

Correlation Between Adherence of Rehabilitative Treatment with Quality of Life of Post-Stroke Patients in Wiyung Sejahtera Hospital

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ABSTRACT

Stroke rehabilitation is necessary for post-stroke patients's recovery to be more independent and have better quality of life. The aim of the study was to analyze the relationship between patients' adherence in undergoing rehabilitative treatment and the quality of life of post-stroke patients at Wiyung Sejahtera Hospital. The type of research is descriptive analytic with cross-sectional approach. The sample was 92 post-stroke patients undergoing rehabilitative treatment at Wiyung Sejahtera Hospital chosen using Simple Random Sampling technique. The independent variable is level of adherence measured by modified Morisky 8-Item Medication Adherence Score (MMAS-8) questionnaire in Bahasa Indonesia. The dependent variable is quality of life of post-stroke patients, assessed using Indonesian version of the Short Version of Stroke Specific Quality of Life (SS-QOL) questionnaire. The correlation test uses Spearman Rank to analyze the relationship between two variables. Significant results from the Spearman Rank test obtained p-value = 0.01 <math>< \alpha (0.05)</math> which means H1 is accepted, meaning that there is a relationship between adherence in undergoing rehabilitative treatment and the quality of life of post-stroke patients at Wiyung Sejahtera Hospital. It was concluded that the higher the level of adherence in undergoing rehabilitative treatment, the better the quality of life of post-stroke patients. This research is expected to be beneficial for the development of knowledge in nursing to improve the quality of life of post-stroke patients by ensuring patient compliance in undergoing rehabilitative care.

Keywords: adherence level, post-stroke, quality of life, rehabilitative treatment

BACKGROUND

Stroke is the second highest cause of death in the world and the third highest contributor to disability. Most stroke patients (70–80%) experience movement disorders in the form of weakness in one of their bodies (Sulistiyowati, 2020).

World Stroke Organization data (2019) shows there are 13.7 million cases of stroke, and 5.5 million deaths occur due to stroke. According to the Data and Information Center of the Indonesian Ministry of Health (2019) around 87% of deaths and disabilities due to stroke occur in low and middle income countries. Riskesdas data (2013) national stroke prevalence is 12.1 per mile, while Riskesdas (2018) stroke prevalence is 10.9 per mile. Based on the 2018 health research, East Java is ranked eighth in the prevalence of stroke in Indonesia based on doctors' diagnoses in people aged > 15 years with a rate of 12.4%. The number of East Java residents who had a stroke in 2019 reached 14,591 people.

Stroke patients with sensory-motor disturbances can cause disability in sufferers (Cevix et al., 2018). Response to treatment is one of the factors that influence individuals to continue to choose to continue their treatment or stop their treatment so that it will affect the quality of life.

World Health Organization Quality of Life (WHOQOL) defines quality of life as an individual's perception of his life in society in the context of existing culture and value systems related to goals, expectations, standards, and concerns. Poor or low quality of life of sufferers is caused by various stroke complications such as obesity, hypertension, and changes in sexual function. Apart from complicating factors, quality of life is also influenced by family support, adherence to controls and treatment. In a study conducted by Wardhani & Martini (2015) it was explained that post-stroke patients will experience various disorders, depending on the part of the brain that is affected. Post-stroke patients will experience half body paralysis, aphasia, facial drop, weak arms and legs, impaired body coordination, mental changes, emotional disturbances, communication disorders and loss of sense of taste. As a result of this change, it will have a negative impact on the patient's quality of life because it can interfere with activities of daily life (Utama, 2022).

Stroke rehabilitation is a therapeutic measure provided by health care providers to help cure post-stroke symptoms. Early rehabilitation of stroke survivors in acute care is very important to optimize recovery potential in preventing various secondary complications from stroke sequelae (Pishkhani et al., 2020). Proper stroke rehabilitation will improve the quality of life of stroke survivors (Pishkhani et al., 2020). The rehabilitation phase begins when the patient is declared in a stable condition both from the level of consciousness and vital signs and is allowed to return home. The rehabilitation phase itself aims to help sufferers relearn skills lost due to a stroke which damaged part of their brain, by participating in a stroke rehabilitation program it is hoped that sufferers will be more independent and have a better quality of life (Andriani et al, 2022)

Data obtained from Wiyung Sejahtera Hospital in July 2022, there were 906 outpatients diagnosed with stroke in the neuro polyclinic, 997 patients in the medical rehab polyclinic, 2 inpatient rooms, and 5 patients in the ICU. Specifically, in the medical rehabilitation room, there has been an increasing trend in the number of stroke patients undergoing rehabilitation therapy from July to September 2023. In July 2023 there were 85 patients recorded, 90 patients in August 2023, and an increase of up to 30% to 120 patients in September 2023. Based on the background above, the authors are interested in researching "The Relationship between Compliance Undergoing Rehabilitative Treatment and the Quality of Life of Post-Stroke Patients at Wiyung Sejahtera Hospital".

