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Factors Related to The Active Aging Concept and Functional Capacity in The Thai Elderly

Pakin Chaichuay, Ph.D.

Sirindhorn College of Public Health, Warin Chamrap, Ubonratchathani 34190, Thailand.

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Abstract:

Objective: This study aimed to examine factors related to the active aging concept and functional capacity in elderly Thais.

Material and Methods: The study population was 253 elderly people aged 60 years and over. The tools used for data collection were a standardized active aging concept questionnaire, which had an index of item objective congruence (IOC) of 0.938. The descriptive statistics used percentages, means, and standard deviation, and inferential statistics were calculated through stepwise multivariate linear regression to investigate the factors that impacted the functional abilities associated with active aging.

Results: The results showed that functional capacity had a low to moderately positive correlated significance with mean a correlation with the willingness of the elderly people to follow or practice the active aging concept, the health service system and environmental and lifestyle factors had a moderately positive effect; and behavior had a low positive correlated significance with practice the active aging. The regression coefficients of the health service system factors and environmental and lifestyle factors had a positive relationship to the practice of active aging.

Conclusion: In summary, the health service system and environmental and lifestyle factors had a positive relationship with the practice of active aging. Relevant agencies can use this as basic information for planning and promoting the development of increased functional capacity for the elderly.

Keywords: active aging, elderly, functional capacity

Contact: Pakin Chaichuay, Ph.D.
Sirindhorn College of Public Health, Warin Chamrap, Ubonratchathani 34190, Thailand.
E-mail: pakinchaichay@hotmail.com

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Introduction

The aging population is expected to grow faster in the twenty-first century, posing difficulties to individuals, society, the economy, and politics[1]. Currently, Thailand's elderly population is increasing rapidly, causing the structure of the country's population to change into an aging population. As a result of medical and social advancements, the number of deaths has decreased amidst the movement of the elderly in society[2]. According to a scientific literature review of the relevant studies, most researchers present the reasons for the active aging concept, especially reasons governments are interested in the concept in four aspects: first, population structural changes; second, the country's research policy; third, changes in family structure and increased longevity, and finally, understanding the concept, or the processes involved with 'active aging. Thailand has been an "aging society" since 2005, then it became a "completely aging society" around the year 2021, and in another 10 years, it is projected to become a "super-aged society around the year 2031. In 2014, Thailand had 5.6 million early-aged adults (8.6% of the total population), 3.0 million middle-aged adults (4.6%), and 1.4 million elderly (2.1%). In 2040, it is estimated that the population of elderly people aged 80 and older will have almost doubled[3].

Functional capacity in the elderly refers to the ability of the elderly to maintain both physical and mental capacity. Because of the inconvenience that dependency causes on both individual and family levels as well as the rising demand for social and health services, it is one of the most pertinent aspects of gerontology [1]. Functional capacity refers to the ability to perform the activities of daily life at the basic, instrumental, and advanced levels. Self-care activities, such as showering and dressing, are fundamental everyday tasks[4]. Using the phone and going shopping are two examples of instrumental activities of daily living that are performed in order to sustain an autonomous life in the community[5]. Physical, social, productive, and recreational domains are all included in the category of advanced activities of daily living[6]. Dependency and functional capability impairment are regarded as susceptibility factors with a high degree of evidence for the manifestation of violence in the elderly[7], and they are also linked to violent behaviors in these individuals[8].

The World Health Organization's "Active Ageing" concept is a major international policy approach for effective aging, especially in terms of influencing quality of life. According to WHO's active aging concept, this promotes the functional ability of the elderly to have a good life. The aim of "active aging" is to help older people maintain their happiness, physical health, and mental well-being. As well as having the potential to be self-reliant as much as possible, it consists of three elements: health, life security, and social participation. Having high levels of activities such as exercising, which will promote active aging will help increase the functional abilities of the elderly[9]. The elderly period is considered an important period because it is the age of various changes both physically and intellectually, including the declining role of the elderly, retirement, unemployment, and decreased income[10]. These affect their functional ability to go about their daily lives, including doing self-care activities, working, or participating in society, causing increased dependency among the elderly. Problems with physical and mental health affect one's capacity to carry out daily tasks, which lowers one's quality of life and overall well-being[11,12]. Health issues also have an impact on social involvement since social interaction demands sophisticated interpersonal and environmental management skills. Mobility issues, sensory issues, cognitive disability, and a lack of enthusiasm make it more difficult for people to participate in their functional abilities[13]. Each health indicator has a unique correlation with limited social participation. It has been shown that functional ability rises

