

Health Promotion and a Health Behavioral Model for the Elderly in Thailand: A Systematic Review

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Abstract

The aim of this research was to evaluate the health promotion models used and health behaviors of the elderly in Thailand by adopting a systematic search for relevant articles from appropriate databases published between 2017 and 2021. The PICO framework search terms were used and represent Problem/Population, Intervention, Comparison, and Outcome. The systematic review process adopted was according to the Joanna Briggs Institute guidelines, and Heller's research article quality assessment form was adopted. The data collected indicated that effective health promotion for the elderly involved participation of the community in caring. Involvement included group discussions between seniors, caregivers, community leaders, and community representatives. Well-designed health promotion programs resulted in the elderly having high levels of self-care including knowledge, attitude, and behaviors. In addition, adoption of an adequate health promotion model for the elderly involved families. Most health promotion models incorporated health education and group discussions about health literacy, and they emphasized five health behaviors that improved the health of the elderly; these included proper eating, exercising, emotions, stopping smoking, and stopping drinking. The adoption of an elderly health promotion model that encouraged self-practice improved the health behaviors of the elderly.

Keywords: *Health promotion intervention, health behavior, elderly*

Introduction

A universal phenomenon is population aging. The World Health Organization defines an aged society as a society where the population aged 60 years and older exceeds 10% of the country's population, or a society where the population aged 65 and older exceeds 7% of the total population. The rate of population growth in the world is slowing down, so aging is increasing at a very rapid rate. In 2007 out of the 7,550 million population, 12.7% of people were aged 60 years and older. In Europe the elderly population accounted for 24.7%, followed by North America with 21.7%, and this population continues to grow. ASEAN countries also have an aging population. In 2017, three countries had advanced into an aged society, namely Singapore, Thailand, and Vietnam. The elderly population has been increasing rapidly due to advances in medicine and public health. As for the Complete Aged Society, it is considered to be a society where the population aged 60 years and older exceeds 20% or a society, and where 14% of the population is 65 years and older. A super-aged society is a society where the population aged 60 years and older exceeds 28% of the country's population, or a society where 20% of the population is 65 years or older. Therefore, Thailand became an aged society since 2017 because the population aged 60 years and older accounted for 17.1%, and the country became a completely aged society by 2021. In the next 20 years, approximately one-third of Thailand's is expected to be elderly, which means that it will be a super-aged society (Maree, 2018).

As the proportion of the elderly population increases, the government needs to increase expenditures on health care, medical care, and social services for the elderly. The government also needs to increase the budget to help the poor elderly, as well as collect less income tax from them as there is an increase in the elderly with no income (Srisaphonphusitti & Srisaphonphusitti, 2018). Old age is the time that elderly individuals experience changes in aspects such as in the physical, mental,

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and social domains. The elderly have to face health problems, chronic diseases, and fluctuating mental states. However, if the elderly accept these changes and make some adjustments that will reduce their health problems, their well-being will be impacted to a lesser degree. Adjusting the health behavior of the elderly will reduce the impact of diseases and help prevent various diseases that may affect them. Good health comes from doing activities that benefit and promote one's health. On the other hand, poor health is caused by poor and inappropriate healthcare behaviors. Therefore, the elderly should be encouraged to pay attention to health care in terms of diet, exercise, adequate rest, and mental well-being. This would help reduce health problems for the elderly in Thailand. The elderly are at the age where they require specific care that is different from that experienced by other age cohorts. Characteristically, the elderly experience physical deterioration. Without proper care, they can easily develop general health problems and illnesses (Boukeaw & Teungfung, 2019).

Health promotion can be used to encourage older people to take better care of themselves. In order to achieve optimum physical, mental, and social health, the elderly must be able to express and be aware of their own goals, change or adapt themselves to the environment, control various factors that affect health, and focus on adopting well-designed health promotion guidelines (Sithikan, 2017).

Many factors affect health promotion among the elderly. From past studies, it has been found that the elderly lack knowledge in self-care, and they are more interested in healing than creating good health. The community may have inadequate knowledge of health promotion and may lack support for elderly activities. The service arrangements of health-promotion hospitals do not meet the needs of the community, and their health promotion activities fail to meet the needs of the elderly. In addition, there are insufficient adults to be responsible for the elderly, insufficient budgets, and no systematic coordination (Buerapa et al., 2016). According to a study conducted by Sithikan (2017), personal factors relating to gender, education level, occupation, income, and congenital disease affect health-promoting behaviors, the health promotion knowledge level of the elderly, the most conducive environment for optimizing health promotion, and effective ways to development social networks among the elderly. All these have an effect on health-promoting behaviors among the elderly.

