# HEALTH BEHAVIOR AND HEALTH NEED ASSESSMENT AMONG ELDERLY IN RURAL COMMUNITY OF THAILAND: A SEQUENTIAL EXPLANATORY MIXED METHODS STUDY

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## Abstract

*Effective intervention in promoting health among elderly needs an evidence base. The aim of this study was to determine factors influencing health behaviors as well as to explore health needs among the elderly. The explanatory sequential design was conducted in 2 phases. The first phase was a cross-sectional survey with a sample of 360 elderly selected by simple random sampling. The second phase was a qualitative study conducted on 40 participants selected as extreme cases to participate in an in-depth interview and focus group discussion. The resulted showed that a majority of elderly (63.3%) had health behavior practice at moderate level. Multiple regression analysis revealed that 32 percent of variance of health behavior could be explained by education*

*level, social support, being a member in the community, and co-morbidity. These were the major predictors of health behavior. In the qualitative phases, diabetes was identified as a priority health problem with the risk factors of unhealthy eating behavior, physical inactivity, lack of peer support, and stress. In conclusion, this study confirms the importance of education level, social support, being a member in community and co-morbidity, the variables that play a role in the health behaviors of elderly. Diabetes was identified as priority health problems. Further health programs need to emphasize on behavior modification on healthy eating behavior, physical activity, facilitated peer support group, and stress control skills to promote health of elderly.*

**Keywords**

## 1. Introduction

Many countries encounter demographic transition to ageing (The Demography of population aging 2014) Thailand is one of the countries moving rapidly to become an aging society. According to the Office of the National Economics and Social Development Board, in the year 2550 B.E., the number of elderly was one tenth of the entire population. It was estimated that in 2573 B.E., the number would be one fourth of the entire population (T.Q.P. Press Ltd. in Thai 2010) The elderly group is prone to bodily deterioration. They have risks in suffering from chronic diseases and injury from accidents, like falling (Aama, 2011). In addition, Zhen ZS, and Huo JX (Zhen Z.S. and Huo J.X., 2008) stated that health behavior was a main factor in health problems in elderly. According to them, 45 percent of illness and 60 percent of death in elderly were the results of personal health behavior.

Providing primary care facilities is a frontline service at district level for all population in their catchment area. The service is provided in "Health center," which was upgraded to be Sub-district Health Promoting Hospital (SHPH) to achieve quality, accessibility and equity. SHPH covers every sub-district of 9,762 (Zhen Z.S. & Huo J.X., 2008). These facilities have their own uniqueness in terms of accessibility, coordination, continuity, comprehensiveness and community participation (Supawong C, 2009). The staff in the SHPH includes healthcare providers with specialty in health behavior. Therefore, health behavior modification to reduce health risk was implemented at SHPH.

In 2015, The Ministry of Public Health (MOPH) launched Family Care Team (FCT) to respond to health problems in the high risk group to achieve quality and equality of life. This policy emphasized the bedridden elderly, disability, and palliative care (The Agriculture Co-operative Federation of Thailand Ltd, 2015). Therefore, primary care services play an important role for elderly. The service must be a holistic one. It must combine services consistent with the needs and problems faced by older persons, being in line with capabilities in performing duties.

In providing health service to elderly, an understanding on health behavior and health needs through participation in organizing health promotion intervention is required. According to Connecticut Association of Directors of Health (Guidelines for Conducting a Community Health Needs Assessment. 2013). indicated that an examination on health need leads to a participation in health program under the condition of limited resources. The implementation of health need into health promotion programs in Thailand is still scarce. This study investigated factors affecting health behavior and health needs in the elderly. The results of the study are significant for the planning on health services in disease prevention, health promotion and developing the abilities in self-care in the elderly.

