

Health Behavior and Recreational Activity of Elderly People in Elderly Schools of Thailand

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Abstract This research aimed to examine the health behaviors and recreational activities of the elderly and investigate the relationships between the physical, mental, emotional/intellectual, and the social aspects of the elderly in the elderly schools. The samples were 400 elderly people, who had been recruited via the Multi-Stage Random Sampling method. The data collection was completed by using a questionnaire developed by the researcher. It consisted of 3 parts: Firstly was The respondents' General Information, Secondly was The respondents' Recreational Activity Needs, and lastly was The Elderly Health Behavior Assessment, which had a 5-level rating scale. The questionnaire was rated with reliability of 0.924. The statistics used for data interpretation included means, percentages, standard deviations (S.D.), and Pearson's Product Moment Correlation Coefficient. The results presented that there were more females than males, with the average age range of 60-69 years. The elderly's needs for physical recreation activities with the three highest average scores were Stick exercises, and Yoga. Regarding the mental activities, the two highest average scores were Tree planting, and Gardening. The needs for emotional/intellectual health were Basketry, and Weaving. The highest average scores for the needs of the elderly on the social aspect were Rhythmic activities, and Singing. The overall physical health of the elderly was rated at a low level, while the overall scores for the mental, emotional/intellectual, and social health aspects were at moderate levels. The

relationship between health promotion activities and the health quality of the elderly in the elderly schools was statistically significant at a level of 0.01.

Keywords Health Behavior, Recreational Activities, Health Promotion, Elderly School

1. Introduction

In 2020, Thailand had a total population of 66.5 million people, with about 12 million or 18% of the population at 60 years of age and over. This number has led to speculation that by 2022, Thailand will have turned into a "Completely aged society." The inception of an "Aged society" in Thailand was traced back to 2005, when the ratio of the population aged 60 years and over increased by 10%. It has taken about 17 years for Thailand to turn into a completely aged society [1]. The problems of the elderly will undoubtedly intensify. It is advisable for the elderly to have access to educational opportunities that should respond to the needs of the elderly. One of the organizations that can help address the issues of the elderly is the elderly school. These seniors should have the opportunity to gain experience and to participate in activities within their communities. The promotion and development of the well-being of the aging people in an elderly school can take a variety of forms and can be

implemented through recreational activities, depending on the needs of the elderly in particular areas. The recreational activities for the elderly can vary. For example, the elderly can participate in singing folk songs and contemporary songs, laughter therapy, music therapy, coloring, origami, and picture printing, etc. [2]. In 2020, the Department of Physical Education organized a project to promote recreational activities for the elderly by organizing a karaoke contest in an online format. There were many elderly people, who submitted video clips to the contest and eighty clips were selected. Butler, G.D.[3] stated that recreation was a way of finding happiness and balancing of living life and work. It promotes relaxation and mutual respect among human beings. Recreation is the process of improving the life experiences and quality of life of an individual. Recreational activities also provide opportunities for the senior citizens to spend their leisure time more effectively.

According to the results of the study of UNFPA, College of Demography of Chulalongkorn University, it was found that, in 2020, Thai elderly suffered significant health impacts during the COVID-19 epidemic. Moreover, about 57.2% of the aging group citizen were reported to have faced anxiety [4]. Having good health is the cornerstone of life, and it is what everyone desires to have. People in good physical and mental health are able to perform their daily duties effectively and tend to happily live in society. Living a healthy life can result in happiness and success in life [5]. Based on the Pender Model of Health Promotion [6], the commitment to achieve the highest levels of health and happiness is an action that increases the level of well-being both for individuals and groups. Moreover, an individual's health concerns are directly related to the family's health-promoting behaviors. Health promotion is a positive activity or behavior that enables a person to maintain good health. A similar idea was articulated in [7], who investigated the Health Promotion Behaviors of Muslim Elders in case of Okarak District Nakornnayork Province. The data was collected by using a questionnaire and the analysis statistics included frequency distributions, percentages, means, and standard deviations. The results showed that the health promotion behaviors of the Muslim senior samples had been rated at a moderate level. The perceived benefit factor was positively correlated with overall health-promoting behaviors. In an itemized investigation of the health-promoting behaviors, it was found that 'Spiritual Growth' was the health promotion aspect that had achieved the highest average score. The perception of the health benefit was found to be positively correlated with health responsibilities. However, it was found that interpersonal relationships, spiritual growth, the ability to deal with stress, and the perception of issues had not correlated with health-promoting behaviors among the Muslim elders in all aspects.

