

Health Behavior among Elderly in Huey Chinsri Municipal, Ratchaburi Province, Thailand

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ABSTRACT

The objectives of this study were examining the level of health behavior of elderly and identify the relationship between demographics data (e.g., gender, age, income and comorbid diseases) and health behavior (e.g., dietary health behavior, exercise, self-care behavior and stress management) in elderly. In this cross-sectional study, the total of 160 elderly in Ratchaburi Province, Thailand was selected by quotation sampling with the method as probability-free selection of the sample. Data were analyzed using frequency, percentage, mean, standard deviation and Chi Square test to examine the relationship between demographics data and health behavior in elderly. Findings showed the elderly had moderate level of health behavior score as 0.93 ± 0.43 (mean \pm SD.). Demographic data showed the relationship with dietary health behavior included gender ($p = .005$), age ($p = .007$), monthly income ($p < .001$), and underlying disease ($p = .016$). In summary, the health behavior of the elderly could be improved by promoting the dietary health behavior, exercising behavior, self-care behavior and stress management behavior. Moreover, according to the moderate level of health behavior observed, it is recommended that healthcare providers should be aware of the benefits of health promoting behaviors to slow down the deterioration of the elderly's health, maintain good health and lead happiness in the rest of life.

Keywords: Health behavior, elderly, dietary health behavior

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INTRODUCTION

The demographic transition caused by advance medical technology and the healthcare system has resulted in lower mortality rate and increase the life expectancy. According to population estimation from 2007 to 2050, the global population of the elderly almost double, or by 2050 there will be more than 2 billion elderly worldwide.¹ In Thailand, the number of elderly from 60 years or over was more than 11.3 million in 2017.² In the following twenty years, this number would be practically two-fold, and by 2040, one in each three Thai individuals will be 60 or over.³ Elderly in Thailand has increased much faster than other Asian countries, in spite of the fact that Japan encountered an elderly society before Thailand.⁴ Elderly affect the social, economy and employment conditions as well as the long-term allocation of health and social resources of the country.⁵ However, if Thailand has improperly planned for the elderly, it could make the elderly population burden on the country's future expenses.^{6,7} However, well-being of elderly depend on many factors, both internal and external factors.⁸ Many studies in Thailand indicate that older people living in urban and rural areas still have different lifestyles and supporting factors. Therefore, the importance of elderly not only depends on change in the population structure or increasing life expectancy but also depends on health, quality of life and the care of older adults.^{9,10} The elderly should have better quality of life including the organization of medical and public health services.¹¹ As well as providing basic social services, preventive care, sanitation, education and income security.¹² These services should be provided in the family and community to enhance the health behavior and quality of life for the elderly as well as the basic services that should be received.^{13,14} Elderly undergoes physical, mental and social changes in the way of deterioration.¹⁵ These factors are risks and health problems. The health problems of

elderly can be caused by behavior or environment, life style since childhood and heredity.¹⁶ Hence, elderly need wide range of health care and health promotion to reduce chronic illnesses, slow deterioration in health and maintain or increase the level of physiological function. Health-promoting behavior is an important factor in the maintenance of good health. According to Pender's health-promoting model, individuals have the ability to learn, make decisions, solve problems and change behavior on their own.¹⁷ Therefore, the general population, including elderly, have the ability to take responsibility and promote their health. Several studies have shown that the health-promoting behaviors of elderly were not appropriate.^{18,19} In order to sufficiently promoting good health, elderly should be aware of the benefits of health promoting behaviors to slow down the deterioration of the elderly's health, maintain good health, and lead to happiness in the rest of their life. According to the study, we aimed to determine the health behavior in elderly and also explored the relationship between demographics (gender, age, income and comorbid diseases) and health behavior (dietary health behavior, exercising behavior, self-care behavior, and stress management behavior) of elderly in Ratchaburi Province, Thailand.

METHODS

Study design

This study determined the health behavior in elderly as a descriptive cross-sectional study.

Population

The target population was the elderly, 60 years or over, both male and female. The population of 1,598 elderly, living in Huey Chinsri Municipal, Ratchaburi Province.

Sample size

The sample was sampling based on the criteria to estimate the sample size from the population. The sample size was calculated 10% of the total population in the thousands.