METHODS

Design of this study is descriptive analytic with a cross-sectional approach to describe or provide an overview of an object under study through data or samples that have been collected. The populations were 120 patients with a stroke diagnosis in the Medical Rehab Poly Room of Wiyung Sejahtera Hospital. Sampling in this study used the Probability Sampling technique with the Simple Random Sampling technique with a total sample of 92 respondents who were determined based on the slovin formula and met the inclusion and exclusion criteria.

The inclusion criteria in this study were, (1) Patients with composmentis and cooperative awareness (may be assisted by their families with the patient's knowledge), (2) Patients at the medical rehabilitation polyclinic with a diagnosis of stroke (ischemic/hemorrhagic), (3) Patients willing to be respondents and involved in the study (filling in informed consent). While the exclusion criteria included, (1) Patients with decreased awareness, (2) Patients with cognitive impairment, (3) Patients with hearing loss.

The research was conducted in the Medical Rehab Poly Room and the Nerve Polyclinic at Wiyung Sejahtera Hospital, Surabaya. The time of this research was carried out on May 12 2023 – June 1 2023. The independent variable in this study was the level of adherence to undergoing rehabilitative treatment, while the dependent variable in this study was the quality of life of post-stroke patients.

The instrument used in this study was the modified Morisky 8-Item Medication Adherence Score (MMAS-8) questionnaire in Indonesian to measure stroke patient rehabilitation compliance with a score of 8: High compliance; Score 6-8: Moderate compliance; and Score < 6: Low compliance. Meanwhile, the quality of life of post-stroke patients was assessed using the Indonesian version of the Short Version of Stroke Specific Quality of Life (SS-QOL) questionnaire with an interpretation of values 12-24: Poor quality of life; Grades 25-36: Adequate Quality of Life; and Grades 37-60: Good Quality of Life.

The data that has been collected is then processed and analyzed using the Spearman Rank correlation test to analyze the relationship between the two variables with the help of SPSS version 27 with a significance value of $\alpha \leq 0.05$. If the statistical test results show $p < 0.05$, it means that there is a relationship between compliance with rehabilitative treatment and the quality of life of post-stroke patients at Wiyung Sejahtera Hospital.

RESULTS

General Data

Respondents in this study had several characteristics, among others, based on age and sex obtained by interview and secondary data from medical records, this data was described in the form of a distribution table and explained in a narrative manner.

Table 1. General data distribution of post-stroke respondents at Wiyung Sejahtera Hospital on 12 May 2023 – 1 June 2023

	Characteristics	Number of Respondents	
		Frequency	Percentage
1	Age		
	Adult (19 – 44 years old)	6	6,5%
	Pre Elderly (45 – 59 years old)	48	52,2%
	Elderly (≥ 60 years old)	38	41,3%
	Total	92	100%
2	Sex		
	Female	51	55,4%
	Male	41	44,6%
	Total	92	100%
	Total	92	100%

Source: Primary Data, 2023

From Table 1 it is known that the characteristics of post-stroke respondents based on age according to WHO are mostly (52.2%) in the pre-elderly age range or 45-59 years old, while almost half of them (41.3%) are in the elderly age range or ≥ 60 years old. only small proportion (6.5%) in the adult age range (19 – 44 years old). Meanwhile, based on gender, most of the respondents (55.4%) were female and almost half (44.6%) were male.

Specific Data

Adherence level of rehabilitative treatment in post stroke patients at Wiyung Sejahtera Hospital
Table 2. Distribution of adherence level of rehabilitative treatment in post stroke patients at Wiyung Sejahtera Hospital

No	Adherence Level	Frequency	Percentage
1	Low	30	32,6%
2	Moderate	60	65,2%
3	High	2	2,2%
	Total	92	100%

Source: Primary Data, 2023

Table 2 shows that of the 92 post-stroke respondents who underwent rehabilitative treatment, most of them (65.2%) had a moderate level of adherence, almost half had a low adherence rate (32.6%), and a few had a high adherence rate (2.2%).

