

Active Aging, Health Literacy, and Quality of Life among Elderly in the Northeast of Thailand

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Abstract

Background: Ageing populations are a global phenomenon public health concerns in developed and developing countries.

Method: A cross-sectional study was conducted among 1,226 persons aged 60 and older using multistage stratified systematic sampling from twelve districts in four provinces of the Northeast of Thailand.

Results: Overall, participants were female (62.97%), the average age was 70.28 ± 7.44 years, and the vast majority only completed elementary school (81.41%). Most commonly, participants did not work (40.86%). 49.27% of participants had moderate active aging (active aging index: AAI was 0.69). The majority (72.19%) of the sample had limited health literacy and 42.09% of participants had a good quality of life.

Conclusion: Almost two-thirds of the elderly had active ageing in low to moderate levels, almost three-quarters of the elderly had limited health literacy and less than half of the elderly had a good quality of life. Appropriate strategies on quality-of-life development project able to live with potential parallel with health management for promoting health literacy.

Keywords: Active Aging, Health Literacy, Quality of Life, Elderly

Introduction

The world's population is growing older, with persons over age 65 being the fastest-growing age group. By 2050, one in six people in the world will be over age 65 (16%), up from one in 11 in 2019 (9%). In 2018, for the first time in history, persons aged 65 or above outnumbered children under five years old. The number of persons aged 80 years or over is projected to triple, from 143 million in 2019 to 426 million in 2050. Low levels of fertility combined with

increased longevity ensure that populations in virtually all countries and areas are growing older^[1]. Thailand, a middle-income country and becoming aging society, the proportion of the elderly population (60 years and over) in 2020 was 12 million, representing 18 percent, increasing to 20.42 million, 31.28 percent in 2040, while the working age population (15-59 years) tended to decline. From 43.26 million, or 65 percent in 2020 to 36.5 million, or 56 percent in 2040. The National Economic and Social Development Council expects in the next 20 years, Thailand will have 31 percent of the elderly, the dependence ratio is more than half of the working age. While the government raised "The Aged Agenda" is a national agenda that emphasizes the need for the elderly to have jobs, to have savings, to be healthy and to live with dignity^[2]. Northeast of Thailand has highest number of elderly people^[3]. Living longer and maintaining a better quality of life (QOL) is a challenge.

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The QOL is an important indicator of a healthy life in older age. The World Health Organization (WHO) established the concept of active ageing in 2002 as a concept that represents the well-being of the elderly and is a goal for improving their quality of life. That is to maintain the active role of the elderly in society, with the optimizing opportunities for health, social participation, and security^[4]. Health literacy is increasingly important in public health research^[5] and is widely recognized as an important factor in relation to behavioral and health outcomes^[6]. Research on health literacy in Thailand has been scarce. Previous studies focused on measuring the level of health literacy^[7]. There is also lack of evidence on active aging, health literacy and QOL among elderly. Therefore, the study of active aging, health literacy and QOL is needed and would contribute to improving their quality of life.

Methods

Study Design and Population: This cross-sectional study was conducted among elderlies in the Northeast of Thailand between June and October in 2020. Twelve districts in four provinces were randomly selected by multistage random sampling. The inclusion criteria were: 1) 60 years old and over, 2) well communicate. Participants who got the psychiatric illnesses were excluded. The survey using face-to-face interviews, which took approximately 30 minutes each. In total, 1,226 elderly participants were included in the final analysis. A try-out was conducted to test the reliability the questionnaire. The Cronbach's Alpha was 0.97 for active aging factor, 0.98 for health literacy factor and 0.96 for WHOQOL-BREF-THAI questionnaire. The questionnaire included closed ended questions in four parts:

Part I: Sociodemographic factors were gender, age (in years), marital status, education level, occupation, household income (Baht per month, where 1 US\$ = 29.9 Baht in February 2021), smoking status, alcohol consumption and disability.

