Quality of Life (QOL) and Its Associated Factors among Rungus Elderly Population in the Rural Areas of Kudat, Sabah

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ABSTRACT

Aging population will be an inevitable phenomenon around the globe. This study aimed to assess the quality of life and its associated factors among the elderly population in rural areas of Kudat, Sabah. A community based cross-sectional study was conducted among elderly aged 60 and above living in Tambuluran Area of Kudat. Quality of life was assessed using WHOQOL-BREF questionnaires. Socio-demographic data of the elderly, perceived morbidities and utilization of health services were collected. Independent sample t-test was used for data analysis. A total of 165 respondents participated in this study with a mean age of 71.42±6.50. The mean WHOQOL-BREF score was 65.20 ±11.49. Mean scores for physical and psychological domains were lower than average. Age, marital status, educational level and perceived morbidity were associated significantly with QOL. In conclusion, QOL was generally average among elderly in rural areas of Kudat. Therefore, interventions should place emphasis on physical and psychological aspects of life among these aged population.

Keywords: aged, rural population, quality of Life

INTRODUCTION

Aging is an unavoidable normal process which will be definitely experienced by each of us in the later part of our life. Aging itself does not raise a concern but aging population, owing to demographic transition, does. It is projected that the population worldwide aged over 60 will increase by two folds, achieving 2 billion within 5 decades from year 2000[1]. Aging population has been indicated by increasing percentage of those aged 60 and above, which is otherwise called elderly, within a country[2]. The cutoff has been commonly advocated by researchers and policy makers

involving elderly as core subject, as it was similarly enshrined in National Policy of Senior Citizen. Where life expectancy at birth in Malaysia for male is 72.5 years and 77.2 years for female[3], it means that aging population will be an inevitable phenomenon should relatively low fertility rate comes into play. In fact, elderly population has been on the rise with discordant decreasing trend found in young counterpart[4] and 9.2% of total population was constituted of elderly at the time of literature review[5]. It is forecasted that the elderly population will reach 23.6% by 2050[5].

As aging population will pose significant health, social as well as economic implications, World Health Organization (WHO) is urging respective governments to emphasize on planning strategies to improve and maintain well-being and quality of life those elderly. At the same period of time, quality of life has gained its popularity, to replace morbidity and mortality which were considered as being insensitive to indicate health. Aging happens to be experienced in a peculiar and unique way from one another and in fact, multiple factors have been identified to affect quality of life in elderly group at different point of time[6]. Since then, there is growing body of literature themed on quality of life among elderly.

Quality of life (QOL) is defined as "the individuals' perception of their position in life in the context of culture and value systems in which they live and in relation to their goals, expectations, standards and concerns."[7] Individual perception is invariably bound to subjective variation where no single person in this context, the elderly would expect to call for similar needs to assure life quality[6, 8, 9, 10]. Physical health is undeniably having significant impact on QOL while other aspects of life may modify it to some extent as advocated by WHO that health constitutes physical, social and mental well-being. After all, WHOQOL group has devised a standardized structured assessment with domains (physical health, psychological, social relationships and environment) which were considered comprehensive to establish ones QOL in spite of background difference[7].

QOL was found to be associated with a set of socio-demographic variables including age, marital status, educational level, income, to name a few[11, 12, 13, 14, 15, 16, 17]. Aged individuals are prone to a variety of chronic morbidities and thus disability associated with them[18, 19, 20, 21]. Perceived morbidity and disability could adversely influence on QOL in their subsequent of life lived.[22, 23, 24]. However, health service utilization is an essential aspect which may be expected to improve the overall outcome of deteriorating health and thus the QOL.

While study on QOL among elderly population is rare within this country and even rarer in rural setting[11, 12, 25], it is necessary to be assessed in order to address, plan and implement appropriate and cost-effective strategies at local community. Therefore, this study aimed to assess the quality of life and its associated factors among the elderly population in rural areas of Kudat, Sabah. The

outcome from this study may establish a baseline data and serve for comparison with different corners within the country and thus the healthcare and social policy planning and strategies in conjunction to 'Active Aging' proposed by WHO.

MATERIALS AND METHODS

This was a community-based cross-sectional study conducted in 15 selected villages in Tambuluran Area of Kudat, Sabah from February to May 2015. Kudat is one of the towns in Sabah state, located at northeastern region of Borneo Island. Respondents were identified by house-to-house visit using convenience sampling. Villagers aged 60 and above who participated voluntarily in the study were interviewed face-to-face based on a structured questionnaire.