Recreational activities are ways to promote good health and to help elderly people to live more happily in society [8]. Recreational activities are forms of motor activity

because they involve muscle activation. Recreational activities slow down physical deterioration, while its aesthetic aspect helps to reduce the anxiety and depression, which can generate an active and sound mind. Moreover, recreational activities engage the seniors in social gatherings, which can assist the aging group people to learn to cope with their changing situations. Juthaporn Yamgaew. [9] investigated the activities that promote the elderly good health in Sak Suk School in the Tai Dong Sub-district in the Wang Pong District of Phetchabun Province. It was found that the elderly people's satisfaction level was high. With respect to different genders, there was no difference found on the level of satisfaction among the elderly. However, the people, who had various levels of education, different occupations, and were of different ages were found to have different levels of happiness when they participated in the elderly development activities. The elderly development activities would get the best results when the activities were related to the age, the physical condition, the areas of specification, and the needs of the elderly. The researcher discovered that good recreational activities should promote voluntarily participation, be entertaining, cultivate relationships, and should promote happiness and good health.

The purpose of this study was to examine the recreational activities and health behaviors of older adults in the elderly schools. It also sought to investigate the factors that advocate wellness for the elderly, which could be used as guidelines for the creation of physical health, mental health, emotionally/intellectually health, and social health among the elderly.

2. Materials and Methods

Participants

The sample consisted of 400 elderly people with an age range of 60-79 years, who were enrolled in nine elderly schools from different districts of Kalasin Province. The multi-stage random sampling, based on Taro Yamane's formula, was used to help recruit the participants. The sample selection process was conducted as follows: Step 1: The Simple Random Sampling method was used for sample selection. Specifically, 9 elderly schools were selected from a total of 18 schools in the province by using a lottery. The nine elderly schools, which were randomized, consisted of the schools from the following sub-districts: the Nachan Sub-district of Muang Kalasin, the Lao Yai Sub-district of the Kuchinarai District, the Phon Sub-district school of the Kham Muang District, the Na Khu Sub-district school of the Na Khu District, the Wat Asokaram School of the Namon District, the Bua Tum Bua Ban Sub-district of the Yang Talat District, the Ayuwat Klang Panya School (Home Suk), the Non Sila Sub-district of the Sahatsakhan District, the Nong Kung Si Sub-district Municipality of the Nong Krungsri District,

and the School for the Elderly in the Khai Nun Subdistrict of the Huai Phueng District.

Research Methods

The researcher conducted data collection in the field, which involved explaining the research objectives to the sample group and then collecting data from willing informants. Only trained researchers and research assistants conducted the data collection. Each of the items in the questionnaire was read to the elderly, who would then have to truthfully answer the questionnaire. Then the collected data was reviewed and was made ready for the data analysis process.

The instrument used in this research was a questionnaire, which was developed based on research from [10]. The questionnaire consisted of 3 parts as follows: Part 1: The General information of the respondents, which consisted of a check list and a writing survey; Part 2: The informants' needs for recreational activities, which was in a check list survey form; and Part 3: The elderly's health behavior assessment form. This was a rating scale of 5 levels with a total of 20 questions that helped to obtain information about the informant's health in four areas: the physical, mental, emotional/intellectual, and social aspects. The content validity was analyzed by five experts, and it was rated using the IOC values of between 0.80-1.00, and the reliability of 0.924. Once ethics clearances from the University of Mahasarakham were approved (ID: 220/2563)

Statistical Analysis

The data were analyzed by using descriptive statistical statistics, including means, percentages, and Standard Deviations (S.D.). The correlation was analyzed using Pearson's Product Moment Correlation statistic.

3. Results

Regarding the analysis of the basic information, the problems, the conditions, the needs, and the guidelines for the development of health promotion through recreational activities in the elderly schools, it was found that there were more female informants than males (245 females or 61.25%, 155 males or 38.75%). Most of them were between 60 to 69 years (160 people or 40.00%), with 195 people (48.75%), who were living with their spouses. About 241 people (60.25%) were monetarily supported by their children. Most of the informants (204 people or 51.00%) reported to have had a sufficient income. About 201 people (50.25%) were from the nuclear families. Most of the participants weighed 45-65 kilograms and had an average height of 150-170 centimeters. About 247 people (61.75%) did not have any health restrictions. With regard the ability to exercise, there were 272 people (68.00%), who said they exercised sometimes, while

about 270 people (67.50%) reported to have had bad feelings, such as loneliness and sadness. About 278 people (69.50%) said they sometime had insomnia. 271 of the elderly (67.75%) said that they were occasionally easy to get along with. A total of 267 people (66.75%) reported that they were able to participate in exercise activities. It can be concluded from the above data that most of the respondents did not have any underlying diseases, while only a small proportion of the members actually did. The groups with restrictive health issues, which were associated with problems in doing exercise, had experienced bad feelings, such as loneliness and sadness; had had insomnia, and had had trouble in getting along with others.