Health promotion for the elderly includes educating them, family members, and communities about various physiological and psychological changes experienced, and their changing emotions. A variety of health promotion guidelines can be promoted through various media, and it may be seen that health promotion is a necessary dimension of elderly care leading to good health.

Research Objectives and Methodology

The research objective was to evaluate the health promotion models and health behaviors of the elderly in Thailand.

This study represents a systematic review of the literature, and synthesizes research following the process and the seven steps used by the Joanna Briggs Institute (The Joanna Briggs Institute, 2014). The review encompassed the health promotion patterns seen among the elderly and health behaviors of the elderly in Thailand during the past 5 years (2017–2021). Data for research came from the Thai Journal online database, Google Scholar, and Thailis using significant search keywords and the inclusion criteria according to the PICOS framework, with details as follows:

1. P: Population represented in a research report involving the elderly.
2. I: Intervention in health promotion.
3. C: Comparison of the various health promotion programs.
4. O: Outcome of the health behaviors.
5. S: Study Design limitations of the research study.

Population and Sample

This study represented a systematic review of published research papers on the elderly. The selection process was according to the specified inclusion and exclusion criteria given hereunder.

Inclusion Criteria

1. The health promotion research conducted on the elderly reported on activities irrespective of the health status of the elderly population.
2. The paper was published in Thai or English.
3. The paper was a full-text article.
4. The research study used an appropriate methodology according to a recognized professional process, and included all the topics in their entirety.

Exclusion Criteria

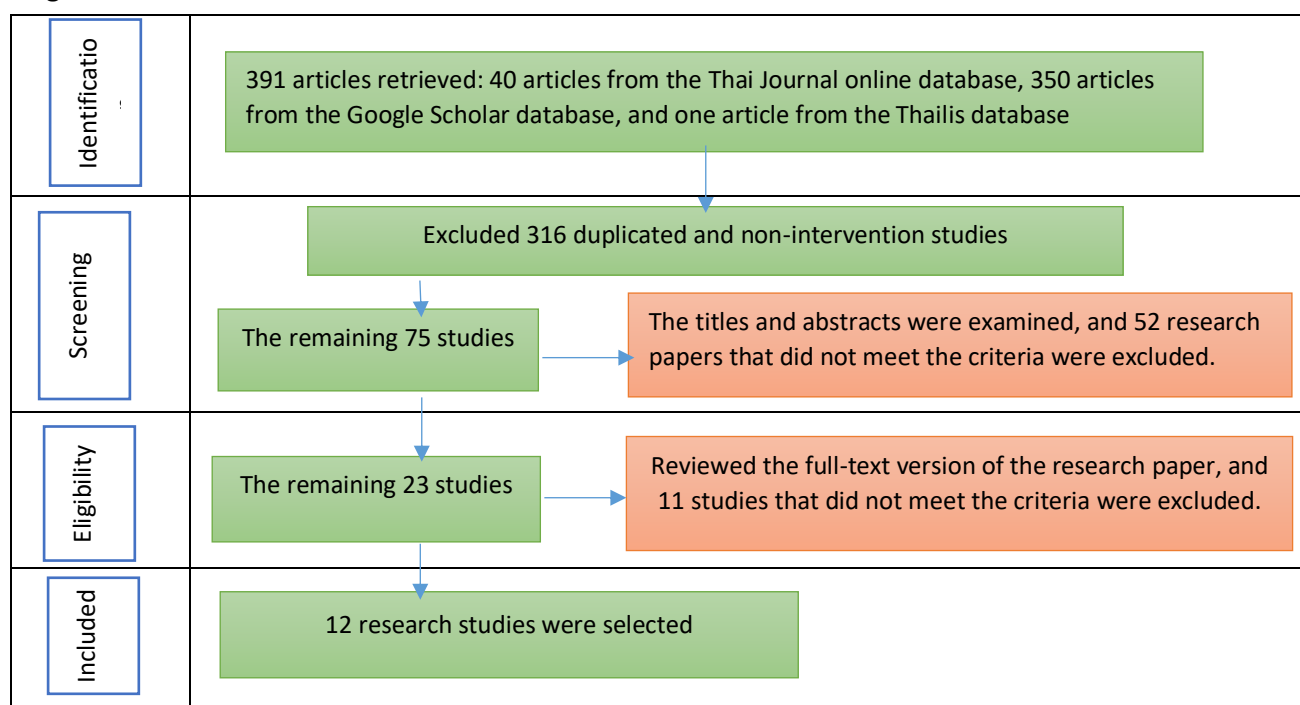
1. A study of the health status of the elderly together with that of other age groups.
2. The research represented a systematic review or meta-analysis.
3. The research was published before 2017.
4. The article contained insufficient data or adherence to research regulations, making it less than comprehensive for publication.

