Quality of Life and the Contributing Factors among Elderly in Rural Areas in Yogyakarta

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ABSTRACT

***Background**: Older people are a high-risk population with decreased health status and quality of life (QoL). There are various conditions that can affect the QoL in older people. QoL in older people requires cooperation from various parties including family members, health workers, and local government to improve it. Understanding factors contributing to QoL among older people is significantly important. **Aims**: The research objective was to analyze the relationship between age, gender, education, and occupation status with QoL in older people. **Methods**: A cross-sectional design was used to identify related factors contributing to QoL among older people. QoL was assessed by using SF-36. This instrument contains eight subgroups namely role-physical, physical function, mental health, bodily pain, social functioning, role-emotional, general health, and vitality. Descriptive statistics and correlation coefficients were used in reporting and analyzing the data. The research was conducted from December 2019 to June 2020 in Pleret, Yogyakarta. The sample was collected by simple random sampling resulting in a total of 102 older people. **Results**: Factors significantly related to the QoL subgroup in this study were as follows. Age ($p<0.001$) and occupational status ($p<0.001$) related to physical function, gender ($p<0.05$) related to mental health, age ($p<0.05$) and educational level ($p<0.05$) related to role-emotional and gender ($p<0.05$) related to general health. **Conclusion**: This study identified factors that contributed to the QoL in older people including age, gender, educational level, and occupational status. A more in-depth investigation is recommended to determine the other QoL contributing factors among older people.*

***Keywords**: Older people, Quality of life, Rural area.*

INTRODUCTION

Older people are one of the high-risk population and has been increasing in number. Older people are also attached to a decrease in health status. This declining health status along with the increasing age of older people affects the quality of life (QoL). The decline in health conditions is contrary to the desire of older people to stay healthy even in their old age (Kiik, 2018). Increasing the number of older people will affect various aspects of life including health, social, environmental, and economic. In terms of health, older people experience a decline in anatomic function and also a decrease in immunity. Thus, the condition of older people needs special attention from various parties (Luthfa, 2018; Mauliana et al., 2020)

Older people make up about 8% of the population in Southeast Asia, or roughly 142 million people, according to the World Health Organization (WHO). The senior population is predicted to quadruple from 2013 to 2050. The population of Indonesia is growing every year, notably among the older people group, which accounts for more than 7% of the total population in 2017, according to the Indonesian Central Bureau of Statistics. The percentage of older people in Indonesia who are 60 years or older is rated 108th globally in 2013 alone. In contrast, it is anticipated that 28 million individuals in Indonesia will be above the age of 69.67 in

Received: 20-10-2022, Accepted: 05-01-2023, Published Online: 04-09-2023

older men and 73.55 in older women (WHO, 2020; Badan Pusat Statistik, 2021).

Indonesian population is fourth after China, India, and America (Ali et al., 2019). Indonesia is one of the countries in the Southeast Asian region that entered the era of an aging structured population because the population aged 60 years and above was around 9.60%. It is predicted that the number of older populations in 2025 will be 33.69 million. In 2030, there will be 40.95 million and in 2035 will be 48.19 million (Badan Pusat Statistik, 2020).

The health and well-being of this vulnerable population are significant issues of concern. The older people have an average QoL score, but a low one in the social contact area. Health education regarding activity and environmental changes and an increase in social relationships may help in improving the QoL among the older population (Toselli et al., 2020).

Many conditions of older people both directly and indirectly affect the QoL. QoL is influenced by several factors including physical conditions, material conditions, social conditions, psychological conditions, emotional well-being, personal development, and activities. Another factor that affects the QoL of older people is family support (Birren et al., 2014; Catarinella et al., 2015; Mokhatri-Hesari & Montazeri, 2020).

QoL in older people requires cooperation from various parties including family members, health workers, and local government to improve it. This, among others, aims to fulfill and improve daily activities, psychological well-being, and physical needs. On the other hand, changes in the QoL of older people when viewed from the social and environmental aspects are still not widely explored. From year to year, there is an increase in the number of older people. With the increasing life expectancy in older people, it is important to then improve the QoL of older people (Pal et al., 2017).