Table 1. The numbers and percentages of the elderly's recreational needs

Recreational activities for the elderly in the elderly schools	Amount (people)	Percentages
1. Recreational activities for physical health		
1.1 Stick exercise	312	23.72
1.2 Yoga	306	23.36
1.3 Running	283	21.52
2. Recreational activities for mental health		
2.1 Tree planting	304	29.98
2.2 Gardening	281	27.71
2.3 Weaving and knitting	267	26.33
3. Recreational activities for emotional and cognition health		
3.1 Basketry	267	23.25
3.2 Looming	243	21.16
3.3 Inventing	200	17.42
4. Recreational activities for social health		
4.1 Rhythmic activity	318	30.87
4.2 Singing	270	26.21
4.3 Discussion	227	22.03

According to Table 1, the analysis of the elderly's needs on recreational activities showed that the top three activities that were believed to help promote physical health were as follows: 1) Stick exercise (23.72%), 2) Yoga (23.36%), and 3) Running (21.52%). The activities for mental health promotion with the highest average score were as follows: 1) Planting trees, (29.98%), 2) Gardening (27.71%), and 3) Needlework (26.33%). The activities for intellectual health promotion with the highest average score were as follows: 1) Basketry, accounting for 23.25%, 2) Weaving, accounting for 21.16%, and 3) Making utensils, which accounted for 17.42%. The activities for social health with the highest average score were as follows: 1) Rhythmic activities, accounting for 30.87%, 2) Singing, accounting for 26.21%, and 3) Discussion, accounting for 22.03%.

Table 2. The Means and SD's of health-related behaviors of the elderly in the elderly schools

No.	Areas of health	\bar{X}			S.D.	Evaluation
		Male	Female	Total		
1	Physical health	2.49	2.45	2.47	0.79	Low
2	Mental health	2.70	2.83	2.77	0.74	Moderate
3	Emotional/ cognition health	2.69	2.82	2.76	0.78	Moderate
4	Social health	2.67	2.72	2.70	0.81	Moderate

According to Table 2, the means of health-related behaviors of the elderly between males and females were slightly different. It seen that females had higher mean of health-related behaviors than males in term of psychological health, emotional/intellectual, and social health, excepting physical health. However, they had the evaluation at the same level. The investigation of the elderly's health behaviors showed that the overall physical health of the elderly individuals was at a low level. This may be due to lack of knowledge and/or interest in performing various activities to promote physical health strength. In terms of psychological health emotional/intellectual and social aspects, overall health was at a moderate level. The above results show that the elderly people in the elderly schools should receive health promotion to achieve better health.

Table 3. The correlation between aspects of health promotion activities and the elderly's quality of health

Areas of health	The elderly quality of health		
	Correlations (r)	p-values	Levels of relationship
Physical health	0.70	0.000*	Moderate
Mental health	0.82	0.000*	High
Emotional/cognition health	0.86	0.000*	High
Social health	0.85	0.000*	High
Overall	0.81	0.000*	High

* a significance at the level of 0.01

Based on Table 3, the promotion activities were found to have had a positive relationship between health and the elderly people's physical health with correlation coefficient of 0.70 and a statistical significance at the level of 0.01. Similarly, the psychological health of the elderly was found to be positively correlated with exercise activities, with the correlation coefficient value of 0.82 and a statistical significance at the level of 0.01. Moreover, the health promotion activities were positively correlated with emotional/intellectual health with the correlation coefficient value of 0.86, and a statistical significance at the level of 0.01. Likewise, the health promotion activities were positively correlated with social health and with the correlation coefficient of 0.85 and a statistical significance at the level of 0.01. The overall health promotion

activities were positively correlated with the overall health at the correlation coefficient value of 0.81 and the statistical significance of 0.01.

