Health-Promoting Behaviors and Related Factors in Patients with Chronic Diseases in a Rural Community

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ABSTRACT
Non-Communicable Diseases (NCDs) are a major health issue worldwide. However, health-promoting behaviors have been shown to enhance the quality of life across diverse populations. This descriptive cross-sectional study aimed to examine the health-promoting behaviors and related factors among chronic disease patients in a rural community. In total, 172 people were calculated using the G*Power program. We used Pearson correlation coefficient and Chi-square test to analyze the data. Current study found that 86% of patients with chronic diseases had a moderate level of overall health-promoting behaviors. With regards to factors associated with health-promoting behavior, the significant related variable (p < 0.05), included age, education level, monthly income, and social support. Based on these results, we suggest that healthcare providers and public health sectors should encourage and promote healthy behavior and improve self-care in patients with chronic diseases.

INTRODUCTION
Non-communicable diseases (NCDs) represent the highest causes of disease and death worldwide.1 NCDs are diseases, which are not transmitted from one person to another such as cardiovascular diseases, hypertension, diabetes, cancer, and chronic respiratory diseases.2 They are estimated to increase from 38 million in 2012 to 52 million by 2030.1 In low middle-income countries, including Thailand, the amount of deaths resulting from NCDs accounts for eighty percent all deaths and more than ninety percent of early deaths.2 Currently, a chronic disease in Thailand is a major public health problem affecting population structure, social environment, economy, medical technology, and environmental issues.3,4 NCDs are the main cause of disability and mortality, as represented by disability-adjusted life years, which is a summary of the years of life lost due to premature mortality, and the years of productive life lost due to disability.5,6

Several previous studies have found that the major risk factors of NCDs are inappropriate health behaviors such as the consumption of sugary, oily, and overly salty foods, lack of exercise, stress, tobacco use, and alcohol consumption.7-10 These health behaviors pose a risk of leading to chronic diseases including cardiovascular diseases, hypertension, diabetes, and obesity.11,12 According to Pender et al.12 health-promoting behaviors are important for all people, especially patients, because health promotion motivates a person to be healthier. In addition, health enhancement can also affect the quality of life of the individual and achieve the ultimate goal of living a healthy life. Health-promoting behavior consists of six elements (1) self-care responsibility; (2) physical activity; (3) food consumption; (4) spiritual growth; (5) interpersonal attachment; and (6) stress management.13 Therefore, if patient has appropriate health-promoting behaviors, the patients can gain good health care for themself, families, and societies as well.

Based on the situation of chronic diseases, NCDs are currently a public health problem in Thailand and the world. The main causes of chronic disease are inappropriate behaviors, including diet, exercise, and stress management.14,15 Therefore, current study aims to investigate the health-promoting behaviors and factors related to health promoting-behaviors in patients with chronic diseases in rural communities. The findings of this study will provide the basis for the correction of factors affecting health-promoting behavior in a way that is suitable for patients with chronic diseases in the future and for a longer quality of life.

Purpose
This current study aims to examine health-promoting behavior and related factors in patients with chronic diseases in a rural community in Thailand.

METHODS
Research Design
The study was a descriptive cross-sectional design.

Sample and Setting
We used G*power program to calculate the sample size using the following: a two-tailed hypothesis test, significance level of .05, and power of .80 which resulted in a sample size of 172 participants. This study was conducted at the rural community in Ubon Ratchathani province, Thailand.

Instruments
The current study questionnaire consisted of three parts. The first part of the questionnaire was sociodemographic data (i.e., age, gender, marital status, education levels, monthly income, and occupation). The second part of the instrument was Social Support developed by House16 and Prabangob17. The Social Support tool consists of 16 items, 4 scales. The internal consistency by Cronbach’s
alpha coefficient was 0.90. The third part of the questionnaire consisted of the Health-Promoting Lifestyle Profile-II in the Thai version (HPLP-II) questionnaire developed by Seeherunwong, Suwonnaroo 18, and Suksttan, Boonvarasit, Popijan 19. The HPLP II Thai version tool consists of 43 items that are categorized into six dimensions: health responsibility (seven-item), physical activity (seven-item), nutrition (eight-item), interpersonal relationships (seven-item), spiritual growth (eight-item), and stress management (six-item). The HPLP II Thai version is a self-report questionnaire with Likert-scale responses and the internal consistency by Cronbach’s alpha coefficient was 0.92.

Data collection
We met the qualified respondents at community sites. After obtaining their permission, participants who met the inclusion criteria and agreed to participate were approached and explained the purpose of this study, processes, and instruments. Participants signed informed consent forms to signify full knowledge of the instruments and participated in the study for 15-20 minutes.

