Effect of Family Support and Peer Support on The Quality of Life of The Elderly: A Path Analysis Evidence from Jember, East Java

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ABSTRACT

Background: Indonesia is one of the countries with an elderly population by >7%. It may increase every year. The number of elderly people will increase globally and lead to several problems such as health, psychological, social, and economic problems. Other psychological problems experienced by the elderly are loneliness due to loss of spouse, separation from family, and loss of peers. This study aimed to analyze the effect of family support and peer support on the quality of life of the elderly.
Subjects and Method: This was a cross-sectional study carried out at of Tresna Werdha social service, in Wuluhan, Jember, East Java, from August to September 2019. A sample of 200 elderly aged >60 years old was selected by fixed exposure sampling. The dependent variable was quality of life. The independent variables were education, healthy behavior, family income, family support, peer support, and residence. The study was collected by questionnaire and analyzed by path analysis.
Results: Good quality of life on the elderly increased with healthy behavior (b= 1.06; 95% CI 0.25 to 1.87; p= 0.010), education ≥Senior high school (b= 1.33; 95% CI 0.37 to 2.29; p= 0.007), family income ≥Rp 2,170,000 (b= 1.59; 95% CI 0.17 to 3.02; p= 0.028), strong family support (b= 1.93; 95%CI 0.47 to 3.39; p= 0.010), strong peer support (b= 1.18; 95%CI= 0.21 to 2.16; p=0.017), and residence at home (b=1.46; 95% CI 0.26 to 2.65; p=0.017).
Conclusion: Good quality of life on the elderly increased with healthy behavior, education ≥Senior high school, high family income, strong family support, strong peer support, and residence at home.

Keywords: quality of life, family support, peer support

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BACKGROUND

The number of elderly people increases every year. It occurs due to low fertility rates and an increase in life expectancy (UHH). Indonesia has a population projection with a higher life expectancy compared to some countries in Asia (Central Bureau of Statistics, 2018). This condition is a challenge for the elderly, family, community, and government. The most important challenge is how to maintain the quality of life of the elderly well (Ministry of Health, 2016).

Data from The World Bank in 2018 showed that the elderly population in the world aged over 65 years was 673,618,927 million; it may increase every year. The elderly population in Indonesia in 2018 was 24.49 million or 9.27%. The most dominant elderly group was the young elderly group (aged 60-69 years) with a percentage by 63.39% (Central Bureau of Statistics, 2018).

The number of elderly people will increase globally and lead to several problems such as health, psychological, social, and economic problems (Ministry of

Health, 2014). Other psychological problems experienced by the elderly are loneliness due to loss of a spouse, separation from family, and loss of peers. The majority of the elderly population in Indonesia still lives together with their families. However, many of elderly people also live in social institutions or nursing homes. Living environment is one of the important factors that affects the quality of life of the elderly.

Good family and peer support plays an important role in improving the quality of life of the elderly. Strong family and peer support directly affects psychological aspects such as loneliness and can reduce the risk of depression (Suwarni et al., 2018).

SUBJECTS AND METHOD

1. Design of the Study

This was an analytic observational study with a cross sectional design. The study was conducted at Tresna Werdha social service and the elderly integrated health post, in Wuluhan, Jember, East Java, from August-September 2019.

2. Population and Sample

A sample of 200 elderly aged >60 years old was selected by fixed exposure sampling.

3. Study Variables

The dependent variable was the quality of life of the elderly. The independent variables were family support, peer support, healthy behavior, residence, education, and family income.

4. Operational Definition

Family support was defined as a support given by members who had marriage ties or blood relations in the form of emotional support, information support, instrumental support, and appreciation support. The data were collected by questionnaire. The measurement scale was.

Peer support was support given by friend who had the same age, experience, and interest in the form of emotional support, information support, instrumental support, and appreciation support. The data were collected by questionnaire. The measurement scale was continous, but it was transformed into dichotomous.