with age and then falls with age in those over 60[14]. Younger older persons have better health and more time for social activities after retirement. As time goes on, they encounter increasing health and financial issues, which force them to discontinue a number of social activities. The benefits of active aging for the wellbeing of the elderly have been brought up by a number of researchers[13,15]. When they feel they have a high level of functional abilities, elderly people are more likely to participate in social activities. Additionally, social assistance makes it easier for people to participate in society, particularly the elderly and disabled[16]. Support from friends and family, such as by offering to drive them to events or by offering to help an activity's performer, is important in fostering the circumstances that lead to increased functional abilities, which improves health and wellbeing. Age, gender, family income, and educational attainment are socioeconomic factors that might impact an individual's social participation, hence affecting the quantity and nature of social activities engaged in by senior citizens. One study found that those with lower socioeconomic status typically limited their involvement in community activities[17]. Health issues that impact one's physical and mental capacities are also considered personal health concerns. These issues are commonly linked to reduced functional abilities and impairments[2,18]. These factors may have an impact on a person's capacity for mental, physical, and socially demanding activities.

However, there have not to date been any studies examining the factors related to the active aging concept and functional ability of the Thai elderly, and there is a lack of research focusing on the correlations between the active aging concept and functional capacity in the elderly.

The study aimed to examine factors related to the active aging concept and functional ability of the Thai elderly.

Material and Methods

Participants

The study population was 253 elderly, healthy Thai individuals 60 years and older who resided in Samrong District, Ubon Ratchathani province, who were able to communicate in Thai. Individuals with memory issues, severe disabilities, stroke after-effects, Parkinson's disease, cancer, bedridden status, or currently receiving palliative care were not eligible to participate in the study. The sample size was calculated with the G*Power program (most recent version 3.1.9.7) by multi-stage sampling. The calculated effect size value was interpreted as Cohen's standard effect size value, resulting in an effect size value of d=0.39[25]. Therefore, we chose to use a medium influence value of 0.50 and set the value of α=0.05, power=1-β.

This study was approved by the Institutional Review Board of the Sirindhorn College of Public Health, Ubonratchathani (REC No. 018/2022) and the study was conducted in accordance with the Declaration of Helsinki.

Materials

Functional capacity level

Functional capacity questionnaire, as determined by the reliability of the questionnaire which was used, tested and found to have a reliability coefficient of 0.91. The questionnaire consisted of 12 items on the health service system (a reliability coefficient of 0.82), 12 items on behavior (a reliability coefficient of 0.85), and 12 items on the environment and lifestyle (a reliability coefficient of 0.86) There was a Likert rating scale with five levels of scores: 5 was excellent, 4 was very good, 3 was good, 2 was fair, and 1 was poor. Interpreting the results of the functional abilities score based on the specified criteria, divide the score into 5 levels as follows: 4.51–5.00 was an excellent score, 3.51–4.50 was a very good score, 2.51–3.50 was a good score, 1.51–2.50 was fair, and less than 1.50 was

poor[19]. The cutoff points for the functional abilities scores were classified into 2 levels: good was points higher than the mean, and poor was points lower than the mean.

Active aging level

The questionnaire was created based on the World Health Organization's active aging policy framework to construct a standardized active aging questionnaire for Thai elderly people that was appropriate for the study group as validated by the reliability coefficient of 0.91. Three aspects of active aging were evaluated, with 21 items on health (a reliability coefficient of 0.89), 11 items on social participation (a reliability coefficient of 0.90), and 8 items on sustainability and security (a reliability coefficient of 0.85), totaling 40 items. There is a Likert rating scale with five levels of scores: 5 was regularly, 4 was often, 3 was sometimes, 2 was rarely, and 1 was never. Interpreting the results of the active aging score based on the specified criteria, divide the score into 5 levels as follows: 4.51–5.00 was a very high level of active aging, 3.51–4.50 was a high level, 2.51–3.50 was a medium level, 1.51–2.50 was a low level, and less than 1.50 was a very low level[19]. The cutoff points for active aging score were classified into 2 levels: a high level was points higher than the mean, and a low level was points lower than the mean.

Data collection

Discussions were held to align with the research objectives and ensure mutual understanding with the research assistants. Topics included the selection of a standard questionnaire and maintaining ethical rigor in a scientific study. The research assistants visit elderly people's homes one day a week between October 2022 and February 2023 and verbally encourage activities that promote elderly health. In terms of abilities, values, benefits, and potential in living life, it consists of:

Promote physical strength and agility by engaging both gross and fine motor skills through simple exercises and daily activities like sweeping, mopping, gardening, and cooking. Plan these activities carefully for safety and ensure they can be done regularly.