Research Instruments

The research involved three types of tools: (a) Research Quality Assessment Form—used as a tool for assessing the quality of the research paper, (b) Record Form—used to collect and summarize the data, and (c) Record Form—used to synthesize the data. The data collecting procedure was as follows:

1. A total of 391 articles were retrieved from databases: 40 articles from the Thai Journal online databases, 350 articles from the Google Scholar database, and one from the Thailis database.
2. Repeated or duplicated research, research that was not about a health promotion program, or research with a quality that did not meet the criteria set out for useful papers. There were 316 articles in this category that were excluded.
3. Out of the remaining 75 research papers, the titles and the abstracts were examined, and 52 research papers that did not meet the criteria were excluded.
4. Out of the remaining 23 studies, the full-text version of the research article was examined, and 11 research articles that did not meet the criteria were excluded.
5. The quality of the remaining 12 studies was assessed by using the research quality assessment form to collect information, synthesize the data, and record it in the data synthesis form.

Figure 1 *Research Article Selection Process*



Data Analysis

After the relevant research articles were assessed, twelve articles were chosen. The quality of the research papers was examined to determine study credibility using the Heller Research Quality Assessment Scale (Heller et al., 2008). It consists of 11 items, divided into four parts. Part 1 Ask: This part consists of 1 item that was the research question; Part 2 Collect: It contained 6 items, which were about Sampling, Exposures, Outcome, Outcome Measures, Confounders, and Internal Validity; Part 3 Understand: It consisted of statistical tests and public health impact; and Part 4 Use: It consists of the impact on health policy and the acceptable results obtained. Each item was evaluated as follows: *Yes and appropriate* equaled 3 points, *Yes but not appropriate* equaled 2 points, and *Not found in research* equaled 1 point. Research papers that had quality and were used in research synthesis were required to have a passing score of 80%. Each article selected received a score of more than 80%.

Analysis of the Results

Out of all the retrieved articles, 391 articles were related to the study area using the keyword search strategy. The keywords were “health-promoting programs and health-promoting behaviors of the elderly.” Only 75 research articles were related to the variables studied, and 12 articles were considered appropriate and met the specified qualifications. These articles were assessed for quality and analyzed according to their objectives, design/method, intervention, results, and level of evidence. The findings from the research synthesis (Table 1) indicated that elderly health promotion programs improved the health outcomes of elderly. The effectiveness of the programs was tested in a number of ways, and testing guidelines were developed for promoting the health of the elderly. They were classified as follows.

Classification of Research Design Used

Three types of research design used were: Research and Development, Mixed Method Research, and Quasi-Experimental Research.

1. *Research and Development.* In one research study, development involved a form of health promotion to increase the health behaviors of the elderly. In this approach, the problems were analyzed and assessed by community participation. This study involved using basic information about the elderly, establishing the strategy involved, setting forth the outcomes and goals, and arranging for group discussion and in-depth interviews. Then a health promotion project was developed. This involved education about self-care in regards to diet, exercise, sleep, rest, accidents, and mental health to promote health for 4 weeks; it was held once a week, and for 2 hours each time.

2. *Mixed Method Research.* One research study used qualitative data collected by studying the community context. Community surveys and in-depth interviews with community leaders were conducted. A component of the study involved the collection of quantitative data by surveying problems in the sample, and subsequently quasi-experimental research was conducted with the development of a holistic health promotion program. This health promotion model consisted of promoting health through stretching exercises, educational activities for elderly citizens, food choices, taking medications, and managing stress. Participation in this health promotion project was scheduled to occur four times over a period of 6 months.

3. *Quasi-Experimental Research.* Ten research studies were classified under this category and could be further separated into two groups—the first group had a family participation emphasis, and the second used a variety of other strategies.