Quality of Life of Post Stroke Patients at Wiyung Sejahtera Hospital

Table 3 Distribution of Quality of Life of Post Stroke Patients at Wiyung Sejahtera Hospital

No	Quality of Life	Frequency	Percentage
1	Poor	0	0%
2	Adequate	78	84,8%
3	Good	14	15,2%
Total		92	100,0%

Source: Primary Data, 2023

Table 3 shows that almost all (84.8%) of the 92 post-stroke patients felt they had a adequate quality of life, while the rest felt they had a good quality of life (15.2%).

The correlation test between adherence level of rehabilitative treatment and quality of life of post-stroke patients at Wiyung Sejahtera Hospital

Table 4. Cross distribution of adherence level in undergoing rehabilitative treatment with quality of life of post stroke patients

Adherence Level	Quality of Life			Total
	Poor	Adequate	Good	
Low	-	30 (32,6%)	-	30 (32,6%)
Moderate	-	48 (52,2%)	12 (13%)	60 (65,2%)
High	-	-	2 (2,2%)	2 (2,2%)
Total	-	78 (84,8%)	14 (15,2%)	92 (100%)

Source: Primary Data, 2023

Based on Table 4 it shows that most (52.2%) of respondents who have a moderate level of compliance feel they have an adequate quality of life too and a small proportion (2.2%) who have a high level of compliance consider they have a good quality of life.

Table 5. results of shapiro wilk test and spearman rank test adherence level in undergoing rehabilitative treatment with quality of life of post stroke patients at Wiyung Sejahtera Hospital on 12 May 2023 – 1 June 2023

No	Variables	Normality Test <i>Shapiro Wilk</i> (α)	Spearman Rank Correlation Test	
			Spearman Rho (Correlation coefficient)	p-value
1	Adeherence Level	0,000	0,354	0,01
2	Quality of Life	0,000		

Source: Primary Data, 2023

Table 5 shows that the Shapiro Wilk normality test has a significant result of $\alpha = 0.000$ on the data on the level of adherence and quality of life. This is the same as $\alpha < 0.05$ which means the data is not normally distributed, because the data is not normally distributed then to find out the correlation of the two variables, the Spearman test is carried out.

Significant results from the Spearman test obtained p-value = $0.01 < \alpha (0.05)$ which means H_1 is accepted, meaning that there is a relationship between adherence to undergoing rehabilitative treatment and the quality of life of post-stroke patients at Wiyung Sejahtera Hospital. A unidirectional relationship is obtained from the results of a positive correlation coefficient. The table shows a value of 0.354, which means that the relationship between the two variables is unidirectional (positive). Thus it can be concluded that the higher the level of adherence to undergoing rehabilitative treatment in post-stroke patients, the better the quality of life.

DISCUSSION

Adherence level of rehabilitative treatment in post stroke patients at Wiyung Sejahtera Hospital

The results showed that of the 92 post-stroke respondents at Wiyung Sejahtera Hospital who underwent rehabilitative treatment, most (65.2%) had a moderate level of adherence and almost half had a low adherence rate (32.6%) and a small proportion had a high adherence rate (2.2%).

Early rehabilitation of stroke survivors in acute care is very important to optimize recovery potential in preventing various secondary complications from stroke sequelae (Pishkhani et al., 2020). The rehabilitation program given to stroke patients as a whole begins while in the hospital, including physical exercise (physiotherapy), occupational therapy, and speech therapy (Harmayetty, Ni'mah, & Firdaus, 2020).

Compliance control is the level of adherence to patient behavior towards instructions or instructions given in any prescribed form of therapy, diet, exercise, medication or keeping appointments with a doctor to evaluate the progress of the disease (Novia et al, 2022). Several existing studies show the level of adherence control in stroke patients is still in the poor category.

Identification and management of factors that affect rehabilitation adherence can significantly improve the quality and effectiveness of treatment and rehabilitation (Pishkhani et al., 2019). The results of a study conducted on post-stroke patients at Wiyung Sejahtera Hospital found that most of them had a moderate level of adherence. Of the 92 respondents who had high adherence, only 2.2%, which means that there are still many patients who do not comply with post-stroke rehabilitative treatment. Based on the analysis of the questionnaires that were distributed to the respondents, it was found that almost half said they forgot about the rehabilitation schedule being carried out, but almost all of them had not followed the rehabilitation schedule that had been scheduled on purpose.

In this study, age and gender are believed to have an influence on the level of compliance with rehabilitation. Of the 30 respondents who had a low level of compliance, the majority were pre-elderly (45-59 years) and elderly (≥ 60 years). This is in line with the statement of Vargas-Escobar et al. (2022) that patients ≤ 68 years were found to have better adherence than their older counterparts. Pishkhani et al. (2019) also stated that those with old age are unable to participate effectively in rehabilitation programs due to age-related pain, fatigue, and disability.