Ethical approval was obtained from the ethical committee of University Malaysia Sabah {JKEtika 1/15 (6)}. Participation was voluntary. All respondents were informed about the purpose of the study, and their written consent was obtained before initiating the interview. QOL was measured using WHOQOL-BREF questionnaire with due permission from the Division of Mental Health and Prevention of Substance Abuse, WHO. WHOQOL-BREF is an abbreviated version of the WHOQOL-100, which assesses QOL in four different domains: (1) physical health, (2) psychological, (3) social relationship and (4) environment. Table 1 shows the facets incorporated within each domain. It consists of 26 questions in which each will be rated with a 5-point Likert scale. Of these, two questions enquire regarding respondents' self-perception on their own quality of life and health satisfaction as in general. The raw score was calculated and transformed to a score ranging between 0 to 100 according to the WHO's algorithm, in which a higher score indicates better QOL[7]. Malay version was validated in Malaysia with good validity and reliability[26]. Apart from the elements in the WHOQOL-BREF questionnaire, socio-demographic data, perceived morbidity and health service utilization were obtained. The perceived morbidity was defined as "Yes" when there is presence of any kind of morbidity perceived by the respondents in the past 1 week while the health service utilization was defined as "Yes" if the respondents sought for treatment or consultation for the past 1 year.

Table 1: Facets incorporated within each domain.

Domain	Facets incorporated within domains
1. Physical health	Activities of daily living Dependence on medicinal substances and medical aids Energy and fatigue Mobility Pain and discomfort

	Sleep and rest
	Work Capacity
2. Psychological	Bodily image and appearance
	Negative feelings
	Positive feelings
	Self-esteem
	Spirituality / Religion / Personal beliefs
	Thinking, learning, memory and concentration
3. Social relationships	Personal relationships
	Social support
	Sexual activity
4. Environment	Financial resources
	Freedom, physical safety and security
	Health and social care: accessibility and quality
	Home environment
	Opportunities for acquiring new information and skills
	Participation in and opportunities for recreation / leisure activities
	Physical environment (pollution / noise / traffic / climate)
	Transport

The data collected was recorded and computed by using Statistical Packages of Social Sciences (SPSS), Window version 17.0. The socio-demographic details, perceived morbidity and health service utilization of the respondents and the mean scores for each domain were tabulated for the descriptive analysis. Independent t-test was used to establish the difference between mean scores for each domain and associated factors. A P-value of less than 0.05 was considered statistically significant.

RESULTS

Characteristics of the respondents

A total of 165 respondents participated in this study. As shown in Table 2, the mean age was 71.42±6.50. More than half aged 70 and above and 55.2% were females. Rungus (94.5%) was the predominant ethnicity with Bajau, Kadazan and Chinese accounting for the rest. Majority of

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respondents practised Christianity (97.0%). It was noted that 70.9% were married and living with their partner while the rest was single, widow or separated. 78.2% did not receive formal education. 49.1% of the respondents were still working. Majority (60.6%) had household income of ≥ RM 300 per month (Table 2).

Table 2: Baseline socio-demographic profile of the respondents

Variables		Frequency	Percentage	Mean ± Std. Deviation
Age group	60-69	74	44.8%	71.42 ± 6.50
	70 and above	91	55.2%	
Gender	Male	74	44.8%	
	Female	91	55.2%	
Ethnicity	Rungus	156	94.5%	
	Bajau	4	2.4%	
	Kadazan	3	1.8%	
	Chinese	2	1.2%	
Religion	Christian	160	97.0%	
	Islam	5	3.0%	
Marital Status	With partner	117	70.9%	
	Single/Widowed/Separated	48	29.1%	
Formal education	Yes	36	21.8%	
	No	129	78.2%	
Working status	Yes	81	49.1%	
	No	84	50.9%	
Household income	< 300	65	39.4%	321.27 ± 287.70
	≥ 300	100	60.6%	

89.7% were hardcore poor (<RM524), 9.09% were poor (RM524-1047) and 1.21% were above the poverty line (>RM1047). Of hardcore poor respondents, 52.73% were female and 36.97% were male (Table 3).

Table 3: Poverty status among respondents by gender.

Household income	Poverty status*	Total n (%)	Gender	
			Male n (%)	Female n (%)
< RM 524	Hardcore poor	148 (89.7)	61 (36.97)	87 (52.73)
RM 524-1047	Poor	15 (9.09)	11 (6.67)	4 (2.42)
>RM1047	Above poverty line	2 (1.21)	2 (1.21)	0

*Poverty status classified according to poverty line index in Sabah[27]

