungtheam Buddhist temple's abbot, and representatives of principal of

Phungtheam Primary School. The forums collected data from the total of 80 persons and each forum took about 60-90 minutes. The researchers recorded the conversation after participants' consent. Additional information was obtained through observations and note-taking.

The researcher triangulated the data by confirming the topics and issues with the community representatives who provided the data. The data was also checked again for correctness. The data collection was done during March 1, 2014 and April 30, 2015. The data collection process was consisted of the following:

1. **Quantitative Data** were collected using Simplified Physical Fitness Test among 205 elderly from Phungtheam village (Moo 1) of Phungtheam sub-district, Phra Thong Kham District, Nakhon Ratchasima Province
2. **Qualitative Data**were collected from community representative i.e. representatives from elderly population, community, and government officials. The data were collected in several ways: note-taking, recording, photographing through the following:

   2.1) Focus group discussions with representatives from elderly population, community, and government officials were used to collect the data regarding the participatory community planning process using AIC technique. The researchers conducted the focus groups by themselves.

   2.2) Participant observations were done during the focus group sessions as well as community forums in order to gather nonverbal information during the process.

Results

1. According to the quantitative data, the data showed the increase of elderly population in the community. Bed-ridden elderly were not provided appropriate care. Most elderly had to take care of their grandchildren at home. Illness and symptoms predominant among elderly included hypertension, diabetes, and body aches. Most elderly faced economic restraints due to the fact that they did not have jobs and income. Information regarding health status among elderly is needed in order to plan for appropriate health promotion programs for elderly.

2. Health status and health promoting behaviors in elderly

The majority of the elderly in the study were females in every age group. Most elderly live with their family. It was found that the majority of elderly (80.1 %) reported being in good health status. Chronic diseases and symptoms that were major health problems among the elderly included musculoskeletal problems (43.8%), vision problems (31.5%), and urinary control (19.2%). More than half of the elderly (61.2%) reported having at least one health problem. Most elderly can assist themselves with daily routines. The elderly aged 80 years or above reported having depression. There were 40.1 per cent of the elderly reported not participating social activities. Phase 3: Creating development plan through

community participations and there were 4 projects as an outcome including: 1) Exercise to promote health among community residence project, 2) Care-provider for elderly training project, 3) Community nutrition for elderly training project, and 4) Health wisdom for elderly care in the community project. All projects were financed by Phungtheam Sub-district Administrative Organization. SAO has planned to expand the health promotion services from 1 to 5 villages.

Conclusion and Recommendations

It was concluded from this study that the factors that promote health promotion among elderly included:

1. Participations from the people in the community, family of the elderly, community leaders, and organizations in the community.
2. Trust between each other.
3. Opportunities to consider and come up with plans on community issues together.

It was also suggested that health promotion activities for elderly in the community included the followings:

1. Home visits were consisted of 2 types of activities: 1) home visits to provide medical care which are done by medical professionals, nurses, and multidisciplinary team, and 2) home visits to provide empowerment and encouragement from village health volunteers or other volunteers.
2. Strong community leaders are another important component in the community. The leaders, included people from local governments, sub-district health promoting hospitals, schools, Buddhist temples, village leaders, village health volunteers, need to collaborate to provide health care for elderly in the community.

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Nursing Students' Experiences Regarding Needs and Expectations in Pediatric Cancer Patients and Caregivers[1]

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ABSTRACT

The objective of this research was to examine nursing students' experiences regarding needs and expectations of pediatric cancer patients and caregivers who were admitted to a hospital using the phenomenological qualitative study method. The data were collected with 130 second year nursing students at Boromarajonani College of Nursing, Nakhon Ratchasima who were rotated to practice at a pediatric ward in Maharat Nakhon Ratchasima Hospital in 2012 academic year. The data were collected using focus group discussions between December 2012 and April 2013 and were analyzed using content and thematic analyses.

Results from the study showed that pediatric cancer patients and caregivers expect that the patients will be cured from the disease or at least become healthier. They would want to be discharged from the hospital soon. Pediatric cancer patients wanted nursing students to be their friends and wished that they can play together as well as to provide assistance with daily activities. Before caring for the patients and caregivers, nursing students prepared their knowledge and made adjustment regarding their attitudes toward pediatric cancer patients. They also spent more time with patients and caregivers and became friendlier to them. After providing nursing care, nursing students were proud that they gained acceptance and trust from their clients. They also stated that they understood the roles of nursing profession better.

It is suggested that researchers, nurses and related parties should provide more attention in developing guidelines that promote learning and understanding in caring for pediatric cancer patients.

Keywords: *Nursing Student, Experiences, Needs, Expectations, Pediatric Cancer Patients*

Nursing Students' Experiences Regarding Needs and Expectations in Pediatric Cancer Patients and Caregivers

Introduction

Cancer is the second leading cause of death among persons 15 years and under in the U.S. (Moore & Mosher, 1997). In Thailand, cancer ranks the third in deaths among children. Presently, pediatric cancer can be cured and children can live longer if they are early detected and receive medical treatment promptly and continuously. Chemotherapy is considered a principal treatment for cancer in different areas. Its action is to kill cells that divide rapidly which is one or the main properties of most cancer cells. Although chemotherapy is effective in killing cancer cells, its side-effects includes immunosuppression and myelosuppression, typhilitis, gastrointestinal distress, anemia, fatigue, nausea and vomiting, hair loss, etc. Despite the discomforts from the disease itself and its side-effects from the treatment of the disease, medical procedures for the investigation and the treatment of cancer such as bone marrow aspiration and lumbar puncture cause pain and discomforts among pediatric cancer patients as well (Sanger et al., 1991). Hospital admission in the long-term among pediatric cancer patients can threaten patients' identity as well as their freedom for both patients and their caregivers. Therefore, having cancer and admitted to the pediatric wards can cause tremendous stress to both children and their caregivers since it is the unexpected life-threatening events for the patient side. They usually worry about the uncertainty of the disease, medical and nursing procedures, equipment used in the wards as well as the unfamiliar environments in the hospital (Sirirat, 2006).

Clinical practices are considered an important part of the nursing curriculum. Clinical experiences can provide students the opportunities for nursing students to transfer their knowledge into practices and it is considered an essential process for nursing students to successfully make a transferal from nursing students to nursing professionals (Karagoz, 2003; Akyuz et al., 2007). It was found in several studies that nursing students intensely experienced concerns such as communication problems with patients, caregivers, and staff, low self-confidence, fear of making mistakes or causing a patient harm and confronting adverse reactions, including difficulties in applying the theoretical knowledge they have studied (Gorostidi et al., 2007, Hacihasanoglu et al., 2008, Tasdelen and Zaybak, 2013). It is therefore important in understanding nursing students' experiences in caring for cancer pediatric patients so nursing educators can understand and make adjustments in instructions as well as pedagogy in the nursing school to better help preparing nursing students for clinical practices and their professions.

Methods

Sample and Study Design

This study is a descriptive qualitative study. Participants in the study consisted of 130 nursing second year students who study in a nursing college in the north-east region of Thailand in the 2012 academic year. The students had completed their theory course in Nursing Care for Persons with Health Problem 2 already and were assigned to do nursing practice in a pediatric word in a medical center. The students were rotated to practice in the pediatric word with 7-8 students per group with 15 groups in total. The study was carried out between December 24, 2012 and April 14, 2013.

The Nursing Care for Persons with Health Problem 2 Practicum where nursing students practiced in a pediatric word assigned 7-8 students per rotation to practice for 80 contact hours in a pediatric word in a medical center. Clinical practices were conducted in collaboration with nursing instructors and clinical nurses. The pediatric word had a capacity of approximately 40 beds with approximately 10 pediatric cancer patients in the word. Nursing students were assigned to care for pediatric cancer patients during their practicum. The assignments were rotated so they had chances to provide nursing care for general pediatric patients as well as for pediatric cancer patients. The students practiced during the day shift only from 8 AM to 4 PM with an hour of lunch break. They were practiced under close supervision from nursing instructors or clinical nurses at the pediatric word.

Data were obtained by the researchers conducted focus group interviews through a semi-structured guide containing some characteristics of the students such as gender and age. Three semi-structured, open-ended questions were used during the focus group interviews: 1) what are the expectations of the pediatric patients and their caregivers during their admissions in the hospital? 2) how did the nursing students prepare and adapt themselves to respond to the pediatric cancer patients and their caregivers' expectations? 3) what were the nursing students' impression after caring for pediatric cancer patients and their caregivers?

