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Relationship Between Sleep Quality and Quality of Life in Post-Stroke Patients at the Mangkurawang Community Health Center

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ABSTRACT

Background & Objective: Stroke is one of the leading causes of long-term disability and affects various aspects of patients' lives. Post-stroke patients often experience pain, physical limitations, and psychological changes that may lead to sleep quality disturbances. Post-stroke conditions also cause long-termimpacts on patients' physical, psychological, and social well-being, such as limb weakness, balance disorders, and difficulty walking, which may ultimately affect quality of life. Sleep quality disturbances in post-stroke patients have the potential to worsen physical and psychological conditions, resulting in an overall decline in quality of life. To determine the relationship between sleep quality and quality of life in post-stroke patients. **Method:** This study employed a quantitative research design with a cross-sectional approach. The sample consisted of 45 post-stroke patients selected using a total sampling technique. Sleep quality was measured using the Pittsburgh Sleep Quality Index (PSQI), while quality of life was assessed using the Stroke-Specific Quality of Life (SSQOL) questionnaire. Data were analyzed bivariately using the Spearman Rank correlation test. **Result:** The results showed that most respondents had poor sleep quality, with 33 respondents (71.1%), and poor quality of life, with 30 respondents (66.7%). The Spearman Rank correlation test revealed a p-value of 0.001 (< 0.05) and a correlation coefficient of 0.908. **Conclusion:** There is a significant relationship between sleep quality and quality of life in post- stroke patients.

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Introduction

Stroke is one of the major health problems, not only in Indonesia but also worldwide. Stroke is the second leading cause of death and the third leading cause of disability in the world. According to the World Health Organization (WHO), stroke is a condition in which rapidly developing clinical signs of focal and global neurological deficits appear, may worsen, persist for 24 hours or more, and/or may cause death without any other cause other than vascular disorders. Stroke occurs when a blood vessel in the brain ruptures or becomes blocked, preventing part of the brain from receiving the oxygen-rich blood it needs, leading to cell and tissue death (Ministry of Health of the Republic of Indonesia, 2022)

In 2022, the World Stroke Organization estimates that nearly 12.1 million people experience a stroke each year. Strokes affect people under the age of 70 in 78% of cases globally, according to Feigin (2022). According to data cited by Dwilaksono et al. (2023) and the Indonesian Ministry of Health, the prevalence of stroke in this country increased from 7 per 1,000 people in 2020 to 10.9 per 1,000 people in 2022.

In 2020, the National Health Insurance (JKN) program reported 1,789,261 cases of stroke, placing it third in Indonesia's health profile. The region with the highest prevalence of stroke was East Kalimantan, with a prevalence of 14.7%. The 55–64 age group had the highest stroke prevalence (33.3%). Men and women had nearly identical stroke incidence rates (50.1% vs. 49.9%). Among

stroke survivors, 29.5% had a highest level of education of elementary school. In 2018, the prevalence of stroke increased from 10.9% in 2013 to 7% in the previous year. These statistics reflect an increase in the number of stroke cases recorded by the Kutai Kartanegara District Health Office in the community in 2023. The Mangkurawang Community Health Center received 45 people who had suffered a stroke.

According to Oktaviani et al. (2020), the impact of stroke on post-stroke patients is usually difficult to prevent and endure, and often disruptive, requiring time to adjust to the patient's lifestyle and psychology. Someone who experiences this is unable to perform activities as they did before becoming ill and requires a lot of time to adapt. Each person's ability to respond is different, so post-stroke patients have different levels of success depending on the positive strength of the situation. This can affect the individual's ability to interpret the situation. Changes in the condition of post-stroke patients can cause discomfort and dependence in performing simple activities.

Post-stroke often causes various long-term effects that affect the physical, psychological, and social conditions of patients. Physically, patients generally experience weakness in their limbs (hemiparesis or hemiplegia), balance disorders, and difficulty walking (Syahrun, Hany, & Rahayu, 2022). One of the problems that often arises in this phase is sleep quality disorders, such as insomnia, difficulty maintaining sleep, and increased sleepiness during the day. Research shows that around 20–40% of post-stroke patients experience sleep disorders related to damage to the central nervous system and psychological factors (Lugtmeijer et al., 2021).