The most frequent attended place was district hospital (69%) followed by government health clinic (25%) and private practitioners (6%) (Figure 1).
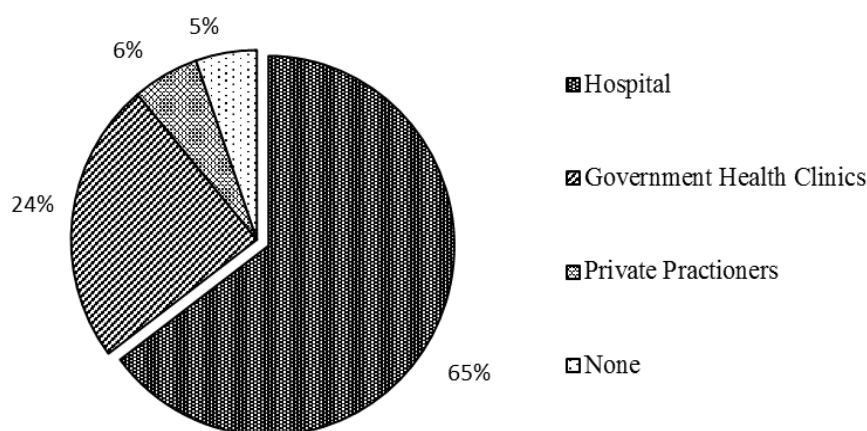

Figure 1: Health service utilization by respondents in the past one year

Quality of Life Score

The mean scores of overall quality of life and general health was 62.88±25.54 and 58.39±28.50 respectively. The mean of total WHOQOL-BREF score was 65.20±11.49. The scores for social relationship and environmental domains (74.49 and 68.29 respectively) were comparatively higher than physical and psychological domains (58.68 and 59.35 respectively) (Table 4).

Table 4: Baseline date on WHOQOL-BREF questionnaire

WHOQOL-BREF	Mean (SD)
Total WHOQOL-BREF score	65.20 (11.49)
Physical domain	58.68 (15.60)
Psychological domain	59.35 (13.27)
Social relationships domain	74.49 (19.04)
Environment domain	68.29 (14.79)

Association of the Selected Socio-demographic Factors with QOL

Total WHOQOL-BREF score was significantly lower for elderly aged 70 and above and those without formal education. Physical (p= 0.020), psychological (p= 0.035) and social relationship (p= 0.002) domains were significantly higher for elderly with formal education compared to those without formal education. Psychological and social relationship domains were seen to be significantly higher among elderly aged 60-69. Elderly living with partner were found to have higher physical health domain scores (p= 0.003). Among elderly without perceived morbidity, environmental domain (p=0.013) was significantly higher (Table 5).

Table 5: Association between QOL and the variables

	Total WHOQOL-BREF Scores	Physical Domain	Psychological Domain	Social Relationships Domain	Environment Domain
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Age					
65-69	67.79±11.29	60.48±16.53	62.87±12.27	78.27±18.74	69.55±15.20
≥ 70	63.10±11.28	57.21±14.73	56.48±13.43	71.43±18.84	67.27±14.46
P-value	0.009*	0.182	0.002*	0.021*	0.327
Gender					
Male	65.32±10.33	59.65±14.02	58.61±11.72	76.18±16.70	66.84±14.88
Female	65.11±12.41	57.89±16.81	59.95±14.45	73.12±20.55	69.47±14.70

P-value	0.905	0.472	0.515	0.306	0.257
Marital status					
With partner	66.13±10.85	60.99±14.49	59.39±12.29	75.07±18.80	69.07±13.67
Single/Widowed/Separated	62.94±12.77	53.04±16.89	59.25±15.57	73.09±19.75	66.38±17.24
P-value	0.105	0.003*	0.958	0.546	0.289
Education level					
No formal education	63.96±11.57	57.20±15.66	58.20±13.54	72.35±19.62	68.08±14.76
Formal education	69.67±10.16	63.99±14.35	63.47±11.52	82.18±14.63	69.04±15.10
P-value	0.008*	0.020*	0.035*	0.002*	0.734
Household Income					
< 300	65.06±11.23	59.68±15.04	58.32±14.30	74.55±20.17	67.70±15.59
≥300	65.29±11.71	58.03±16.00	60.02±12.60	74.46±18.37	68.67±14.32
P-value	0.684	0.509	0.424	0.976	0.901
Working status					
Yes	66.59±10.95	61.07±14.70	59.31±13.95	76.80±16.83	69.20±15.62
No	63.86±11.91	56.38±16.18	59.38±12.67	72.27±20.81	67.42±13.99
P-value	0.127	0.053	0.971	0.126	0.441
Perceived morbidity status					
Yes	64.45±11.67	58.22±15.53	58.88±13.83	74.05±19.84	66.63±14.71
No	67.42±10.80	60.03±15.90	60.71±11.53	75.80±16.65	73.14±14.11
P-value	0.148	0.516	0.442	0.610	0.013*

Health services utilization					
Yes	65.42±11.57	58.84±1.26	59.31±1.09	74.84±1.53	68.68±1.19
No	62.21±3.10	56.49±4.46	59.85±2.88	69.70±6.18	62.78±4.70
P-value	0.372	0.632	0.898	0.389	0.202

*Significant at p<0.05

DISCUSSION

The mean QOL score (65.20±11.49) in this study was relatively higher suggesting that the respondents were satisfied with their life. In this study, the mean scores in all four domains were found to be generally high with particular to social and environment domains. Compared to study conducted in urban area of Penang[12], this study showed comparatively higher mean scores for the domains. Elderly living in rural area has grossly higher mean scores for the domains than its counterpart in India[14, 17]. However, another study done in Penang[11] has generally higher mean scores for the domains except social domain. The differences in QOL scores among our study and other studies might be attributed to the difference in pattern of associated factors as it can be affected by the life events and cultural norms of a society or community[28].