Doing a variety of activities according to your own interests results in enjoyment, happiness, stress relief, fun, and useful use of free time, such as singing, listening to music, handicrafts, or interesting hobbies.

Engage with others by meeting friends, spending time with children and grandchildren, and assisting in daily tasks like eating, personal hygiene, and getting dressed.

Promote cognitive function by learning new activities to enhance thinking, planning, and action. Engage in group activities with friends to exchange ideas and practice critical thinking.

Promote self-awareness and emotional regulation by meditating, practicing mindfulness, fostering flexible thinking, avoiding negative thoughts, and empathizing with others. Reflect on positive experiences to achieve relaxation and reduce stress.

Evaluate functional capacity and assess the level of active aging.

Statistical analysis

The Shapiro-Wilk test was used to test the normal distribution of values. The demographic data were described using means ($\bar{X}$), standard deviations (S.D.), and percentages (%). Using Pearson correlation to measure the associations between functional abilities and active aging. We included predictor variables (p-value≤0.1) in the stepwise linear regression. The study employed stepwise multivariate linear regression to investigate the factors that impacted the functional abilities associated with good health, social participation, and sustainability and security. A p-value of less than 0.05 denoted statistical significance in each analysis.

Results

Characteristics most of the participants were female (61.22%), single (63.27%), participants with enough income (89.80%), participants with underlying diseases (38.34%), and currently working participants (52.18%) (Table 1).

Factors related to good health, social participation, and sustainability and security

As the results showed, the health service system had moderately positive by correlated significance with good health, social participation, and sustainability and security (p-value<0.001). Behavior had a low positive correlation significance with good health, social participation, and sustainability and security (p-value<0.001). Environment and lifestyle had moderately positive by correlated significance with good health, social participation, and sustainability and security (p-value<0.001)[20] (Table 2).

Regression coefficients of factors predicting good health, social participation, and sustainability and security

The regression coefficients of the health service system (r=1.89, 95% confidence interval (CI) 1.51 to 2.26) and environmental factors and lifestyle choices (r=1.05, 95% CI 0.69 to 1.42) had a positive relationship to good health, social participation, and sustainability and security. The coefficient of determination (R2) for the relationship between the health service system, environmental factors and lifestyle choices, and good health, social participation, and sustainability and security was 0.5093 (Table 4). The regression equation for the prediction model of good health, social participation, and sustainability and security was as follows:

Active aging=14.78+1.89 (HSS)+1.05 (EL), HSS=health service system, EL=environmental and lifestyle aspects

Table 1 Characteristics of the study participants

Variables	Functional abilities				Active aging				Total	
	Good		Poor		High		Low			
	n	%	n	%	n	%	n	%	n	%
Sex										
Male	57	38.78	34	32.08	51	33.33	40	40.00	91	35.97
Female	90	61.22	72	67.92	102	66.67	60	60.00	162	64.03
Status										
Married	54	36.73	41	38.68	54	35.29	41	41.00	95	37.55
Single	93	63.27	65	61.32	99	64.71	59	59.00	158	62.45
Income										
Enough	126	89.80	80	78.30	19	12.42	28	28.00	47	18.58
Not enough	23	10.20	24	11.70	134	87.58	72	72.00	206	81.42
Occupation										
Currently working	132	52.18	83	32.81	18	11.76	20	20.00	38	15.02
Not working	17	6.72	21	8.30	135	88.24	80	80.00	215	84.98
Underlying disease										
Yes	97	38.34	69	27.28	52	33.99	35	35.00	87	34.39
No	53	20.95	34	13.44	101	66.01	65	65.00	166	65.61

Table 2 Factors related to active aging

Variable	Age	Health service system	Behavior	Environmental and lifestyle	Active aging
Age	1.000				
Health service system	−0.008	1.000			
Behavior	−0.065	0.582**	1.000		
Environmental and lifestyle	−0.030	0.509**	0.591**	1.000	
Active aging	−0.070	0.666**	0.504**	0.558**	1.000

Pearson correlation coefficient *=p-value<0.05, **=p<0.001

Table 3 Regression coefficients of factors predicting active aging

Factors prediction	Coef.	Standard error	t	p-value	95% CI
Health service system	1.89	0.19	10.03	<0.001	1.51 to 2.26
Environmental and lifestyle	1.05	0.18	5.74	<0.001	0.69 to 1.42
Constant	14.78	7.33	2.01	0.045	0.33 to 29.23