According to Khot & Morgenstern (2019) in Rohmah., et al (2021), changes in sleep quality after a stroke are a manifestation of the severity and location of brain damage. Patients with stroke show a reduction in total sleep time and sleep efficiency. Sleep disorders may also have an effect on the severity of the stroke itself. Poor sleep quality can cause a pale face, puffy eyes, weakness, and decreased immunity, making the patient susceptible to disease. Psychologically, lack of sleep can cause changes in

mood, making the patient lethargic, slow to respond to stimuli, and unable to concentrate, thereby impacting their quality of life.

Research conducted by Listyaningsih and Ratmawati (2020) found a relationship between sleep quality and overall health. Lack of sleep can cause various problems, including excessive sleepiness throughout the day, forgetfulness, negative emotions, frequent falls, certain health problems, and a decrease or increase in overall quality of life. The amount and quality of sleep a person gets can affect their quality of life.

Based on the results of a preliminary study conducted on September 23, 2025, on four post-stroke patients at the Mangkurawang Community Health Center, through unstructured interviews and observation of patients, problems related to sleep quality in stroke patients were found. Three patients said that in the morning they still often felt sleepy and weak due to restless sleep at night and frequent waking up in the middle of the night. One of these patients reported having regular sleep patterns every day, resulting in feeling refreshed in the morning and being able to perform daily activities.

Based on this, the researcher was interested in conducting research on the relationship between sleep quality and quality of life in post-stroke patients at the Mangkurawang Community Health Center.

Objective

To determine the relationship between sleep quality and quality of life among post-stroke patients at the Mangkurawang Community Health Center.

Method

Quantitative research methods are used in this concept. According to Sujarweni (2023), research that produces findings through the use of statistical approaches or other quantitative methods is referred to as quantitative research. We use quantitative research methods that rely on correlation. Correlation research focuses on discovering relationships between several variables, according to Afandi (2020). This research uses quantitative analytical observational methods in a cross-A design cross-sectional study is defined as the simultaneous collection of independent and dependent variables (Adiputra, et al. 2021).

According to Swarjana (2022), the term "population" encompasses all things, people, and events studied to draw broad conclusions. This study involved 45 individuals who had recently recovered from stroke and were receiving treatment at the Mangkurawang Community Health Center.

We used a total sampling approach to collect samples from the entire population. The entire population was used as a sample in total sampling, which is defined by Sugiyono (2020) as a sampling approach that collects samples from all members of the population. The sample in this study consisted of 45 post-stroke patients at the Mangkurawang Community Health Center. This study was conducted in January 2026 at the Mangkurawang Community Health Center. The operational definitions are as follows:

TABLE 1. Operational Definition

Variable	Operational Definition	Instrument	Measurement Result	Scale
Sleep Quality	Sleep quality is an individual's habitual pattern	Questionnaire PSQI (*Pittsburgh*	Good ≤ 5 Poor > 5	Ordinal

	in maintaining good sleep quality. Sleep duration refers to the length of time spent sleeping, sleep latency refers to the time needed to fall asleep after lying in bed, and sleep efficiency measures how much time spent in bed is actually used for sleeping.	*Sleep Quality Index*)		
Quality of Life	Quality of life is an individual's perception of their position in life psychologically, socially, and functionally after experiencing a stroke, reflecting the extent to which a person can carry out daily activities.	Questionnaire SSQOL (*Stroke-Specific Quality of Life*)	Poor = 12–24 Fair = 25–36 Good = 37–60	Ordinal

his research instrument uses Questionnaire A, which is a Demographic Questionnaire containing personal information included in the dataset: respondent name, age, gender, and highest level of education. Questionnaire B is the Pittsburgh Sleep Quality Index (PSQI) Sleep Quality Questionnaire, which was first developed by Buysse et al. (1989) and adapted from Hutasoit et al. (2024), and has been used by researchers previously. Question 9 relates to subjective sleep quality; questions 2 and 5a measure sleep latency; questions 4, 3, and 1 measure sleep efficiency; Questions 5b–5j measure sleep disturbances; question 4 measures sleep duration; question 6 asks about the use of sleeping pills; and questions 7 and 8 measure daytime activity disturbances. In total, there are 19 questions that make up this questionnaire, which assesses seven aspects of sleep quality. With categories: 1. Poor > 5, 2. Good ≤. Questionnaire C is the Short Stroke-Specific Quality of Life Questionnaire (SSQOL), first developed by Williams (1999) and later approved by Hasanudin (2020), used as a tool in this study. This questionnaire consists of 12 sections, each containing 12 questions with 5 Likert scale answer options. The areas covered include: self-care, mobility, speech, vision, activity/productivity, thinking, personality, energy, social role, and role in family and community. The item response scale ranges from 1 to 5. Quality of life scores can range from 12 to 60 (Category 1), calculated by summing the ratings of all items. Very Good: 37–60, 2. Fair: 25–36, 3. Poor: 12–24. The patient's quality of life improves as the score increases. The numbers 1, 2, 3, 4, 5, and 6 are desirable. Undesirable numbers are 7, 8, 9, 10, 11, and 12.

