QUALITY OF LIFE AMONG ELDERLY PEOPLE IN KAMPONG CHAM PROVINCE, CAMBODIA

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Abstract. The purposes of this study were to determine the level of quality of life and to investigate the predictive factors that affected the quality of life among elderly people in Batheay Commune, Batheay District, Kampong Cham Province, Cambodia. A cross-sectional survey was employed among 145 elderly people aged 60 years and over. A questionnaire was an instrument for data collection. Its Item-Objective Congruence (IOC) was 1.00 and Cronbach's alpha coefficient was 0.84. The quality of life among elderly people was examined through the World Health Organization Quality of Life (WHOQOL-OLD). Multiple regression analysis was performed to determine the factors predicting the quality of life for elderly people. The result found that 69.0% of elderly people had the quality of life at a low level. Seventy-one point seven percent reported that they had one or more non-communicable diseases. In terms of social support, which compounded on financial support, instrument support, material support, and emotional support, children provided all types of social support. Ninety-five point nine percent of those had high scores for Activity of Daily Living (ADLs). There were seven factors such as age, education, income, working, living arrangement, social support, and Activity of Daily Living (ADLs) associated with quality of life among elderly people with statistical significance at the 0.05 level. In addition, 86% of the variability in quality of life among elderly people was predicted by income, education, and social support. In conclusion, the findings showed that the quality of life was at a low level and income, education, and social support variables were the determinants to predict the quality of life for elderly people.

Keywords: elderly people, quality of life, WHOQOL-OLD, Cambodia

INTRODUCTION

Due to declines in fertility and improvement in longevity, life expectancy has increased and made the rapid structural changes in the global population. The ageing population is a major global demographic during the 21st century. It is leading to an ageing society in developed regions and some developing countries. In addition, the fastest growing group of elderly people is oldest-old, those aged over 80 years.

In 2015, the global population achieved 7.3 billion people, and 60% reside in Asia (4.4 billion). There were 901 million aged 60 years and over, representing 12.3% of the global population. It has projected to increase from 16.5% in 2030 to 21.5% in 2050. The growth of elderly people is a global phenomenon, which

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is projected to increase in the less developed regions. Between 2015 and 2030, the number of elderly people is projected to increase rapidly, more than 60% that is similar to Africa and Asia (United Nations, 2015).

In Cambodia, due to an increase of life expectancy at birth, the number of elderly people has risen gradually every year. Although Cambodian society has not yet reached an ageing society, it will tend to be an ageing society within the next few years. The proportion of the ageing population aged ≥60 years was 5.7% in 2000 and was projected to rise to 8.6% in 2015, 12.8% by the year 2030, and 21.2% by the year 2050 (Teerawichitchainan and Knodel, 2015).

Due to an increase in ageing population, all around the world, quality of life (QOL) has been considered as an important social issue as well as public health concern (Hall *et al*, 2011). Therefore, the purposes of this study were to determine the level of quality of life and to investigate the predictive factors that affect the quality of life among elderly people in Batheay Commune, Batheay District, Kampong Cham Province, Cambodia.

MATERIALS AND METHODS

Cross sectional survey was conducted among elderly people aged 60 years old and over who have lived in Batheay Commune, Batheay District, Kampong Cham Province, Cambodia located around 60 kilometers away from main capital, Phnom Penh. The sample size of this study was 145 of the elderly people aged 60 years and over, both males and females who have lived in 6 villages in Batheay Commune, Batheay District, Kampong Cham Province, Cambodia using the following formula:

$$n_0 = \frac{Z^2_{a/2}\, p\,(1-p)}{d^2}$$

where P, the proportion of quality of life among elderly people, was assumed to be 68.5%=0.685 (Hongthong *et al*, 2015), with Z=1.95 for 95% confidence interval, d = Sample error, which is set at 0.08. Thus, the authors added 10% to compensate dropout cases, so the total sample size was 145 elderly people (Bhunyabbadh, 2013).

The inclusion criteria of the study subjects were elderly people aged 60 years and over, both males and females, understanding Cambodian language and being able to answer the questions, living in Batheay Commune for more than 6 months, no issues related to speaking, hearing, or memory damage, with no mental health problems, which are assessed by using Mini-Mental State Examination (MMSE), and being satisfied with participation in the research.

The research instrument divided into five parts, which consisted of socio-demographic, health status, social support, activities of daily living (ADLs), and WHOQOL-OLD. The socio-demographic was designed as a document consisting of 12 questions about elderly people such as gender, age, education level, income, marital status, working and living arrangement. Health status was asked whether elderly people had non-communicable diseases or infectious diseases. The social support questions were developed to assess social support among elderly people over the main four supports such as financial support, instrument support, material support and emotional support (Sudnongbua *et al*, 2010).