## 2. Methodology

This study was designed as a mixed methods sequential explanatory methodology including two phases. In the first phase, health behavior and factors affecting health behavior were evaluated by quantitative approach. In the second phase, elderly with the effective elements of health behavior and extreme elements of unexpected health behavior were explored by qualitative approach which would help explain quantitative findings. Moreover, priority of health problems and risk factors were explored.

- Quantitative Study

This phase was a cross-sectional study to assess health behavior and factors influencing health behavior among elderly. Extreme score of health behavior were detected in this phase. The population was the elderly living in a district of Phitsanulok province. The sample size calculation was conducted using Cochran's sample size formula for continuous data. The alpha was set at .05, with the maximum possible proportion of 0.5 with a margin of error of 5%. Approximately 384 samples are calculated. Then Cochran's (W. G, et al., 1977). correction formula was used to calculate the final sample size, which yielded 313 samples. Due to 15%

drop out, the sample size gained was 360 samples. Multistage sampling was done in 12 sub-districts within the same district. The inclusion criteria were elderly from the age of 60 living in the district for more than 6 months. The exclusion criterion was the elderly with too severe conditions to respond to the survey.

The 59 item questionnaire consists of socio demographic, social support and health behavior questions developed from the literature. The content validity assessed by 5 experts obtained the value of I-CVI = 1. The reliability value performed on 30 elderly was in the range from Cronbach's alpha 0.78 to 0.84. Descriptive statistics and multiple regression analysis were performed.

• Qualitative Study

The health behavior score of less or higher than 10% of attainable score were selected as the extreme cases. The in-depth interview and focus group discussion were conducted with purposive sampling. Semi-structure interview was used to collect data. Trustworthiness was achieved by member checking, peer debrief, data source triangulation and methodological triangulation. Data collection was performed until the data reached the saturation level. Content analysis approach was used in qualitative phase. This study was approved by The Naresuan Univeristy Ethical Committee before data collection.

## 3. Results

• Quantitative Results

With the response rate of 91.67%, among 335 participants whose ages ranged from 60 to 95, 208 (63%) were females. The majority of sample, 57.6%, was married. 284 of the participants (86.1%) were educated in primary school level. The participants of 221 (67%) had a career in agriculture. The monthly income ranged from 600 to 40,000 baht (33 baht is equivalent to 1 dollar). Moreover, 97% of the sample lived with their families. More than two-third (65.8%) was not a member in the community club. More than half (53.5%) did not possess co-morbidity. Medical diagnoses were hypertension, hyperlipidemia and diabetes.

The health behavior of 63.3 % of the sample was in the moderate level and 20% was in the high level. The highest and lowest scores were 121 and 52 respectively. The mean score was 88.32 with the SD. of 13.9 (See Table 1).

**Table 1:** *Overall Score of Health Behavior of Elderly (n= 330)*

| Health behavior | n (%) |
|---|---|
| Low score (52.00-74.41) | 55 (16.70) |
| Medium score (74.42-102.22) | 209 (63.30) |
| High score (102.23-121.00) | 66 (20.00) |
| Minimum = 52 Maximum = 121<br>Mean (SD.) = 88.32 (13.90) | |

The study revealed that 31 % of health behavior in the elderly could be predicted through factors in education level, being a community club member, co-morbidity and social support, with a statistics significant at 0.05 (p<0.05). Social support, education level, co-morbidity and being a community club member were positive factors with the value of 0.503 0.121 0.032 and 0.31 respectively. The prediction formula was health behavior = 31.075 + 7.052 (education level) + 0.920 (being a community club member) + 0.879 (co-morbidity) + 1.103 (social support), as shown in Table 2.