The researchers used quota sampling as a probability-free selection of the sample. Finally, the sample size was 160 participants.

Measures

The data was gathered in two parts. The first part was demographic data, which included gender, age, income and comorbid diseases. The second part was health behavior scale. We used these tools to identified dietary health behavior, exercising behavior, self-care behavior, and stress management behavior in elderly. It was a 29-item self-report questionnaire with three Likert-scale responses. The researchers reported a Cronbach's alpha for each subscale included 0.78 for the dietary health behavior subscale, 0.76 for the exercising behavior subscale, 0.75 for the self-care behavior subscale, and 0.78 stress management behavior subscale were reported for a normative sample.

Procedure

The study was approved by institutional review boards from Suan Sunandha Rajabhat University (No. 1-012/2018). We performed recruitment, enrollment and data collection. The questionnaire described information about this study such as the objectives, data collection procedures, questionnaire details and the participants' rights. After the participant signs the consent letter to be a volunteer, data were collected. The participants have their withdrawal rights to discontinue their participation at any

time. The completeness and correctness of the questionnaire were examined. Then they were arranged, counted and processed.

Data Analysis

The SPSS version 22 was used for data analysis with statistically significant at $P \leq 0.05$. (IBM Corporation, 2013). The descriptive statistic (percentage) was used for the demographic data (e.g., gender, age, income and comorbid diseases). The means and standard deviation (*SD*) were used for analyzing the health behavior (e.g., dietary health behavior, exercising behavior, self-care behavior, and stress management behavior). Chi Square test was used to explore the relationship between demographic data and health behavior.

RESULTS

Sample Characteristics

The data were collected in all the sample without data lost. ($n = 160$) Most of them were female ($n = 116$, 72.5%), the majority age ranging was 70 – 79 years old ($n = 62$, 38.75%). Most of the participants had monthly income < 160 US Dollar. The underlying disease was the majority group ($n = 131$, 82.1%) as diabetes ($n = 45$, 28.1%), hypertension ($n = 15$, 9.4%) and comorbid diseases ($n = 45$, 28.3%) (see Table 1). Small group of 17.9% had no underlying disease.

Table 1. Demographic data

Demographic Data	N	%
Gender		
Female	116	72.5
Male	44	27.5
Age (year)		
60 - 69	52	32.5
70 - 79	62	38.75
> 80	46	28.75
Monthly Income (US Dollar)		
< 160	154	96.3
161 – 320	4	2.5
> 321	2	1.2
No underlying disease	29	17.9
Underlying disease	131	82.1
Diabetes	45	28.1
Hypertension	15	9.4
Dyslipidemia	14	8.8
Kidney disease	12	7.5
≥ 2 Diseases	45	28.3

Health Behavior in Elderly

Respondents had moderate level of health behavior score as 0.93 ± 0.43 (Mean \pm *SD*). When considering in each component of health behavior, dietary health behavior

scored 1.13 ± 0.40 (Mean \pm *SD*), exercising behavior scored 0.74 ± 0.50 (Mean \pm *SD*), self-care behavior scored 0.94 ± 0.40 (Mean \pm *SD*) and stress management behavior scored 0.79 ± 0.42 (Mean \pm *SD*) (Table 2).

Table 2. Health Behavior Score in Elderly

Health Behavior	Mean	SD	Interpretation Level
Dietary health behavior	1.13	0.40	Moderate
Exercising behavior	0.74	0.50	Moderate
Self-care behavior	0.94	0.40	Moderate
Stress management behavior	0.79	0.42	Moderate
Overall	0.90	0.43	Moderate

Considering each aspect of dietary health behavior, the participants had moderate level of health behavior score ($\bar{X} = 1.13$). When analyzing each item, the good level was eating three meals a day ($\bar{X} = 1.94$), followed by eating newly cooked food ($\bar{X} = 1.85$) and eating fruits and vegetables ($\bar{X} = 1.43$). The moderate level was daily drinking 6-8 glasses of clean water ($\bar{X} = 1.14$), protein consumption such as meat, nuts, and milk ($\bar{X} = 1.10$) and eating well done foods ($\bar{X} = 1.05$). In addition, the low-level score was dislike eating salty food ($\bar{X} = 0.39$) and not eating crunchy snacks ($\bar{X} = 0.13$).