Data from the Ministry of the Republic of Indonesia shows that Yogyakarta is the province with the highest older people population of 14.50%. In addition, the highest life expectancy in Indonesia is also found in the province of Yogyakarta at the age of 76 years. Data from the Bantul regency health service report in 2019 showed that the largest number of older people were in the work area of the Pleret subdistrict community health care center with 13,185 older people. For this reason, we are interested in research—in the area with the highest number of elderlies by considering the feasibility of conducting research. So this region was chosen as a place of research (Riset Kesehatan Dasar, 2018; Badan Pusat Statistik, 2020). Thus, this study aimed to describe the QoL and its related factors of the older people in the rural area of Pleret Bantul Yogyakarta society.

METHODS

This descriptive with cross-sectional approach design was conducted after approval by the regional Ethics Committee in the Institute of Health Science Surya Global with the number 1.01/KEPK/SSG/X/2020. This study was conducted at the work area of the Pleret Public Health Center from December 2019 to June 2020. Respondents were older people with a minimum age of 60 years old in the work area of the Pleret Health Care Center who met the inclusion criteria. The inclusion criteria included being willing to be a respondent, able to communicate verbally, and living at the study sites. The research sample was 102 respondents who were determined using the guideline for determining sample size by Lemeshow (1997).

The sampling technique used in this research was simple random sampling. The researchers and a research assistant (nursing student) gathered the data. The staff of the Pleret Public Health Center and the first author coordinated the data collection process. The list of older people residents in the working area of Pleret Public Health Center was provided. The respondents were chosen randomly from the list by the researchers, who then approached the door to door to the respondents' houses to collect the information. There was no rejection from the selected respondents. Respondents were required to complete the questionnaire, accompanied by the researcher and research assistant. The questionnaires were filled out at the respondents' houses. Before filling out the questionnaire, the researcher explained the purpose of the study and requested the respondents to fill out the informed consent form. After filling out the

Received: 20-10-2022, Accepted: 05-01-2023, Published Online: 04-09-2023

questionnaire, the researcher ensured the completeness of the questionnaire.

We used a structured questionnaire covering several aspects, including sociodemographic characteristics. QoL was assessed by using Indonesian version of SF-36 questionnaire (Novitasari et al., 2016). This instrument contains eight subgroups namely role-physical, physical function, mental health, bodily pain, social functioning, role-emotional, general health, and vitality with a total of 36 questions (McHorney et al., 1994).

We conducted data analysis using SPSS (Statistical Package for Social Sciences) version 16.0 for Windows. The baseline characteristics of participants were analyzed using descriptive statistics and were described in terms of age, sex, education, and occupation. The QoL of the older people was presented using a mean and 95% confidence interval (95% CI). Relationships between QoL according to related factors were analyzed using a one-way ANOVA test and an independent t-test. All tests were two-tailed and a *p*-value of <0.05 was considered statistically significant.

RESULTS AND DISCUSSION

The demographic characteristics of participants are shown in Table 1. The mean age of 102 older people was 66.8 (9.14) years and about 81.4% were females. Approximately fifty-eight percent of the respondents are elementary school graduates and 66.7% are working.

Table 1. Baseline characteristics of older people (n=102)

Characteristics	n	%
Age (year)		
60-64	39	38.2
65-69	25	24.5
70-74	18	17.6
≥ 75	20	19.6
Gender		
Male	19	18.6
Female	83	81.4
Education		
Illiterate	31	30.4
Elementary school	59	57.8
Junior high school	9	8.8
Senior high school	3	2.9
Occupation status		
Employed	68	66.7
Unemployed	34	33.3

The mean scores of the subgroups of QoL in participated subjects are depicted in Table 2. The mean score of role-physical was 64.18, physical function 76.14, mental health 72.96, bodily pain 71.53, social functioning 68.62, role-emotional 71.47, general health 51.56, and vitality 69.90.

