

Relationships between Family Support, Gender, and Education on Quality of Life in Elderly in Jambi: Multi-Level Analysis

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ABSTRACT

Background: The elderly pain rate in 2021 is 22.48%, this shows that around one in five elderly people in Indonesia have experienced illness in the past month. 3 factors affect predisposing factors, including knowledge and attitudes, supporting factors, and reinforcing factors. This study aims to determine the relationship between family support, gender, and education to the quality of life of the elderly in Jambi.

Subjects and Method: This was a cross-sectional study conducted in Jambi, Indonesia, from March to April 2024. A total of 200 elderly participants were selected using fixed disease sampling. The independent variables were gender, education, family support, and Integrated Health Posts for the elderly. The dependent variable is quality of life. Data were collected using questionnaires and analyzed using multiple linear regression.

Results: Quality of life in old age improved with strong family support ($b= 0.46$; 95% CI= 0.19 to 0.74; $p = 0.001$) and \geq high school education ($b=4.99$; 95%CI = 2.89 to 7.09; $p < 0.0010$). The quality of life of the elderly decreased or decreased in women compared to men ($b= 2.94$; 95% CI= -5.22 to -0.66; $p= 0.011$). There was a strong contextual influence of Integrated Health Posts for the elderly on the quality of life of the elderly (ICC= 31.15%).

Conclusion: The quality of life of the elderly improves with strong family support and \geq high school education. The quality of life of the elderly decreases or is lower in women than men. There is a strong contextual influence of Integrated Health Posts for the elderly on the quality of life of the elderly.

Keywords: Family support, gender, education, quality of life, old age

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BACKGROUND

Elderly (Elderly) is someone who reaches the age of over 60 years. The number of elderly people is increasing rapidly in both developing and developed countries, this is

due to the decline in birth and death rates, as well as the increase in age and life expectancy which causes a change in the overall population structure. With the development of society, people are increasingly concerned

about health (Dai and Gu, 2022). Old age comes with difficulties caused by the loss of roles due to various environmental changes such as retirement and separation from children. This is also accompanied by health problems (Cui et al., 2022).

Based on data from Jambi province in 2021, the number of elderly people in Jambi province is 280,509 elderly people (BPS, 2021). According to data from Jambi City in 2021, the number of elderly residents is 3,028 elderly. Meanwhile, in terms of distribution, the elderly in Jambi Province are more commonly found in rural areas, only around 32.12% of the elderly live in urban areas. This is important information for the Jambi provincial government, that more budget is needed for elderly programs in rural areas than in urban areas. (BPS, 2021).

The number of pain in the elderly in 2014 was 25.05%. In 2015, the number of pain in the elderly increased to 47.17%. The decline in physiological function in the elderly due to the process of aging can cause various diseases, such as non-communicable diseases, and so on. Therefore, the elderly must receive special attention from all parties to improve a quality and prosperous life for the elderly (Apr and Kim, 2019)

The elderly pain rate in 2021 is 22.48%, this shows that about one in five elderly people in Indonesia have experienced illness in the past month. In general, the elderly sickness rate has the same pattern as the percentage of the elderly who experience health complaints. However, if you dig deeper, there are differences in patterns by gender. Elderly people with the female gender experience more health complaints when compared to men (BPS, 2021).

The basis for the establishment of the elderly integrated health post program comes from the government regulation of the Republic of Indonesia number 43 of 2004 concerning the implementation of

efforts to improve the social welfare of the elderly. The National Commission for the Elderly (Komnas) is an institution for all related elements in the field of improving the welfare of the elderly at the central level. Health services at the community level are elderly integrated health posts, basic elderly health services are health centers and advanced health services are hospitals.

Integrated Health Posts for the elderly is a form of policy development in the form of health services for the elderly with its implementation through a program activity that comes from the health center and brings the work of the elderly and their families from the elderly (Cristea et al., 2020).

There are 3 factors, namely, predisposing factors including knowledge and attitudes, supporting factors including facilities and infrastructure related to health and others, and reinforcing factors consisting of one of them, namely support from the family. Individual assessment (Sesanti et al., 2022). From the above statement, the researcher will conduct research. The relationship of family, gender and education support to the quality of life of the elderly in Jambi: a multi-level analysis.

SUBJECTS AND METHOD

1. Study Design

The type of research used is quantitative research with a cross-sectional analytical observation method. This research was conducted in the Jambi City area, Jambi Province. This research was conducted in March to April 2024.

2. Population and Sample

The population of this study is the elderly in the elderly integrated health posts in Jambi City. The sample of the study was 200 respondents. The sampling technique is fixed disease sampling in the elderly.

3. Study Variables

family support, gender, and education The dependent variables in this study are level 1 individual and level 2 integrated health posts.

4. Operational Definition of Variables

Family support: the role of family members felt by respondents towards an activity carried out at the elderly integrated health posts.

Gender: male and female genders affect the quality of life in old age.

