FACTORS INFLUENCING HEALTH BEHAVIORS OF ELDERS IN MUEANG DISTRICT, ROI ET PROVINCE, THAILAND

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ABSTRACT: The objectives of this research were to study health behaviors of the elderly in Mueang District, Roi Et province, concerning exercise, diet, self-care during illnesses and stress management; to describe each personal attribution factor, such as, gender, age, educational background, marital status, income, income sufficiency, main source of income and personal illness; and to determine factors influencing the mentioned health behaviors. It was a cross-sectional study with a systematic sampling of 430 samples. Data collection was in December 2009. A face to face interview was used and descriptive statistics was employed (frequency, percentage, mean, standard deviation) while Chi-Square test was used to find out the factors associated with their health behaviors. The results found that majority of the samples was female (58.6%), aged between 60–65 years old (40.5%) ,finished primary school (79.8%), married (63.7%) , with monthly household income less than 5,000 baht (47.9%), had sufficient income but not enough for saving (41.9%), earned their own incomes (96.3%), had personal illnesses (57.2%) such as diabetes (46.1%), with consistent follow-up of their chronic disease (99.3%). In regards to their health behaviors, the result revealed that diet behavior was on good level($\bar{X}$=2.68, S.D.=0.25);exercise behavior was on fair level($\bar{X}$=2.13, S.D.=0.60); self care behavior was on good level ($\bar{X}$=2.69, S.D.=0.39) and stress management behavior was on good level($\bar{X}$=2.37, S.D.=0.41). Factors positively associated with health behaviors of elderly were as follows: age and personal illnesses with diet behavior at the statistical significance level of 0.05 (p=0.048, 0.008 respectively); gender, educational background and income sufficiency with exercise behavior at the statistical significance level of 0.05 (p=0.002, 0.016, <0.001 respectively); marital status with self care behavior at the statistical significance level of 0.05(p=0.032); gender, educational background and income sufficiency with stress management behavior at the statistical significance level of 0.05 (p=0.045,0.024,0.001 respectively).This study made aware of behavioral health and factors influencing health behaviors of elderly, to guide the operation of the elderly health promotion in Mueang District, Roi Et Province, such as screening at least once a year. The objective is to reduce sickness and risky activities; provide accurate information and conduct continuous health promotion behavior among elders and their families. The information should include positive diet, exercise, self care during illness and stress management behavior and improve questions regarding exercise in the questionnaire for interviewing elders to be more suitable for them.

KEYWORDS: Heath behavior/ Elders/ Mueang District, Roi Et Province, Thailand.

INTRODUCTION: In 1970, the proportion of the elderly to the total Thai population was five percent which ranked the country as the seventh with the highest proportion of the elderly in the South East Asia Region. Currently, that proportion becomes doubled or ten percent[1], thus Thailand possesses the highest number of the elderly, second only to Singapore[1]. According to the projection of Thai population between 2000–2030, it reveals that in 2010, the elderly population rises to 7.6 million or an equivalent of 11.4% of the total population. The figure is expected to increase to 11.3 million or 16.1% and19.8% of the total population by 2020 and 2025[2]. The number of Thai elderly has rapidly been on the rise when one compares with the same occurrence in developed countries in the past. The time taken for the proportion of the elderly, above 60 years old, to the total population in those developed countries grew from 7% to14% within the period of 107 years, while Thailand used only 30 years in duration[3],[4]. According to the United Nations' criteria, an ageing society refers to a society where 10 percent or more of its population ages over 60, or over 7 percent of its population is older than 65[5]. The changing in