The Activities of Daily Living Scale (ADLs) was developed in 1963 (Katz *et al*, 1963). It consists of six functions of activities: bathing, dressing, toileting, transfer-

ring, continence, and feeding.

The WHOQOL-OLD was used to determine the quality of life among elderly people. The World Health Organization Quality of Life (WHOQOL) group developed the WHOQOL-OLD to measures the quality of life for older adults. The WHOQOL-OLD module consists of 24 items across six facets sensory abilities, autonomy, past, present, and future activities, social participation, death and dying, and intimacy (Power *et al*, 2005). The WHOQOL-OLD instrument was translated from the original English version into Cambodian language by back-translation method with three bilingual experts. The reliability was 0.84. This study conducted the quantitative data collection on study subjects through a questionnaire by face-to-face interviews.

The data were analyzed using SPSS® (version 20.0; IBM, Armonk, NY). The simple descriptive statistics (mean, frequency, percentage, and standard deviation) were used to describe the general characteristic of elderly people. In addition, Pearson correlation was used to determine factors associated with quality of life among elderly people. Stepwise multiple regressions were used to determine the predictive factors that affecting quality of life among elderly people. The statistical significance was set at a p-value < 0.05.

Ethical considerations

Naresuan University Ethics Committee approved this study (Ref N° 516/2016; 2016 Nov 29). All the participants were voluntary. The respondents were informed about the purpose of the study before initiating the interviews.

RESULTS

Socio-demographic characteristics of the participants (n=145) as can be seen in Table 1; the majority of the participants were female, and 33.8% were male. The mean age of the participants was 69 years, and 51.7% of elderly people had attended the primary school or lower education, and the other 38.6% had no formal education. Over half of them (54.5%) had low income, and 49% were married.

Table 1
Socio-demographic of participants (N=145).

Variable	n (%)
Gender	
Male	49 (33.8)
Female	96 (66.2)
Age (years)	
60-69	92 (63.4)
70-79	39 (26.9)
≥80	14 (9.7)
Education level	
Not at all	56 (38.6)
Primary school	75 (51.7)
Secondary school	12 (8.3)
Tertiary school	2 (1.4)
Income	
KHR <200,000	79 (54.5)
KHR 200,000-to-400,000	57 (39.3)
KHR >400,000	9 (6.2)
Marital status	
Single	5 (3.4)
Married	71 (49.0)
Windowed	67 (46.2)
Separated/Divorced	2 (1.4)
Employment status	
No occupation	108 (74.5)
Agriculture	17 (11.7)
Manual labor	3 (2.1)
Seller	17 (11.7)
Degree of satisfaction with living arrangements	
Very dissatisfied	4 (2.8)
Dissatisfied	12 (8.3)
Neither satisfied nor dissatisfied	79 (54.5)
Satisfied	50 (34.5)

KHR= Cambodian Riel; USD1 ≃ 4,064 KHR.

Table 2
Health status of participants (N=145).

Health status	n (%)
Non-communicable diseases	
No	41 (28.3)
Yes	104 (71.7)
Infectious disease	
No	145 (100.0)
Yes	0 (0.0)

Table 3
Social support of participants (N=145).

Social support	n (%)
Financial support	
Wife/husband	7 (8.4)
Children	125 (86.2)
Grandchildren	5 (3.4)
Relatives	8 (5.5)
Instrumental support	
Wife/husband	15 (10.3)
Children	110 (75.9)
Grandchildren	13 (9.0)
Relatives	7 (4.0)
Material support	
Wife/husband	11 (7.6)
Children	123 (84.8)
Relatives	11 (7.6)
Emotional support	
Wife/husband	13 (9.0)
Children	115 (79.3)
Grandchildren	7 (4.8)
Relatives	10 (6.9)

Seventy-four point five percent were not employed, and 54.5% of participants reported that they were neither satisfied nor dissatisfied with their living arrangements (Table 1).

Health status of parcipants is shown in Table 2. Seventy-one point seven percent of elderly people reported that they had one or more non-communicable diseases, and all the participants reported that they did not have infectious diseases (Table 2).

In terms of social support, which includes financial support, instrument support, material support, and emotional support, most were supported by children (Table 3). Regarding Activities of Daily Living (ADL), most of elderly people (95.9%) were homebound (Table 4).

The overall of quality of life among elderly people (69.0%) was at a low level (Table 5). The results showed that 87.6% of sensory ability was at medium level ($\bar{X}$=13.47, SD=1.59), autonomy (72.4%) was at low level ($\bar{X}$=7.84, SD=2.32), past, present, and future (58.6%) were at low level ($\bar{X}$=9.19, SD=1.96), social participation (64.1%) was at medium levels ($\bar{X}$=10.23, SD=2.33), death and dying (65.5%) were at low levels ($\bar{X}$=8.94, SD=3.26) and intimacy (95.9%) was at low level ($\bar{X}$=4.78, SD=1.64).