*Linear regression, n=253, p-value=<0.001, R Square=0.5.93, Adjust R Square=0.5054 Coef.=14.78, t=2.01, CI=0.33 to 29.23
Coef=coefficient, CI=confidence interval

Discussion

As the present results showed, functional capacity had a low to moderately positive correlated significance with health, social participation, and sustainability and security; the health service system and environmental and lifestyle factors had a moderately positive effect; and behavior had a low positive correlated significance with health, social participation, and sustainability and security. In addition to the results obtained from health, social participation, and sustainability and security, it also showed that functional capacity in society is important. Elderly people should be encouraged to continue their activities and socialize regularly. The active aging program improving functional capacity among the elderly. This program can have implications for other elderly persons to increase activities as appropriate. A study by Kalache and Gatti (2003) suggests that three essential factors for the elderly are a health service system, good behavior, and appropriate environment and lifestyle. Each elderly person must choose what they like, are interested in, and want to do[12]. There are also other factors that cause the elderly in the community to have reduced functional capacity, such as behavior that allows functional capacity to deteriorate. Those who have appropriate behavior will have better health, high social participation, sustainability and security than those who have inappropriate behavior. Similar to the study of Punyakaew, Hsu, Lersilp and Putthinoi, (2023), it was found that elderly people with good health, high social participation, sustainability and security had a higher proportion of appropriate activities[21]. Meanwhile, elderly people with poor health, low social participation, sustainability and security did not participate in social activities. Functional capacity is very necessary in elderly people and is an important indicator of active aging. It is consistent with the results of developing the process of enhancing the active aging of the elderly are in line with the idea that this process involves

the elderly engaging in learning behaviors and appreciating the value of the health service system[22]. Within the health service system of active aging, most of the study group perceived themselves as physically and mentally healthy and capable of self-reliance. However, some issues, such as anxiety or stress, may arise occasionally. Despite half of the study group having underlying health conditions, they remained self-aware and maintained a high level of awareness regarding their own active aging. However, the assessment of the components of the health service system may cover other aspects such as physical activity, exercise, vision, and hearing, as shown in the literature review by Zaidi et al.[23], and this may cause the evaluation of the results to be different from what appears in this research.

When examining each element within the security component, it becomes evident that there are participants who still perceive a lack of security. This perception could be influenced by various factors such as inadequate financial support, limited access to healthcare services, concerns about personal safety, or a lack of social support networks. For instance, some participants may feel financially insecure due to insufficient retirement savings or reliance on unstable sources of income. Others might express concerns about their physical safety in their living environment or feel socially isolated, lacking strong relationships or community support. Additionally, issues such as access to affordable healthcare and social services may also contribute to a sense of insecurity among participants. Overall, these individual factors combine to shape the overall perception of security among the participants, highlighting the multifaceted nature of security in the context of aging. This was related to the physical safety of the home and community, such as the placement of objects in the home and having electrical lighting for road safety. In addition, more than half of the participants perceived that their income was not sufficient for spending. and did not have savings to use in times of emergency or necessity. This supports the results of the study by Laosunthorn et al. (2019)[3], who found that the financial stability dimension had a low average in Thailand. The study conducted by Worawet found that despite Thailand having a policy of offering financial assistance for various elderly services, there is still a growing need for state funding support. This is in line with the study's findings, which found that even when older individuals get government assistance such as living allowances, they still struggle to save enough money for necessities. Based on this research, it appears that the social participation component is significant and ought to be encouraged to the greatest extent possible. This is due to the fact that only half of the study's elderly individuals exhibited significant good health, social participation, and sustainability and security in this component. A number of the participants believed that they did not participate in, support, or be a part of family or community activities that would make the elderly realize their own value. Yang, Meng, and Dong found that having good health and security significantly affected the willingness to participate in social activities among the elderly[24]. Therefore, when setting policies to promote active aging levels for the elderly in an area, it may need to consider taking into account the development of all three elements simultaneously.

Conclusion

Promoting all three elements of the active aging concept is crucial for enhancing the functional capacity of elderly individuals, particularly among groups and issues where awareness of active aging remains low. Furthermore, additional studies should investigate the factors influencing elderly individuals' willingness to adopt or engage in active aging practices. This will help identify important factors and establish guidelines to promote both short-term and long-term practice of the active aging concept among the elderly, which are appropriate to the context of the area.

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Conflict of interest

No conflicts of interest to declare.

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