Education: the process of changing the attitude and behavior of a person or group of people to mature human beings through teaching and training efforts.

Quality of life: a person's perception in the context of culture and norms that are appropriate to the place where the person lives and related to goals, expectations, standards, and concerns throughout his or her life.

5. Study Instruments

The research instrument used for data collection is data measured through a WHOQOL-BREF questionnaire with a continuous scale for data analysis converted into a dichotomy.

6. Data Analysis

Univariate analysis was carried out with the aim of determining the frequency distribution and percentage of each variable studied, namely the relationship between family support, gender, and education to the quality of life of the elderly. The next analysis is

bivariate which is carried out on each exogenous variable, namely the conceptual influence of integrated health posts on the quality of life of the elderly, and multivariate analysis using a linear regression analysis model.

7. Research Ethics

Research ethics including anonymity, and confidentiality, informed consent, are handled with care throughout the research process. The approval letter for the research ethics permit was obtained from the Research Ethics Committee of Dr. Moewardi Hospital in Surakarta on March 20, 2024, with the number 772/III/HREC/2024.

RESULTS

This research was carried out in March-April 2024 on 200 respondents in the Jambi City.

1. Sample Characteristics

Table 1 This study was carried out in the working area of Sungai Duren Health Center, Putri Ayu Health Center, Aur Duri Health Center, Simpang IV Sipin Health Center, and Pall 10 Health Centers then each health center took 5 integrated health posts each health center with a total of 200 respondents then 8 respondents were taken each integrated health posts an overview of the distribution and frequency of the characteristics of the respondents and all the variables studied, The results of the research that has been carried out are the results of the distribution of respondents based on the following variables.

Table 1. Sample Characteristics

Variable	Frequency (n)	Percentage (%)
Family Support		
Positive	174	87.00
Negative	26	18.00
Gender		
Male	67	33.50
Female	133	66.50
Education		
≥Senior high school	119	59.50
<Senior high school	81	40.50

2. Bivariate Analysis

Table 2 shows the analysis of the relationship between family support variables, gender, and education on the quality of life of the elderly in Jambi. Family support and quality of life in old age, and statistically significant. Every 1 unit increase in family support score will be followed by an improvement in quality of life by 0.46 units (b= 0.46; 95% CI= 0.19 to 0.74; p= 0.001). The quality of life in old age between men and

women, and statistically significant. Women had an average quality of life of 2.94 units lower than men (b = 2.94; 95% CI = -5.22 to -0.66; p= 0.011). Education and quality of life at an advanced age, and statistically significant. Older adults with higher levels of education ≥high school have an average quality of life 4.99 units higher than primary education (<high school) (b = 4.99; 95%CI = 2.89 to 7.09; p <0.001).

Table 2. Results of Bivariate Analysis

Independent Variable	b	95% CI		P
		Lower Limit	Upper Limit	
Family Support	0.46	0.19	0.74	0.001
Female	2.94	-5.22	-0.66	0.011
Education	4.99	2.89	7.09	0.001

3. Multilevel Analysis

Table 3 shows the results of a multilevel analysis in which this study uses a linear regression analysis model at level 1 at the individual level, namely family, gender, and education support, and level 2, namely integrated health posts. Family support and quality of life in old age, and statistically significant. Every 1 unit increase in family support score will be followed by an improvement in quality of life by 0.46 units (b= 0.46; 95% CI = 0.19 to 0.74; p = 0.001).

The quality of life in old age between men and women, and statistically significant. Women on average had a quality of life of 2.94 units lower than men (b = 2.94; 95% CI= -5.22 to -0.66; p = 0.011). Education and quality of life at an advanced age, and statistically significant. Older adults with higher levels of education (≥high

school) had an average quality of life 4.99 units higher than primary education (<high school) (b=4.99; 95%CI = 2.89 to 7.09; p <0.001)

This multilevel double-linear regression analysis model has a good fit. The results of the Likelihood ratio test which tested the difference between the double linear regression analysis model and the multilevel double linear regression analysis were statistically significant (p<0.001). The multilevel analysis model showed that there was a large contextual influence of integrated health posts on the quality of life of the elderly (ICC= 31.15% > 8 to 10%). This means that as many as 31% of the variation in quality of life in the elderly is determined by the contextual factors of the integrated health posts.

Table 3. Results of multilevel linear regression analysis

Independent variables	(b)	95% CI		P
		Lower Limit	Upper Limit	
Family Support (strong)	0.46	0.19	0.74	0.001
Gender (female)	2.94	-5.22	-0.66	0.011
Education (≥ SHS)	4.99	2.89	7.09	0.001
ICC= 31.15%				

DISCUSSION

Family support improves the quality of life of the elderly. There was a positive association between family support and quality of life in older age, and it was statistically significant. Every 1 increase in family support score will be followed by an improvement in quality of life by 0.46 units ($b = 0.46$; 95% CI = 0.19 hingga 0.74; $p = 0.001$) meaning that family support improves the quality of life of the elderly by 0.46 units compared to the absence of family support and is not statistically significant.