Data Collection

Data were collected through focus groups interviews by the researchers. The interviews were carried out with each group (for the total of 15 groups) in a quiet classroom environment within the college of nursing and using an oval seating arrangement. The researchers were trained to conduct focus group interviews as well as performing note taking and they were taken turn to be the person who lead the focus group interviews while the rest of the researchers made observations and noted important points about the interviews. The interviews were terminated when the data started to repeat (Streubert & Carpenter, 2007). Each interview lasted 90-120 minutes and was recorded using audio recording equipment.

Data Analyses

A qualitative content analysis was used for analyzing the data, and audio recordings were analyzed at the end of each interview. The data were grouped by their contents. The researchers coded the data independently of each other. A code list was then generated, after which the codes were compared. Based on the comparisons, themes and sub-themes were created. The researchers discussed the created codes and themes until they reached a consensus (Colaizzi, 1978 cited in Streubert & Carpenter, 2007).

Ethical Approach

The students were informed about the purpose and implementation of the study. The students who agreed to participate in the study were informed that their names would not be used in the research and that they could leave the study at any time. Each student provided oral and written consent and voluntarily participated in the study.

Results

The participants consisted of 116 females (89.2%) and 14 males (10.8%). A majority of the children whom the students provided with care were diagnosed with leukemia. Three main themes were identified during the focus group interviews: 1) expectations of the pediatric patients and their caregivers during their admissions in the hospital, 2) preparation and adaptation of the nursing students in responding to the pediatric cancer patients and their caregivers' expectations, and 3) nursing students'

impression after caring for pediatric cancer patients and their caregivers. Each theme was consisted of several subthemes and was presented as the following.

Expectations of the pediatric patients and their caregivers during their admissions in the hospital

Pediatric cancer patients and their caregivers still regretted and denied of having the disease. They still hoped that their children would be cured or at least get better. They wished to be discharged and lived a normal life at home. They felt that chemotherapy and medical procedures performed on them or their love ones were painful, discomfort, and sometimes excruciating. Their adaptations in the hospitals varied based on their backgrounds and experiences. Nursing students were needed to accompany with their daily playing activities such as talking, playing electronic games, reading comic books, etc. Sometimes activities extended to non-nursing care such as having their hair cut. Nursing students described their experiences regarding their patients' expectations as follows:

> *"The children were friendly and talkative even though we've just met. They just told me today that they wanted me to take them for a walk just outside of the word."*

> *"He (the patient) told me that he wanted to get well. He wanted to be back home and played with his friends just like before."*

> *"The grandmother (the caregiver) strongly believed that her granddaughter will be cured…She even told me that whatever she needed to do for her granddaughter to get better, she'll certainly do it."*

Some caregivers just hoped for their children to maintain their conditions, without getting worse than they currently were.

> *"At first the caregivers thought that if do as the doctors said the patient would be completely cured. Now many years have passed, they think the best for her daughter was to see her not suffering too much. Now that they know the disease cannot be cured since it is leukemia."*

Caregivers' denies were the most frequent responses found predominantly among newly diagnosed pediatric patients.

> *"When I asked the mother how she felt, after we became more familiar to each other, she started to cry and said when she first heard from the doctor that her son had cancer, she was shocked and didn't know what to do."*

Some parents thought of the disease as a bad thing that happened to the children. If they could choose, they would boldly take the disease instead. Some even thought about the persons' karma which is the Buddhists' belief.

"The mother said that 4 years ago when the doctor told this bad news about leukemia, she thought: Why her daughter? Why not somebody else?' Why didn't it happen to her instead?"

"They thought it was probably their son's karma (destiny). They said they would take their son to do some offerings at the temple whenever they had a chance."

Preparation and adaptation of the nursing students in responding to the pediatric cancer patients and their caregivers' expectations

using students had made their preparations and adjustments in order to effectively provide care according to the pediatric cancer patients and their caregivers in several aspects: reviewing theory about nursing care for pediatric cancer patients, adjusting their viewpoints and attitudes, providing care with friendly manners, as well as controlling the spread of the infections to the patients by washing hands before and after nursing care, applying face masks when providing care, etc. Nursing students described their preparations as follows:

"I tried to read textbooks. I went to the library and borrowed textbooks about pathophysiology of cancer. I also gained knowledge from talking to clinical nurses and nursing instructors."

One student described about what happened during her nursing care for a pediatric cancer patient to illustrate how important her preparation was.

"He (the patient) came to hospital quite several times now. He was quite familiar with the nursing procedures I did for him. Sometimes when I did something for him, for example, when I prepared the equipment for IV medications through T-way, he told me to turn off the T-way first. He was quite inquisitive in what I did. I told myself that he might be interested in what I did."

"We are nursing students. We have obligations to help and encourage patients. We help them alleviate from pain. Children might not understand about the disease they got, why do they need chemotherapy, and why do they have to suffer every time they received chemotherapy. We are but one person to help them not suffering too much."

Some students made their adjustments in approaching the pediatric patients and provided more time with the patients. Like one of the students said the following:

"In my second week, I was assigned a case with left bone cancer. His left leg was already amputated at the above knee level. My first day with him, he was very quiet and kept everything to himself. He'd just reply very briefly to what I asked. I thought he might not be accustomed to me so I tried harder. I even took my student friends to come and join our chat. It worked! He started to talk to me more."

"…I would talk about what the patient already knew. She had been in and out of the hospital for quite sometimes now. She would noticed me working with him. Sometimes she just started asking about me."

Nursing students' impression after caring for pediatric cancer patients and their caregivers

Nursing students gained experiences from directly care for pediatric cancer patients and their caregivers. They found that, in order to provide a good nursing care as well as to establish trust with the patients and caregivers, acceptance and empathy among them are two essential components. They expressed their impression that they realized that the patients and the caregivers were considered one of their family members. In the future, they were motivated that they would learn more about how to care for pediatric cancer patients and, more importantly, the true definition of nursing care. Nursing students' impression after caring for pediatric cancer patients and their caregivers were as follows:

"…Whatever we do, like caring for their kids until they feel better, parents will be nice to us. They'd be more open to us, accepting our care and advices. But before I feel they'd open to us, they are all worried about their kids' disease. If this happens to me, I'd be worried as well."

"…I'd give him my heart before they open up for me. I felt good with the children and mothers whom I cared for. Helping them feel better made I realized that 'willpower is the most important for children with cancer.' I also learned that the most precious thing for these children were the encouragement and will to live, to be cured."

Acceptance and empathy are another impressions the nursing students receiving from caring for the patients.

"Before I left from my duty, the kid said 'promise me tomorrow you'll come again' so I made a promise and see her face alive every time I came to her."

"Sometimes we need to learn the patients' emotion. We need to sense their emotion quite quickly."

Several students learned a great deal about the goals and roles of nursing profession.

"Being a nursing students, whatever we can do to help, I'd be willing to do to make them feel better."

"As a student, I feel like I want to know more. I want to be able to help them out of sufferings to help them be well."

"I think in nursing profession, what we do for the patients can be either good or bad. Interestingly, good and bad are so close. If we care for them like they are our relatives, willing to take good care and be their friend, I think these are good things we can do for them."

Discussion

In this study, expectations the clients need in order to better adjust to the hospital are in physical, mental, and emotional adaptation as well as knowledge and information that would help them care for themselves and their love ones. According to several studies on needs and expectations among pediatric patients, despites from needs and expectations like normal persons, it was found that patients and their families need information regarding the disease such as treatment plan, their progress, etc. as well as physical and emotional supports (Bailey, 1992; Wataneeyawech, 1997). Cancer patients often experience discomforts and sometimes stressful events through medical treatment such as chemotherapy, lumbar puncture, or bone marrow aspiration. Being admitted to the hospital quite frequently for such procedures would make them stress or even depressed (Venning et al., 2008; Pharnit, 2007; Khamngoen, 2003). The word "cancer" is often related to pain, loss of image due to hair loss and weakness, suffering, and even death (Greenberg, 1982). Therefore, nursing professionals' understanding as well as providing care that respond to such needs (Wanawarodom, 2009). Lengdee1 et al. (2009) examined cancer patients' perspectives when they first heard about their disease and found that their reactions can be both good and bad. If nurses provide time for them to discuss about their disease with health professionals including among themselves, their can adapt to the illness better (Koudys & Orlick, 2002).

