The Relationship between Physical Activity Implementation and Quality of Life for the Elderly During the COVID-19 Pandemic in Samarinda

Gracia Herni Pertiwi[1], Yovita Erin Sastrini[2]
[1,2]Stikes Dirgahayu Samarinda, Indonesia
gracias9898@gmail.com, y.erinsastrini@yahoo.com

Abstract

The first case of coronavirus disease-19 (COVID-19) occurred in Indonesia in 2020. Transmission of this disease occurs through human-to-human transmission. In the elderly, physical and mental health is a determinant in the quality of life. Physically it is estimated that quarantine rules or restrictions on physical activity can cause a decrease in the need for daily activities in the elderly. The results of initial interviews conducted on three elderly people obtained information that during the pandemic they spent a lot of time at home, so they sometimes felt bored and lonely. Research to find out the relationship between physical activity implementation and quality of life for the elderly during the COVID-19 pandemic in Samarinda. This study is a cross-sectional study. This study involved 34 elderly people aged 45 years and over from March to April 2022 in the Elderly Group of the Stasi Girirejo Samarinda. Data on the characteristics, physical activity implementation, and quality of life of the elderly were obtained through structured interviews with questionnaires using the physical activities scale for the elderly (PASE) and world health organization quality of life BREF (WHOQOL-BREF) questionnaires. The types of data analysis used are frequency distribution, percentage, and fisher exact test. Fisher exact test results show that there is no relationship between physical activity implementation and quality of life of the elderly.

I. Introduction

The first case of coronavirus disease-19 (COVID-19) occurred in Indonesia in 2020. Transmission of this disease occurs through human-to-human transmission. On March 11, 2020, the World Health Organization has declared COVID-19 a global pandemic. These findings indicate that patients who are confirmed positive for COVID-19 are more common in the elderly (Hakim, 2020).

Based on statistical data, the elderly who died from COVID-19 in various countries, namely Malaysia amounted to 62.6% of elderly deaths, Brazil 85%, Italy 95%, Spain 95.5%, China 80%, and the United States 80%. The findings of data in Indonesia compiled by the COVID-19 Handling Task Force until June 20, 2020 were 13.8% of the elderly who were confirmed positive, 11.7% of the elderly were treated/isolated, and 43.7% died.

The central and regional governments have carried out the handling and prevention of the spread of COVID-19 by establishing national health quarantine rules regulated in Law Number 6 of 2018. This regulation is carried out as a prevention and protection for the health of the population, including the elderly from COVID-19 disease.

In the elderly, physical and mental health is a determinant in the quality of life. Physically it is estimated that quarantine rules or restrictions on physical activity can cause a decrease in the need for daily activities in the elderly.

The results of initial interviews conducted on three elderly people obtained information that during the pandemic they spent a lot of time at home, so they sometimes felt bored and lonely.

The results of a systemic review of research articles on physical activity in the elderly around the world in 2000-2012 show that physical activity is consistently associated with functional capacity, overall quality of life, past, present and future activities. Subjects with high levels of physical activity were shown to be associated with better health and quality of life, lower loneliness scores and more active participation in social activities.

Literature review shows that research conducted on elderly participation with quality of life when conditions are still normal.

Research to find out the relationship between physical activity implementation and quality of life for the elderly during the COVID-19 pandemic in Samarinda.

II. Research Method

This study is a cross-sectional study. Cross-sectional study is defined as a type of observational research that analyzes data of variables collected at one given point in time across a sample population or a pre-defined subset (Octiva, 2018; Pandiangan et al., 2018; Pandiangan et al., 2021). This study type is also known as cross-sectional analysis, transverse study, or prevalence study (Pandia et al., 2018; Pandiangan, 2018).

This study involved 34 elderly people aged 45 years and over from March to April 2022 in the Elderly Group of the Stasi Girirejo Samarinda. The research subjects were members of the elderly group and voluntarily participated in the study which had previously been given an explanation and informed consent. Research subject is selected by total sampling. Research subject is an individual that participates in research. Information (or 'data') is collected from or about the individual to help answer the question under study (Asyraini et al., 2022; Octiva et al., 2021). Sometimes research subjects are referred to as human subjects, research participants or study volunteers.