There were seven factors, such as age, education, income, working, living arrangement, social support, and activity of daily living (ADLs) associated with quality of life among elderly people with statistical significance (p<0.05) (Table 6).

The result from stepwise multiple regressions analysis, income, education, and social support were found to be the factors predicting the quality of life among elderly people. The correlation between the variables, R, R^2, adjusted R^2, B, Beta, and p-value were for the standard multiple regressions. The R value of 0.86 indicated that 86% of the variability in quality of life among elderly people was predicted by income, education, and social support (Table 7).

DISCUSSION

Our findings suggested that most of the elderly people who participated in

Table 4
Activities of Daily Living (ADLs) of participants (N = 145).

Activities of Daily Living (ADLs)		SD	%	ADL group
Total ADLs	6.43	1.97	95.9	Home-bound elder

Table 5
The level of quality of life in old age (WHOQOL-OLD) of participants (N=145).

Quality of life in old age	$\bar{X}$	SD	%	QOL level
Sensory abilities	13.47	1.59	87.6	Medium
Autonomy	7.84	2.32	72.4	Low
Past, present and future	9.19	1.96	58.6	Low
Social participation	10.23	2.33	64.1	Medium
Death and dying	8.94	3.26	65.5	Low
Intimacy	4.78	1.64	95.9	Low
Total WHOQOL-OLD	54.50	9.13	69.0	Low

Table 6
The relationships between independent and dependent variables.

Variable	$\bar{X}$	SD	WHOQOL-OLD	p-value
Age	68.99	6.746	-0.295[a]	0.000
Education	1.72	0.672	0.474[a]	0.000
Income	1.52	0.614	0.370[a]	0.000
Working	1.51	1.001	0.193[b]	0.020
Living arrangement	3.21	0.706	0.246[a]	0.003
Social support	45.32	5.942	0.257[a]	0.002
Activities of Daily Living (ADLs)	6.43	1.975	-0.191[b]	0.021

[a]Correlation is significant at the 0.01 level (2-tailed).
[b]Correlation is significant at the 0.05 level (2-tailed).

Table 7
The predictive factors that affect the quality of life among elderly people.

Factor	B	Beta	t	p-value
Income	28.840	0.765	12.03	0.000
Education	-6.680	-0.202	-3.34	0.001
Social support	0.742	0.482	9.22	0.000

p-value <0.05. Adjusted R^2, 0.725; R^2, 0.740; R, 0.860[h].

the study were female (66.2%), which was similar to other studies in Thailand (Somrongthong *et al*, 2013; Yodmai *et al*, 2015), in Turkey (Unsar *et al*, 2015) and in Sao Paulo, Brazil (Varela *et al*, 2015). Similarly, the mean age of the participants was 69 years (range 60-88), which correlated with that found in Turkey (Unsar *et al*, 2015). Over a half of the participants (51.7%) had attended the primary school or lower education, which is in line with several studies in Southeast Asia (UNESCO, 2010).

The majority of the participants (93.8%) reported that their monthly income was less than USD100, and the main source of income was from children; similar to Hongthong *et al* (2015). Nearly half of the respondents (49%) were married, and less than 5% of the participants lived alone, which is similar to the study of quality of life and feeling of abandonment among older people in rural Northeast Thailand (Sudnongbua *et al*, 2010). Moreover, most of the elderly people (74.5%) were not employed and 54.5% of those participants reported that they were neither satisfied nor dissatisfied with their living arrangements. Seventy-one point seven percent of elderly people reported that they had one or more non-communicable diseases related with WHO that main health burdens in ageing population were from non-communicable diseases (WHO, 2015). In addition, all the participants reported that they did not have infectious diseases.

Social support is broadly defined as "having people available on whom one can rely on for caring, love and who value oneself" (Dong and Simon, 2010). Social support has divided into four types of support: financial, instrumental, material, and emotional support (Sudnongbua *et al*, 2011). In our study, their children mostly provided all types of social support. Having social support from others enabled elderly people to feel that they were being cared, valued, and important (Ibrahim *et al*, 2013).

Activities of Daily Living (ADLs) have been described as everyday routine activities generally involving functional mobility and personal care, including eating, bathing, dressing, toileting, transferring (walking), and control of continence (Katz *et al*, 1963). The majority of the participants (95.9%) had medium level of Activities of Daily Living (ADLs) scores. Most of the participants were homebound elders, who were still able to help themselves for their daily activities.