Healthy Behavior was an elderly activity related to maintaining and improving health which included balanced nutrition, efforts to prevent and protect themselves from disease, efforts to seek treatment when they were sick, and stress control. The data were collected by questionnaire. The measurement scale was continous, but it was transformed into dichotomous.

Residence was a place where the elderly lived for their survival. In addition, there was a socialization process inside. The data were collected by questionnaire. The measurement scale was continous, but it was transformed into dichotomous, coded 0 fo living in tresna werdha social service and 1 for living at home.

Education was measured by looking at the last formal education of the elderly. The data were collected by questionnaire. The measurement scale was categorical, coded 0 for <Senior high school and 1 for ≥Senior high school.

Family Income was measured by the income earned each month based on the minimum wage that was used to meet shared and individual needs. The data were collected by questionnaire. The measurement scale was continous, but it was transformed into dichotomous.

Quality of Life was the perception of the elderly about their situation or position in their lives. The data were measured by WHOQOL-BREF questionnaire. The measurement scale was continous, but it was transformed into dichotomous.

5. Study Ethics

Research ethics consisted of informed consent form, anonymity, confidentiality,

and ethical clearance. Ethical clearance in this study came from the Research Ethics Committee in Dr. Moewardi Hospital, Surakarta Number: 971/VIII/HREC/2019.

RESULTS

1. Sample characteristics

Sample characteristics of continous data were showed in the Table 1. Sample characteristics of categorical data were showed in the Table 2.

Table 2 shows that 142 study subjects (71.0%) had low education (<Senior high school) and 58 study subjects (29.0%) had high education. There were 78 elderly (39.0%) who did not work and 122 elderly who worked (61.0%). There were 75 elderly as the study subjects (37.5%) who were unmarried (including widows/widowers/ unmarried) and 125 study subjects (62.5%) who were married.

Table 1. The description of the characteristic of the sample of the continuous data

Variable	n	Mean	SD	Min.	Max.
Quality of life	200	75.32	5.72	55	88
Family support	200	74.02	9.59	35	89
Peer support	200	55.23	5.52	40	67
Healthy behavior	200	51.75	4.93	39	62
Family income (Rupiah)	200	1,204,225	869,079	20,000	4,000,000

Table 2. The description of the characteristic of the sample of the categorical data

Variable	Frequency	%
Quality of Life		
Poor	87	44.0
Good	113	56.0
Education		
Low (<Senior high school)	142	71.0
High (≥Senior high school)	58	29.0
Employment Status		
Unemployed	78	39.0
Employed	122	61.0
Marital Status		
Unmarried/widow/widower	75	37.5
Married	125	62.5
Family Income		
Low (<Rp 2,170,000)	163	81.5
High (≥Rp 2,170,000)	37	18.5
Residence		
Living alone	28	14.0
With family	122	61.0
Nursing home	50	25.0
Family Support		
Weak	61	30.5
Strong	139	69.5
Peer Support		
Weak	57	28.5
Strong	143	71.5
Healthy Behavior		
Poor	48	24.0
Good	152	76.0

There were 163 study subjects (81.5%) who had low family income (<Rp 2,170,000) and 37 study subjects (18.5%) who had high income (>Rp 2,170,000). The elderly who lived alone were 28 study subjects (14.0%), lived with families as many as 122 study subjects (61.0%), and lived in nursing home as many as 50 study subjects (25.0%). There were 61 study subjects (30.5%) who had weak family support and 139 study subjects (69.5%) who had strong family support.

There were 57 study subjects (28.5%) who had weak peer support and 143 study subjects (71.5%) who had strong peer support. There were 48 study subjects (24.0%) who had poor healthy behavior and 152 study subjects who had good healthy behavior (76.0%)

2. Bivariate Analysis

This bivariate analysis used Chi Square analysis. Table 3 shows family support (OR= 14.59; p<0.001), peer support (OR= 2.27; p<0.010), healthy behavior (OR= 1.13; p<0.001), residence (OR= 23.14; p<0.001), education (OR= 9.40; p<0.001), and family income (OR= 12.05; p<0.001).

