

## The Relationship Between Activity Daily Living Level And Quality Of Life Of Geriatric Patients In RSUP Dr. Mohammad Hoesin Palembang

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### Abstract

**Background** The quality of life of the elderly is influenced by several factors such as physical health, psychological health, and good social relationships. Physical health is related to daily living activities that a person does in his daily life including ambulation, eating, dressing, bathing, brushing teeth and making up. At old age, a person will experience a decrease in physical condition which will affect the value of fulfilling one's daily living activities. This study aims to analyze the relationship between the level of independence of daily living activities and the level of quality of life of geriatric patients. **Methods:** This study was an observational analytic study with a cross sectional design. The samples were geriatric patients in Dr. Mohammad Hoesin Palembang in September-October 2019. The sample of this study was 55 respondents. **Results:** From 55 Geriatric patients in Dr. Mohammad Hoesin Palembang found 60% male respondents and 40% female respondents, the 60-74 years age group as much as 74.5%, the 75-90 year age group as much as 25.5%, the 50-60 year age group as much as 26%. Chi-square test results showed a significant relationship between the level of Activity Daily Living and the level of quality of life of geriatric patients (p value = 0.000). The results of the odds ratio in geriatric patients state that the probability of improving the quality of life is 27.7 times greater in patients who have an independent daily living activity level than in patients who have a total dependent daily living activity level. In the analysis, it was also found that the level of daily living activity of geriatric patients is a protective factor for the quality of life of geriatric patients. (95% CI = 0.006-0.206). **Conclusion:** There is a significant relationship between the level of daily living activity and the quality of life of geriatric patients in , dr. Mohammad Hoesin Palembang.

**Keywords:** Geriatric patients, Activity of Daily Living, Quality of Life

## 1. Introduction

Indonesia as a developing country is facing demographic changes. This demographic change leads to a decrease in the proportion of children under five and an increase in life expectancy for the elderly. According to several sources, this condition causes the proportion of elderly to be more than the proportion of children under five (Hidayati, 2018). Currently, worldwide the number of elderly people is estimated to be more than 629 million people and half of the world's 400 million elderly are in Asia (Data Information & Health RI, 2013). It is estimated that the number of elderly people in 2017 is 9.77%, in 2020 it is 11.34%, and in 2025 it is 13.4% of the total population of Indonesia (Ministry of Health, 2017). It is estimated that in 2000 to 2025, Indonesia will experience an increase in the elderly population by 414% or 4 times, which is one of the highest increases in the world<sup>1</sup>.

Geriatric patients are elderly patients who are more than 60 years old and have multi-pathological characteristics, decreased physiological reserve, and are usually accompanied by functional disorders<sup>2</sup>. At old age, the body has decreased the body's function of several organ systems in the body. Physiological changes and the five senses experienced are generally increased blood pressure, skin that begins to wrinkle, decreased hearing, blurred vision, decreased sense of smell, and decreased physical strength<sup>3</sup>.

Old age is also a process that moves slowly from individuals to withdraw from social roles or from social contexts. This situation will cause the interaction of elderly individuals to begin to decline both in terms of quality and quantity (Sudarman, 2008). With the decline in social roles, it will result in the individual experiencing disruption in fulfilling their daily needs, causing dependence on other people. Old age is also a process that moves slowly from individuals to withdraw from social roles or from social contexts. This situation will cause the interaction of elderly individuals to begin to decline both in terms of quality and quantity

(Sudarman, 2008). With the decline in social roles, it will result in the individual experiencing disruption in fulfilling their daily needs, causing dependence on other people<sup>4</sup>.

The dependency ratio for elderly people in Indonesia tends to increase. The results of the 2015 National Statistics Agency's Susenas data show that the ratio of elderly dependence in Indonesia is 13.28, meaning that every 100 people of productive age must support around 14 elderly people. The development of this dependency ratio has not experienced any significant changes since 2012<sup>6</sup>.

An increase in the dependency ratio on the elderly will result in an increase in the burden on the family, community, and government, especially on special services such as health which will also cause a high social burden due to the increasing growth of the elderly<sup>7</sup>. One result of the increase in the number of elderly people is an increase in dependence which will reduce the level of independence of one's daily living activities<sup>8</sup>.

