RESEARCH ARTICLE

A Survey of Quality of Life among Elderly Population in Yogyakarta: A Questionnaire-Based Study

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Abstract

Indonesia, as one of the world's developing countries, faced a demographic transition. Indonesian people's life expectancy has risen over time. It imposed the escalating elderly population in Indonesia. Quality of Life (QoL) was an important assessment to be measured in the elderly as many comorbidities involved. This research aimed at determining QoL among the elderly population and QoL-related factors. A questionnaire-based survey was conducted among 210 elderly participants attending Yogyakarta's Elderly Community Services (Poslansia). QoL was evaluated using WHOQOL-BREF. Socio-demographic variables were analyzed using a questionnaire. Data was analyzed using SPSS version 22. QoL score differences among elderly characteristics were analyzed using Mann Whitney test. QoL score among respondents showed dimensions of social relationships had the lowest score among domains (QoL score 46.78 ± 10.72). Participants with spouses had better QoL scores than widowed participants (p 0.032). Participants who had better QoL scores than smoker participants (p<0.001) based on smoking status. Participants who frequently do physical activity had better QoL score than participants who rarely do physical activity (p<0.001). Participants with chronic disease had lower QoL score than participants without chronic disease (p<0.001). Participants taking routine medication had better QoL score (p<0.001) based on drug behavior. This study revealed the social relationship domain had the lowest score among the elderly population domains. QoL based on elderly characteristics was significantly different by marital status, smoking status, physical activity, chronic disease and routine medication. Further investigation can be done to explore factors affecting social relationships in older subjects.

Keywords: *Elderly; WHOQoL-BREF; quality of life; Indonesia.*

Introduction

Aging is the normal cycle of human life that changed man's body, such as increased risk of non-communicable disease and organ disability [1, 2]. Indonesia faced the demographic change, which would increase life expectancy.

Life expectancy among Indonesia's population has risen, ending with a decline in total fertility rate (TFR) and an increase in the elderly. Based on the UN Population Fund (UNFPA), Indonesia's life expectancy in 1971 was 45.7 but will rise to about 72.4 in 20353. The growing number of old Indonesians will challenge socio-economic policy. In addition the increasing number of elderly people in Indonesia would impact the epidemiological transition from epidemic to chronic disease, thereby challenging healthcare policy. The rising chronic conditions would affect the QoL of the elderly population [1, 4]. The World Health Organization (WHO) defined QoL as the perception of an individual's life in the context of the value and culture systems they live and their goals, expectations, standards and concerns.

It's an active aging indicator. Active aging defined the process of optimizing health and quality of life in the elderly [5]. WHO split this concept into several areas, including mental and physical health, social functioning, and emotional well-being. QoL's concept has been diversified in many ways depending on QoL 6's discipline, paradigm,

and timeframe. For example, QoL questionnaire WHOQoL-BREF was established by WHOQoL Group in 1995. The WHOQoL-BREF questionnaire includes four domains, i.e. physical, psychological, social, and environment. WHOQoL-BREF questionnaire had 24 facets. In 2004, the WHOQoL-BREF questionnaire was translated into Indonesian and revised twice (in 2014 and 2016) [3].

Salim et al previous study observed WHOQoL-BREF's validity and reliability in Indonesia's elderly population [7]. Very few studies in Indonesia had observed QoL among elderly people, especially factors influencing QoL among elderly people in Indonesia. On the other hand, many studies observed QoL among elderly people and factors influencing it in other countries. For this reason, this study aimed to observe the QoL among the elderly population and the factors that influenced QoL in the Yogyakarta Special Region using WHOQoL BREF. This research can be the basis for further research on policymaking in the elderly population in Indonesia.

Materials and Methods

The present research was a questionnaire-based survey conducted between August and September 2019. The study population consists of geriatric population aged 60 years residing in either rural urban area in Yogyakarta province. Verbal informed consent was used, and individuals denying consent were not involved in the analysis.

A sampling technique was used to recruit study participants. Poslansia, elderly community facilities operated by primary health centers, considered to be outreach programs, was chosen as a way to attract research participants, resulting in 210 elderly people ready to be interviewed. After verifying participation eligibility, the objective of the questionnaire survey was clarified to Pharmacy students who had previously qualified as interviewer.

Before starting the study, ethical clearance and approval were taken from the university research and ethical committee. The validated WHOQOL-BREF was used to calculate QOL[3]. It consists of 24 items to assess perception of quality of life in four domains, namely physical , psychological , social, and environmental domains. Before the survey, a pilot study was conducted on 25 elderly people to ensure feasibility and study acceptability. Following the scoring guidelines, the domain scores were transformed into a linear scale of 0-100. A higher score showed better QOL.