Part II: Active ageing questionnaires was used to measure three dimensions of active ageing, which included health, social participation, and security^[8]. Total scores of Active Ageing Index (AAI) were calculated by using all the participants. AAI was calculated using a weighted score for each active ageing dimension by

the formula: $AAI = 1/3 \text{ health index} + 1/3 \text{ participation index} + 1/3 \text{ security index}$ ^[9-11] where scores ranged from 0 to 1. The AAI score can be categorized into three levels as follows ≤ 0.5 at low level, between 0.51 and 0.79 at moderate level, and ≥ 0.8 at high level^[12].

Part III: HLS-EU-Q47 instruments which developed by eight European countries was used to measure health literacy. HLS (EU) comprises 47 questions and the responses are recorded according to a Likert-type scale with 4 responses, scored from 1 (very difficult) to 4 (very easy). The minimum possible test score is 47 while the maximum is 188 and then the scores are converted to percentages. Health literacy score can be categorized into four levels as follows: $\leq 50\%$ inadequate, 51-66% problematic, 67-84% sufficient and $\geq 85\%$ excellent health literacy. To detect vulnerable groups, inadequate and problematic levels can be combined to a single level, called limited health literacy ($\leq 66\%$)^[13-14].

Part IV: The 26-item WHO QOL questionnaire (WHOQOL-BREF) was used to measure QOL^[15]. The Thai version, WHOQOL-BREF-THAI is composed of 26 items for evaluating four dimensions of QOL including physical, psychological, social relationships and environmental to assess QOL over the previous two weeks. The responses are recorded according to score from 1 to 5 on a response ordinal scale, with higher scores indicating a higher QOL, the sum score ranged from 26 to 130 (26-60 poor QOL; 61-95 normal QOL; and ≥ 96 good QOL)^[16].

Statistical Analysis

Descriptive statistics including frequency and percentage were used to describe categorical data, whereas mean and standard deviation were used for continuous data. All data were analysed using the STATA program version 15.0 with rights from the Faculty of Public Health, Khon Kaen University.

Results

Sample Characteristics: The elderlies had average age at 70.28 years old (S.D.=7.44). About two-thirds of them were female (62.97%). Most of them were married, and completed elementary school (59.54%, 81.41%, respectively). 40.86% of participants did not work with median income of 6,000 Baht per month (min: 600 Baht, max: 125,000 Baht).

Active Ageing: The most common level of active ageing was moderate (49.27%), with a score 0.69. followed by high (32.79%) and Low (17.94%). In each dimension found that the health showed the highest score of 0.71, the security score was 0.69, and participation had the least score of 0.68 as shown in Table 1.

Health Literacy: In terms of health literacy, around half (50.90%) of the sample was categorised as having problematic health literacy. Using the dichotomous categorisation, the majority (72.19%) had limited health literacy with a mean score of 113.85 ± 24.80 . In each dimension found that 1) the access, more than fourth-fifth (80.51%) of the sample was limited health literacy, 2) the understand, more than half (53.02%) of the sample

was adequate health literacy, 3) the appraise, around third-fourth (70.47%) of the sample was limited health literacy and 4) the apply, more than half (56.77%) of the sample was adequate health literacy as shown in Table 2.

QOL: Overall, the mean QOL score was 84.36 ± 16.34 with 45.51% considered as having a normal QOL (45.51%) followed by good QOL (42.09%) and poor QOL (12.40%). Similarly in four dimensions of QOL having a normal QOL, However, was found that the psychological showed the highest (42.90%) of the sample having a good QOL followed by the environmental (32.22%), the physical health (25.29%) and Social relationships had the least (5.87%) of the sample having a good QOL as shown in Table 3.