Data on the characteristics, physical activity implementation, and quality of life of the elderly were obtained through structured interview. Structured interview is a systematic approach to interviewing where you ask the same predetermined questions to all candidates in the same order and you rate them with a standardized scoring system (Pandiangan, 2015; Octiva et al., 2018). This method is almost twice as effective as the traditional interview. The demographic characteristics of the elderly (age, education, and occupation) were collected through interviews with a questionnaire. The inclusion criteria of research subjects were able to speak Indonesian, communicate orally clearly. The exclusion criteria were the elderly with impaired perception/hearing/cognitive function, the elderly with dementia.

Questionnaires using the physical activities scale for the elderly (PASE) and world health organization quality of life BREF (WHOQOL-BREF) questionnaires. PASE measurement is used to measure the physical activity of the elderly. There are 10 questions consisting of 6 questions about leisure activities, 3 questions about household activities, and 1 question about volunteer activities. The physical activity of the elderly is categorized as good if 15 and the physical activity of the elderly is categorized as poor if < 15. Measurement of quality of life using the Indonesian version of the WHOQOL-BREF

quality of life questionnaire. WHOQOL-BREF is the Indonesian version of the WHOQOL-BREF questionnaire consisting of 26 questions consisting of 4 quality-of-life domains, namely the physical health domain, which contains seven questions:

1. Pain.
2. Dependence on medical assistance.
3. Fitness.
4. Mobility.
5. Sleep quality.
6. Activities of daily living.
7. Working capacity.

There are six questions in the psychological health domain, namely:

1. Positive feelings.
2. Personal beliefs.
3. Concentration.
4. Body image.
5. Self-esteem.
6. Negative feelings.

In the domain of social relations, there are three questions, namely:

1. Personal relationship.
2. Social support.
3. Family support.

The environmental health domain contains eight question items, namely:

1. Security.
2. Physical environment.
3. Financial support.
4. Accessibility of information.
5. Recreational activities.
6. Home environment.
7. Health.
8. Transportation.

Values in each domain are totaled and converted according to the 0-100 quality of life score conversion table. The quality of life is good if the score is 67 and the quality of life is not good if the score is < 67.

The types of data analysis used are frequency distribution, percentage, and fisher exact test. Fisher exact test is statistical significance test used in the contingency table analysis. Although in practice it is used when the sample size is small, it applies to all sample sizes (Pandiangan, 2022; Pandiangan et al., 2022; Tobing et al., 2018).

III. Results and Discussion

3.1 Result

Table 1. Characteristics of the Elderly

No.	Characteristics of the Elderly	n	(%)
1.	Age		
	45 – 59	17	50
	60 – 74	15	44
	75 – 90	2	6
	>90	0	0

2.	Occupation		
	Doesn't Work	2	6
	Farmer/Labourer	12	35
	Private/Entrepreneur	8	24
	State Civil Apparatus	1	3
	Housewife	11	32
3.	Education		
	Not Completed in Primary School	5	15
	Primary School	12	35
	Junior High School	6	18
	Senior High School	7	21
	Diploma	1	3
	Bachelor	3	8

Based on Table 1, most of the elderly respondents who are in the age range of 45-59 years are included in the middle age category. They work as farmer/labourer (35%), and primary school (35%).

Table 2. Physical Activity Implementation for the Elderly

No.	Physical Activity Implementation for Elderly	n	(%)
1.	Low	9	27
2.	High	25	73

The results of research on 34 respondents regarding physical activity implementation for the elderly are presented in detail in Table 2.

Based on Table 2, it can be stated that the elderly of Stasi Girirejo have high physical activity implementation, namely 73% and only 27% have low physical activity implementation.

Table 3. Quality of Life for the Elderly

No.	Quality of Life for the Elderly	n	(%)
1.	Poor	22	64.70
2.	Good	12	35.30

Based on Table 3, it can be stated that the elderly of Stasi Girirejo have a poor quality of life of 64.70% and 35.30% who have a good quality of life.