Activity of Daily Living are activities that are usually carried out during a normal day; These activities include ambulation, eating, dressing, bathing, brushing teeth and making up with the aim of fulfilling / relating to his role as a person in the family and society. Conditions that result in a need for assistance in ADL can be acute, chronic, temporary, permanent or rehabilitative<sup>9</sup>. The ability of the elderly to do ADL will affect the quality of life of the elderly.

Quality of life is the individual's perception of life in accordance with the cultural context and value system he adopts so that it is related to the expectations, goals, standards, and concerns of the individual<sup>10</sup>. There are 4 aspects of a person's quality of life, namely physical health, psychological health, social relationships, and environmental aspects<sup>11</sup>.

The quality of life assessment instrument is broadly divided into 2 types, namely the general instrument (generic scale) which is used to generally assess functional abilities, disabilities, concerns that arise due to illness and a special instrument (specific scale) used

to measure something. a particular disease, a particular population or a special function such as emotions. WHOQOL-BREF is an example of a general quality of life instrument (generic scale) which when compared with other general instruments the use of WHOQOL-BREF has been widely used for various chronic diseases and has been developed by several researchers<sup>12</sup>.

Previous research conducted in Assam, India, showed that the relationship between daily living activities and the quality of life of the elderly was positive, that is, the better the daily living activity, the higher the quality of life of the elderly<sup>13</sup>. The high quality of life of the elderly is caused by good physical, psychological, environmental and social factors<sup>14</sup>. Research related to the level of independence of daily living activities and the level of quality of life has never been carried out in Palembang, especially in Dr. Mohammad Hoesin, so it is not known whether there is a significant relationship between the level of independence of daily living activities and the level of quality of life in geriatric patients in the Dr. Mohammad Hoesin Palembang.

Seeing the increasing number of elderly people in Indonesia which continues to increase and the differences in economy, environment, and culture, it is necessary to do research in Indonesia, especially South Sumatra, considering that the specifically for geriatrics has just started operating. Therefore, this study will analyze the relationship between the level of daily living activity and the quality of life of geriatric patients in Dr. Mohammad Hoesin Palembang

## **2. Method**

This type of research is an analytic study with a cross sectional design. This study studies the dynamics of the relationship between risk factors and effects, by means of an observation approach or data collection at once. Each research subject was observed only once and measurements were made of the character status or subject variables at the time of examination<sup>15</sup>. The purpose of this study was to determine the relationship between the level of daily living activity and

the level of quality of life of geriatric patients in Dr. Mohammad Hoesin Palembang. The research took place from the time of taking the research sample data to processing the research results, from August 2019 to October 2019. The research was carried out at Dr. Mohammad Hoesin Palembang. The population in this study were all inpatients at Dr. Mohammad Hoesin Palembang for the period August - October 2019.

The sampling technique used in this study was consecutive sampling; in this way, all patients who met the inclusion criteria were consecutively drawn until the minimum target sample was reached. The selected sample was adjusted according to the inclusion and exclusion criteria. If it does not meet the inclusion criteria or is included in the exclusion criteria, it will be sampled again. The inclusion criteria in this study were geriatric patients over 60 years of age who were admitted to Dr. Mohammad Hoesin Palembang. Willing to be research respondents and fill out informed consent. Able to communicate well. The exclusion criteria in this study were patients with communication or speech impairments, and patients with severe hearing loss. Patients with severe visual impairment Patients with psychological disorders. Acute patient who has decreased consciousness and shortness of breath. The dependent variable in this study was the level of quality of life for geriatric patients in Dr. Mohammad Hoesin Palembang. The independent variable in this study is the level of daily living activity of geriatric patients in Dr. Mohammad Hoesin Palembang.

Processing and analysis were carried out using computer assistance through Microsoft Excel and SPSS programs. The data processing steps include checking the data that has been collected, data input using Excel, and editing the data if an error occurs when entering data. After the data is clean from errors, the data is analyzed using SPSS.

## **3. Result**

Research on the relationship between daily living activity levels and the quality of

life of geriatric patients was conducted from September 2019 to October 2019 at the , dr. Mohammad Hoesin Palembang using primary data. Data retrieval is taken gradually every day.