Higher environmental domain score in our study shows that rural elderly are satisfied with their environmental condition. This was probably due to the pollution free and greener environment of rural areas as compared to urban areas that provide a healthy physical environment for the villagers[28]. While social support is one of the factors affecting on QOL[12], rural community is known to equip with social skill as they commonly live in cluster. Majority of the respondents in our study are from Rungus population. They are a unique population as majority of them are staying in rural area, uneducated and practicing Christianity. In Rungus population, they used to live in longhouse, however development had encouraged them to work in town and abandoned the communal life in longhouse. Those who are still living in rural area prefer to have their own house so that they have more initiative and individuality, able to receive the benefit of getting education and receiving medical attention[29]. Breaking up longhouse into individual houses however does not separate the villagers by maintaining a good neighborhood as it was known that elderly living in rural communities tends to establish a long-lasting relationship[30]. It is not surprising that the mean scores for physical health domain were lower in current study as they have less awareness and poor diet[31]. Lower mean score of physical domain can also be a consequences of development as the demand of changes came too quickly, some population might adapt with negative effect such as health impairments. To solve this problem, government has to buy services to the villages rather than

moving villages to the services[29]. Physical health and psychological stressor are inter-related. Poor physical health in elderly may become a psychological stressor not only to their family members but also to themselves. This results in lower mean score in psychological domain. On the other hand, psychological stressor caused by failure of a population or individual to cope with the demands, which is also refers to failure to cope at psychological level can depress immune system, leading to health impairments, result in lower mean score in physical health domain[32].

The elderly with the age group of 70 and above had lower QOL score in psychological domain (p=0.002). This is consistent with other studies.[13, 31.] The older people commonly have poorer memory and concentration and lower self-esteem due to increased dependency on others, which could lead to lower QOL psychologically. Marital status was included as one of the key variables in determining quality of life[33]. Study has shown that divorced and separated have worst health status followed by widowed and single. Married people appear healthiest[34]. In this study, physical health domain's score was higher for elderly living with partner when compared to those who are single, widowed or separated (p=0.003). One of the possible reasons is elderly and their partners are able to take care of each other when they are living together. By having more social support, the chances of recovery from their health problem improved, as there is people at home to provide sympathy and services[34]. Quality of life were found to be significantly associated with education. Similar finding was found in our study. It can probably due to better job opportunities and socioeconomic status among those with education[14]. Elderly with formal education have higher QOL score in psychological domain (p=0.035), physical domain (p=0.020) and social domain (p=0.002). It is because, education allowing them to have positive feelings on themselves. With better thinking and learning skills, they are less dependent on others and can practice a proper health behavior. They also have better communication skills in daily conversation, improving social relationship[35]. In term of perceived morbidity, the elderly with perceived morbidity has lower score in the environmental domain (p=0.013). It can be due to difficulties in accessing to basic amenities such as clean water, electricity and basic infrastructures. Health services utilization rate in our study was high. Most of the elderly have no difficulties in accessing health services as they attend health services regularly by shared transportation.

Aged population in Malaysia is increasing and this could be a challenge to our nation[1]. Services that enable the elderly to remain in the community should be implemented and this required sharing of responsibilities among all stakeholders. The tradition of respecting and caring of the elderly should also be reinforced at school level.

LIMITATIONS

There is subjective bias introduced during the interview period. The limited sample size limits the power for some of our comparisons between certain socio-demographic aspects. It would be more accurate if this study involving a greater number of subjects. There is also limitation under reporting of perceived morbidity as we could not study on elderly with diagnosed diseases and their complication among Rungus population. Despite of the limitations, this community based cross-sectional study gives valuable information on quality of life and its associated factors among Rungus elderly population in Kudat.

CONCLUSION

Mean WHOQOL-BREF score among the studied elderly was 65.2 + 11.49. The results indicate that the environmental conditions and social support for the elderly were relatively higher than the physical and psychological QOL. Thus, future interventions should place special emphasis on physical and psychological health promotion of the elderly.

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CONFLICT OF INTEREST

The authors declare that they have no competing interests.

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