The validity test results for the sleep quality variable varied between 0.663 and 0.918, in accordance with the validity test findings for that variable. The work of L. N.

Robins and colleagues from 1988 was cited in the work of Hutasoit et al. (2024). After validity testing was conducted on the quality of life variable using the Stroke Specific Quality of Life (SSQOL) questionnaire, all items were found to be valid. The validity test results for each item were less than 0.05, and the average test value was 0.723 with a table r of 0.296, so it can be concluded that this questionnaire is valid. (Williams et al., 1999) as cited in Hasanudin (2020). The reliability test of the Pittsburgh Sleep Quality Index (PSQI) questionnaire showed a Cronbach's alpha reliability test score of 0.83 for the sleep quality variable. The results of the SSQOL (Stroke Specific Quality of Life) questionnaire reliability test for the quality of life variable are attached. The Stroke Specific Quality of Life (SSQOL) component is quite reliable as a measuring tool, because the reliability score for all questions on the questionnaire is 0.925.

In data analysis using univariate and bivariate data. In univariate analysis, not all data is used to draw broad conclusions from this study; only the distribution of percentages and frequencies of these variables is presented. (Notoatmodjo, 2018). Bivariate analysis When the data for each variable is ordinal and the data sources between variables are not always the same, the Spearman statistical test can be used to determine the level of correlation or evaluate the relevance of associative hypotheses. The symbol for Spearman's rank correlation in this context is rs, which is also written as rho.

Results

General Description of the Research Site

This study was conducted at the Mangkurawang Community Health Center (PKM), Tenggarong District, Kutai Kartanegara Regency, East Kalimantan Province. Initially opened in 1978 and re-inaugurated on August 17, 1999, PKM Mangkurawang has functioned as a primary health care facility (FKTP) for the Kutai Kartanegara Regency Health Office since its establishment.

Health promotion, prevention, treatment, and rehabilitation are part of the basic health services offered by the Mangkurawang Community Health Center. As part of its non-communicable disease services, the center primarily monitors and manages patients who have had a stroke. The staff of the Mangkurawang Community Health Center, consisting of doctors, nurses, midwives, nutritionists, and others, have access to adequate facilities and infrastructure to assist in data collection and research. In January 2026, 45 patients who had recently experienced a stroke completed questionnaires measuring Stroke-Specific Quality of Life (SSQOL) and the Pittsburgh Sleep Quality Index (PSQI).

Analisa univariat

The purpose of univariate analysis is to provide an overview of the distribution of research variables, such as quality of life and sleep quality in stroke survivors, as well as the proportion of respondent characteristics, such as age, gender, and education level. For convenience, we present the results of univariate analysis in tabular form.

Respondent Characteristics Based on (Age, Gender, and Education) To provide an overview of respondent characteristics, this study uses demographic information such as age, gender, and education level.

TABLE 2. Respondent characteristics (age, gender, and education)

Characteristics	Frequency (f)	Percentage (%)
Age		
(40–49 years)	4	8,9
(50–59 years)	14	31,1
(60–69 years)	18	40,0
(70–83 years)	9	20,0
Total	45	100,0
Gender		
Male	24	53,3
Female	21	46,7
Total	**45**	**100,0**
Education		
No formal education	2	4,4
Elementary School	9	20,0
Junior High School	22	48,9
Senior High School	12	23,7
Total	**45**	**100,0**

Based on the results in Table 2, it shows that most respondents were in the 60–69 age group, namely 18 respondents (40.0%), male, namely 24 respondents (53.3%), and most respondents had a junior high school education, namely 22 respondents (48.9%) out of a total of 45 respondents.