Preparations on knowledge about the disease and the nursing procedures for pediatric cancer patients were found to be very helpful for the nursing students. It was found to significantly relate to achievements in nursing practice (Wattananon et al., 2010). Another area that requires preparation is the attitudes towards cancer and pediatric cancer patients. Correct understands that cancer can be cured and they can get back to normal lives once they are discharged from the hospital (Kearney et al., 2003). Therefore preparations in both knowledge and attitudes are essential for nursing students to provide effective care (Kav et al., 2013; Siriphan, 2009, Westbrook et al., 2011, Dugdale, 1999).

After providing care for pediatric cancer patients, nursing students felt them understand and accept the patients better. The also understand that patients and caregivers acceptance depends on behaviors of the service providers as well. Pediatric cancer patients often express their needs through smiling, talking, or even hugging (Björk, 2008; Wijnberg-Williams, 2006). Nursing students' experiences with pediatric cancer patients and their caregivers would help them understand their needs and eventually help the nursing students understand the roles as nursing professionals better.

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"A Picture Is Worth A Thousand Words"

: Communicating Cultural Identity of the Tai Yai Ethnic Group in the Northern Thailand Through the LEN

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Abstract

Visualization through visual imagery has been an effective way to communicate both abstract and concrete ideas since the dawn of man. Three photos which won the award from the International Exhibition of Photography entitled "Way of Life, Traditions and Cultures on the Differences" were analyzed. Five roles of photography included informing, recording, entertaining, message's self-expression and discovering of meaning were used to identify the cultural identity of the Tai Yai ethnic group as expressed in the cultural performance. It was found that Tai Yai's cultural identity was explicitly expressed through native costume and festive activities in a religious ceremony and celebration inherited from their ancestors. Photos captured how Tai Yai's ways of life and traditions are still well preserved.

Keywords: cultural Identity; cultural photography; Tai Yai ethnic group

ที่มาและความสำคัญ

ชาวไทใหญ่เป็นกลุ่มชาติพันธุ์ที่มีถิ่นฐานที่อยู่อาศัยกระจัดกระจายอยู่ทั่วไปในภูมิภาคเอเชียตะวันออกเฉียงใต้ตั้งแต่ทางตอนกลางและตอนใต้ของจีน และในพม่า ในพม่ามีรัฐใหญ่ของชาวไทใหญ่ ชื่อรัฐฉาน(SHAN STATE) โดย ชาวไทใหญ่ในพม่า บางกลุ่มต้องการอิสระจากการปกครองของรัฐบาลพม่า จึงจับอาวุธขึ้นต่อสู้ และด้วยด้วยความไม่สงบในพม่าทำให้ชาวไทใหญ่จำนวนมากอพยพเข้ามาสู่ประเทศไทย โดยเฉพาะในระยะหลังเข้ามาทางอำเภอปางมะผ้า จังหวัดแม่ฮ่องสอน และอำเภอฝาง จังหวัดเชียงใหม่ (ฐานข้อมูลสถาบันไทยใหญ่ศึกษา [ออนไลน์])

ปัจจุบัน มีชาวไทยใหญ่จำนวนมากที่อาศัยอยู่ในกรุงเทพมหานคร โดยชาวไทยใหญ่เหล่านี้ ยังคงรักษาอัตลักษณ์ทางชาติพันธุ์ของตน ผ่านการรวมกลุ่มกันในงานประเพณีวัฒนธรรมของชาวไทยใหญ่ อีกทั้งยังต้องการสื่อสารถึงอัตลักษณ์ทางวัฒนธรรมของตน ผ่านทางช่องทางต่างๆ เพื่อสื่อสารไปยังสังคมโลกถึงประวัติศาสตร์และวัฒนธรรมที่มีความเป็นมาอันยาวนานของตน

การสื่อสารผ่านภาพถ่าย จึงเป็นอีกช่องทางหนึ่ง ในการสื่อสารอัตลักษณ์ทางวัฒนธรรมของชาวไทใหญ่ที่อาศัยอยู่ในประเทศไทยสายตาสู่ชาวโลกทั้งในแง่มุมของวิถีชีวิต ประเพณีการแต่งกาย และการละเล่นทางวัฒนธรรมต่างๆ โดยภาพถ่ายชุดนี้ เป็นการสื่อสารด้วยภาพตามแนวคิด “วิถีชีวิต ประเพณี วัฒนธรรม บนความแตกต่าง” (The differences Ways of life, Traditions, and Cultures)[1]

[1] ผลงานได้รับคัดเลือกให้เผยแพร่ในงานนิทรรศการภาพถ่ายนานาชาติ “วิถีชีวิต ประเพณี วัฒนธรรม บนความแตกต่าง” (The differences Ways of life, Traditions, and Cultures) ณ หอศิลปวัฒนธรรมแห่งกรุงเทพมหานคร ในระหว่างวันที่ 28-30 เมษายน พศ. 2538

1. ชื่อผลงาน: “ฟ้อนกิงกะหร่า”

2. ชื่อผลงาน: “สาวไทใหญ่”

3. ชื่อผลงาน: "สืบสานวัฒนธรรมไทใหญ่"

ผู้สร้างสรรค์: นริส พิเชษฐพันธ์

สถาบันต้นสังกัด: มหาวิทยาลัยหอการค้าไทย คณะนิเทศศาสตร์

ที่มาและแรงบันดาลใจในการสร้างสรรค์

วัฒนธรรมประเพณีของชาวไทใหญ่อันสืบทอดมาตั้งแต่โบราณของชาวไทใหญ่ ยังคงถูกอนุรักษ์ไว้อย่างเหนียวแน่นโดยลูกหลานชาวไทยใหญ่พลัดถิ่นในประเทศไทย ซึ่งคงรวมตัวกันในงานประเพณีต่างๆ เพื่อทำกิจกรรมร่วมกัน โดยสิ่งหนึ่งที่เป็นเอกลักษณ์ที่โดดเด่นของวัฒนธรรมไทยใหญ่ก็คือ การแต่งกายและการละเล่นต่างๆในงานบุญและงานเฉลิมฉลอง ในการถ่ายภาพชุดนี้ เกิดจากชาวไทใหญ่ที่อาศัยอยู่ในกรุงเทพมหานครได้นัดหมายมารวมตัวกันเพื่อให้ช่างภาพได้ถ่ายทอดแง่มุมต่างๆทางวัฒนธรรม ประเพณี อาทิ การแต่งกายตามธรรมเนียมโบราณของชาวไทใหญ่ทั้งชายหญิง การแสดงพื้นบ้าน การจัดดอกไม้และเครื่องบูชาพระ ทั้งหมดนี้เพื่อการนำภาพถ่ายไปจัดทำเป็นปฏิทินประจำปีของชาวไทใหญ่ ทั้งที่อาศัยอยู่ในประเทศไทยและที่อยู่ในเชียงตุง โดยผู้เขียนเป็นหนึ่งในช่างภาพอาสาของงานดังกล่าว

กรอบทฤษฎีที่ใช้ในการสร้างสรรค์ผลงาน

การสร้างสรรค์งานประเภทภาพถ่ายนอกจากจะเป็นรูปแบบหนึ่งของการบันทึกข้อมูลทางประวัติศาสตร์แล้ว ยังเป็นวิธีการหนึ่งในการแสดงออกถึงมุมมองของผู้สร้างสรรค์ที่มีต่อข้อเท็จจริงที่ปรากฏอยู่ตรงหน้า ด้วยการใช้ชั้นเชิงทางศิลปะในการถ่ายทอด ซึ่งกรอบแนวคิดทฤษฎีผู้เขียนได้ใช้เป็นแนวทางในการสร้างสรรค์งานประกอบด้วย

แนวคิดบทบาทหน้าที่ของภาพถ่าย

ภาพถ่ายนั้นไม่ได้เป็นเพียงเครื่องมือของการเก็บบันทึกข้อมูลอย่างตรงไปตรงมาเฉกเช่นเทคโนโลยีการเก็บข้อมูลอื่นๆโดยทั่วไป แต่ภาพถ่ายสามารถมีพลังในการสื่อสารที่สามารถปลี่ยนแปลงสังคมได้โดยบทบาทหน้าที่ของภาพถ่ายนั้นประกอบด้วยคุณลักษณะดังต่อไปนี้คือ (นวพร ศรีสราญกุลวงศ์ [ออนไลน์]