In terms of quality of life measured by the WHOQOL-OLD, the overall was at a low level. More than two-thirds of the participants (69%) had QOL at a low level, and 31% were at fair levels. The study was consistent with other studies by using the same instrument, WHOQOL-OLD questionnaire to assess the quality of life among elderly people in Thailand (Somrongthong *et al*, 2013; Hongthong *et al*, 2015).

Based on data analysis, quality of life among elderly people was statistically associated with seven variables: age, education, income, working, living arrangement, social support and activity of daily living (ADLs). According to Harkirat *et al* (2015), education was one variable that determined the quality of life in ageing population. Moreover activity of daily living (ADLs) was a variable statistically associated with QOL that is similar to studies conducted by Gunaydin (2011) and Unsar *et al* (2015). With regard to Unsar *et al* (2015) and Ibrahim *et al* (2013), social support was also another variable related to quality of life.

By using stepwise multiple regression analysis, it was found that three

variables such as income, education, and social supports were the factors predicting the quality of life among elderly people. Income was one predictive factor that was consistent with the previous study conducted by Hongthong *et al* (2015).

In conclusion, the findings of our study indicated that the quality of life among elderly people was at a low level. The quality of life among elderly people was affected by the variables, such as age, education, income, working, living arrangement, social support, and Activity of Daily Living (ADLs). In addition, income, education, and social support variables were suggested as the determinants to predict the quality of life for elderly people.

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REFERENCES

Bhunyabhadh C. Sample size determination in descriptive study in public health. *Thaksin J* 2013; 16: 9-17.

Dong X, Simon MA. Gender variations in the levels of social support and risk of elder mistreatment in a Chinese community population. *J App Gerontol* 2010; 29: 720-39.

Gunaydin RK. Determinants of quality of life (QoL) in elderly stroke patients: a short-term follow-up study. *Arch Gerontol Geriatr* 2011; 53: 19-23.

Hall S, Opio D, Dodd RH, Higginson, IJ. Assessing quality-of-life in older people in care homes. *Age Ageing* 2011; 40: 507-12.

Harkirat K, Kaur H, Venkateashan M. Factors determining family support and quality of life of elderly population. *Int J Med Sci Public Health* 2015; 4: 1049-53.

Hongthong D, Somrongthong R, Ward P. Factors influencing the Quality of Life (QoL) among Thai older people in a rural area of Thailand. *Iran J Public Health* 2015; 44: 479-85.

Ibrahim N, Din NC, Ahmad M, *et al*. Relationships between social support and depression, and quality of life of the elderly in a rural community in Malaysia. *Asia Pac Psychiatry* 2013; 5 (suppl 1): 59-66.

Katz S, Ford AB, Moskowitz RW, Jackson BA, Jaffe MW. Studies of illness in the aged. The index of ADL: a standardized measure of biological and psychosocial function. *J Am Med Assoc* 1963; 185: 914-9.

Power M, Quinn K, Schmidt S. Development of the WHOQOL-old module. *Qual Life Res* 2005; 14: 2197-214.

Somrongthong R, Wongchalee S, Yodmai K, Kuhirunyaratn P, Sihapark S, Mureed S. Quality of life and health status among Thai elderly after economic crisis, Khon Kanen province, Thailand. *Eur J Sci Res* 2013; 112: 314-24.

Sudnongbua S, LaGrow S, Boddy J. Feelings of abandonment and quality of life among older persons in rural northeast Thailand. *J Cross Culture Gerontol* 2010; 25: 257-69.

UNESCO. Reaching the marginalized. EFA Global Monitoring Report. Oxford: Oxford University Press, 2010.

United Nation. World population ageing. New York: Department of Economic and Social Affairs, Population Division, 2015.

Teerawichitchainan B, Knodel J. Data mapping on ageing in Asia and the Pacific analytical report. Chiang Mai: Help Age International, 2015.

Unsar S, Dindar I, Kurt S. Activities of daily living, quality of life, social support and depression levels of elderly individuals in Turkish society. *J Pak Med Assoc* 2015; 65: 642-6.

Varela FR, Ciconelli RM, Campolina AG, Soarez PC. Quality of life evaluation of frail elderly in Campinas, Sao Paulo. *Rev Assoc Med Bras* 2015; 61: 423-30.

World Health Organization (WHO). Projections of mortality and burden of disease, 2004-2030. Geneva: WHO, 2015. [Cited 2015 May 12]. Available from: http://www.who.int/ageing/publications/global_health.pdf

Yodmai K, Phummarak S, Sirisuth JC, Kumar R, Somrongthong R. Quality of life and fear of falling among an aging population in semi rural, Thailand. *J Ayub Med Coll Abbottabad* 2015; 27: 771-4.