This study indicated that exercise health behavior was at a moderate level ($\bar{X} = 0.74$). When analyzed by each analysis, we found that muscle exercises with arm swing, leg swing, wrist flexion, ankle stiffness ($\bar{X} = 1.01$), followed by selecting the type of exercise appropriate to the health condition and age of the elderly ($\bar{X} = 0.99$) and walking or cycling a short distance ($\bar{X} = 0.90$) were in medium level, respectively. Meanwhile activities such as gardening, housework, planting trees, watering the plants, etc. ($\bar{X} = 0.59$), exercising at least 3 times a week and 20-30 minutes or more each time ($\bar{X} = 0.22$) were low-level, respectively. Self-care behavior was at moderate level ($\bar{X} = 0.94$). When analyzing each case, we found that receiving a physical examination and annual disease screening ($\bar{X} = 1.41$), following by visiting care personnel when get sick ($\bar{X} = 1.16$), the rights to reach medical service under their government social security ($\bar{X} = 1.13$) following doctor's advice ($\bar{X} = 1.06$) and pharmacist consultation when in doubt with prescription ($\bar{X} = 1.06$) as the moderate level

score. Self-observation of abnormal symptoms ($\bar{X} = 0.64$) and do not taking herbal as local drugs instead of modern medicine ($\bar{X} = 0.12$) were at low level score, respectively. Respondents had moderate level score of stress management health behaviors ($\bar{X} = 0.79$). When analyzed, activities with family on public holidays ($\bar{X} = 1.22$), followed by relaxing conversation with their neighbors ($\bar{X} = 1.07$), family talk ($\bar{X} = 1.00$), planting and singing ($\bar{X} = 0.85$) were scored in moderate level. When the participants stressed, they will pray, respect Buddhist, and meditate ($\bar{X} = 0.50$), listening to the radio and reading books ($\bar{X} = 0.53$) and no frustration or preoccupation with the problem ($\bar{X} = 0.09$) were at low level score, respectively.

The Relationship Between Demographic Data and Health Behavior

Regarding the relationship between demographic data and dietary health behavior, gender ($p = .005$), age ($p = .007$), monthly income ($p < .001$) and underlying disease ($p = .016$) were associated with dietary health behavior. However, gender, age, monthly income, and underlying disease were not correlated with exercising behavior in elderly ($p > .05$). Regarding relationship between self-care behavior and demographic data. The findings revealed that age was associated with self-care behavior ($p = .01$). However, gender, monthly income and underlying disease were not associated with self-care behavior ($p > .05$). In addition, gender, age, monthly income and underlying disease were not associated with stress management behavior ($p > .05$) (see Table 3).

Table 3. Descriptive and Correlational Analysis of Demographic Data and Health Behavior

Variables	Gender	Age	Monthly Income	U/D
Dietary health behavior	.005**	.007**	.001**	.016*
Exercising behavior	.074	.054	.644	.153
Self-care behavior	.303	.010*	.867	.241
Stress management behavior	.630	.075	.966	.122

Note: U/D = Underlying Disease, * $p < \text{value } .05$, ** $p < \text{value } .01$

DISCUSSION

The objective of the study was identifying health behavior in elderly in Huey Chinsri Municipal, Ratchaburi Province. Indeed, the findings indicated the participants had health behavior at moderate level ($\bar{X} = 0.90$). The result is similar to Konkaew,²⁰ who conducted health behavior in elderly people in the municipal of Khlong Tamru Sub-district, Muang District, Chonburi Province, which shows that the participants had health behavior at moderate level. The finding of this study is closely related to several studies, which showed that most of elderly had health behavior in moderate level.^{19,21,22} This may be because the majority of the elderly have some knowledge of self-care, which is consistent with Pender et al,²³ that people apply knowledge to use and cause behavioral change. When knowledge is abundant, it will be resulted in the better health behavior of the elderly people. Considering dietary health behavior aspect, we found that elderly had moderate level scored as 1.13 ± 0.40 (Mean \pm SD). This finding consistent with previous studies reporting that dietary health behavior in elderly people had moderate level scored.^{20,24} However, the results of this study contrast with Muangmool et al,²⁵ and Pinthong et al,²⁶ which showed that elderly people had dietary behavior in good level. This may be because different scoring criteria lead to different levels of research results. Regrading exercise health behavior, the score was in moderate level. This result is consistent with previous studies.^{20,25,27}