1. ภาพเป็นสื่อเพื่อให้ข้อมูล (Information) โดยภาพถ่ายสามารถแสดงข้อเท็จจริงของสิ่งต่าง ๆ ภาพที่มุ่งเสนอข้อมูลนี้มักมุ่งให้การศึกษา ให้ผู้ดูภาพเกิดความรู้ ความเข้าใจเพิ่มขึ้น

2. ภาพใช้บันทึกข้อมูล (Recording) ภาพถ่ายสามารถใช้ถ่ายทอดข้อมูล เก็บเอกสารต่าง ๆ ได้ เช่น การถ่ายภาพเพื่อเป็นหลักฐานต่าง ๆ

3. ภาพเป็นสื่อแห่งความบันเทิง (Entertainment) คนใช้ภาพเป็นสื่อเพื่อความบันเทิงในหลายรูปแบบ ภาพถ่ายประเภทนี้มักเป็นภาพที่แสดงความสวยงาม หรือเรื่องราวที่แสดงความพึงพอใจ

4. ภาพเป็นสื่อที่แสดงความรู้สึกนึกคิดของบุคคล (Self-expression) ภาพต่าง ๆ ที่เห็นอยู่ทั่วไปเป็นจำนวนมากเกิดขึ้นจากความต้องการ แสดงแนวคิดของช่างภาพ สิ่งนี้ทำให้เกิดภาพถ่ายแนวคิดสร้างสรรค์ขึ้นมากมาย

5. ภาพเพื่องานค้นคว้าวิจัย (Discovery) เป็นการใช้ภาพเพื่อการค้นคว้าวิจัย ทั้งนี้เพราะเลนส์ของกล้องถ่ายภาพ บันทึกได้ละเอียดกว่าที่สายตามองเห็น ประกอบกับอุปกรณ์กล้องถ่ายภาพที่มีการค้นคว้าผลิตขึ้นมาทำให้ช่างภาพสามารถถ่ายภาพ ในสิ่งที่ที่มองด้วยตาเปล่าไม่เห็นได้ ดังนั้นภาพถ่ายเป็นสื่อแห่งการค้นคว้าวิจัย เพื่อพัฒนาคุณภาพของชีวิต

โดยในงานสร้างสรรค์ภาพถ่ายชุดนี้ ต้องการให้ภาพถ่ายทำหน้าที่ทั้ง 5 ประการ ทั้งในด้านของการให้ข้อมูลเชิงวัฒนธรรมของอัตลักษณ์ไทยใหญ่ การเก็บบันทึกภาพไว้เป็นหลักฐานทางประวัติศาสตร์ ด้านการให้ความพึงพอใจต่อผู้ชมภาพจากความสวยงามของภาพ ด้านการแสดงออกถึงมุมมองแนวคิดของผู้

ถ่ายภาพผ่านกระบวนการจัดองค์ประกอบภาพ และยังสามารถเป็นข้อมูลเพื่อการค้นคว้าวิจัยของผู้ที่สนใจศึกษาวัฒนธรรมของกลุ่มชาติพันธุ์ไทใหญ่

แนวคิดเรื่องอัตลักษณ์

อัตลักษณ์ (Identity) หมายถึง คุณสมบัติของบุคคลหรือสิ่งของที่แสดงออกถึงความเป็นตัวตน เป็นสำนึกที่บุคคลรับรู้ และรู้ว่าตัวเขาคือใคร มีลักษณะเป็นอย่างไร มีวิถีชีวิต ความคิด ความเชื่อ แบบแผนพฤติกรรมและลักษณะนิสัยอย่างไร เหมือนหรือแตกต่างจากคนอื่น กลุ่มอื่น สิ่งอื่นอย่างไร ในขณะที่อัตลักษณ์ทางวัฒนธรรม(Cultural Identity) หมายถึง อัตลักษณ์ทางสังคม อันเป็นการแสดงออกทางสัญลักษณ์บางอย่างที่มีความหมายเป็นที่เข้าใจร่วมกัน และการแสดงออกผ่านประเพณี พฤติกรรม ตำนาน เรื่องเล่า ประวัติศาสตร์ และปรากฏการณ์ทางสังคม เป็นอัตลักษณ์ที่คนในสังคมมีร่วมกัน (สุจรรยา โชติช่วง, 255)

ในงานสร้างสรรค์ชุดนี้ มุ่งเน้นการนำเสนออัตลักษณ์ทางวัฒนธรรมของกลุ่มชาติพันธุ์ไทใหญ่ ผ่านการแสดงออกทางสัญลักษณ์ด้านการแต่งกาย ศิลปะการแสดงและการละเล่น อันเป็นส่วนหนึ่งของวัฒนธรรมประเพณีที่สืบทอดกันมาของชาวไทใหญ่

วิธีการสร้างสรรค์

ภาพชุดนี้ถูกถ่ายขึ้นเมื่อวันที่ 2 พฤศจิกายน 2557 ด้วยกล้องดิจิตอลแบบ DSLR ชนิดเซ็นเซอร์รับภาพแบบ Fullfrme (35mm.) มีการใช้การใช้แสงแฟลชร่วมกับแสงธรรมชาติ ผ่านกระบวนการปรับแต่งสีสันและความคมชัดเพิ่มเติมด้วย โปรแกรมแต่งภาพ Adobe Photoshop

การเผยแพร่ผลงานสร้างสรรค์

ภาพถ่ายชุดนี้ได้รับการคัดเลือกจากคณะกรรมการผู้ทรงคุณวุฒิซึ่งประกอบด้วย ศิลปินแห่งชาติ นักวิชาการ และนักวิชาชีพด้านการถ่ายภาพ ให้จัดแสดงในงานนิทรรศการภาพถ่ายนานาชาติ “วิถีชีวิต ประเพณี วัฒนธรรม บนความแตกต่าง” (The differences Ways of life, Traditions, and Cultures) ณ หอศิลปวัฒนธรรมแห่งกรุงเทพมหานคร ในระหว่างวันที่ 28-30 เมษายน พศ. 2558

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How Much Inequality Is a Threat?

A Comparative Study of Public Views of Income Inequality and Norms of Distributive Justice among Selected OECD Countries

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Abstract

Using the latest ISSP(International Social Survey Programme) module on social inequality (2009), this paper examines, comparatively and quantitatively, the extent to which perceived threat of excessive economic inequality, e.g., public concerns about extreme income differences, correspond to actual threat. With the global economy moving into a prolonged economic recession, affecting both developing and developed countries, socioeconomic stratification within a society is becoming more conspicuous and pronounced, leading to public concerns and generating public skepticism of the legitimacy of the market justice. As Lane (1959, 1962, 1986) and many others (Kluegel, Csepeli, Kolosi, Orkeny, & Nemenyi, 1995; Kluegel, Mason, & Wegener, 1999; Kluegel & Miyano, 1995) have argued, however, it is in a public preference for and belief in the market justice that the defense of capitalism is rooted. As people have valued the market's criteria of earned deserts over the polity's criteria of equality and need, the market system has survived other competitors and well integrated with our mundane life. With the public's disapproval of current economic disparity becoming a widespread phenomenon, we are forced to grapple with the question that whether the free market paradigm as we know it is on the brink of collapse. My research, however, argues that what people see and believe concerning the gravity of economic disparity may not necessarily reflect the real threat posed. That is, there is an empirical evidence of disjuncture between the perceived and actual threat of economic inequality, which leads us to question the legitimacy of public skepticism of the legitimacy of the market justice and more. This paper will present the said empirical evidence and discuss its mechanism theoretically and empirically, followed by policy implication for the time of social integration.

Keywords: distributive justice, public fear of inequality, equality, equity

How Much Inequality Is a Threat?

A Comparative Study of Public Views of Income Inequality and Norms of Distributive Justice among Selected OECD Countries

With the world economy heading into deep freeze, the growing economic inequality, whether within or between the nations, has become more manifest than ever. The widening gap and imbalance of economic resources such as income and asset between the rich and the poor, as many criticized, has reached to the extreme level, where the richest 1 percent have seen their share of global wealth increase from 44 percent in 2009 to 48 percent in 2014 and at this rate will be more than 50 percent in 2016 (Hardoon, 2015). As the majority, i.e., the 99 percent, are denied the fruits of their labor in the market, their views of and attitudes toward the legitimacy of the market, not to mention economic inequality thereof, have been on the wane, diminishing a fundamental public commitment to market justice.