Quality of life of post stroke patients at Wiyung Sejahtera Hospital

The results showed that almost all (84.8%) of the 92 post-stroke patients felt they had an adequate quality of life, while the rest felt they had a good quality of life (15.2%). Stroke can cause disturbances in movement control, emotional disturbances, sensory perception, impaired memory, communication, thought processes, and fatigue, all of these complications lead to decreased quality of life (Dewi et al., 2020).

Quality of life is an individual's perception of their position in life as seen from the context of the culture and value system in which they live and their relationship to goals, expectations, standards, and other matters of concern to individuals (Djamaludin & Oktaviana, 2020).

On the physical functional aspect, most of the respondents said they had a few problems when meeting the needs of bathing, buttoning clothes, and daily work at home. Meanwhile, almost all respondents had a little problem when walking or using a wheelchair, talking, and enjoying programs while watching TV at home. In the category of psychosocial aspects, almost all respondents said that since having a stroke they felt that their personality had changed.

This study also found that almost half of the respondents had an adequate quality of life in the pre-elderly age range (45-59 years old). This is in line with a study conducted by Bariroh et al (2016) regarding the quality of life of post-stroke patients. It was stated that the percentage of quality of life based on age shows that the quality of life for the pre elderly age group (55 years old) is better than the elderly group (60 years old).

Correlation analysis of adherence level in undergoing rehabilitative treatment with quality of life of post stroke patients at Wiyung Sejahtera Hospital

The results showed that the Spearman Rank test resulted in a correlation coefficient of 0.354, meaning that there was a moderate and unidirectional (positive) relationship between the two variables. A unidirectional relationship is obtained from the results of a positive correlation coefficient. Significant results from the Spearman Rank test obtained $p\text{-value} = 0.01 < \alpha (0.05)$

which means H1 is accepted, meaning that there is an adequate positive relationship between adherence to undergoing rehabilitative treatment and the quality of life of post-stroke patients at Wiyung Sejahtera Hospital. Thus the higher the level of adherence to undergoing rehabilitative care in post-stroke patients, the better the quality of life.

According to Abdu et al (2022) post-stroke patients usually lose their functionality in terms of social, emotional, physical, and disturbances can arise in their daily activities so that in patients who have had a stroke in the first 6 months, the patient feels he has lost part of his life, this is affect the patient's quality of life. According to Taruna and Arini (Suzana, 2019) data from the United States states that two-thirds of post-stroke sufferers really need rehabilitation in order to achieve an independent patient condition and can improve their quality of life.

The results obtained by the researchers also showed that almost half of the respondents who had a low level of compliance felt they had an adequate quality of life, most of the respondents who had a moderate level of compliance felt they had a moderate quality of life, while a small proportion of respondents who had moderate and high levels of compliance felt they had a good quality of life. This is in accordance with research conducted by Suzana (2019) that stroke patients who carry out rehabilitation with active ROM therapy are lacking, their ADL will also decrease, and vice versa if active ROM therapy is carried out properly, the ADL of stroke patients will also get better.

Patients and the surrounding environment are things that can affect patient compliance (Chaira & Hidayat, 2016). Identification and management of factors that affect rehabilitation adherence can significantly improve the quality and effectiveness of treatment and rehabilitation (Pishkhani et al., 2019). This is consistent with research that found adherence to rehabilitative treatment can improve the quality of life of post-stroke patients. This is evidenced by the more obedient patients undergo rehabilitative treatment, the better the patient's quality of life will be. Compliance in undergoing rehabilitative treatment is also associated with length of time undergoing rehabilitation.

CONCLUSION

From the results of the study it can be concluded that more than half of the post-stroke patients undergoing rehabilitative care at Wiyung Sejahtera Hospital have a moderate level of compliance and a small proportion have a high level of compliance. Meanwhile, almost all post-stroke patients who underwent rehabilitative treatment felt they had an adequate quality of life and the rest had a good quality of life. There is a significant relationship between adherence to undergoing rehabilitative treatment and the quality of life of post-stroke patients at Wiyung Sejahtera Hospital as shown by the higher the level of adherence to undergoing rehabilitative treatment in post-stroke patients, the better the quality of life.

Suggestions for future research are to better control other factors that affect adherence to undergoing rehabilitative treatment and quality of life such as family support, level of knowledge, duration of stroke and experience of stroke.

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