**Table 2:** *Multiple Regression Analysis of the Variables Studied on Health Behaviors*

| Variable | B | SE. | Beta | T | P value | | 95% CI for B |
|---|---|---|---|---|---|---|---|
| Constant | 31.075 | 4.888 | | 6.357 | 0.000 | | 21.459 – 40.691 |
| Education | 7.052 | 2.736 | 0.121 | 2.577 | 0.01 | 1 | .668 – 12.435 |
| Being a membership of community club | 0.920 | 1.461 | 0.031 | 0.630 | 0.02 | - | 1.954 – 3.793 |
| Co-morbidity | 0.879 | 1.396 | 0.032 | 0.630 | 0.02 | - | 1.867 – 3.626 |
| Social support | 1.103 | 1.104 | 0.503 | 10.571 | 0.000 | | 0.898 – 1.309 |

R = 0.558, R2 = 0.312 F = 24.403 (6, 329) *p < .05

- Qualitative Results

The data were extracted by content analysis and classified into three main categories: health problems risk factors and means to overcome the problems (Table 3).

**Table 3:** *Classification of Health Problems Risk Factors and Method of Solving*

| Health problems | actors | Method of solving |
|---|---|---|
| Hypertension Hyperlipidemia<br><br>Diabetes | **Personal barriers**<br><br>• Imbalance of eating such as sweetly, salty, fatty etc.<br>• Lack of exercise<br>• Lack of time<br>**Socio environment barriers**<br><br>• Family responsibility<br>• Peer did not persuasion to exercise<br>• Personal facilitator<br>• Family support<br>• Experience of disease **Socioenvironment facilitator**<br><br>  Family and social support<br>  Encourage environment | • Participation in organized activities, for example, set up a study group in the elderly club<br>• Organizing exercising activities suitable for the elderly<br>• Reducing household responsibilities for the elderly, for example, placing small children in childcare center.<br>• Support group among the elderly<br>• Setting up a meeting place for the elderly to meet and do activities |
| Quotation | *"I like to eat salty food because it tastes good and it increases my appetite."*<br><br>*"Old people should eat mild food, but dessert is sometimes needed."*<br><br>*"I rarely work out. I don't have time. I have to take care of my grandchildren."*<br><br>*"Sometimes I did aerobic dance. My child asked if I should be ashamed of myself for not being able to catch up with others."*<br><br>*"My husband said it's good to go exercising in group because you would have a relationship with your group."*<br><br>*"Most of the exercise places were temple yards. There are exercise equipment provided by the district administrative office."*<br><br>*"Your elderly club will organize activities at the local healthcare center and the temple yard.* | |

## 4. Discussion

Based on the result obtained in the quantitative phase, education level, being a membership in community, co-morbidity and social support were influencing factors in health

behavior. The findings were confirmed by qualitative study revealing that social support (family, peer) and experience of disease were facilitated to reduce risk factors. Therefore, using a model to encourage healthy behavior in elderly club needs to be emphasized, aiming at sharing and learning within the group.

According to Green et al. (Green & Kreuter, 2005). reasons for health behavior were explained in predisposing, enabling and reinforcing factors. This concept will contribute information for healthcare providers to develop appropriate intervention for health promotion for each factor. In this study, predisposing factors are perception, belief; enabling factors are environment, skills; and reinforcing factors are social support both from peer and family. Therefore, managing health promotion intervention for elderly need required a collaboration strategy between healthcare providers and the elderly.

The qualitative approach is a method to allow elderly to express their health needs, which is called express needs, while normative need was acknowledged by healthcare provider. In the context of the scarcity of resources available, identify need is required to response needs of population (John & Rhys, 1998). Therefore, improving the health of the population in the most efficient way, the concept of health need assessment that involves epidemiological, qualitative, and comparative methods to describe health problems of a population should be implemented.

## 5. Conclusion

The main health problem in the elderly is hypertension. The risk factors are imbalance eating behavior and immobility. In addition, education level, being a membership in community, co-morbidity and social support are influential factors affecting health behavior in the elderly. Primary health care service guidelines include 1) Design intervention to reduce perceived barriers 2) Avoid risk behaviors 3) Enable the environment to support health promotion and 4) Support elderly group.

## 6. Acknowledgment

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