Market justice, by definition, is an inter-related system of norms of and beliefs about the economic order that serves to legitimize capitalism. Valuing earned deserts over equality and need, prioritizing the market over the interference by government, and granting the need for inequality to motivate effort and contribution as such, coupled with beliefs in open opportunity and market equity, comprise key aspects of market justice norms and beliefs. In America, according to Lane (1986), people's commitment to those norms and beliefs serves as a stronghold of capitalism, buttressing its institutional stability. Similarly, Della Fave (1980, 1986a, 1986b, 1991) identified the key to the legitimization of inequality with the internalization of the normative consensus on equity principles of the market, which motivates people to attribute their economic lots to their own responsibilities and abilities, rather than to external causes, and therefore existing inequalities of primary resources, e.g.,

income and asset, are perceived as just and tolerable.

Nonetheless, as Wegener and Liebig (1995) argued, even in advanced capitalist societies, a general ideological consensus on the market justice norms, or equity principles, is often challenged by its counterpart, i.e., egalitarian principles, which are endorsed by those who are not favored by the former. This is because people's norms and beliefs about the market justice are compartmentalized (Lane, 1962), if not split (Kluegel et al., 1995; Kluegel & Smith, 1986), and the two opposing norms and beliefs compete with each other in our consciousness. As much as system-legitimizing norms function to buttress and reproduce a capitalist social order and stability on the one hand, system- challenging norms also operate on the other hand and pose challenges to the status quo. Therefore, it is hypothesized that when system-legitimizing norms do not win the hearts and minds of the public in society due to a general ideological consensus on, if not bias toward, egalitarian principles, the society, even if it is not objectively deprived, or at least not as much as people think it is, is more likely to suffer the exaggerated gravity of existing inequalities of primary resources than when a general ideological consensus on equity principles prevails.

My empirical analysis of the 2009 Social Inequality survey by the International Social Survey Programme (the 2009 ISSP, hereafter) confirms this hypothesis. The 2009 ISSP is the fourth partial replication of Social Inequality module, which was fielded between 2008 and 2012[1] in over 40 member countries to measure people's economic attitudes such as views on earnings and incomes, legitimization of inequality, career advancement by means of family background and networks, social cleavages and conflict among groups, the current and past

[1] More information about the field date for participating countries is available in the codebook at http://www.gesis.org/en/issp/issp-modules-profiles/modules/social-inequality/2009/.

social position, and more. In my analysis, the scope of comparison was confined to select 20 countries[2].

To begin with, Figure 1 compares how the subjective assessment of the gravity of income inequalities differs across 20 countries. Each bar indicates the total percentage of respondents who strongly agreed or agreed income differences are too large in their country. It is apparent that in all 20 countries the majority, i.e., over the 50 percent of the respondents, perceived that existing inequalities in primary resources (or income in this case) have reached a critical point. Nonetheless, country variations are also worth noting. For instance, Norwegians, amongst all, perceived the least gravity of income inequalities, where 60 percent of the respondents, or 6 out of 10 Norwegians, were concerned about too much income disparities in Norway. Hungarians, in contrast, perceived the most gravity of income inequalities of all, where over 97 percent of the respondents, or almost 10 out of 10 Hungarians, were concerned about too much income disparities in Hungary. In case of South Korea, to a lesser degree though, over 90 percent of the respondents, or 9 out of 10 Koreans, believed income disparities of Korea have reached a critical point. Likewise, France, Slovak Republic, Russia, and Italy are on a par with Korea, where over 90 percent of the respondents agreed that income inequalities are too large to overlook.

What is worth noting, however, is that country differences in various inequality indicators do not necessarily and closely match perceptions of income inequalities. In other words, perceived gravity of income inequalities may not correctly reflect reality. Figure 2 compares actual income distribution in 20 countries, for which eight income inequality

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[2] Australia, Austria, Belgium, Czech Republic, Denmark, Finland, France, Hungary, Italy, Japan, South Korea, New Zealand, Norway, Poland, Slovak Republic, Sweden, Switzerland, Russia, United Kingdom, and United States

metrics—the Gini coefficient, P90/P10, P90/P50, P50/P10, S80/S20, S90/S10, Palma ratio, and poverty rate—were used. To elaborate on each measure, the Gini coefficient, one of the most popular metrics of income concentration, is based on the comparison of cumulative proportions of the population against cumulative proportions of income they receive, ranging between 0 in the case of perfect equality, i.e., each share of the population gets the same share of income, and 1 in the case perfect inequality, i.e., all income goes to the share of the population with the highest income. The P90/P10 is the ratio of the upper bound value of the ninth decile, i.e., the 10% of people with highest income, to that of the upper bound value of the first decile. Likewise, the P90/P50 is the ratio of the upper bound value of the ninth decile to the median income, and the P50/P10 the ratio of median income to the upper bound value of the first decile. The S80/S20 is the share of all income received by the top quintile divided by the share of the first, or the ratio of the average income of the top quintile to that of the first. Similarly, the S90/S10 is the share of all income received by the top decile divided by the share of the first, or the ratio of the average income of the top decile to that of the first, and the Palma ratio the share of all income received by the 10% people with highest disposable income divided by the share of all income received by the 40% people with the lowest disposable income. Lastly, poverty rate is the share of individuals with equivalized disposable income less than 50 percent of the median income for the entire population.

For the sake of comparison with Figure 1, countries in Figure 2 were ranked in increasing order of the Gini coefficient. It is evident that there is little, if any, similarity between the two figures in terms of country rankings. For instance, in Figure 1, Hungary ranked first from the top with 97 percent of the respondents perceiving income differences too large; however, the actual income inequality of Hungary, when measured by the Gini coefficient, ranked only ninth from the bottom, which means there are twelve other countries

whose income distribution is less equitable, to varying degrees, than Hungary. Similarly, the U.S. ranked only fourth from the bottom with 65 percent of the respondents perceiving income differences too large; the actual income inequality of the U.S., however, ranked second from the top, which means the U.S., next to Russia, has the second most unequal income distribution in 20 countries. A weak association between real and perceived inequalities also holds when using other inequality indicators.

Given that perceptions of income inequalities do not mirror the actual gravity of income inequalities, Figure 3 measures the discrepancy between actual and perceived income inequalities in 20 countries, where each bar represents the extent to which the observed value of the dependent variable, i.e., the total percentage of respondents perceiving income differences as too large as shown in Figure 1, departs from the predicted percentage of respondents based on the eight income inequality metrics introduced above. Should an association between reality and perception hold strong, national differences in individuals' perceptions of income inequality may well be in line with national differences in income inequality metrics. That is, the larger the magnitude of actual income inequalities, the larger the percentage of respondents perceiving income inequalities as too large.

Then, any departure from the supposed linear correspondence between the two suggests that factors other than actual inequality play a significant role in shaping inequality perceptions, which will be discussed in greater detail. For now, the focus is on the direction and magnitude of departure whose information determines whether perceived gravity of income inequalities of each country over or under estimate the actual gravity of income inequalities it faces, and to what extent. In relative terms, a large positive departure refers to an inflated perception of income inequalities, where people's beliefs about too large income inequalities are, when controlling for national differences in the gravity of income inequalities,

blown out of proportion, or unduly inflated for the circumstances; in contrast, a large negative departure refers to a deflated perception of income inequalities, where people's beliefs about too large income inequalities are, when controlling for national differences in the gravity of income inequalities, underrated, or unduly deflated for the circumstances.

From the given definitions above, in Figure 3, countries characterized by an inflated perception of income inequalities include, but are not limited to, South Korea, and Czech Republic whereas countries characterized by a deflated perception of income inequalities include, but are not limited to, New Zealand, Denmark, and United States. Compared to the two ends of the spectrum, countries such as Slovak Republic, Poland, and Finland are characterized by a relatively strong association between real and perceived inequalities. Then, why is it that certain countries, compared to other counterparts, are more likely to experience greater positive or negative discrepancies between perceived and actual income inequalities? In the foregoing, it was noted that the presence of varying degrees of discrepancies between real and perceived inequalities insinuates that, beyond actual inequality, other factors may well play a significant role in shaping inequality perceptions. In the remaining part of this paper, I will discuss in details determinants of perceptions of inequality.