FIGURE 1. Sleep Quality

Table 3.2 Sleep Quality

Respondent Characteristics	Parameter	n	Percentage (%)
Sleep Quality	Good	13	28.9
	Poor	32	71.1
	Total	**45**	**100.0**

Table 3.3 Cross Tabulation of Sleep Quality by Age

Sleep Quality Category	40–49	50–59	60–69	70–83	Total
Good	4	5	4	0	13
Poor	0	9	14	9	32
Total	**4**	**14**	**18**	**9**	**45**

Table 3.4 Cross Tabulation of Sleep Quality by Gender

Sleep Quality Category	Male	Female	Total
Good	6	7	13
Poor	18	14	32
Total	**24**	**21**	**45**

Table 3.5 Cross Tabulation of Sleep Quality by Education

Sleep Quality Category	No Formal Education	Elementary School	Junior High School	Senior High School	Total
Good	0	0	6	7	13
Poor	2	9	16	5	32
Total	**2**	**9**	**22**	**12**	**45**

Based on the results in Figure 1, it shows that most respondents were in the poor sleep quality category, namely 32 respondents (71.1%) out of a total of 45 respondents. Based on the cross-tabulation results of sleep quality with respondent characteristics (age, gender, and education), it shows that respondents with poor sleep quality were mostly in the 60–69 age group, namely 14 respondents, male, namely 18 respondents, and with a junior high school education level, namely 16 respondents.

FIGURE 2. Quality of life

Table 3.6 Quality of Life by Age

Category Quality of Life	40–49	50–59	60–69	70–83	Total
Poor	0	8	13	9	30
Fair	2	4	4	0	10
Good	2	2	1	0	5
Total	**4**	**14**	**18**	**9**	**45**

Table 3.7 Quality of Life by Gender

Category Quality of Life	Male	Female	Total
Poor	18	12	30
Fair	3	7	10
Good	3	2	5
Total	**24**	**21**	**45**

Table 3.8 Quality of Life by Education

Category Quality of Life	No Formal Education	Elementary School	Junior High School	Senior High School	Total
Poor	2	8	15	5	30
Fair	0	1	5	4	10
Good	0	0	2	3	5
Total	**2**	**9**	**22**	**12**	**45**

Based on the results in Figure 2, it can be seen that most respondents were in the poor category, namely 30 respondents (66.7%) out of a total of 45 respondents. Based on the cross-tabulation results of quality of life with respondent characteristics (age, gender, and education), it shows that most respondents are in the poor quality of life category in the 60-69 age group, namely 13 people, in the male gender group, namely 18 people, and in the junior high school education group, namely 15 people.

Analisis Bivariate

Bivariate analysis was performed to examine the degree of association between sleep quality and quality of life in post-stroke patients to determine whether there was a statistically significant relationship between the two variables, as well as to examine the direction and strength of the relationship.

FIGURE 3. Relationship between Sleep Quality and Quality of Life

Variable	n	*p-value*	Correlation Coefficient (r)	Description
Sleep Quality Quality of Life	45	0.001	0.908	Significant

The relationship between sleep quality and quality of life is indicated by a Spearman's rank correlation coefficient of 0.001 (<0.05), as shown in Table 3. A strong, unidirectional relationship between the two variables is indicated by a correlation coefficient of 0.908.

Discussion

Respondent characteristics

Post-stroke patients treated at the Mangkurawang Community Health Center were the subjects of this study. After the ethics committee at Mulawarman University approved the study and the chief medical officer gave his consent, data collection began in December 2025. The 45 participants in this study were selected using a total

sample method. Age, gender, education level, sleep quality, and overall life satisfaction were some of the characteristics of the respondents that were analyzed.

Based on the results of the study, most respondents were in the 60–69 age group, totaling 18 people (40.0%). This distribution shows that the majority of respondents were over 60 years old, with the highest proportion in the 60–69 age group.

The results of this study are supported by Andari's (2023) research, which found that the majority of elderly people who experienced stroke were in the 60-74 age category, totaling 39 elderly people. With increasing age, physiological changes occur in the cardiovascular system and blood vessels, such as decreased arterial elasticity, accumulation of atherosclerotic plaque, and increased blood pressure, all of which increase the risk of blood flow disorders to the brain..

The researcher's assumption, based on the dominance of respondents in the 60–69 age group, indicates that advanced age is an important factor in the incidence of stroke and post-stroke conditions. With increasing age, physiological changes occur in the cardiovascular system and blood vessels, such as decreased arterial elasticity, accumulation of atherosclerotic plaque, and increased blood pressure, which increase the risk of blood flow disorders to the brain. This is in line with Andari's (2023) study, which shows that the majority of stroke patients are in the 60–74 age group. Therefore, the researcher assumes that the high number of respondents in the 60–69 age group is related to an increased risk of stroke due to the aging process, resulting in more elderly people being found as post-stroke patients compared to younger age groups.