Table 1. Active ageing dimensions (n=1,226)

Active ageing dimensions	Number (%)			AAI scores	Level
	High	Moderate	Low		
Health	429 (35.00)	584 (47.63)	213 (17.37)	0.71	Moderate
Participation	423 (34.50)	560 (45.68)	243 (19.82)	0.68	Moderate
Security	383 (31.24)	650 (53.02)	193 (15.74)	0.69	Moderate
Overall	402 (32.79)	604 (49.27)	220 (17.94)	0.69	Moderate

Table 2. Health literacy dimensions (n=1,226)

Health Literacy dimensions	Number (%)			
	Excellent	Sufficient	Problematic	Inadequate
	Adequate		Limited	
Access	42 (3.43)	197 (16.07)	237 (19.33)	750 (61.17)
	239 (19.49)		987 (80.51)	
Mean±S.D. (Min:Max) 25.72 ± 8.94 (13:52)				
Understand	172 (14.03)	478 (38.99)	370 (30.18)	206 (16.80)
	650 (53.02)		576 (46.98)	
Mean±S.D. (Min:Max) 29.56 ± 6.61 (17:44)				
Appraise	70 (5.71)	292 (23.82)	416 (33.93)	448 (36.54)
	362 (29.53)		864 (70.47)	

Mean±S.D. (Min:Max) 28.24 ± 7.41 (16:48)				
Apply	216 (17.62)	480 (39.15)	400 (32.63)	130 (10.60)
	696 (56.77)		530 (43.23)	
Mean±S.D. (Min:Max) 30.33 ± 6.93 (12:44)				
Overall	66 (5.38)	275 (22.43)	624 (50.90)	261 (21.29)
	341 (27.81)		885 (72.19)	
Mean±S.D.(Min:Max) 113.85 ± 24.80(63:188)				

Table 3. Quality of life dimensions (n=1,226)

QOL dimensions	Number	Percentage
Physical health		
Good (27 – 35 scores)	310	25.29
Normal (17 – 26 scores)	495	40.37
Poor (7 - 16 scores)	421	34.34
Psychological		
Good (23 – 30 scores)	526	42.90
Normal (15 – 22 scores)	645	52.61
Poor (6 - 14 scores)	55	4.49
Social relationships		
Good (12 – 15 scores)	72	5.87
Normal (8 – 11 scores)	984	80.26
Poor (3 - 7 scores)	170	13.87
Environmental		
Good (30 – 40 scores)	395	32.22
Normal (19 – 29 scores)	678	55.30
Poor (8 - 18 scores)	153	12.48
Overall		
Good (96 – 130 scores)	516	42.09
Normal (61 – 95 scores)	558	45.51
Poor (26- 60 scores)	152	12.40
Mean±S.D. = 84.36± 16.34, Min:Max (44:130)		

Discussion

Almost two-thirds of participants (65.3%) had active ageing in low to moderate levels, which was consistent with previous studies in 2006 [9], 2016-2017 [17,11] and 2019 [10]. The increased age, physiological changes occur, and the risk of chronic disease rises. Furthermore, as people age, they are more likely to experience several conditions at the same time (multimorbidity) [18]. One-third of Thai seniors are low income, relying primarily on allowance income is not enough, the employment of the elderly is low and participation in elderly group/club activities is low [11].

Almost three-quarters of participants (72.19%) had limited health literacy. Similarly high proportions of limited health literacy were found in 2019, possibly due to: Thai elderly can't read, not fluent writing, not educated, restrictions media access and hearing problems [7]. Low health literacy is common among ageing patients [19].

These results showed that the QOL among the majority of the elderly (45.5%) in the Northeast of Thailand was considered normal, which was consistent with previous surveys of QOL in similar populations between 2015 and 2017 [20-21]. However, it is possible that overall QOL may be declining, as documented by the declining life evaluations, according to the World Happiness Report, in which Thailand saw an overall decline in so-called "happiness" from 2008-2012 to 2017-2019 [22].

In conclusions almost two-thirds of the elderly had active ageing in low to moderate levels, almost three-quarters of the elderly had limited health literacy and less than half of the elderly had a good QOL. Appropriate strategies on quality-of-life development project able to live with potential parallel with health management for promoting health literacy for people of all ages. Increase access to essential health information for the elderly. Promoting careers in the form of community enterprises, having an auxiliary profession, and interacting with a group of friends and feeling valued in themselves.

Ethical Clearance: This study was approved by the Khon Kaen University Ethical Committee with the number was HE 632078.

Conflict of Interest: None declared

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