Perceptions of inequality, by nature, are subjective and relative to the extent that individuals resort to different points of comparison for making judgments. This, however, does not mean that all perceptions are merely arbitrary or random. Subjective as they may be, perceptions and evaluations of inequality are organized around certain reference standards (or structures), and thus reveal a degree of commonality and predictability. The influence of ideologies or norms regarding justice on the perception of social inequality has been of interest to many students of social justice study (Alwin, Gornev, & Khakhulina, 1995; Cohen, 1982; Headey, 1991; Kluegel & Miyano, 1995; Lane, 1959; Shepelak, 1987; Shepelak &

Alwin, 1986; Verwiebe & Wegener, 2000). The key premise of their initiative is that the subjective perception of inequality may have less to do with objective social facts, but more with value systems or ideologies regarding social justice that coexist with the structural conditions. Beyond actual inequality, they assume, other factors—in this case, the dominant justice ideology of society—would play a crucial role in shaping these perceptions.

Of most relevance to the discussion is the dominant ideology thesis (Abercrombie, Hill and Turner 1980), an influential perspective which has shed light on ideology as the macro-level determinant of inequality beliefs. The thesis was originally devised in Marxist discourse in order to explain how a dominant class of a society maintains both material and mental dominance over the subordinated class through the control of ideological production. Yet, the notion of dominant ideology and its usage has been questioned in that, as critics have argued (Abercrombie, Hill, & Turner, 1980, 1990; Abercrombie & Turner, 1978), the ideology of the ruling class has been, from a historical point of view, opposed by the class interests of the subordinate class, and, more importantly, it has not been available to the subordinate classes because it simply was not relevant to the everyday lives of the subordinated. The purpose of the ruling ideologies was rather to secure the coherence and legitimation of the ruling class itself. For reaching that goal, no other classes were necessary to participate in these ideologies. Therefore, the ideology of the ruling class is not the dominant ideology.

To avoid the conceptual ambiguity linked to the notion of dominant ideology, Wegener and Liebig (1995) introduced alternative concepts of primary and secondary ideologies to social justice research. By primary ideology, they meant an ideology that is held by the majority of a society, ideally by all of its members, whereas secondary ideology is an ideology endorsed only by particular groups in a society—possibly simultaneously with primary ideologies. The advantage of this conceptualization is that the concept of justice

ideologies is no longer bound to a ruling class that forces the dominated into believing existing distribution to be just. Instead, primary and secondary ideologies are simply distinguished in quantitative terms. The primary justice ideology, according to Wegener and Liebig, characterizes a whole society in a quantitative sense and serves as a mechanism to create an encompassing consensus in society and provide a basis for a society's legitimization by exerting a normative influence on the beliefs that most, or even all, people have about how goods should be distributed. These justice beliefs, they argued, reflect the cultural values characterizing the society in which those beliefs are anchored, and therefore, can be reconstructed by going back to the cultural values that have developed in a society's history.

Whether we experience and see economic inequality through the ideological lenses of the dominant class or the cultural history of a society, the key premise I set forth here is that such justice values that people hold, namely what ought to be, influence the subjective elements of perceptions of inequality, namely what is. Should our views of what is deserved or fair be essentially defined, if not filtered, through the ideals of distributive justice, then, our normative stance toward distributive justice can be positioned along the ideological continuum, where the far right end is justice norms favoring self-interest and individualistic reward system, also known as the meritocratic market justice norms and beliefs, whereas the far left end is justice norms favoring egalitarian statism, also known as the socialist justice norms and beliefs.

Depending on the justice ideologies prevailing, therefore, varying degrees of tolerance for inequality may well occur. When the majority of society supports meritocratic distributive justice ideals over other distributive ideals, economic inequality in the society, e.g., income differences, is more likely to be tolerated and taken for granted. More tolerance of a greater range of inequality encourages individuals to perceive the level of income

differences as being lower than it actually is. In contrast, when support for egalitarian justice norms prevails among the majority, then, an opposite pattern of perceived inequality of society is probable, to the extent that the limited tolerance for inequality motivates people to describe income differences as being larger than they are.

To test the hypothesized congruency between the distributive norms and their psychological effects on subjective perceptions of inequality, I measured the extent to which public supports for equality, need, and equity, in normative terms, influence the way the gravity of income inequality is perceived, for which discrepancies between actual and perceived income inequalities in Figure 3 were regressed on the eight metrics of income inequality and the three scores of equality, need, and equity. The results of analysis are reported in Table 1. Controlling for national differences in income inequalities, according to Table 1, the normative sentiments shared by the public do matter in such a way that supports for equality and need, compared to equity, tend to inflate the perceived gravity of income inequalities to a great extent. In terms of standardized coefficient, or Beta, the equality score is over three times as large as the equity score and one and a half times the need score, evidencing the crucial role of equality principle over need or equity one in escalating the gravity of perceived income inequalities. Figures 5, 6, and 7 further substantiate this point to the extent that neither need or equity scores made as clear a distinction as equality scores between those who perceived the gravity of income inequalities and those who did not in all counties. That is, the stronger the public support for equality-driven distributive justice, the greater the gravity of perceived income inequalities.

In sum, this paper explored comparatively and empirically public views of income inequalities in 20 countries and raised the issue of discrepancy between perceived and actual gravity of income differences. That is, public perceptions of income inequalities were

determined by factors beyond actual inequality. Drawing upon the ideology thesis, this paper further investigated the influence of justice ideologies on perceived gravity of income differences, and noted that, controlling for national differences in income inequalities, equality-driven justice ideals, compared to need- and equity-driven ones, were mainly responsible for promoting inflated public perceptions of income inequalities.