The study, which used a cross-sectional research design, observed two variables, namely the level of daily living activity measured using the Katz Index and the level of quality of life measured using the WHOQOL-BREF questionnaire. Retrieval of patient data using consecutive sampling technique. The study population was inpatient geriatric patients at Dr. Mohammad Hoesin Palembang. Sampling was carried out by structured interviews using a questionnaire.

### **Sociodemographic Data Analysis**

**Table 1** shows the sociodemographic characteristics of geriatric patients in Dr. Mohammad Hoesin Palembang. Of the total sample, the number of geriatric patients treated in the who were male was 33 respondents (60%), while the female respondents were 22 respondents (40%). Then regarding the age division, it was found that 41 respondents aged 60-74 years (74.5%) and those aged 75-90 years were 14 respondents (25.5%). Based on the last education level of the respondents who did not go to school, there were 3 respondents (5.5%), SD was 15 respondents (27.3%), SMP was 10 respondents (18.2%), and the respondents who attended SMA were the most number of respondents (49.1%).

### **Katz Score Measurement Data Analysis**

In **table 2**, it can be seen that the number of patients who have an independent daily living activity level is 15 respondents (27.3%), partially dependent is 26 respondents (47.3%), and those who experience total dependence are 14 respondents (25.5%). ). It is known from the data, geriatric patients in the on average have a level of partial dependence independence.

### **Analysis of WHOQOL-BREF Measurement Data**

**Table 3**, shows the mean, mode, median, maximum value, minimum value, and standard deviation from the WHOQOL-BREF measurement data where the mean is 56.422, mode is 57.75, median is 57.75, the maximum value is 78.25. , the minimum value is 37.75, and the standard deviation is 10.94.

**Table 4** shows the results of the distribution of the WHOQOL-BREF questionnaire discussed for each domain. The WHOQOL-BREF questionnaire consisting of 26 questions was divided into 4 domains, namely physical, psychological, social, and environmental domains. 55 respondents of geriatric patients in Dr. Mohammad Hoesin Palembang, in the physical and psychological domains, 36 respondents (65.5%) had good physical domains and 19 respondents (34.5%) were bad. Based on the social domain, 32 respondents (58.2%) had a good domain and 23 respondents (41.8%) had a bad domain. Furthermore, in the environmental domain, the largest distribution of good respondents was 28 respondents (50.9%) while for bad respondents were 27 respondents (49.1%).

### **Bivariate Analysis**

Bivariate analysis was used to determine the relationship between the level of Activity Daily Living and the level of quality of life. Bivariate analysis was performed using the Chi-square test with SPSS 24.0 application.

### **Analysis of the Relationship of Daily Living Activity and Quality of Life**

In **table 5**, data on the relationship between daily living activity level and quality of life of geriatric patients in Dr. Mohammad Hoesin Palembang. From this data, there were 11 respondents who experienced total dependence with a poor quality of life, 3 respondents who experienced moderate dependence with a poor quality of life, and 2 respondents who were independent with a poor quality of life. In addition, respondents who experienced total dependence with a good quality of life were 3 respondents, while those who experienced moderate dependence with a good quality of life were 23 respondents, and respondents who were

independent with a good quality of life were 13 respondents.

Based on the analysis, the value of  $p = 0.000$  ( $p < \alpha$ ) is obtained, so the hypothesis is accepted, which means that statistically there is a significant relationship between the level of daily living activity and the level of quality of life of geriatric patients in Dr. Mohammad Hoesin Palembang. The probability of an increase in quality of life was 23.8 times greater in patients who had an independent

daily living activity level than in patients who had a partially dependent daily living activity level, while the probability of increasing the quality of life was 27.7 times greater in patients who had a daily living activity level independent compared to patients who have a level of daily living activity total dependence. In the analysis, the 95% CI results are 0.06-0.208, which means that the level of independent daily living activity is a protective factor against poor quality of life.