Based on gender data, there were 24 male respondents (53.3%) and 21 female respondents (46.7%). This shows that there were more males than females, but the difference in proportion between the two groups was relatively small.

The results of this study are consistent with previous studies which indicate that there are more male than female stroke patients. Male gender is one of the unmodifiable risk factors for stroke, with men having a risk that is one-quarter higher than women. Factors that cause men to be at higher risk include smoking, alcohol consumption, hypertension, and hypertriglyceridemia (Zukhri et al., 2024).

The researchers' assumption that there were more male respondents than female respondents in this study is related to gender as an unmodifiable risk factor for stroke. Men have a higher risk of stroke than women, so they are more commonly found as post-stroke patients. Although the difference in proportion between the two groups is relatively small, the predominance of male respondents still reflects the epidemiological trend that post-stroke events occur more frequently in men.

Based on the results of the study, the majority of post-stroke respondents had a final level of education at the junior high school level, totaling 22 people (48.9%). This distribution shows that more than half of the respondents were at the secondary education level.

The results of this study are also supported by Kaban (2025), who reported that in his research sample, 30 respondents (33.3%) were junior high school students, 27 respondents (30.0%) were senior high school students, and 24 respondents (26.7%) were elementary school students, making junior high school the most common level of education in both studies.

According to previous research conducted by Ouyang et al. (2024), educational attainment is an important factor that influences health literacy in stroke patients, with patients who are more highly educated having better health literacy and potentially understanding and managing their health conditions more effectively than those who

are less educated. In addition, prospective studies also show that lower educational attainment is associated with higher stroke incidence and poorer post-stroke mortality, reinforcing that low education is one of the social determinants that contribute to the clinical outcomes of this cerebrovascular disease. Therefore, the higher distribution of junior high school education levels in this study may reflect social inequalities in health determinants that ultimately affect the experiences and outcomes of post-stroke patients.

The researchers' assumption that the majority of respondents had a junior high school education level indicates that education is an important factor affecting the health condition of post-stroke patients. This is in line with Kaban's (2025) study, which also found that junior high school education was the most common education level among stroke patients. Lower education is thought to be related to limited health literacy, resulting in patients having a suboptimal understanding of their illness, treatment, and prevention efforts. In line with Ouyang et al. (2024), low education is associated with a higher risk of stroke and poorer post-stroke outcomes, so the high distribution of junior high school education in this study reflects the inequality of social determinants of health that affect the experiences and outcomes of post-stroke patients.

Sleep quality

Based on the results of the study, the sleep quality of respondents was dominated by 33 respondents (71.1%) who had poor sleep quality. This shows the high proportion of respondents with sleep quality disorders.

Based on the cross-tabulation of sleep quality with respondent characteristics (age, gender, and education), it was found that respondents with poor sleep quality were mostly in the 60-69 age group, namely 14 respondents, male, namely 18 respondents, and with a junior high school education level, namely 16 respondents.

Post-stroke patients often have difficulty sleeping due to damage to the area of the brain that controls when we sleep and when we are awake. Circadian rhythm disorders, which can affect the brain stem, hypothalamus, and central nervous system, can cause symptoms such as insomnia, waking up at night, poor sleep efficiency, and fatigue throughout the day. These disorders can occur after a stroke. Stroke survivors may have difficulty getting quality sleep due to physical limitations, discomfort, and mental health issues (such as anxiety and despair) they experience. Without treatment, stroke survivors who have difficulty sleeping may find it more difficult to recover and have a poorer overall quality of life (Sari & Putri, 2021).

Due to physiological changes in sleep patterns, such as shorter sleep duration and more frequent nighttime awakenings, stroke patients aged 60 to 69 are at higher risk of experiencing sleep difficulties. Many medical conditions, such as high blood pressure, diabetes, heart disease, and even aging, can make it difficult, or even impossible, to get a good night's sleep. Poor sleep quality is more common among older stroke survivors who suffer from these conditions. Compiled in 2021 by Simanjuntak and Manurung.