Figures and Tables

Figure 1. Public views on the gravity of income disparities in society

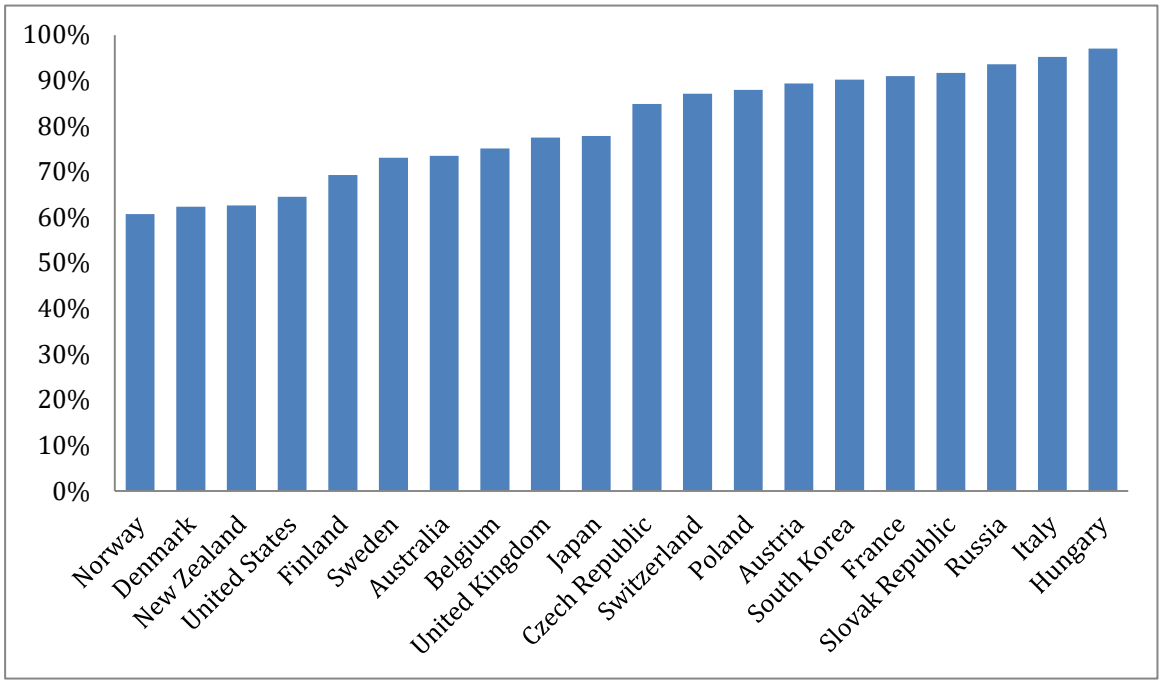

Figure 2. Comparison of income inequalities in 20 countries

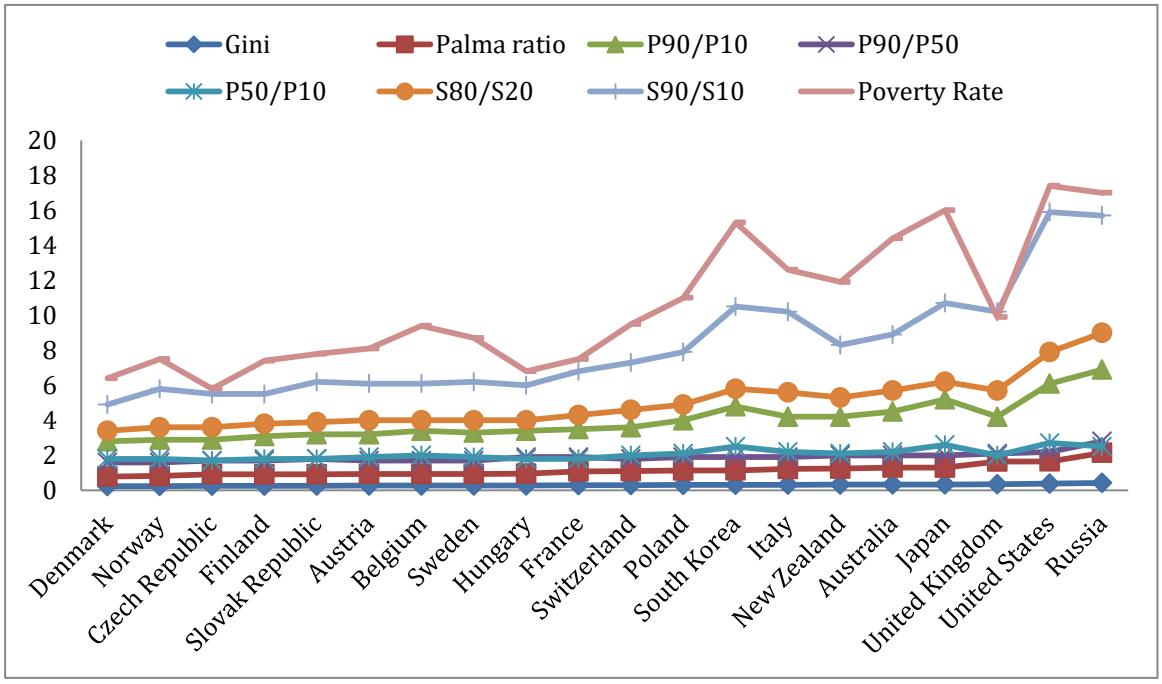

Figure 3. Discrepancy between percevied and actual income inequalities in 20 countries

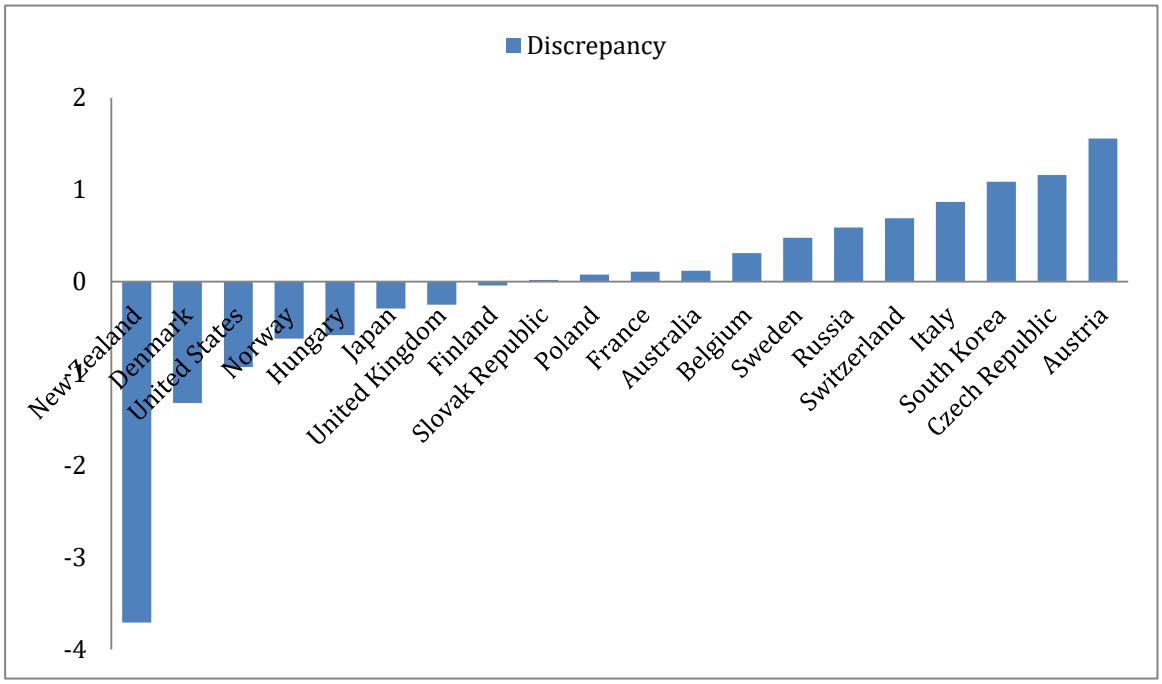

Figure 4. Comparison of public supports for equality, equity, and need principles in 20 countries