**Table 1. Analysis of sociodemographic characteristics**

	N	%
<b>Sex</b>		
Male	33	60 %
Female	22	40 %
<b>Age</b>		
60 – 74 years	41	74.5 %
75 – 90 years	14	25.5 %
<b>Level of education</b>		
No school	3	5.5 %
Primary school	15	27.3 %
Junior High	10	18.2 %
High school	27	49.1 %
College	0	0 %

**Table 2. Analysis of Katz Score measurement data**

Katz Index	N	%
Independent	15	27.3 %
Partial Dependence	26	47.3 %
Total dependence	14	25.5 %

**Table 3. Analysis of WHOQOL-BREF measurement data**

	Mean	Modus	Median	Max value	Min value	Standard Deviation
WHOQOL BREF	56.422	57.75	57.75	78.25	37.75	10.94

**Table 4. Analysis of WHOQOL-BREF domain distribution**

	N	%
<b>Physical domain</b>		
Good	36	65.5 %
Bad	19	34.5 %
<b>Psychological Domain</b>		
Good	39	70.9 %
Bad	16	29.1 %
<b>Social Domain</b>		
Good	32	58.2 %
Bad	23	41.8 %
<b>Environmental Domain</b>		
Good	36	65.5 %
Bad	19	34.5 %

**Table 5. Bivariate data analysis**

ADL Level	Quality of Life Level		Odd ratio	CI 95%	P value
	Good	Bad			
Independent	13 (23.6 %)	2 (3.6%)	1	0.000	0.000
Dependency Moderate	23 (41.8 %)	3 (5.5%)	0.042	0.006 – 0.298	
Dependency Total	3 (5.5 %)	11 (20.0%)	0.036	0.006 – 0.206	
<b>Total</b>	<b>39 (70.9 %)</b>	<b>16 (29.1 %)</b>			

#### 4. Discussion

The sample of this study was 55 people who had met the inclusion and exclusion criteria. This research was conducted from September 2019 to October 2019 in dr. Mohammad Hoesin Palembang. Collecting data using consecutive sampling techniques; in this way, all patients who met the inclusion criteria were consecutively drawn until the minimum target sample was reached. The variables of this study were the level of daily living activity and the level of quality of life for geriatric patients in .

From the data obtained, the level of daily living activity has a significant relationship ( $p < 0.05$ ) with the quality of life of geriatric patients in , which indicates that the level of daily living activity affects the quality of life of geriatric patients in .

##### Activity Daily Living

Based on the research results that have been described in **table 3**, it is known that from 55 respondents, the results of the level of independence of geriatric patients are mostly in the partial dependency category and the least total dependency category. This research is in line with previous research conducted by Pradhitya in 2014 with the percentage of elderly who are partially dependent (43%), independent (33%), and totally dependent (24%).

This can be due to the characteristics of elderly respondents who are mostly aged 60-74 years (74.5%) where at this age the elderly can still do some daily activities but have started to show dependence due to a decrease in their ability to do daily activities as they get older<sup>16</sup> . Research conducted at the elderly, especially in geriatric patients, there are several changes in the musculoskeletal system, cardiovascular

system, digestive system, respiratory system, and endocrine system which can affect the decline in physical function in the body. These changes will generally affect how individuals meet the needs of their daily activities<sup>17</sup>.

As the age increases, the physical condition will decrease which can cause physical, psychological, and social functional disorders and disorders which in turn will lead to individual dependence on others<sup>18</sup>. This is also in accordance with research that there is a significant relationship between age and the level of independence in the elderly. One of the factors affecting the level of daily living activity is the level of education of the respondents which is quite good. In the results, the distribution of the highest education level of geriatric patients in was Senior High School (SMA) with 27 respondents (49.1%)<sup>19</sup>. Stating that education is the basic intellectual knowledge of a person, the higher the education, the greater one's ability to behave so that it will affect one's quality of life<sup>20</sup>.

##### Quality of Life

The distribution of the quality of life of the respondents shows an average distribution of 56,422 which indicates that the average quality of life of patients in the Dr. Mohammad Hoesin Palembang is good. This research is in accordance with research conducted by Indriyani in 2017 with a presentation of the elderly with a good quality of life of 53.7%.