Family participation was emphasized in two research studies dealing with elderly health promotion. This involved family members participating in activities with the elderly. The activities took the form of large-group education. Health-promoting activities were organized, commitments were established for continual action, goal setting was undertaken to assist in achieving a successful outcome, and to motivate, ways were taught to relieve stress, brain activation data were presented, and family members were encouraged to be involved in setting health care goals.

The majority of studies involved health-promoting programs where various strategies were adopted, incorporating a variety of health promotion activities such as relationship-building activities, teaching health education, lectures, and presenting information on various topics. These included various forms of exercises, stress management, attitude adjustment, eating habits, group discussion, organizing activities to match the elderly to become health partners, exchanging health knowledge in self-care, home visit activities, and Anapanasati meditation (Breath meditation). The duration of implementation of these health promotion programs was designed to induce healthy behaviors ranging from 2 weeks to 12 weeks. The duration of each research study involving the participation in activities occurred a total of 8 times, with 1–2 hours each time. This approximated involvement in 15 hours of activity over an 8-week period.

Classification by the Elderly Health Promotion Model Adopted

1. Health promotion through community participation (one research paper): Representatives from the community and the people worked together practicing health promotion activities for the elderly on diet, exercise, sleep, accident prevention, and mental health promotion.

2. Health promotion involving a group teaching method (two research studies): Teaching occurred in large groups. These groups were taken into breakout rooms where they received knowledge on promoting health, self-care practice, and setting goals for self-care together. Conveying the relevant information was accomplished as a whole, and the content was explained in detail by using media, posters, flip charts, videos, and demonstrations about eating, exercise, sleep, rest, prevention of accidents, and dealing with mental health problems.

3. Health promotion in one research study emphasized exercise using elastic bands and incorporated instruction on eating habits, taking medication, and stress management in addition to activities appropriate for the elderly.

4. Health promotion in four research studies focused on instruction dealing with planning, health education, and learning together in group discussions. Demonstrations involving food consumption, exercise, and stress management were also included.

5. Health promotion through physical activity was the focus of two research studies. These activities involved doing exercises with elastic shoes, sand bottles, and stretch sticks. Thai dancing, Paslop dance, and Thai massage were also featured.

6. Health promotion in one research study involved recreational activities, attitude adjustment, education about self-care practice, sharing experiences by an appropriate individual from the sample group, goal setting, behavior adjustment, and organizing exercise activities.

7. Promoting health through family participation by sharing knowledge of diet, exercise, brain activation, and an exchanging experience activity was the focus of the final research study considered.

Discussion

The focus adopted in our discussion will be on important issues and findings according to the study objectives on health promotion and health behaviors of the Thai elderly reported in the research data collected from many regions of Thailand. Through a systematic review of the literature, it was evident that many forms of health promotion were used for the elderly in Thailand. This enabled the elderly, who participated in the health promotion programs, to take better care of themselves and enjoy better health. Health promotion for the elderly involved participation of the community in caretaking, group discussion among the elderly, and interviewing the elderly, their close caretakers, and community leaders. Representatives from the community and the people were permitted to participate in health promotion projects with the elderly. It was found that the elderly had higher knowledge about self-care, better attitudes towards self-care behavior, and showed better self-care practices after their involvement in health promotion programs. This was consistent with the study of Samutrat (2020) who found that most community leaders in health promotion among the elderly perceived that exercise was the most beneficial activity, and encouraged it among the elderly. The behavioral factors recommended for promoting health by community leaders mostly related to stress relief through finding favorite hobbies or encouraging exercising.