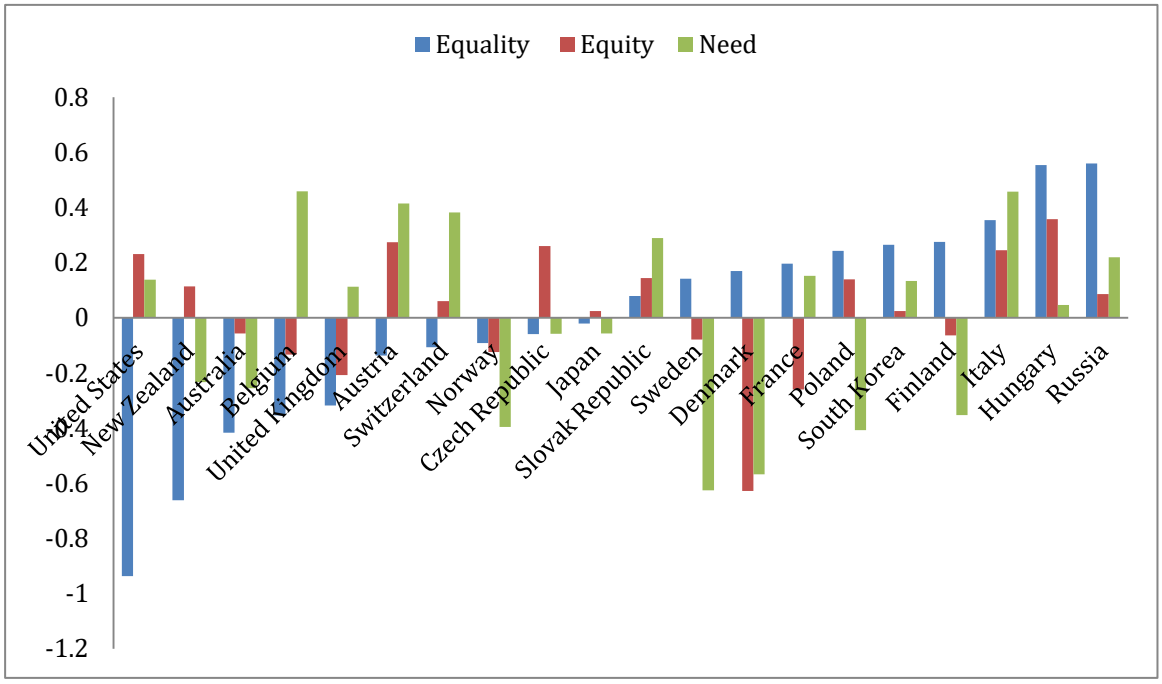

Figure 5. Intra-comparison of equity score between two response groups

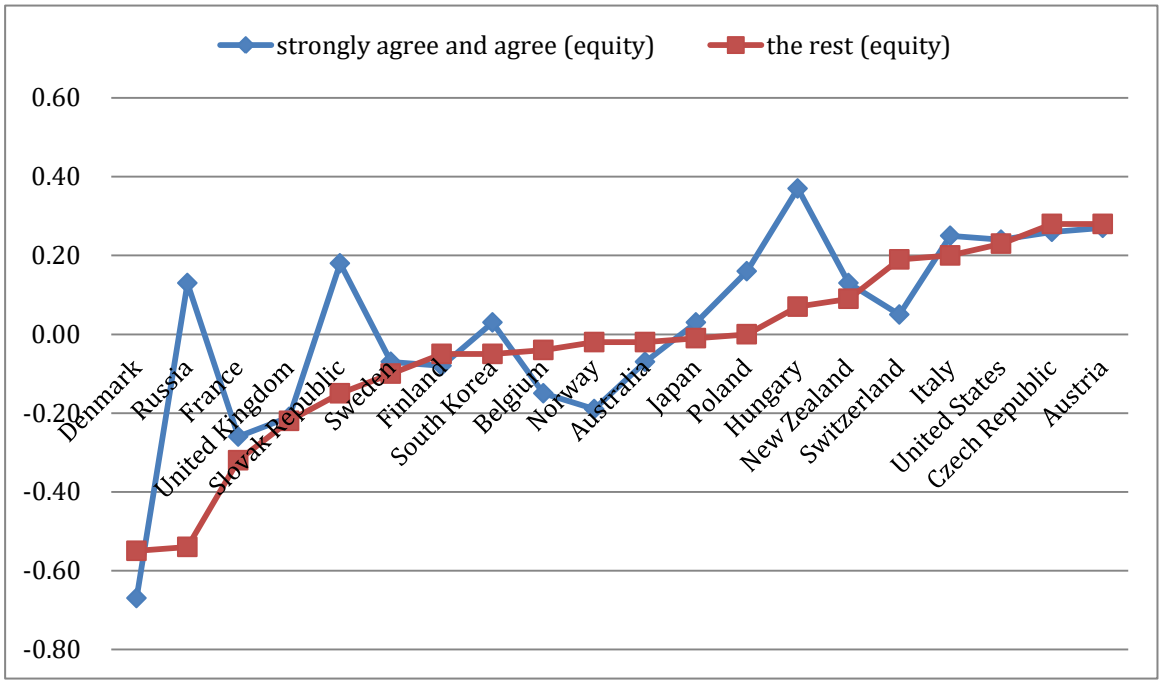

Figure 6. Intra-comparison of need scores between two response groups

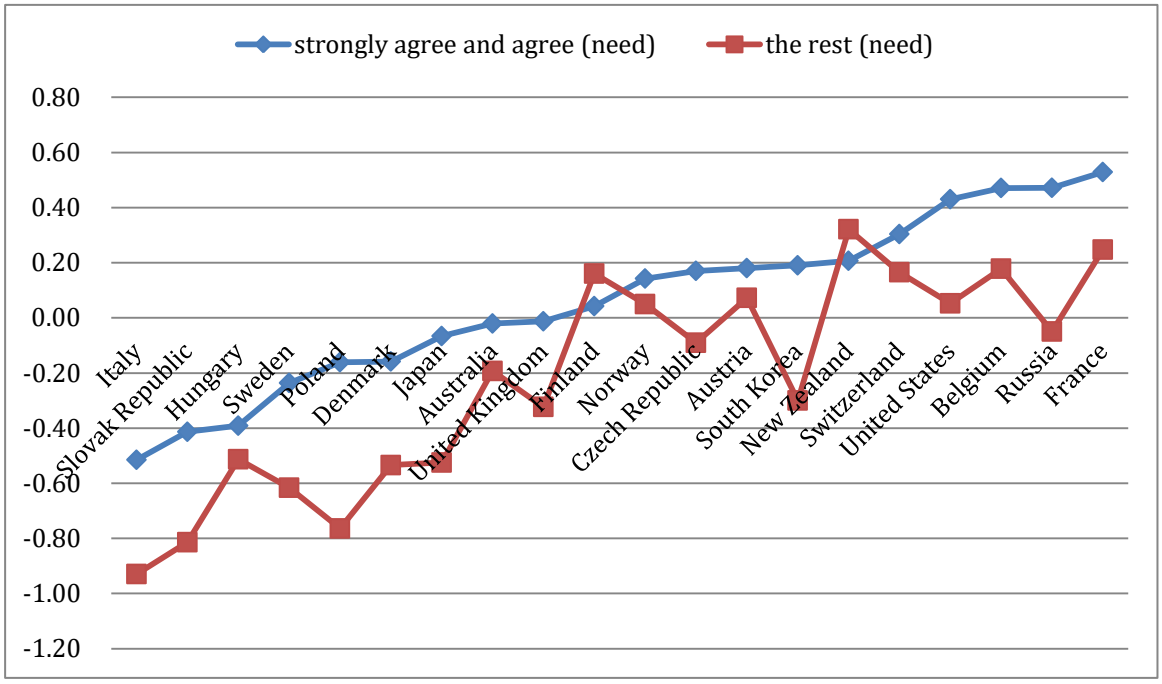

Figure 7. Intra-comparison of equality scores between two response groups

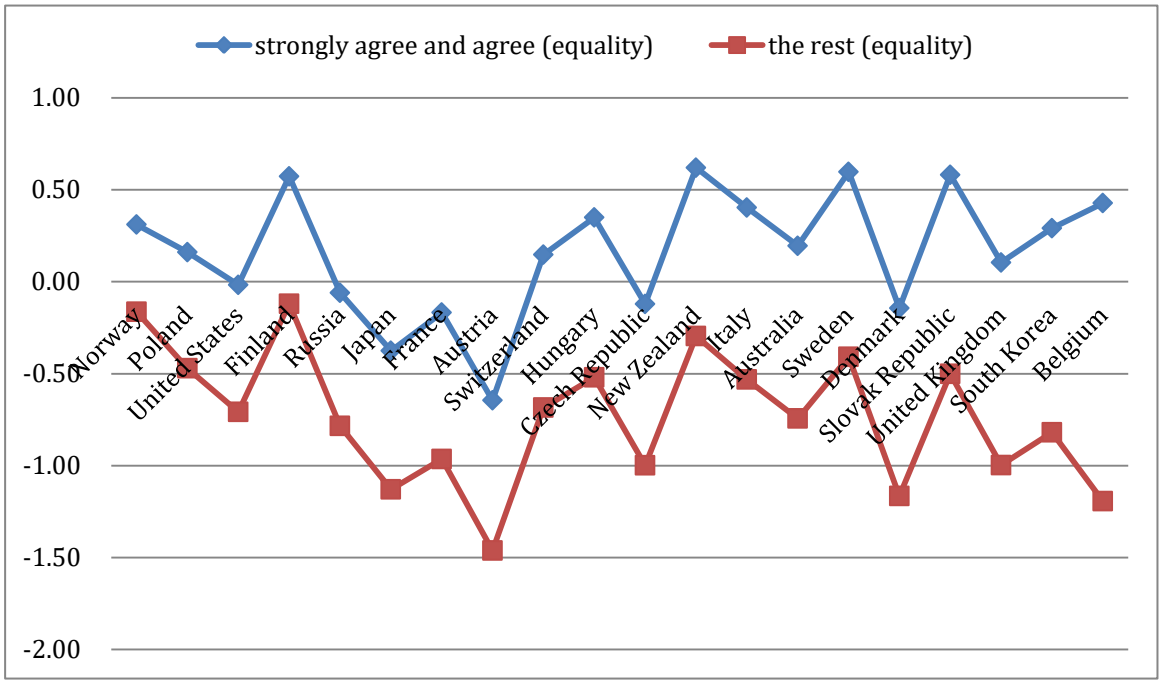

Table 1. Results from multiple regression analysis

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	56.475	.240		235.361	0.000
Need Score	2.165	.010	.700	217.064	0.000
Equality Score	2.973	.010	1.116	290.039	0.000
Equity Score	1.495	.013	.345	111.153	0.000
P90/P50	-34.116	.143	-9.443	-238.763	0.000
Palma ratio	14.023	.081	4.759	172.730	0.000
Poverty Rate	.528	.006	2.009	87.342	0.000
P50/P10	-21.847	.109	-6.744	-200.624	0.000
P90/P10	12.773	.065	14.397	197.396	0.000
S80/S20	-3.421	.045	-5.206	-75.543	0.000
S90/S10	-.316	.009	-1.026	-36.668	.000
Gini	1.105	.503	.053	2.197	.028

F=12216.038(P<.000), R=.916, R^2=.839

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