Life satisfaction is usually seen as a holistic evaluation of the success of aging. In general, an individual's life satisfaction can be determined by a physical condition, perceived health, education, financial security, family relationships, and social relationships (Jin, 2019) This is in line with the results of research by Moghadam et al. (2020) Regression results show that in terms of social support, expressing affectionate support as a significant predictor of physical function, which is consistent (Moghadam et al, 2020). In line with Shabani et al. (2024) to investigate the relationship between the quality of life dimension and the type of social support by considering gender variables as moderators among the elderly in Qom. Based on the findings of our research, there is a significant relationship between the quality of life domain and the type of social support and the family APGAR domain (Shabani et al., 2024)

The male sex is higher in improving quality of life compared to older female gender. There was a statistically significant difference in the quality of life in old age between men and women, and statistically significant. Females had an average quality of life of 2.94 units lower than males ($b = -2.94$; 95% CI = -5.22 to -0.66; $p = 0.011$)

meaning that the average female had a quality of life of 2.94 units lower than males.

There is an influence of gender on the assessment of the quality of health services in elderly posyandu. On average, women rated the quality of health services 0.84 units lower than men. This is in accordance with research that shows that men on average consider health services to be more satisfied by 2.48 units than women. Gender differences are closely related to how service quality is evaluated, and can have an impact on subsequent behavior Women are claimed to be more sensitive in assessing service quality (Tristian et al., 2024).

Old age is becoming more widespread, generally categorized starting at the age of 60–65 years. This stage is characterized by biological changes and various health problems, such as decreased body functions, psychological disorders, chronic diseases, and other physiological changes.(Yahya et al., 2024) Health-related quality of life (HRQOL) is a multidimensional health concept that refers to perceived function and well-being in the domains of physical, mental, and social life (Geigl et al., 2023).

In line with research conducted by Liu et al. (2019) sex differences in quality of life among older adults. In addition to culturally sensitive perspectives, health and social services practitioners who work with aged service users must also adopt a gender perspective to identify each individual's unique needs and create personalized care plans tailored to them. (Liu et al., 2019)

Older people with higher levels of education \geq high school have an average quality of life 4.99 units higher than primary education (<high school) ($b = 4.99$; 95%CI= 2.89 to 7.09; $p < 0.001$). The higher the level of education, the more likely it is that people have a good quality of life. Overall, the level of education of the elderly is generally low, similar to the educational conditions of

Indonesian people in general (Kadarwati et al., 2017).

In line with van et al. (2019), this study shows that the quality of life of elderly men is generally higher than that of women there are gender differences seen in all four domains and men show a higher percentage of men with a high quality of life than women and a higher percentage of women with a lower quality of life than women (Van et al., 2019). Elderly or retirees are willing to learn for a variety of reasons: they may want to increase their knowledge of a particular subject, know more about where they live and its history to understand modern society; to avoid exceptions to stay active and creative (Gitto, 2018). Multidimensional factors such as health and individual values must also be considered as factors related to the quality of life of the elderly (Kim and Hwang, 2022)

Population aging has a significant impact, especially on health services, the labor market, pension funds, housing, and education (Velaithan et al., 2024). Along with the increase in life expectancy, quality of life will be an important indicator of the welfare of the elderly. In line with research conducted by Cadmus et al. (2019), low levels of education are an important aspect that must be considered when developing public policies for the elderly and proposals for collective action. In our study, the illiteracy rate was similar between genders 29.1% in males and 27.7% in females.

The results of the Likelihood ratio test which tested the difference between the double linear regression analysis model and the multilevel double linear regression analysis were statistically significant ($p < 0.001$). The multilevel analysis model showed that there was a large contextual influence of integrated health post on the quality of life of the elderly (ICC = 31.15% > 8 to 10%). This means that as many as 31% of the variation

in quality of life in the elderly is determined by the contextual factors of the integrated health posts. The quality of life of the elderly is influenced by marital status, employment status, income, diet, physical activity, naps, sexual activity, and activity to work. Participate in Integrated Health Posts The variation in the quality of life of the elderly is determined at the level of the Elderly integrated health posts (Fauziyah et al., 2020)

Senior or senior citizen is someone who is 65 years of age or older. There are several changes in the elderly that affect their mobility on quality of life. Mobility has a direct influence on the quality of life of the elderly. Changes that occur in the elderly are divided into four categories: physical, psychological, emotional, and social (Ahmed et al., 2019). The aging process is associated with a greater prevalence of long-term health problems. One of them is the significant increase in problems, including mental health problems in the elderly demographic (Prabandari et al., 2020). The outermost layer (macro, upstream/upstream) includes macro-economic conditions and policies in general, culture, and politics, as well as the physical environment.

AUTHOR CONTRIBUTION

All authors have made significant contributions to data analysis as well as preparing the final manuscript.

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CONFLICT OF INTEREST

There is no conflict of interest in this study.

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