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Thai population pyramid structure at each interval changes from the wide-base pyramid (the shape of pagoda) in 1970 to the high shape vessel in 1995 and is expected to become a vase shape in 2025 [6]. This continuously increasing trend of Thai elderly will bring along their health risks and health problems, especially their chronic disease due to the deterioration in physical, emotional, economic and social aspects of the elderly. The information generated by Roi Et Province found that during year 2007-2009, the elderly population were 131,689,134,718 and 141,651 respectively. The independent percentage was 15.6 and the trend of average life expectancy was accelerating. Male and female elderly had an average life expectancy of 69.97 and 74.31 years respectively[7]. Mueang District possesses a total population of 150,145, out of which 17,720 or 11.8% are the elderly[8]. Roi Et Province is considered as one of the provinces with an increasing number of its elderly population which is in an alignment with the statistical projection of Thai population. The increase in elderly population will affect Roi Et socially and economically so much that there is a necessity to provide continuous health resources in the long run. This study thus aimed to (1) study the elderly' s health behaviors concerning exercise, diet, self care during illnesses and stress management, (2) to describe each personal attribution factor, such as, gender, age, educational background, marital status, income, income sufficiency, main source of income and personal illness, and (3) to determine factors associated with health behaviors of the elderly.

MATERIAL AND METHODS: a cross-sectional study was used to explore factors that influenced the health behaviors of the elderly. The targeted population was those elderly aged 60 years and above, both male and female, who were living in Mueang District, Roi Et Province. The sampled population was 430 through a systematic sampling[9], arrange list of elders according from 15 sub - district calculate the interval and select the sample until attain the calculated sample size. Data collection was a face – to - face interview, the face – to - face interviews were pre - test the corrected and improved questionnaire with 30 elderly people, each scale's reliability was food consumption Cronbach' s Alpha = 0.678; exercise Cronbach' s Alpha = 0.923; illness and sick–role Cronbach' s Alpha = 0.768 and stress management Cronbach' s Alpha = 0.82, interpretation of health behavior by aspect could be classified into ranges of score value. Descriptive statistics was employed (frequency, percentage, mean, standard deviation) and Chi – Square test was used to find out the factors associated with their health behaviors.

RESULTS : From the data analysis of personal attribution of the elderly, it was found that majority of the samples was female (58.6%), aged between 60–65 years old (40.5%), finished primary school (79.8%), married (63.7%), with monthly household income less than 5,000 baht (47.9%), had sufficient income but not enough for saving (41.9%), earned their own income (96.3%), had personal illnesses(57.2%) such as diabetes (46.1%), with consistent follow - up on their chronic disease (99.3%). In regards to their health behaviors, the result revealed a good level for diet, exercise, self care practice and stress management behaviors. Factors associated with health behaviors of the elderly were demonstrated in the following tables:

Table 1 Factors associated with diet behavior

Variation	Level of diet behavior				
	Poor-Fair	Good	Total	χ^2	*p - value*
Age (years)					
60 - 80	27(9.3%)	264(90.7%)	291(100%)	6.061	**0.048***
71- 80	7(6.3%)	104(93.7%)	111(100%)		
Above 80	6(21.4%)	22(78.6%)	28(100%)		
Personal illnesses					
Do not have personal illness	25(13.6%)	159(86.4%)	184(100%)	6.998	**0.008***
Have personal illnesses	15(6.1%)	231(93.9%)	246(100%)		

* Statistical significance at the level of 0.05

Table 2 Factors associated with exercise behavior

Variation	Level of Exercise Behavior			χ^2	*p- value*
	Poor-Fair	**Good**	**Total**		
Gender					
Male	101(56.7%)	77(43.3%)	178(100%)	9.937	**0.002***
Female	180(71.4%)	72(28.6%)	252(100%)		
Educational Background					
No education	10(76.9%)	3(23.1%)	13(100%)	10.345	**0.016***
Primary school	234(68.2%)	109(31.8%)	343(100%)		
Secondary school/ vocational education	24(47.1%)	27(52.9%)	51(100%)		
Bachelor's degree	13(56.5%)	10(43.5%)	23(100%)		
Higher than bachelor's degree					
Income sufficiency					
Insufficient	129(73.7%)	46(26.3%)	175(100%)	16.978	**<0.001***
Sufficient but not enough for saving	117(65.0%)	63(35.0%)	180(100%)		
Sufficient and have some left for saving	35(46.7%)	40(53.3%)	75(100%)		