SPSS version 22 analyzed data. Descriptive statistics were reported by mean ± standard deviation for QoL scores and presented by proportion. Demographics and QoL scores were compared using Mann-whitney test.

Results

A total 210 elderly participants from Poslansia, community services for elderly provided by primary health centers in Special Region of Yogyakarta province were recruited in this study. Table 1 represents the characteristics of elderly participants. Most of the participants (84.76%) were those aged 60-69 years. The majority of participants (63.81%) recruited in this study were female. Based on marital status, most of the participants were with spouses (59.52%). The majority of participants' education level was high school level (57.62 %).

Based on participants' number of children, participants' QoL were slightly similar. Most of the participants recruited in this study were living without their children (57.62 %).Most of the respondents before retirement worked as private employees (37.14%). Most of the participants were nonsmoker (59.52%) but were rarely doing physical activity (52.86%). Based on a chronic disease status, most of participants had a history of chronic disease (69.05%) and the majority of respondents were taking routine medication (57.62%).

Table 1: Characteristics of elderly participants (N=210)

Characteristics		N	%
age	60-69	178	84.76
	70 and more	32	15.24
gender	female	134	63.81
	male	76	36.19
marital status	with spouse	125	59.52
	widow	85	40.48
level of education	elementary school	45	21.43
	high school	121	57.62

	university	44	20.95
Number of children	<3 child	98	46.67
	3 and more child	112	53.33
living with child	yes	89	42.38
	no (stay alone)	121	57.62
previous working status	unemployed	54	25.71
	civil servant	34	16.19
	private employee	78	37.14
	farmer	44	20.95
smoking status	active smoker	45	21.43
	former smoker	8	3.81
	nonsmoker	125	59.52
physical activity	once a week	67	31.90
	2-3x a week	32	15.24
	rarely	111	52.86
having chronic diseases	yes	145	69.05
	no	65	30.95
taking routine medication	yes	121	57.62
	no	89	42.38

Table 2 represents the comparisons of QoL mean score of elderly participants from Poslansia in Special Region of Yogyakarta Province. The study showed that the mean of QoL scores was highest in physical domain (54.23±11.45), followed by psychological domain (50.15±12.42). Social relationship domain had the lowest score among domains in WHOQoL-BREF (46.78±10.72).

Table 2: QoL score of elderly population

Domain score	mean	SD
physical (7 items)	54.23	11.45
psychological (6 items)	50.15	12.42
social relationship (3 items)	46.78	10.72
environment (8 items)	49.56	10.63

Table 3 represents an association between characteristics of elderly with QoL mean scores. This study discovered some characteristics influenced the QoL in elderly. Based on marital status, participants who had spouses had better QoL scores than widowed elderly (p = 0.032). Participants who not smoking had better QoL scores than smoker participants.

Elderly who frequently doing physical activity had better QoL scores. In chronic disease status of participants, participants who had chronic disease had poorer QoL scores than participants who hadn't chronic disease. Those who taking routine medication had higher QoL. All variables were significant statistically (p < 0.001).

Table 3: Association between characteristics of elderly with QoL mean score

Characteristics		N	Mean QoL (SD)	p-value
age	60-69	178	53.25 (11.41)	0.243
	70 and more	32	50.32 (11.32)	
gender	female	134	50.21 (10.42)	0.431
	male	76	52.12 (11.51)	
marital status	with spouse	125	52.53 (11.35)	0.032*
	widow	85	49.31 (12.52)	
level of education	high school	166	49.78 (9.89)	0.064
	university	44	51.32 (11.56)	
number of children	<3 child	98	51.42 (10.46)	0.078
	3 and more child	112	50.31 (11.89)	
living with child	yes	89	52.51 (10.98)	0.064
	no (stay alone)	121	50.46 (9.58)	
previous working status	unemployed	54	49.89 (9.13)	0.075
	employed	156	50.48 (10.79)	
smoking status	active smoker	45	46.31 (9.58)	<0.001
	nonsmoker	133	51.56 (10.21)	
physical activity	rarely	178	47.45 (9.46)	<0.001
	frequently	32	50.31 (10.76)	
having chronic diseases	yes	145	45.57 (9.43)	<0.001

	no	65	50.46 (9.65)	
taking routine medication	yes	121	50.56 (9.45)	<0.001
	no	89	49.57 (9.78)	

*significant at p<0.05 with Mann-Whitney test

Discussion

QoL was one of the most important measures for elderly people because they need special care services to improve their QoL and health status 2. Furthermore, QoL measurement was considered pivotal in formulating policy, especially for health policy in the elderly population 4. This research examined quality of life of the elderly population. The result showed four domain descriptions in the WHOQoL-BREF questionnaire, showing that QoL in the elderly population in the Yogyakarta Special Region had the highest mean QoL score (54.23±1.45) in the physical domain, while the social relationship domain had the lowest mean score (46.78±10.72).