**Table 4** shows the quality of life of the elderly in the physical domain. The physical domain of the elderly was experienced by 36 respondents (65.5%). The physical domain according to WHOQOL-BREF assesses the level of pain, medical therapy, fatigue, rest, activity, and work. This can be due to the

fact that in old age, the individual will experience deterioration of the body's function which causes a person to experience dependence and will affect one's quality of life. Most of the respondents in this study aged 60-74 years (74.5%) have a good quality of physical life. In general, respondents aged 75-90 years will experience significant physical, psychosocial, and mental setbacks. Physical factors that function properly allow the elderly to achieve quality aging while poor physical factors will make a person lose the opportunity to actualize himself due to individual physical limitations<sup>21</sup>.

The distribution of the psychological domain among respondents is mostly 39 respondents (70.9%) good. The assessment of the psychological dimensions in WHOQOL consists of 6 components, namely positive feelings, meaning of life, concentration, self-esteem, self-image, and negative feelings. Most of the respondents in this study had high school education. Education is also a factor that affects the psychological domain because in education it can form emotional intelligence where emotional intelligence will shape individual satisfaction and depression drive which will also affect the quality of individual life.

The social domain of geriatric patients in Dr. Mohammad Hoesin Palembang is good, namely 32 respondents (58.2%) from a total of 55 respondents. The social domain in the WHOQOL-BREF questionnaire contains 3 questions about social relationships, sexual life, and support from others. In the elderly, the closest social environment is family. According to Sukitno (2011), the quality of life of the elderly is good when the family can carry out its function for the elderly as a support. Good family support, social support from a good living environment will improve the quality of life for the elderly<sup>22</sup>.

### **Relationship between Activity Daily Living Level and Quality of Life**

The results of the analysis showed that there was a significant relationship between the level of daily living activity and the

quality of life of geriatric patients in Dr. Mohammad Hoesin Palembang. The likelihood of an increase in quality of life was 23.8 times greater in patients who had an independent daily living activity level than in patients who had a partially dependent daily living activity level. Meanwhile, the possibility of an increase in quality of life was 27.7 times greater in patients who had an independent daily living activity level than in patients who had a total dependent daily living activity level. In the analysis, it was also found that the level of daily living activity of geriatric patients is a protective factor for the quality of life of geriatric patients.

The quality of life is said to be good if the physical, psychological and social health are good. In this case, physical health is related to the basic daily living activities that a person does in everyday life so that Lisa who is in good physical condition will have a good level of daily living activity. Elderly with decreased physical condition allows them to depend on their surroundings in fulfilling their daily living activities and this allows them to experience a decrease in quality of life.

The results of this study are consistent with research conducted on 96 elderly people, which states that the level of daily living activity can affect the quality of life of the elderly which is stated by the Spearman correlation value of 0.692 with a significance value (p-value) of 0.001<sup>23</sup>. Another study stated that the better the level of daily living activity of the elderly can improve the quality of life which is stated by the value of  $p = 0.000$  with a sample size of 30 people<sup>24</sup>.

This study also shows that there are elderly people who have an independent daily living activity level but have a poor quality of life and there are also elderly people who experience heavy dependence but have a good quality of life. This condition shows that there are factors that affect the quality of life of the elderly. Explains that there are several factors that affect the quality of life of the elderly, including age, physical factors, social and environmental factors, psychological factors, mental factors,

and education level<sup>25</sup>. Meanwhile, the same research was conducted on the factors that influence the quality of life of the elderly population in Lumajang Regency. In this study, it was concluded that the factors affecting the quality of life of the elderly population include physical factors, social factors, and the number of children<sup>26</sup>.

### Research Limitations

When conducting interviews, the language between the patient and the interviewer was often different, making it difficult to understand. At the time of conducting the interview there were difficulties because the cognitive in the geriatric patient was not assessed so that he could not judge whether the patient fully understood the question.

### 5. Conclusion

From the research results regarding the relationship between the level of daily living activity and the level of quality of life of geriatrics in Dr. Mohammad Hoesin Palembang in December 2019 the following conclusions can be drawn:

Characteristics of geriatric patients in Dr. Mohammad Hoesin Palembang, the highest distribution based on gender is male, age 60-74 years, and high school education level.

The average daily living activity level of geriatric patients is partially dependent, while the average quality of life for geriatric patients is good.

There is a significant relationship between the level of daily living activity and the level of quality of life of geriatric patients in the Dr. Mohammad Hoesin Palembang

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