However, some indicated that exercise health behavior was at poor level.^{26,28} In addition, some research reported the exercise health behavior was at high level score.²⁹ This may be due to different attitudes and values in the exercise of the elderly sample group that make exercise health habits different. Self-care behaviors in illness, we found moderate level score of self-care behaviors in illness. The finding is inconsistent with Konkaew,²⁰ which shows that the self-care behaviors in elderly people were scored in moderate level. This may be because the elderly sample did not have awareness of their own health care, thus causing the behavioral health behavior in the illness. Indeed, the self-care behavior in illness had poor level score, different self-awareness of their health care results in different self-care behaviors in illnesses. The analysis of stress management behavior, the elderly had stress management behavior at moderate level score. This is consistent with the study of Konkaew.²⁰ However, the study does not consistent with some studies who found that stress management behaviors in elderly was in poor level.²⁶ May be the sample group of elderly had different family background that make different personality and ways of life to manage stress or problem arises. Indeed, they do not meet or talk with friends or anyone. They may relax themselves by praying, singing, listening to the radio and reading books, etc.

The second objective of the study is to explore relationship between demographics data (gender, age,

income and comorbid diseases) and health behavior (dietary health behavior, exercising behavior, self-care behavior and stress management behavior) of elderly in Ratchaburi Province. This study supports prior empirical findings that gender, age and monthly income had no correlation with health behavior in elderly. The finding is consistent with Pinthong et al,²⁶ who found that gender had associated with dietary health behavior in elderly people ($p = .05$). However, the underlying diseases did not correlate with dietary health behavior in elderly people.^{30,31} It was found that the socioeconomic status such as gender, age, monthly income and underlying disease were did not associated with exercise health behavior. This result is similar to previous studies which found that gender, age, monthly income, and underlying disease had not related with health behaviors included four dimension such as dietary health behavior, exercising behavior, self-care behavior and stress management behavior. Because of elderly in each age group have different values, beliefs and experiences, making exercise-related behaviors different.^{32,33} For example, some elderly people think that exercise is good for health but some may think that is waste of time.³² These problems can cause stress and most elderly tend to be frustrated or obsessed with things and do not try to find solutions when problems arise because they think they are unable to do those activities.^{34,35} Regarding the relationship between the socioeconomic status (e.g., gender, age, monthly income and underlying disease) and self-care behaviors in illnesses. The results indicated that these factors were not correlated with self-care behaviors in elderly illnesses. The findings is similarly to those of a previous study.³⁶ Considering these results, the socioeconomic status such as gender, age, monthly income and underlying disease were did not associated with stress management health behavior in elderly people. In line with this finding, some found that gender, age, monthly income, and underlying disease had no correlation with stress management health behavior ($p > .05$).^{20,36,37}

IMPLICATION AND FUTURE RESEARCH

The findings of this study suggest that socioeconomic status (gender, age, monthly income and underlying disease) had associated with health behavior in elderly. In line with this result, the socioeconomic status had moderate to low level in each component. The current study also suggests that healthcare providers and health sector should promote the dietary health behavior, exercising behavior, self-care behavior and stress management behavior of the elderly. Future studies should be the development of food patterns suitable for the elderly with various forms of occlusion conditions in order to guide the elderly to have complete diet and to build immunity and prevention of disease caused by insufficient nutrition. We also suggest for the future studies that the causal relationship of factors influencing the health behavior in elderly should be studied and structured in-depth interviews and researcher should be conducted for the benefit of planning, development and management of the elderly for the benefit of accessing a comprehensive foundation that can solve problems.

CONCLUSION

The study contributes relevant information to understanding the development of health behaviors in elderly. We indicated that dietary health behavior, gender, age, monthly income and underlying disease were associated with dietary health behaviors in elderly.

Therefore, the study can be used as a reference to encourage and promote healthy behavior, and also improve self-care in elderly. In addition, healthcare providers should be aware of the benefits of health promoting behaviors to slow down the deterioration of the elderly's health, maintain good health, and lead happiness in the rest of their life.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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