* Statistical significance at the level of 0.05

Table 3 Factors associated with self care behavior during illness

Variation	Level of self care behavior during illness			χ^2	*p- value*
	Poor-Fair	**Good**	**Total**		
Marital status					
Single	2(13.3%)	13(86.7%)	15(100%)	6.908	**0.032***
Married	42(15.3%)	232(84.7%)	274(100%)		
Widow, Divorce/separation	9(6.4%)	132(93.6%)	141(100%)		

* Statistical significance at the level of 0.05

Table 4 Factors associated with stress management behavior

Variation	Level of stress management behavior			χ^2	*p- value*
	Poor-Fair	**Good**	**Total**		
Gender					
Male	62(34.8%)	116(65.2%)	178(100%)	4.001	**0.045***
Female	112(44.4%)	140(55.6%)	252(100%)		
Educational Background					
No education	9(69.2%)	4(30.8%)	13(100%)	9.443	**0.024***
Primary school	143(41.7%)	200(58.3%)	343(100%)		
Secondary school/ vocational education	13(25.5%)	38(74.5%)	51(100%)		
Bachelor's degree	9(39.1%)	14(60.9%)	23(100%)		
Higher than bachelor's degree					
Income sufficiency					
Insufficient	83(47.4%)	92(52.6%)	175(100%)	13.416	**0.001***
Sufficient but not enough for saving	74(41.1%)	106(58.9%)	180(100%)		
Sufficient and have some left for saving	17(22.7%)	58(77.3%)	75(100%)		

* Statistical significance at the level of 0.05

DISCUSSION: As the elderly are valuable and respectful human resources in Thai culture and tradition, the current research on " Factors influencing health behaviors of elders in Mueang District, Roi Et Province, Thailand " had the objectives to study their health behaviors concerning diet, exercise, self-care during illnesses and stress management; to learn about each different personal attribution factor (such as gender, age, educational background, marital status, income, income sufficiency, main source of income and personal illness or the eight factors); and to find out factors associated with health behaviors of these elderly. Regarding eight personal attribution factors, as an overall, it found that females between 60-65 years old with primary school education lived with their spouses and had an income of less than 5,000 baht per month. About 42% of the samples had sufficient income but not enough for saving. Almost 97% of the samples earned their own income. However, about 58% of them had personal illnesses, particularly diabetes mellitus (DM) where almost all had consistent follow-up on their chronic disease (99.3%). Other personal illnesses included high blood pressure (98.9%) and osteoarthritis (90.3%). For the four aspects of the elderly's health behaviors, it was found that for diet part, the elderly in Mueang District, had good, suitable and positive diet behaviors caused by proper nutritious consumption. The credit should be given to the team of public health personnel in the province comprises of multidisciplinary workforce who keep on providing health education at different health facilities to the patients. This task of action is well supported by the Thai government aiming at the establishment of "healthy ageing" at each locality. Since 77.9% of the elderly in Roi Et province still attentively work in farming[8], therefore, taking a look into their exercise behavior, they could naturally have strong physical activities while they are working. Consequently, standard index of exercise might not be strictly adhered to by the elderly (for instance, stretching out or exercising for at least 30 minutes daily).[10] The lesson learnt is that an evaluation on exercise habits of the elderly in Roi Et Province needs an adaptation for measurement to match with the reality. In terms of self-care behavior during illness, the sample put a great importance on the issue. However, their practice of purchasing medication at their own judgment is the topic of attention by health personnel[11]. For whatever reasons they may have, this practice may indicate that there is a trend of self-reliance for primary care (through the use of pharmacy services) taking place among the elderly in Mueang District, Roi Et Province. The last aspect concerns stress management behaviors by the samples. Through the Thailand northeast ancient tradition of "Hit Seepsong, Klong Seepsii", these religious-oriented activities preoccupy the time of the elderly. Being backed up with frequent interaction among their neighbors, elderly in Mueang District could rely on natural peer-assistance to relieve their tension. Employing Chi-Square test to find out the relationship between independent and dependent variables of the study, it was found, with the statistical significance at the level of 0.05, that age and personal illnesses had positive association with diet behavior of the elders. Economic necessity and self-reliant effort might explain this phenomenon. Gender, educational background and income sufficiency positively associated with exercise behavior of the elderly. The result revealed that male elderly would have higher exercise behavior than female due to differences in their physicality[12].It is known that males tend to be stronger than females. Although they are confronted with body deterioration but due to the reduction in their social responsibilities, they tend to place an emphasis on their physical health by doing regular exercise. Education is an important source of self-improvement which