Based on sex, post-stroke sleep disorders are more commonly experienced by males. This finding is consistent with the study by Putri and Yuliana (2022), which states that male post-stroke patients have a higher risk of sleep disorders compared to females. This condition is associated with the higher prevalence of stroke risk factors among males, such as smoking habits, alcohol consumption, and a higher prevalence

of hypertension. In addition, sleep disorders such as obstructive sleep apnea are more frequently found in males, which can further worsen sleep quality after a stroke and negatively affect the patient's rehabilitation process.

In terms of educational level, patients with junior high school education tend to experience a higher prevalence of sleep disorders due to limited knowledge and understanding of their disease condition and the importance of post-stroke health management. Lower educational attainment is often associated with limited access to health information, lower adherence to therapy, and difficulties in adopting healthy lifestyle behaviors. These conditions may increase stress and anxiety, which ultimately have a negative impact on sleep quality among post-stroke patients (Siregar & Lestari).

These findings are supported by Ho et al. (2021), who reported that 28 out of 84 individuals, or 84.8% of the total sample, had poor sleep quality. Based on field data, the majority of patients reported sleep-related problems, such as frequent awakenings throughout the night, discomfort in weakened body parts, and sudden awakenings without a clear reason. Nearly all respondents reported having poor sleep quality.

Stroke patients may experience sleep difficulties due to various factors, as described by the study authors. These factors include problems related to weakened limbs, more frequent awakenings without a clear cause, and the possibility of repeated awakenings throughout the night. As a result of these disturbances, patients experience poorer sleep quality due to non-restorative sleep.

Quality of Life

When asked about their quality of life, 30 individuals (or 66.7% of the total) reported having poor quality of life. These results indicate that the majority of individuals did not have a good quality of life. Based on cross-tabulation analysis between quality of life and demographic characteristics (age, sex, and education), those who reported the poorest quality of life were predominantly middle-aged (13 respondents), had lower educational attainment (15 respondents), and were male (18 respondents).

Quality of life among stroke survivors often declines after the event due to the various ways in which brain impairment affects patients' ability to perform daily activities, their physical disabilities, mental health, and social roles. Stroke survivors may experience declines in physical, psychological, social, and environmental well-being as a result of limb weakness, speech and cognitive impairments, and increased dependence on others to meet their basic needs. Researchers in Indonesia have found that stroke significantly reduces quality of life and affects functional capacity among stroke survivors (Kurnia & Idris, 2022). This occurs because stroke disrupts blood flow to the brain.

Stroke survivors in the 60–69 age group often experience a more pronounced decline in quality of life compared to those aged 40–49 years due to impaired physical function and reduced ability to adapt to health changes caused by cardiovascular risk factors such as hypertension, diabetes, and heart disease. According to the study by Abdu et al. (2023), physiological capacity and the ability to adapt to long-term deficits decrease with advancing age. Consequently, the quality of life of older stroke patients is compromised by activity limitations, fatigue, and social dysfunction.

Stroke is associated with a greater decline in quality of life among men compared to women. One possible explanation is that men are more susceptible to smoking and

hypertension, which are two major risk factors for stroke. Stroke may more severely disrupt an individual's productive and psychosocial roles, thereby further reducing quality of life. Statistical data from Indonesia indicate that men have poorer quality of life after stroke than women (Sarah et al., 2025), suggesting an association between gender differences and post-stroke life outcomes.

After completing junior high school, stroke survivors often have a lower quality of life due to limited health awareness, inadequate access to health information and services, and a lack of general health education. Because of the emotional burden that may arise during recovery from stroke and the challenges of adapting to life after the event, survivors with lower educational attainment tend to have poorer quality of life compared to those with higher levels of education. A study conducted in 2020 by Wijayanti et al.

Bivariate Analysis

The Relationship Between Sleep Quality and Quality of Life in Post-Stroke Patients.

A p-value of 0.001 (< 0.05) indicates a significant relationship between sleep quality and quality of life, based on the results of the Spearman rank correlation analysis. A correlation coefficient of 0.908 indicates a very strong and unidirectional relationship between the two variables.

The findings of this study are consistent with previous research. Luo et al. (2023) found that many stroke patients experience sleep difficulties, which can negatively affect rehabilitation and overall well-being. Stroke patients often face problems such as difficulty falling asleep, short sleep duration, poor sleep efficiency, and daytime disturbances. Listyaningsih and Ratmawati (2020) found that individuals who obtained adequate sleep reported higher levels of happiness and overall health. Excessive daytime sleepiness, difficulty concentrating and remembering, mood changes, frequent falls on stairs, and even illness are symptoms of poor sleep quality. These findings clearly demonstrate that sleep disturbances have a substantial impact on the quality of life of stroke patients.