Table 3. The Chi Square test of factors affecting the quality of life of the elderly

Variable of the Study	Poor Quality of Life		Good Quality of Life		OR	p
	n=87	%	n=113	%		
Family Support						
Weak	51	58.6	10	8.8	14.59	<0.001
Strong	36	41.4	103	91.2		
Peer Support						
Weak	33	37.9	24	21.2	2.27	0.010
Strong	54	62.1	89	78.8		
Healthy Behavior						
Poor	22	25.3	26	23	1.13	<0.001
Good	65	74.7	87	77		
Residence						
Nursing home	45	51.7	5	4.4	23.14	<0.001
Home	42	48.3	108	95.6		
Education						
Low (<Senior high school)	80	92	62	54.9	9.40	<0.001
High (≥Senior high school)	7	8	51	45.1		
Family Income						
<Rp 2,170,000	84	96.6	79	69.9	12.05	<0.001
≥Rp 2,170,000	3	3.4	34	30.1		

3. Path Analysis

This multivariate analysis used path analysis method with Stata 13. Table 4 shows that there were effects of family support, peer support, healthy behavior, education, and family income on the quality of life of the elderly. The result showed that strong family support (b= 1.93; 95% CI= 0.47 to 3.39; p=0.010), strong peer support (b= 1.18; 95% CI=0.21 to 2.16; p=0.017), good healthy behavior (b=1.06; 95% CI= 0.25 to 1.87; p= 0.010), living at home (b= 1.46; 95% CI= 0.26 to 2.65; p= 0.017), higher education (≥Senior high school) (b= 1.33; 95% CI= 0.37 to 2.29 ; p=0.007), and high family income (≥Rp. 2,170,000) (b= 1.59; 95% CI= 0.17 to 3.02; p= 0.028) improved the quality of life of the elderly.

Table 4. The path analysis of the effect of family support and peer support on the quality of life of the elderly

Dependent Variable		Independent Variable	b	95% CI		p
				Lower limit	Upper limit	
Direct Effect						
Quality of life	←	Family support (strong)	1.93	0.47	3.39	0.010
	←	Peer support (strong)	1.18	0.21	2.16	0.017
	←	Healthy behavior (good)	1.06	0.25	1.87	0.010
	←	Residence (home)	1.46	0.26	2.65	0.017
	←	Education (≥Senior high school)	1.33	0.37	2.29	0.007
	←	Income (≥Rp 2,170,000)	1.59	0.17	3.02	0.028
Indirect Effect						
Healthy behavior	←	Family support (strong)	1.46	0.28	2.65	0.015
	←	Residence (home)	2.38	1.27	3.50	<0.001
Family support	←	Residence (home)	2.70	1.87	3.53	<0.001
Peer support	←	Residence (home)	0.72	-0.05	1.49	0.066
N observation = 200						
df = 14						
AIC = 805.77						
BIC = 851.94						

DISCUSSION

1. The effect of family support on the quality of life of the elderly

Family is the main background in which most people are born, grow, become mature, and old. The main socialization of most people is carried out in the family. For many people, family affects the resolution of the problems they face and make a significant contribution to their lives (Uddin and Bhuiyan, 2019). Family plays an important role in determining the biopsychosocial condition of the elderly that can increase the quality of life of the elderly (Yuliati et al., 2014).

The study result of path analysis indicated that there was a direct effect of strong family support on the improvement of the quality of life of the elderly. Family is a place to meet physical and emotional needs for each individual. The process of adaptation, growth, development (maturing every member of the family), affection, and togetherness will occur in the family. If the family function goes well, living together with the family members will create comfort. Family becomes a shelter and supporter of all aspects both physically and mentally for the elderly (Sherizadeh et al., 2016). The majority of the study subjects who lived in communities or homes had stronger family support than they who lived in nursing homes.