Table 1 Elderly Health Promotion Program

Author (Year)	Objectives	Design	Intervention	Summary of the Results	Level of Evidence
Saykumpa, 2021	To develop/study the effectiveness of a participatory health promotion program for the elderly in Ban Thon Subdistrict, Sawang Daen Din District, Sakon Nakhon Province.	Research and Development	Educate participants about taking self-care in terms of eating, exercise, sleep, rest, accidents, and mental health through community participation.	The elderly returned higher mean scores of knowledge, attitudes, and behaviors concerning self-care behaviors than before using the program.	3
Winyangkul et al., 2018	To study the effectiveness of a health promotion program for the elderly with hypertension and certain bone conditions in Chiang Rai Province.	Mixed-Method Research	Stretching exercises, school activities for the elderly, food choices, taking medication, and stress management.	Males and females had different mean systolic and diastolic blood pressures before and after exercise. The mean bone mass level was not different before and after exercise.	3
Patipattarakul et al., 2018	To study the effectiveness of health promotion programs on health behaviors in terms of exercise, diet, and stress management of the elderly in the community.	Quasi-Experimental Research	Relationship-building activities about consuming healthy food, food and herbs per local wisdom, exercise, Thai and Paslop dance, stress management, Thai massage.	The mean scores of behaviors involving exercise, eating, and stress management were higher than in the pre-experimental period.	3
Yeunyong & Pomla, 2018	To study health promotion programs on knowledge, attitudes, and health-promoting behaviors of the Mon elderly in Pathum Thani Province before/after joining the program.	Quasi-Experimental Research	Teaching about health promotion to the elderly, discussing and exchanging opinions.	Knowledge of health promotion and attitudes towards health promotion increased after participating in the program and were at a high level. Health-promoting behaviors increased after participants attended the program and these increases were at a good level.	3
Kaewmoon et al., 2020	To compare knowledge held among the various groups involved in the study concerning risk perception, perceived severity, perceived benefits and barriers to self-care practices, and blood sugar control before/after the experiment.	Quasi-Experimental Research	Activities to enhance knowledge about health promotion involving exercising with elastic bands, foot care, stress management, and choice of food by using online media to exchange knowledge.	Average scores for knowledge, risk perception, perceived severity, benefits and barriers to self-care practices, and self-care practices were higher in experimental group than in the comparison group. Control of blood sugar levels were also better in the experimental group and superior to those in the comparison group.	3
Khamhaengphol et al., 2017	To compare the average scores on behavior and self-care of the elderly within the experimental group and with the comparison group before and after the experiment.	Quasi-Experimental Research	Organizing relationship-building activities, exchanging information about self-care, Anapanasati meditation (Breath meditation), activities model, and home visit activities among participants.	The mean score of self-care behavior of the experimental group increased more than in the comparison group. The elderly who participated in the program to promote self-care behaviors through parade activities resulted in better self-care in physical, mental, and social aspects.	3

Author (Year)	Objectives	Design	Intervention	Summary of the Results	Level of Evidence
Pormla & Ukkakimapun, 2018	To study the knowledge and health-promoting behaviors of the elderly before and after participating in the health-promoting programs of the elderly in Pathum Thani Province.	Quasi-Experimental Research	Educate about health and its promotion to the elderly, discuss and exchange opinions.	The average score on the knowledge of health promotion increased and it was at a high level.	3
Supasri et al., 2021	To study the effect of health promotion programs on self-efficacy and the outcomes and expectations of self-care of the elderly suffering with high blood pressure.	Quasi-Experimental Research	Activities to enhance self-efficacy: Talking about experiences/obstacles in daily life, practicing physical exercise, skills, food consumption, managing stress/daily routines.	The elderly who participated in the health promotion program had higher self-efficacy and outcome expectations of self-care than before the program and they scored better than the comparison group.	3
Pukkunnun & Duangsong, 2020	To study effects of a physical activity promotion program involving the application of concepts developed on physical activities for the elderly by the Elderly Health Promotion Clinic, Health Center 7, Khon Kaen.	Quasi-Experimental Research	Provide health education for groups about physical activities, and practices on muscle training using elastic shoes, sand bottles, and stretch sticks. Give positive reinforcement (compliments) as rewards to motivate/encourage.	The average score of knowledge in physical activity, physical activity motivation score, and confidence scores in physical activities after the experiment was higher than before the experiment and it was also higher than in the comparison group.	3
Srangna & Wichai, 2020	To study the effect of health promotion programs on the elderly in Na Siew Subdistrict Muang District, Chaiyaphum Province.	Quasi-Experimental Research	Relationship-building activities, group discussions about self-care/eating habits, stretching exercises, stress-relieving by practicing meditation and recreational activities.	Health-promoting behaviors regarding eating habits, physical exercise, and stress management were higher after the experiment than before the experiment.	3
Hawong et al., 2017	To study the effect of health promotion programs on the elderly with Alzheimer's in the community.	Quasi-Experimental Research	Promoting disease awareness and enhancing motivation to adopt health promotion practices: stress-relieving activities, exercise, brain activation, diet, exchanging learning experiences among participating families.	The average scores for knowledge, perceived severity, risk of dementia, perceived benefits and barriers to self-care, and self-care practices after the experiment were better than before the experiment, and participants displayed better practices to prevent dementia.	3
Sittisart et al., 2019	To compare the average score of health-promoting behaviors and the average score regarding hypertension before and after the experiment.	Quasi-Experimental Research	Attitude adjustment activities, health promotion responsibility guidelines, interpersonal relationship improvement, physical exercise, nutrition, spiritual development, and stress management.	In experimental group, average scores of overall health behaviors in each aspect emphasized during behavioral support program were higher than before experiment. The mean value of systolic blood and diastolic blood pressure of the experimental group after receiving the program was less than before the experiment.	3

