Factors Influencing Health Promoting Behaviors among the Elderly Under the Universal Coverage Program, Buriram Province, Thailand

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ARTICLE INFO

Article history:
Received 23 May 2010
Received in revised form 25 June 2010
Accepted 9 July 2010
Available online July 2010

Keywords:
Elderly
Health Promoting Behaviors
Universal Coverage Program

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ABSTRACT

Objective: A cross-sectional survey research aimed at studying factors influencing health promoting behaviors (HPB) of the elderly under the universal coverage program. Materials and methods: The sample group was 341 elderly in Buriram Province. A multi-stage sampling technique was used to select the sample. Data were collected by using interview questionnaire during 17-31 October, 2005 and were analyzed by frequency, percentage, mean, standard deviation, Pearson’s Product Moment Correlation and stepwise multiple regression analysis. Results: The results showed that 53.7% of the elderly had HPB at moderate level and 30.2% had HPB at high level. Factors significantly predicting HPB among the elderly were having occupation, knowledge score on HPB, having current illness for one month, experience obtaining knowledge or information on HPB from health personnel, and social support from family. These factors were able to predict HPB of the elderly correctly 42.1%. Conclusion: From these findings, the authors recommend health providers to promote elderly HPB in all communities by giving knowledge on HPB through various means, enhancing social support from family and paying attention to unemployed groups to encourage them in daily practice of HPB.

INTRODUCTION

Concerning unavailability and inaccessibility of healthcare services and limited affordability of poor people, the Thai government launched the universal coverage program known as “30 baht scheme” in 1991. The purpose of this program was to increase equity utilization of healthcare services by providing standard care and reducing medical care costs for Thai people. The principle of this program was focused on preventive and promotive strategies to promote healthy lifestyle of people rather than curative strategies as well as to prevent unnecessary utilization of healthcare services.

At present, the number of elderly has been increasing annually year by year and the exempt from medical fees criterion lets the elderly become a major group who utilize healthcare services. In
2007, the estimated total number of Thai elderly was around 7 million and in the next 12 years the number will increase to 11 million or equal to 17 percent of all age groups\(^3\). The elderly has become a major group of public health concern because they are living with health deterioration in all aspects, physical, mental and psychosocial. Three-fourths of the elderly have chronic health problems. The top five health problems are: muscular pain (75.1%), joint pain (47.5%), restlessness (38.7%), headache (36.8%), and visual problems (33.2%). The chronic diseases found among the elderly are high blood pressure (20%), digestion and stomach problems (11.4%) and diabetes (8.3%)\(^4\). Health problems of the elderly result from poor health promoting behaviors\(^5\) which may lead to chronic diseases such as cardiovascular disease, hypertensive disorder, diabetes mellitus and mental health problems. A national survey on health promoting behaviors and lifestyles of the elderly in 2007 found that 28% of them had daily exercise, 13% had regular smoking, 3% had daily drinking alcohol, 63% ate fruits and vegetables daily and 74.1% had annual physical check up\(^6\). The World Health Organization emphasizes health promoting behaviors as a key strategy to maintain health status of the elderly and assist them to survive with a good quality of life without depending on any family members or the society\(^7\).

From previous findings, factors related to health promoting behaviors of the elderly were age, sex, education, economic status, chronic illness, perceived health status, perceived self-efficacy, perceived benefits of practice, perceived barriers to practice, and social support from family\(^8\)\(^-\)\(^11\).

Buriram province is located in the northeastern part of Thailand where the total number of the elderly has annually increased. The percentage of the elderly in this province has increased from 4.2 percent in 1980 to 6.3 percent in 1990, 8.9 percent in 2000 and 9.9 percent in 2006\(^12\). Around 89.2 percent of them were registered under the universal coverage program. The top 3 problems that the majority of them face are respiratory problems, muscular weakness and pain\(^7\). To help the elderly in Buriram province to maintain good health status under the universal coverage, the health promoting behaviors and its influencing factors based on Pender’s health promoting model\(^14\) and PRECEDE-PROCEED framework of Green LW and Kreuter MW\(^15\) are explored. Fruitful findings would be used as a guideline for planning effective implementing strategies to promote healthy lifestyle and behaviors among the elderly under the universal coverage program in this province in the future.

**MATERIALS AND METHODS**

A cross-sectional study was conducted to collect data by interview questionnaire during 17-31 October, 2005. The population were the elderly who had their residence in Buriram province. The samples were the elderly who were able to communicate, who held a health gold card, who had no serious health problems and who were willing to participate in this study by signed consent form. The sample size was calculated. Total sample size was 341 cases. The multi-stage sampling technique was used to select the elderly from each of the target 6 villages obtained from the 3 districts of the northern, central and southern part of the province.