2. The effect of peer support on the quality of life of the elderly

The sense of giving and interrelation that occur between peers makes the life of the elderly more valuable. This support makes the elderly more enthusiastic in doing their activities; therefore, it improves the well-being of the elderly. Peer support or social support increases the well-being of parents. Perceived social support is associated with the interrelation with peers (Larocca and Scogin, 2016; Casey et al., 2016).

There was a direct effect between peer support and the quality of life of the elderly. Creating social relationship and increasing social networking among peers brings the elderly to have a good quality of life. Half of

the elderly are in the isolation. They are at high risk of withdrawing from social life. The quality of social networking can be carried out if peers and the surrounding community are more receptive to the condition of the elderly and encourage the elderly to voluntarily participate in various activities; thus building self-confidence in the elderly (Bahramnezhad et al., 2017). Strong peer support can reduce feelings of loneliness in the elderly; in addition, the low loneliness can improve the quality of life of the elderly (Azwan et al., 2015).

3. The effect of healthy behavior on the quality of life of the elderly

The result of the study showed that healthy behavior directly affected the quality of life of the elderly. The components of healthy behavior such as physical activity, balanced nutrition, stress control, and social relation affect the quality of life of the elderly. A healthy lifestyle affects the quality of life of the elderly. Physical activity and food pattern are the most related variables in affecting the quality of life of the elderly. However, it is important to emphasize that those factors are not always independent predictors of good quality of life. The relationship of psychosocial aspects (family support, peer support, stress management, and participation in religious activities) contribute in affecting the quality of life of the elderly (Ferreira et al., 2018).

Healthy life behavior is behavior that is related to the efforts or activities of a person to maintain and improve their health. One of the efforts to improve health is by carrying out routine physical activity. This activity can make the elderly feel happy. Physical activity has a strong effect on the domain of healthy behavior and the quality of life of the elderly. Immobility is an important component that can disrupt their happiness. Routine physical activity makes their life happier in their daily activities (Pernambuco et al., 2012).

4. The effect of residence on the quality of life of the elderly

The result of the study showed that residence directly affected the quality of life of the elderly. Elderly who lived with family in the community or at home would increase family support. Increased family support had a positive effect on the quality of life of the elderly.

The important factor that affects the quality of life of the elderly on the variable of residence is the environment around the residence. Changes in the residential environment will change the role of the elderly in adapting. Different residential environment will change the physical, social, economic, psychological, and spiritual conditions, thus affecting the health status and quality of life of the elderly (Wulandari, 2011).

One of the most important foundations for seeing the ability of the elderly to improve the quality of life is to be able to enjoy various facilities to access various services around their residences, such as trade services, public services, and health services (Granbom et al., 2016). Elderly people who live at home can easily go to several service places. However, elderly people who live in nursing home have a little bit opportunity to go anywhere (Panday et al., 2015).

5. The effect of education on the quality of life of the elderly

Education is one of the factors that affect the quality of life of the elderly. The higher level of education makes the elderly able to understand and handle any problems that disrupt their quality of life in a wise way. A person's ability to manage information and determine how easy it is to receive every update can be affected by education (Andesty and Syahrul, 2018).

Elderly who had high education had a logodd of higher quality of life 0.82 than elderly who had low education (Prasetyaningsih et al., 2016). In addition, a study conducted in Poland showed that good education had an effect by 2.31 times in improving the quality of life of the elderly (Bryla et al., 2013).

6. The effect of income on the quality of life of the elderly

The amount of income will describe the family economy in a society. Meeting the needs of families that will improve the quality of life of the elderly will occur if the income increases (Kosim et al., 2015).