Table 4. Cross-Tabulation of Physical Activity Implementation and Quality of Life for the Elderly

Physical Activity Implementation for the Elderly	Quality of Life for the Elderly				Total		p-value
	Poor		Good				
	N	%	n	%	n	%	
Low	5	5.8	4	3.2	9	9	0.687
High	17	16.2	8	8.8	25	25	

Based on Table 4, the low physical activity implementation for the elderly who have a poor quality of life 5 respondents (5.8%), and 4 respondents (3.2%) have a good quality of life. The high physical activity implementation for the elderly has 17 respondents (16.2%) who have a poor quality of life, 8 respondents (8.8%) have a good quality of life. The results of statistical tests obtained using the fisher exact test with the help of a computer program. Resulted in a p-value=0.687 (p>0.05), so fisher exact test results show that there is no relationship between physical activity implementation and quality of life of the elderly.

3.2 Discussion

The results of statistical tests in this study showed that there was no relationship between physical activity and the quality of life of the elderly with p=0.687. There is no relationship between physical activity and the quality of life of the elderly. The results of this study are in line with research conducted by Sagala (2020) which states that there is no relationship between physical activity and the quality of life of the elderly. The results showed that respondents in the category of severe dependence with good quality of life in meeting daily needs and only 1 person in mild dependence and good quality of life in fulfilling daily activities.

Many factors affect the quality of life of the elderly in addition to physical activity, namely anxiety. Anxiety is a feeling of insecurity, tension and worry caused by something unpleasant. Anxiety with quality of life is two-way. With increasing age, the elderly will experience a decrease in physical, mental, and functional activities. This is because the elderly are susceptible to diseases that are multipathological, degenerative and interrelated, such as hypertension, stroke, diabetes mellitus, dementia, and osteoarthritis. This disease tends to cause long-term pain and disability. The elderly who experience the healing process for a long time often experience severe anxiety due to illness and the fear they feel. Trevisol et al. in Jumaiyah et al. (2020) found that people who suffer from hypertension have a worse quality of life than people who have normal blood pressure. The use of drugs in the long term due to diseases suffered by the elderly can reduce the freedom and comfort of the elderly in living their lives, thereby reducing their quality of life (Azizah and Hartanti, 2016).

Cahyani et al. (2016) found that the age of respondents who had poor quality of life was mostly between 51-60 years (26.67%). The quality of life of the elderly has decreased at the age of more than 50 years. The results of another study showed that poor quality was in the age group above seventy years (>70 years). This is in line with the theory that as a person ages, the quality of his life tends to decrease (Wikananda, 2017).

In this study, only 6% of respondents were over 70 years old, and the rest were under 70 years old. This is what allows the results of this study there is no relationship between physical activity and the quality of life of the elderly. The older the elderly, the physical, social and mental abilities of the elderly tend to decrease so that they cannot carry out various activities to fulfill and improve their quality of life. Conditions like this, if not handled properly, will further reduce the quality of life of the elderly and increase the number of elderly morbidity.

Family support may be a factor that affects the quality of life of the elderly. Family support includes attitudes, acts of family acceptance in providing support by providing information to help solve health or other problems faced by the elderly (Abdul and Ibrahim, 2014). The family becomes a support system in helping the elderly maintain their health, increase self-confidence, increase satisfaction in the lives of the elderly, especially during this COVID-19 pandemic (Anjos et al., 2015). The results showed that the elderly

who did not receive family support were 5.7 times more likely to have a poor quality of life compared to the elderly who received family support (Indrayani and Ronoatmojo, 2018). Elderly people whose houses are close to their family or neighbors around the house have a good quality of life because they do not feel lonely and alone because they can talk to their family or neighbors directly. Differences in the living environment or house inhabited by each elderly who are involved as respondents affect their quality of life. The elderly who live with their families with healthy family functions will have a good quality of life 25 times greater than the elderly who have unhealthy family functions.

This study has limitations in its implementation, including no detailed history of physical and mental health including anxiety due to chronic illness, cultural background/lifestyle and the relatively small number of sample respondents that may affect the quality of life of the elderly. Future research is expected to be able to conduct research on quality of life by including medical history suffered by the elderly and increase the number of research samples to obtain significant results.

IV. Conclusion

Fisher exact test results show that there is no relationship between physical activity implementation and quality of life of the elderly.

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