The research instrument was an interview questionnaire to examine the predisposing factors composed of demographic characteristics, knowledge on HPB and perception of illness; enabling factors composed of accessibility to healthcare services and reinforcing factors composed of perception on benefits of gold card and social support from family. The questionnaire consisted of 7 parts. Part 1 was demographic characteristics of the elderly which were sex, age, marital status, education, occupation, income, having chronic and present illness during one month, experience receiving knowledge or information on HPB from health personnel, and people who live with participants. Part 2 was 25 questions on knowledge on health promoting behaviors based on a concept of Health-promoting Life Style of Walker SN et al\(^16\). Part 3 was 5 questions on perception of chronic and current illness. Part 4 was 8 questions regarding accessibility to healthcare services. Part 5 was 8 questions on perception toward benefits of gold card. Part 6 was 15 questions on social support from family based on concepts of Tardy CH\(^17\). Part 7 was 25 questions on health promoting behaviors of the elderly adapted from Health Promoting Lifestyle Profile (HPLP)\(^16\) in 6 domains such as eating behavior, exercise, health responsibility, self actualization, stress management and interpersonal relationship.

Content validity was examined by 4 experts and a reliability test given to 30 elderly who were living in Sao Dieo sub-district, Buriram province. The Cronbrach’s alpha coefficient of each part was as follows: knowledge on health promoting behaviors = 0.80, perception of illness = 0.65, perception of benefits of gold card = 0.60 and social support from family = 0.80.

**Ethical approval**

The research proposal was approved by the Committee on Human Rights Related to Human Experimentation, Mahidol University (MU 132/2005).
Data analysis

Frequencies, percentage, mean and standard deviation were used to describe demographic characteristics, perception of illness and accessibility to healthcare services. Pearson’s product moment correlation coefficient was used to find out factors correlated to the health promoting behaviors of the elderly. In addition, stepwise multiple regression was used to determine the predicting factors of health promoting behaviors. The level of statistical significance was at p<0.05.

RESULTS

Demographic characteristics

It was found that 66.4% of the elderly were female and half of them (50.4%) were in the age 60-69 years old. More than half (62.5%) were married, 54% lived with their spouse, son and daughter, 83.3% completed primary school level, and 62.5% had their own occupation. Two-thirds of them (67.7%) had income equal or less than 1,000 baht/month where 74.8% had a source of income from a son or daughter. Concerning adequacy of income, 37% had enough but not for saving, while 31.7% had inadequate income and had to borrow from others. Three-fourths of them (75.4%) had a high level of knowledge on health promoting behaviors. Nearly half (46%) perceived that they had some chronic illness of which the highest ranked were hypertension (37.4%) followed by peptic ulcer (25.2%) and diabetes mellitus (19.4%), and 68.6% perceived present illness as muscular or joint pain and body pain. Seventy percent of elderly utilized a community hospital most when they became sick and among which 100% used the gold card and perceived that it was convenient to travel to health facilities by vehicles. Nearly half (45.8% and 45.8%) perceived that benefits of the gold card and social support were at a low level.

Health promoting behaviors of the elderly under universal coverage

Concerning each domain of the study’s HPB, it was found that more than half of them had a high HPB level on interpersonal relationship (68.8%), followed by eating behavior (56.7%), and self actualization (52.9%), while the high HPB scores were found to have been lower among exercise (20.4%), stress management (28.4%) and health responsibility by having an annual physical checkup (39%).

More than half of the elderly (53.7%) had a total score of health promoting behaviors at moderate level while one-third (30.2%) were at a high level. Mean scores of health promoting behaviors (HPB) were equal to $50.82 \pm 9.03$, min-max = 31-68 (Table 1).

<table>
<thead>
<tr>
<th>Level of health promoting behavior scores</th>
<th>Number (n=341)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (0-40 marks)</td>
<td>55</td>
<td>16.1</td>
</tr>
<tr>
<td>Moderate (41-55 marks)</td>
<td>183</td>
<td>53.7</td>
</tr>
<tr>
<td>High (56-75 marks)</td>
<td>103</td>
<td>30.2</td>
</tr>
<tr>
<td>Mean+SD = 50.82+9.03, Min = 31, Max = 68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Factors associated with HPB

From Chi-square test of predisposing, enabling and predisposing factors which were significantly associated with HPB were having an occupation, having present illness for one month, and experience obtaining knowledge or information on HPB from health personnel.

From Pearson’s correlation analysis between numeric variables of predisposing, enabling and reinforcing factors and health promoting behaviors of the elderly under the universal coverage, it was found that age, income, knowledge on HPB, perception of illness, perception of benefits of gold card and social support were correlated with HPB (Table 2).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pearson’s Correlation Coefficient</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.228</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Income</td>
<td>0.231</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Knowledge on HPB</td>
<td>0.208</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Perception of illness</td>
<td>0.309</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Perception on benefits of gold card</td>
<td>0.326</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Social support</td>
<td>0.403</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Predicting factors on HPB of the elderly using stepwise multiple regression analysis

The significant predicting factors on HPB of the elderly consisted of having an occupation, knowledge on HPB, present illness during one month, experience to obtain knowledge or information from health personnel on HPB and social support. This model was able to predict the HPB among the elderly as being 42.1% (Table 3).