High family income had an effect by 1.63 times in improving the quality of life of the elderly to be better than the elderly with low income (Bryla et al., 2013). Based on a study conducted by Farziapour et al (2012), education and income are the most important factors affecting quality of life. In addition, income plays an important role in improving the quality of life of the elderly in Ireland (Layte et al., 2013). All domains in quality of life can be affected by income except sensory abilities (Bilgili and Arpaci, 2014).

7. The effect of family support on the healthy behavior of the elderly

The interaction with family and kinship networks has a big effect on the health behavior of the elderly. Elderly who are respected play a role model in their families and communities by providing good examples and support in health behavior (Waterworth et al. 2015).

Huidobro and Mendenhall (2015) states that family is a place to learn healthy behavior. Family is the main support system for the elderly in maintaining their health. High quality of life will be obtained from the elderly who have good family support. Individuals learn to maintain healthy behavior that has been practiced by their families. Good family support will be positively related to healthy behavior of individuals. Elderly people who live with families with a positive functioning style can affect healthy lifestyle and good self-management behavior. Good healthy behavior will be taught and maintained among family members (Huidobro et al., 2012).

8. The effect of residence on the healthy behavior of the elderly

Living at home increases healthy behavior; as a result, the quality of life of the elderly can improve. Good family support can affect the healthy behavior of the elderly. The elderly who lives in the community or at home have good healthy behavior because there is family who has a great influence on the healthy behavior of the elderly. Parents or elderly who live with their spouse and children at home have the highest level of physical activity and healthy behavior. They are more successful in managing their stress. It occurs because parents who live with their families may feel younger than other parents and can be more active (Harooni et al. 2014). In addition, environmental sanitation and adequate house condition can be important priorities in supporting the health of the elderly population (Blay et al., 2015).

9. The effect of residence on the family support

Elderly people who live at home had good family support. The elderly who live at home have a good coping mechanism because they can tell their families when having a problem. In addition, the elderly enjoy better social relation as they stay closer to the family members and neighbors around their homes. Family relationship provides resource that can help someone in overcoming stress, engaging in healthier behavior, and increasing self-esteem, which leads to higher well-being (Kumar et al., 2016). Each increase of 1 unit of residence

at home with the family will increase family support by 22.93 units compared to the elderly who live in nursing home (Suwarni et al., 2018).

Based on the observation of this study, the elderly who lived in nursing home had different backgrounds and have weak family support. The elderly who lived in nursing home were usually caused by economic problem and conflict within the family. This is in line with a study conducted by Pouladi et al. (2013), that the elderly who live in nursing home usually have financial problem. In addition, this problem is one of the limiting factors in elderly care. Inadequate income, limited physical environment, and lack of time to take care of the elderly are used as reasons for sending the elderly to nursing homes (Hafshjani and Abedi, 2016).

10. The effect of residence on the peer support

Elderly who stay at home and actively participate in social interaction and social activity can help to stimulate their cognitive function, thus slowing the occurrence of dementia or senility. Good social engagement (maintaining, fostering various social relationships, and participating actively in social activities) can reduce cognitive decline in the elderly (Cahyaningtyas et al., 2019).

Peer support had a positive effect on the live of the elderly. This is in line with a study conducted by Suwarni et al. (2018) that peer support keeps the elderly motivated to continue living their lives. Friendship that exists between the elderly can have a positive impact on the social interaction of the elderly. In addition, peer support affects the health of the elderly (Suwarni et al., 2018).

The elderly who interact and share similar experiences with peers are the most important and meaningful aspects of their lives. Peer support shows positive result in increasing self-confidence, well-being and healthy behavior of the elderly (Chakkalackal, 2014).

AUTHOR CONTRIBUTION

Malinda Capri Nurul Satya was the main researcher who conducted this study. She collected data of the study, formulated the articles of the study, and processed the data. RB. Soemanto played a role in the formulation of background and discussion of the study. Bhisma Murti played a role in the formulation of the theoretical framework and analyzing data of the study.

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CONFLICT OF INTEREST

There was no conflict of interest.

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