stimulates a change in health behavior in the aspect of knowledge, attitude and action[13]. The fact that a person needs to possess accurate knowledge and right attitude in order to carry out correct health behavior practice, therefore, the elderly with higher educational background would perhaps have a better chance to learn and access to the source of knowledge about exercise than those with lower educational background. In addition, those with sufficient income and enough for saving tend to have better exercise behavior than those with sufficient income but not enough for saving[14] because the first would have stable financial status with financial power to inquire factors that can benefit their health and enable them to live a happy life. On the other hand, marital status had a positive association with self- care behaviors perhaps due to spouse existence[15]. Finally, gender, educational background and income sufficiency had positive association with stress management behavior of the elderly. Male elderly would have better stress management behavior than female ones because, by nature, men would tend to have a leading role in his family, possess power to make decision, have opportunity to meet with other people and participate in the social events more often than women[16]. These factors enable men to perceive him self with higher self esteem. Meanwhile, women's main responsibilities are to look after the family, do house chores, and lack an opportunity to engage in outside-home activities. As a result, women tend to feel stressful easier than men. Samples with higher educational background tend to cope up with their stress better than those with lower educational background[17] because education is the important source of knowledge and potential development factor which helps to create positive attitude toward self-care behavior. Therefore, people with higher educational background would have better access to sources of information that can be used for decision making than those with lower educational background. Moreover, sufficient income and enough for saving would have better stress management[18] because income is an important factor for one's living as money is used to procure things that can satisfy one's basic needs. Consequently, the elderly with sufficient income and enough for saving would not have to struggle to earn their living after their retirement which would enable them to look for health service conveniently without worrying about extra expenses. In fact, they can spend more time looking after themselves. On the contrary, the elderly who have insufficient income still needed to work to support their family and to make ends meet for their household expenses.

RECOMMENDATIONS: For the application of research 1.) Screening is carried out by the public health officers at Primary Care Unit at least once a year. The objective is to reduce sickness and risky activities; determine illness at early period; and provide accurate health knowledge. 2.) Provide accurate information and conduct continuous health promotion behavior among elders and their families. 3.) Encourage all family members to involve in elderly care so as to enable the elders to experience warm and happy family atmosphere during their retirement.

4.) Promote mental healthcare for elders by allowing more elders to participate in activities initiated by elderly clubs or other groups. 5.) Improve questions regarding exercise in the questionnaire and for interviewing elders to be more suitable. The exercise standard for normal person which is doing exercise at least 3 times a week for at least 30 minutes per session is not applicable to elders' physical condition. For future research 1.) A study on health behavior of elders in qualitative approach should be conducted so as to be guideline to improve health behavior of elders according to environmental condition and traditions of the community. 2.) A study on other factors that have association with health behavior of elders,

such as social support, environment, family, psychology etc, should be conducted as well. 3.) The sampled group for this study consisted only of elders who were living in Mueang District, Roi Et Province. In order to widen the working scope, a similar study should be conducted on elders in all area of Roi Et Province or in other provinces. The information gathered should be compared to determine difference of factors association with health behavior elders.

ACKNOWLEDGEMENT: I would like to express my sincere gratitude and appreciation to my thesis advisor, Dr.Prathurng Hongsranagon, as well as Ajarn Piyalamporn Havanond, Assistant Professor Ratana Samrongthong and Ajarn Wongwat Liuluck, M.D. for their guidance, invaluable advice, kindness, and encouragement throughout the period of my study.

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