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Stepwise multiple regression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Having occupation</td>
<td>0.324</td>
</tr>
<tr>
<td>Knowledge on HPB</td>
<td>0.142</td>
</tr>
<tr>
<td>Present illness during one month</td>
<td>0.351</td>
</tr>
</tbody>
</table>

Table 1 Health promoting behavior scores

Table 2 Pearson’s correlation between age, income, knowledge on HPB, perception of illness, perception on benefits of gold card, social support and HPB of the elderly (n=341)

Table 3 Predicted factors of HPB among the elderly by stepwise multiple regression analysis (n= 341)
Table 3 Predicted factors of HPB among the elderly by stepwise multiple regression analysis (n=341)
(cont.)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Stepwise multiple regression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Experience to obtain knowledge or information on HPB from health personnel</td>
<td>0.173</td>
</tr>
<tr>
<td>Social support</td>
<td>0.264</td>
</tr>
</tbody>
</table>

\[ B_0 = 6.64; R^2 = 0.482; \text{ Adjusted } R^2 = 0.421 \]

DISCUSSION

Health promoting behaviors of the elderly under the universal coverage

Fifty three percent of the respondents had their HPB at a moderate level, while 30% were at a high level. When considering each domain of HPB, interpersonal relationship, eating behavior and self-actualization were found to be most practiced among the elderly, while exercise was found to have been practiced at the lowest. These findings were similar to the previous studies done by Seo HM and Han YS\(^18\), Anise Man SW, et al\(^19\) and Kyeong YS, et al\(^12\). This may be due to the limitation of their body fitness when getting older because exercise induced more of a feeling of being tired than among those who are young. Practicing exercise had the lowest score of all the present study’s HPB domains. Concerning the most practiced HPBs, interpersonal relationship, eating behavior and self-actualization were daily life practices. The elderly need social contact with others because they are human beings. Additionally, they eat vegetables and fruits to help easy excretion and reduce fat and negative effects of spice in spicy food and to reduce digestion and absorption problem.

Factors predicting HPB of the elderly

From the findings, having an occupation, knowledge on HPB, present illness for one month, experience to obtain knowledge or information from health personnel on HPB and social support from family were the significant predicting factors of HPB of the elderly under universal coverage. The highest level predicting factor was having present illness for one month. When having a present illness, the elderly need to see the doctor or visit health facilities. They will receive proper treatment as well as receive knowledge or information on HPB from health personnel to motivate them to practice more. The result was similar to the study of Lec TW et al\(^20\), Stoller EP and Pollow R\(^9\).

The elderly who have their own occupation will have a source of income to elevate their living arrangements which increases their perception on self efficacy to live without passively depending on their sons or daughters. This finding was congruent with the study done by Kim HJ et al\(^11\) and Kyeong YS et al\(^12\). Social support from the family was found to be positively correlated with the HPB of the elderly. It can be explained that the elderly need to depend on the support from family in terms of financial support, living arrangement, health information as well as psychological support to motivate them to reach their optimum during the last period of life\(^6\). The elderly who have strong social support from family will enhance their sense of well-being that facilitate more HPB while those who have weak social support will feel a lack of self efficacy in the practice of HPB. This result was similar to the study of Kattika T and Kusol S\(^3\) and Kim HJ et al\(^10\). The fourth and fifth predicting factors of HPB in the elderly were experience to obtain knowledge or information on HPB from health personnel and knowledge on HPB. These can be explained as knowledge and understanding in HPB which will influence motivations or modify attitudes of people to practice of health promotion\(^25\).

This finding was supported by the study of Huang LH et al\(^23\) and Coulson I et al\(^24\). The more the HPB knowledge, the more the frequency of practice on HPB among the elderly was found.

Regarding the results of the study, recommendations are as follows:

1. Health promoting behaviors of the elderly were still at the moderate level. The routine services for the elderly should improve the ability of health personnel to provide knowledge and information on HPB through different channels such as face-to-face, demonstrations, pamphlets and home visits, as well as to motivate the caregiver to motivate the elderly to engage in daily practice of HPB.

2. Healthcare services should emphasize giving information on HPB among the elderly who are unemployed and stay at home for continuous practice of HPB.

3. The healthcare services should encourage family members of the elderly to pay attention to HPB of the elderly and to give untiring social support to increase their motivation to practice on HPB.

ACKNOWLEDGEMENTS

The authors would like to thank all health personnel and the village headman of Buriram province who facilitated the data collecting process. Also, we would like to give a special thanks to all elderly who devoted their time to participate in this study. The authors would finally like to give thanks to Eric Curkendall from the Mahidol University Faculty of Public Health, Office of International Affairs for his assistance editing this manuscript.
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