Table 3 revealed the relationships between the subgroups of QoL among older people and related factors. The results showed the total average score of the highest physical role subgroups in the age group with the age range of 60-64 years (80.20). A p-value of <0.001 implied that there was a significant relationship between age and physical function. The physical function also had a significant relationship with occupation status with a p-value of < 0.001.

The total mental health subgroups had the highest average score (78.44) in the age group with the age range of 70-74 years. In the gender group, the highest average score was 81.47 for males and a p-value of 0.01 indicated a significant relationship between mental health and gender.

Table 2. The mean scores of QoL in the older people by each subgroup of QoL

QoL subgroups	Mean score	95% CI
Role-physical	64.18	60.25-68.67
Physical function	76.14	72.26-80.49
Mental health	72.96	68.84-76.16
Bodily pain	71.53	66.98-76.04
Social functioning	68.62	65.62-72.63
Role-emotional	71.47	65.06-76.18
General health	51.56	48.35-54.12
Vitality	69.90	66.23-73.23

The total mean emotional score in the older people age group >75 years was 88.33 and the p-value was 0.01 related to age. In the group of education level, the highest average score for senior high school was 88.88 and there was a significant relationship between educational level and role-emotional (p-value = 0.04).

Furthermore, results showed that general health subgroups related to gender (p-value = 0.01) and the total average

Received: 20-10-2022, Accepted: 05-01-2023, Published Online: 04-09-2023

score for the role-emotional component in the male gender group was 60.30.

The results in this study showed that not all factors are related to the subgroups of QoL in older people. The factors that significantly related to a subgroup of QoL in this study included 1) physical function related to age and occupational status, 2) mental health related to gender, 3) role-emotional related to age and educational level, and 4) general health related to gender.

Table 3. The 8 subgroups of QoL among older people according to related factors.

Factor	Variable							
	Role-physical	Physical function	Mental health	Bodily pain	Social functioning	Role-emotional	General health	Vitality
	p-value	p-value	p-value	p-value	p-value	p-value	p-value	p-value
Age[a]	0.93	<0.001*	0.08	0.37	0.01*	0.01*	0.33	0.59
Gender[b]	0.17	0.78	0.01*	0.90	0.39	0.41	0.01*	0.25
Education[a]	0.16	0.14	0.22	0.45	0.71	0.04*	0.15	0.22
Occupation status[b]	0.25	<0.001*	0.14	0.90	0.86	0.99	0.68	0.07

Note: [a]One-way ANOVA test was performed, [b]Independent t-test was performed, *Significant at p <0.05

Physical function

Similar research has been expressed in a previous study (Liu et al., 2013) and the results revealed that the factors influencing physical function in older people included age. Physical function was related to the age where the ages of 65-69 years had the strongest correlation to physical function compared to other age categories. Functional limits are a well-established predictor of future negative outcomes, such as disability, hospitalizations, admission to nursing homes, and mortality. Physical function has long been researched in older people populations. Even though physical function impairments are more common in older age groups. Midlife is a crucial life stage for the development of impaired functioning even if risk factors can build up over the course of a person's entire lifespan. While the burden is rising for midlife people, the prevalence of impairments in activities of daily living (ADLs) is fairly consistent in older adults. Increasing age is known to decrease individual physical function (Dugan et al., 2018; Wei et al., 2019).

Furthermore, a recent study showed that the individual's occupational status has a strong relationship with the physical function of a person. In line with our findings, a prior study has shown that working people reported a higher QoL compared to those who do not work after adjusting for disease factors (Rueda et al., 2012). Another study showed that physical function in older people can benefit from working status. The biggest improvements in physical function can be achieved by working or training. Different types of working activities have complementary and varied advantages. Thus, physical activity in working has a stronger impact on physical function (Dugan et al., 2018).

Other studies have also revealed that the QoL of working older people was better than those who did not work. However, it should also be noted that in working older people, the QoL decreases with age and their physical function begins to decline. In addition, in terms of vitality, it was found that older people with lower vitality were influenced by aging, female sex, higher education, and formal workers. Working individuals had higher self-esteem because of steady income and employment. In addition, working in a good position increases one's self-esteem (Alizadeh et al., 2016; Huang et al., 2018; Machón et al., 2017).