4. Discussion

Based on the investigation of the basic information of the informants, it was found that most of the elderly did not have any underlying disease. However, there were still some elderly people with congenital diseases. These people were left with difficulties in getting exercise and were also found to have other associated issues, which included having bad feelings, such as loneliness and sadness, and having insomnia. Some elderly people with restricted health issues were also found to have difficulty getting along with others. This is in line with the study by [11] who examined the effects of exercise in accordance with age and community lifestyle and the modification of exercise behaviors of Elderly Health Promoting Hospital in the Na Tieng Subdistrict of the Sawang Daen Din District in Sakon Nakhon Province. It was observed that the obstacles to exercising had been rated at a moderate level. This was restricted by the thinking that the daily routine or work was an exercise on its own's sake. Some elderly thought that the people of older ages did not have the strength to exercise. There was also a misconception that the old people were sick and unable to exercise like other people. A similar idea was observed in [12], who investigated the factors associated with exercise behaviors of the elderly in the Health and Environment Promotion Club in the Sai Mai District of Bangkok and found that the ability to exercise among the target elderly group was at a moderate level.

Regarding the investigation of the elderly's needs for recreational activities in the elderly schools, it was found that the first three recreational activities for physical health promotion with the highest average scores were as follows: 1) Stick exercises, 2) Yoga, and 3) Running. The first three activities for mental health promotion with the highest scores of needs were as follows: 1) Planting trees, 2) Gardening, and 3) Needlework (weaving and knitting). The recreational activities for emotional/intellectual health promotion with the first three highest scores of needs were as follows: 1) Basketry, 2) Weaving, and 3) Utensil invention. The recreational activities for social health promotion with the first three highest scores of needs were

as follows: 1) Rhythmic activities, 2) Singing, and 3) Discussion. A similar finding was observed in [13], who conducted research into the development of recreational activities for the elderly. It was found that the recreational activities that were interesting for the elderly had tended to be beneficial for health, and were related to social activities, tourism activities, supportive for free time spending, and relaxing. This may be because of the fact that the older people wanted to be involved in the community movement and to meet up with friends. The elderly might want to develop themselves physically, mentally, intellectually, and socially. This idea was articulated in a study by [14], who conducted research into the needs for recreational activities of the elderly in the municipality of Chainat Province. It was found that recreational activities that the elderly liked to practice were as follows: arts and crafts, hobbies, voluntary, and the activities that promote speaking, reading, and writing.

Regarding health behaviors of the elderly in the school of the elderly, it was found that the overall physical health of the elderly was at a low level. This may be due to lack of knowledge and interest in performing various activities to promote physical health. The elderly's behaviors, related to their mental health, emotional health, and social health were rated at a moderate level, which shows that the elderly were ready to carry out activities that are beneficial for their health promotion. This is consistent with [15] on the extent to which health-promoting behavior is a daily practice that should maintain in order to enhance one's health, wellness, and self-appreciation. A similar idea was observed in [7], who investigated the Health Promotion Behaviors of Muslim Elders in case of Okarak district Nakornnayork province. The results showed that elderly Muslims had had a moderate level of health practice based on Pender's framework. The perceived benefit factor was found to be positively correlated with overall health-promoting behaviors. In an itemized investigation of the health-promoting behaviors, it was found that the health-promoting behaviors were associated mostly with spiritual growth. The perceived benefits of health-promoting behaviors were positively correlated with health responsibilities. However, the interpersonal relationships, the spiritual growth, the ability to cope with stress, and the perception of obstacles were not related to health promoting behaviors of the Muslim elderly in all aspects. This finding was consistent with [16], who studied the health promotion behaviors of the elderly living in an urban community of Khon Kaen Province. The results showed that the elderly living in the suburbs of Khon Kaen had a low average score of physical activities and health responsibilities. It was also found that approximately 50 percent of the health-promoting behaviors among the elderly had been appropriate. This number was rather low. Therefore, it emphasizes that there should be the creation of recreational activities, which could help to promote the health of the elderly persons in all related areas. This finding was consistent with [17], who studied the health

management model: a case study for success. The results showed that with a plant-based diet and a minor behavioral change, one can greatly improve his or her health by staying at a normal weight. This type of nutrition has a major social impact especially at this time of the COVID-19 pandemic because it affects particularly people in poor health conditions.