As for involvement factors, most community leaders engaged in community activities until it became a habit to support the operation of elderly clubs. In addition, another interesting matter was that an effective model of health promotion for the elderly involved families. Family members were encouraged to take part in setting health care goals for the elderly and being involving in group activities to learn and share experiences dealing with social support skills training, such as motivation and encouragement for the elderly. This was consistent with studies which have indicated that family social support plays a role in promoting and maintaining good health, and facilitating the creation of an appropriate environment leading to the implementation of health promotion activities. Family plays a role in social support by sharing ideas or being friends with the elderly in various activities, thus preventing the elderly from thinking or acting alone, and reassuring them that they are not alone. This will result in the elderly being confident and encouraged to carry out sustainable health promotion activities (Komjakraphan, 2013). This is also consistent with the study of Chauvakij and Kespichayawattana (2014), who showed better health-promoting behaviors of the elderly with glaucoma following promotion of self-competence and support from families concerning emotion, appraisal, information and resources.

Most health promotion models used in health education are used in conjunction with group discussions, and they improve the health behavior of the elderly, which was consistent with the study of Rojpaisarnkit (2016). That study showed that knowledge of health care had an effect on the health-promoting behaviors of the elderly, as did getting social support from the family. Rojpaisarnkit (2016) suggests that a good model to follow for developing health-promoting behaviors among the elderly is provided by the KASAFF guidelines. This acronym is explained as follows—K: Knowledge of self-care education, A: Attitude, promoting positive attitudes in health care, S: Self-esteem, encouraging self-worth, A: Alcohol, giving up alcohol, E: Environment, providing a healthy environment and F: Family, fostering social support from families in health care. This approach is consistent with Malekafzali et al. (2010), who found that considerable benefits are possible by providing an educational program to promote health among the elderly. They found that education increased the desire of the elderly to consume more vegetables, increased aerobic exercise among the female elderly, and led to higher levels of mental health, lifestyle satisfaction, and overall happiness.

Health promotion among the elderly is optimized by focusing on three main activities, namely, eating, physical exercise, and stress management to improve their health behavior. This is consistent with the study of Muensaen and Krahibul (2014). The study also framed a project to promote the health of the elderly by involving them in decision-making and joint planning with community participants. The project focused on mindful caring for the health of the elderly. There were physical exercise activities and sports for the elderly, such as pole dancing, Chinese boxing, Tai Chi, and Vipassana meditation, and jobs were made available for supplemental income generation. As a result, it was found that the health of the elderly improved physically, mentally, and socially.

Selection of a health promotion model for the elderly must be specific and practical. The popular health promotion concept for the elderly is to promote health according to the three E's, consisting of eating, exercise, and emotion. This concept is easy to understand, and covers both physical and mental aspects. It can be put into practice according to the context of each elderly person and in line with the 20-year National Strategic Plan (2016–2036) of the Ministry of Public Health (Waichompu et al., 2019). From a systematic review of the literature, it was found that most elderly health promotion activities consisted of three main activities, namely, eating food, exercise, and stress management.

Implementation of an effective program can be facilitated by adopting a health promotion model where families and communities are involved. This will enable the elderly to develop healthier behaviors. Such an approach can be used to guide families, communities, and health service units to take care of the elderly, to maintain standards, and to improve their health behaviors. There is no single model that is appropriate for all circumstances. The activities found during the literature review illustrated that various health promotion models can be applied in the care of the elderly as appropriate to their condition, and according to the social context in which the elderly live.

Suggestions for Future Research

Research might be conducted on specific health promotion models that can be appropriately used for the elderly with congenital diseases, or with complications that require self-care. It also seems that research would be beneficial to enable a higher level of awareness and skill to be developed regarding the potential/capacity of health promotion for caregivers, families, communities, primary health care units, and Village Health Volunteers to enable them to more effectively care for the elderly in their communities.

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