These findings may explain that their children abandoned most elderly. A study in elderly people in Kuala Lumpur reported that the physical domain was the highest mean score, while the social relationship was the lowest mean score5. This result suited Kumar's findings in the Indian population, which revealed that the social relationship was the lowest mean score [4]. This may be caused by many elderly people in India abandoned by their relatives [8].

Other research, however, showed physical domain was the lowest mean score in the elderly population. It can be clarified that the body's physiological activity decreases. Furthermore, the research environment was in nursing home where their physical activity typically affected elderly people in nursing home [3, 9]. In a mean score, age in elderly characteristics was not significantly different.

In agreement with this study, Khaje-Bishak et al revealed that quality of life among 184 elderly people was not significantly different in age [2]. Other research by Habibi et al, examining the quality of life among the elderly in Tehran, found that age was not substantially different. In contrast, Indian study evaluating the quality of life among elderly subjects showed that age was significantly different between participants aged 60-69 and participants aged over 70 years, mainly in the physical domain1.

In a mean score, gender status was not significantly different among male and female participants. Bansal et al., in agreement with this study, observed quality of life among the elderly population in Etawah District, India using WHOQoL-OLD questionnaire found that male and female mean score among the elderly was not significantly different [11]. Contrary to this analysis, Onunkwor et al found that males had better quality of life than females in all domains [5].

High school and university seniors were not substantially different in mean ratings. In agreement with this study, Bansal et al. showed that the mean score between literate and illiterate elderly was not significantly different11. In contrast, Devraj and D'mello study assessed the quality of life among elderly people in Mangalore, Karnataka, India, showed that mean score was significantly different in education level [12].

In this analysis, the number of children and living with children in elderly characteristics were not significantly different in a mean ranking. Previous job status in elderly characteristics was not substantially different in this study's mean ratings. On the other hand, factors influencing quality of life among elderly people in the Yogyakarta Special Region were marital status, smoking status, physical activity, chronic disease, and routine medication.

In a mean score, marital status in elderly characteristics was significantly different. In agreement with this study, Devraj and D'mello showed significantly different marital status in a mean score [12]. Other Kumar et al study showed that a mean score4 differed significantly between spouses and widows. In contrast, Bansal et al. study showed that a mean score did not differ significantly between married and single [11]. Life quality between active smoker and non-smoker was statistically different.

Nonsmoker's quality of life was higher than committed smoker's. In agreement with this study, the evaluation of health-related behavior and quality of life in elderly people showed that non-smokers had higher quality of life than active smokers [13]. In contrast, Onunkwor et al research showed no significant difference in mean score in all domains between smoker and non-smoker [5].

Participants with frequent physical activity had better quality of life. In line with this report, a report by Onunkwor et al found that participants who often have physical activity have improved quality of life than participants who rarely have physical activity in three domains (physical, psychological, and environment) [5].

Participants with chronic diseases had lower quality of life than participants with significantly different chronic diseases. According to this report, Onunkwor et al. research found that participants with chronic diseases had poorer quality of life than participants with no chronic diseases with substantially different in all domains5.

Participants taking routine medication had greater quality of life than those taking routine medication. Pereira et al evaluating quality of life and health status in Ceará,

Brazil, showed that factors associated with quality of life were behavior-taking medication [14]. This study isn't unlimited. This study was a cross-sectional study, so tentative relationship cannot be constituted between quality of life and the related variable. Moreover, this study cannot be generated nationally, as the study only recruited elderly people in Yogyakarta Province's Special Region.

Cohort studies are suggested to determine the causal relationship between life quality and related factors. Further studies should involve elderly people in another province in Indonesia to allow extrapolation at country level. Other studies will go beyond the relationship between domain of social relationships and related factor.

Conclusions

This study showed that in the Special Region of Yogyakarta Province, the quality of life among the elderly population had the lowest social relationship score. Factors influencing the quality of life score among the elderly in the Yogyakarta Special Region were marital status, smoking status, physical activity, chronic disease, and routine medication. Further research can be done to explore factors influencing the domain of social relationships.

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