Mental health

The older population's perceptions of psychological well-being appeared to be influenced by gender in one study. The association between QoL and marriage also varied by gender. Compared to single men, married men had a higher QoL. On the contrary, compared to married, separated, or divorced women, single women had a superior QoL. The respondents' educational backgrounds were another aspect that could have an impact on those conclusions (Ferretti et al., 2018; Hidayati et al., 2018).

The older people who participated in our study had little to no schooling. This element may have an impact on how they

Received: 20-10-2022, Accepted: 05-01-2023, Published Online: 04-09-2023

evaluate their mental health. It was found in both the community and in the NH research settings that a lower educational background was a predictor of worse psychological QoL among the aging. In the mental health section, it is known that older people with lower mental health were influenced by younger age, male gender, lower education, and formal worker status (Manaf et al., 2016; Alizadeh et al., 2016).

Mental health has been found as an important factor in the QoL of older people in previous studies. Married women had a high rate of use of mental health facilities. When viewed from adolescence between men and women, it was found that female adolescents had a higher risk of self-suicide and depression than boys. Apart from that, the reason why women had lower mental health than men was because of the influence of social interaction in society which caused women to have life pressure and greater stress than men. In addition, women were more likely to raise concerns than men (He et al., 2016; Souza et al., 2006; Xie et al., 2014).

Based on recent studies, physical activity has been shown to have an effect on mental health. It was also found that the physical activity of women was lower than men causing the differences in mental health scores. The mental health of men was found to be higher than that of women. This may be due to better physical and social factors in men. The lower QoL in women can be caused by social vulnerability among them (Doosti-Irani et al., 2018; Farajzadeh et al., 2017; Mirsaeidi, 2015; Shayan et al., 2020).

Role-emotional

A recent study revealed that emotional problems were a factor that needed more attention in older people. The focus on positive and negative emotions and aging may be very limited. A focus on emotional strength is also needed. In circumstances where strong emotions arise, older adults may not be able to regulate their emotions as well as younger people (Wirth et al., 2017).

In line with the results of this study, emotional well-being refers to subjective experiences of positive and negative emotions. These constructs are often defined in terms of happiness, life satisfaction, or a balance between positive and negative influences. In all studies using this definition, improvement in emotional well-being has been consistently observed in people in their 30s, 40s, 50s, and 60s (Coleman & O'Hanlon, 2017; Kunzmann et al., 2014).

Individual perceptions of the QoL can influence subjective well-being, which indicates a positive and negative evaluation of life. Education influences people's perceptions of the quality of their life. The influence of educational experiences on preferences, expectations, feelings, and integrated emotional states as multiple forces that contribute not only to the formation of personality characteristics but also to social psychological traits such as self-esteem and perceived personal well-being (Ryff, 2014).

General health

In this study, we found that women had lower general health. This is in line with several studies that showed that the general health of women was lower than men (Aghamolaei et al., 2010; Enjezab et al., 2012; Hajian-Tilaki et al., 2017a, 2017b; Siboni et al., 2019). A possible explanation for the effect of gender on general health is that women may exaggerate their health conditions more than men. Numerous serious chronic diseases are in danger from physical inactivity. The gender differences in physical activity can be explained that men are likely to have better daily activity related to better health outcomes. Furthermore, it has been discovered that physical activity is linked to a higher quality of life (Arifin et al., 2012).

CONCLUSION

A significant difference was observed between age, occupational status, gender, and educational level with subgroups of QoL. However, not all factors were related to the subgroups of QoL in older people. The subgroups that significantly related to the older QoL included physical function, mental health, role-emotional and general health.

To promote the maintenance of QoL in older people, suitable healthcare services must be improved and treatment techniques must be developed by specialists in healthcare and social work. Furthermore, there is a need for inclusive and affordable care among the elderly, not only for groups of people with disabilities but also for all age groups of older people

Received: 20-10-2022, Accepted: 05-01-2023, Published Online: 04-09-2023

and for gender equality. In addition, older adults' mental health must be taken into account instead of only focusing on their physical health.

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