Based on the study of the relationship between the health promotion activities and the health of the elderly, it was found that the health promotion activities were associated with the physical health at a moderate level and with a statistical significance at the level of 0.01. This can be explained from the fact that the older people have undergone different degrees of physiological and physical deterioration. There are changes in the musculoskeletal system, which decrease mobility. Therefore, the activities performed by an elderly person should be made to accommodate the distinctive natures of the elder persons. This is in line with [18], who studied the relationship between physical activities and mental health, social health, and spiritual health status among three aged group elderly. The results showed that most of the elderly had moderate physical activity. The correlation of physical activities with mental health, social well-being, and spiritual well-being among the three groups of the elderly (early old age, middle old age, and late old age) was found to be at moderate and high levels. This is consistent with the ideas observed in a study by [19], who postulated that physical activity could enhance wellness and increase activity in the elderly with poor health. Health promotion activities were found to be associated with psychological health at a high level, with a statistical significance at the level of 0.01. This can result from the fact that when joining any physical activities, the elderly have chances to interact, discuss, and to share their experiences with the other group members. Psychologically, having good social interactions can trigger happiness. A similar idea was observed in a study by [20], who developed activities to promote mental health of the aging population in Loei Province. It was observed that the elderly, who had participated in the activities, were satisfied with participating in the activities. The participants reported that they had applied the knowledge obtained from joining the group activities to stress relieving. They also reported to have a pleasant time and have a comfortable time in the interactions. This was observed in a study by [21], who conducted a study of the health status and health behaviors among the elderly in Kham Kwang Sub-district, Warin Chamrap District of Ubon Ratchathani Province. The findings indicated that the overall health behavior level of the elderly was statistically related to mental health status ($p = 0.020$). Health promotion activities were found to be significantly associated with the emotional and intellectual health at the level of 0.01. This may have resulted from the fact that, when the joining the activities, the elderly were allowed to interact with peers, which can result in stress relief. This was also observed in a study by [22], who examined the

factors associated with health promotion behaviors of the elderly in Ban Hong Municipality, Banhong District, Lamphun Province. In this study, the average age of the elderly was 69 years, and most of them were females. The elderly people in this study were reported to have good health-promoting behaviors in terms of diet, exercise, and emotional management. Kitiwong Sasuad. [23] investigated the factors affecting the quality of life of the elderly in the Eastern provinces and found that the most appropriate people to promote the health of the elderly would be the family members. Government and private sectors should also be actively involved in order to help place emphasis on the health of the elderly in all aspects, including the physical, emotional, and spiritual health. Health promotion activities had a high correlation with social health with a statistical significance at the level of 0.01. This emphasizes the community's role in providing health support to the senior citizens. In particular, participation from the family members is important. Sukprasert Tabsee. [24] studied the factors related to self-care behaviors of the elderly in the Kangkrajjan District of Phetchaburi Province Social. It was found that the emotional support from the family members had a high level of positive correlation ($r = .641, .609, .613, .639, p < .01$) with the self-care behaviors of the elderly. Similar idea was observed in [25], who investigated the factors related to healthy aging among elderly. It was found that social support had a statistically significant correlation ($p < .01$) with the high quality of elderly life.

5. Conclusions

Particularly for this study, the researcher had developed a model of recreational activities that promote the health of the senior people in the schools for the elderly. The sections below show the research's summary based on the order of the research objectives.

The research participants were mostly female with the average ages of between 60 to 69 years, and most of them were married. The main source of income was from the children, and most of them were reported to have enough money to spend. Most of the elderly lived in extended families. The average weight of the participants was between 45-65 kilograms with an average height of 150-170 centimeters. Most of the elderly did not have any underlying diseases which allowed them to do some exercises. Those, who reported having restrictive diseases tended to have negative feelings, such as loneliness and sadness. Some of them experienced insomnia. The majority of the participants said that they were easy to get along with sometimes and that they sometimes were able to join the recreational activities. The elderly's needs for physical recreation activities with the first three having the highest average were: 1) Sticking exercises, 2) Yoga, and 3) Running. Regarding the mental activities, the highest three average scores were placed on: 1) Tree planting, 2)

Gardening, and 3) Needlework. The needs for emotional/intellectual health with the first three having the highest average were: 1) Basketry, 2) Weaving, and 3) Utensil Invention. The first three having the highest average need for the elderly on social aspect were: 1) Rhythmic activities, 2) Singing, and 3) Discussion. The overall physical health of the elderly was rated at a low level while the overall scores for the mental, emotional/intellectual, and social health aspects were at moderate levels. It was suggested that the recreational activities be made more practical. The participants said that the circle activities should be in a form of game and that the proper time for an activity should be around 30 minutes.

The overall physical health of the elderly was at a low level. This may be due to lack of knowledge and interest in performing various activities to promote physical health. The overall mental and social health of the elderly was rated at a moderate level. This result shows that the elderly were ready to attain health promotion programs in order to have better health. The relationship between health promotion activities and the quality of the physical health of the elderly in the school of the elderly was rated at a moderate level. The health promotion activities were associated at a high level with the quality of the mental health and the social health of the elderly.

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Conflicts of Interest

The authors declare that for this research work, there were no conflicts of interest.

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