Additional evidence supporting these findings comes from a study conducted by Yincenia Wijaya et al. (2025). Poor sleep quality among stroke patients involves inadequate sleep duration, low sleep efficiency, and daytime sleep disturbances; symptoms include increased physical limitations, greater fatigue, and reduced functional skills in daily activities. Sleep problems may lead to various mental health issues, including anxiety, mood changes, and low motivation. In turn, these conditions can affect how individuals interact with others and shape their perspectives on the world.

Fulk et al. (2025) found that stroke survivors who experienced sleep difficulties in the days following a stroke had poorer overall health. According to the data, the quality of life of stroke survivors is strongly influenced by their sleep quality, which is a subjective issue. This is because good-quality sleep not only affects physical and mental health but also individuals' ability to function throughout the day.

Expanding on these findings, Ayehu et al. (2025) reported that more than half of stroke survivors experience insomnia, which is associated with several clinical factors that affect their overall health. Sleep difficulties affect the physical, emotional, and social aspects of stroke survivors' quality of life, according to a literature review by Putri (2024). Rohmah et al. (2021) found that functional ability declines in stroke patients with poor sleep quality. This decline in functional ability affects basic

activities of daily living, such as walking, bathing, and dressing, which are key indicators of an individual's quality of life.

These findings support the main hypothesis of this study, indicating that the quality of life of stroke survivors is poorer when their sleep quality is poor due to reduced physical functioning.

According to a study by Ramadhini and Syafrita (2021), the majority of stroke survivors also experience sleep problems, including restless legs syndrome (RLS) and frequent awakenings throughout the night. Sleep disturbances can have a significant impact on patients' quality of life due to symptoms such as emotional disturbances, decreased concentration, and fatigue. The findings of this study, which indicate that stroke survivors with poor sleep quality have a lower quality of life, are consistent with these results.

These results support the theory that the decline in quality of life among stroke survivors is significantly influenced by their sleep quality. Therefore, improving sleep quality is an important component in enhancing the quality of life of post-stroke patients.

Conclusion

The results of the study conducted at the Mangkurawang Community Health Center regarding sleep quality and quality of life among post-stroke patients led to the following conclusions:

1. The majority of individuals reporting post-stroke symptoms were in their 60s and 70s, with a higher proportion of males and those who had only attained secondary-level education. Older adults who completed only secondary school or less have a higher risk of stroke, which may negatively affect sleep and overall quality of life.
2. The study indicates that most stroke survivors experience sleep difficulties. Stroke survivors frequently report persistent sleep problems, including short sleep duration, poor sleep efficiency, and daytime dysfunction.
3. Stroke survivors commonly reported poor quality of life in this study, particularly in relation to their emotional and physical well-being. Fatigue, mood disturbances, and inactivity are common post-stroke symptoms perceived by patients as factors that reduce their quality of life.
4. Bivariate analysis using the Spearman rank correlation test showed a strong relationship ($r = 0.908$) between sleep quality and quality of life among post-stroke patients ($p < 0.001$). Based on this correlation coefficient, perceived quality of life among stroke patients is inversely related to sleep quality, indicating a highly significant negative correlation.

SUGGESTIONS

For Healthcare Providers, to deliver comprehensive care for stroke patients, healthcare professionals—particularly nurses—are required to routinely assess patients' sleep quality. Nursing interventions aimed at improving sleep quality, including education on proper sleep hygiene practices and management of the sleep environment, should be strengthened to enhance patients' overall well-being.

For Post-Stroke Patients, stroke survivors are encouraged to establish appropriate sleep routines, including going to bed at the same time each night, creating a comfortable sleep environment, and avoiding factors that may disrupt sleep.

Improvements in patients' quality of life are expected to accompany improvements in their sleep quality.

For Future Researchers, future studies should examine the impact of other factors on sleep quality and overall health among stroke survivors, such as the type and severity of stroke, pain levels, medication use, physical activity levels, adherence to rehabilitation, and post-stroke quality of life. It is recommended that future research designs include larger sample sizes and a wider range of methods and instruments to better understand the variables influencing sleep quality and quality of life among stroke survivors.

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