Ethical Consideration
The current study was approved by the Suan Sunandha Rajabhat University (COA.1.024.4/20) and was carried out with written informed consent from the participants. However, patients who were not willing to participate could withdraw anytime.

Table 1. Descriptive of Health-Promoting Behavior Total and Subscales

<table>
<thead>
<tr>
<th>Health-Promoting Behavior</th>
<th>Health-Promoting Behavior Level</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>High n (%)</td>
</tr>
<tr>
<td>Total HPB</td>
<td>32 (18.60)</td>
</tr>
<tr>
<td>Health responsibility</td>
<td>22 (12.79)</td>
</tr>
<tr>
<td>Physical activity</td>
<td>34 (19.77)</td>
</tr>
<tr>
<td>Nutrition</td>
<td>32 (18.60)</td>
</tr>
<tr>
<td>Interpersonal relationships</td>
<td>36 (20.93)</td>
</tr>
<tr>
<td>Spiritual growth</td>
<td>39 (22.67)</td>
</tr>
<tr>
<td>Stress Management</td>
<td>41 (23.84)</td>
</tr>
</tbody>
</table>

Table 2 reveals that age (r = .219, \(p < .001\)), income (r = .363, \(p < .001\)), and social support (r = .408, \(p < .001\)) were positively associated with health-promoting behavior (\(p < .001\)). The Chi-square test showed that education levels were associated with health-promoting behavior (\(p = .004\)). However, gender, marital status, and occupation were not correlated with health-promoting behavior in patients with chronic diseases in a rural community (\(p > .05\)).

Table 2. Descriptive and Correlational Analysis of Health-Promoting Behavior Total and Related Factors

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pearson correlation coefficient (r)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.219</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td>Income</td>
<td>.363</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td>Social Support</td>
<td>.408</td>
<td>&lt;.001*</td>
</tr>
</tbody>
</table>

* \(p\)-value < .01

DISCUSSION
This study aims to examine health-promoting behavior and related factors in Thai patients with chronic diseases in a rural community. The results of this study led to the conclusion that health-promoting behavior in relation with Thai chronic diseases, as conducted by HPLP II Thai version, were strongly associated with age, education level, monthly income, and social support. However, gender, marital status, and occupation were not correlated with health-promoting behavior in patients with chronic diseases.

The current study supports that the age of the participants had a positive relationship with health-promoting behavior. As patients get older, they can learn more self-care skills with age. Therefore, age has a great influence on the expression or response and severity of chronic diseases. Several studies also found that age is positively associated with health-promoting behavior among people with prehypertension in a rural community.
community. In addition, this finding is also similar to previous studies conducted in the United States, which study age as related to health-promoting behavior. Gender was not associated with health-promoting behavior in patients with chronic diseases. This may indicate that both males and females received care from healthcare providers and they also gained information from families, colleagues, and various sources of social media, news or advertising. Thus, health-promoting behavior levels of patients with chronic diseases was not different between men and women. This result is similar to Suksatan, which shows that gender and occupation were not related to health-promoting behavior among people with prehypertension in a community (p-value >.05).

The current study supports prior empirical findings that education level had no correlation with health-promoting behavior. This may indicate that a good level of education will facilitate positive changes in health-related behavior because participants will take care of themselves and become aware of the importance of changing health practices to prevent complications. In addition, the finding of this study is closely related to Mochari-Greenberger, Mills, Simpson, Mosca, which shows that education level is positively related to health-promoting behavior among patients with cardiovascular disease. It is important to learn more about the monthly income associated with health-promoting behavior in chronic disease patients. This study’s finding is similar to previous studies conducted in Hongkong, where the family income was associated with health promoting behavior. The monthly income may indicate that, if patients have sufficient income for living, they will have the ability to pay for their own health promotion activities. These results also closely tied to Reisi, Javadzade, Heydarabadi, Mostafavi, Tavassoli, Sharifirad, which shows that monthly income was positively correlated with health-promoting behaviors in older adults (p = <.001). This current study indicated that social support had positively associated with health-promoting behavior in patients with chronic diseases. Family members, neighbors, colleagues, and health professionals are interpersonal factors that influence health promotion in helping to stimulate willingness to practice health-promoting behaviors in patients. Several researchers teams reported that social support is strongly correlated with health-promoting behavior in patients with hypertension. In addition, some researchers also found that social support positively correlated with diabetes patients (p <.05). This study contributes relevant information to understanding the development of health-promoting behaviors in chronic disease patients. This study indicated that age, education level, monthly income, and social support were significant positive correlation with health-promoting behavior in patients with chronic diseases. Therefore, researchers hope that the findings of current study can be used as a reference to encourage and promote healthy behavior, and also improve self-care in patients with chronic diseases.

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CONFLICT OF INTEREST
The authors have no conflicts of interest to declare.

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