

## The Relationship Between Self-Concept and Post-Stroke Depression in Stroke Patients

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### Abstract:

Stroke is when something goes wrong with the blood vessels in your brain, and it can cause serious problems like not being able to move or talk. There are two main types of strokes – one where the blood vessels get blocked (called ischemic) and another where they burst (called hemorrhagic). The blocked kind is more common and happens most often (almost 90% of strokes are ischemic). Meanwhile, hemorrhagic stroke is caused by a leak or rupture of blood vessels in or around the brain, thereby blocking blood flow to brain tissue. Based on preliminary studies, it was found that there was still a high incidence of depression in post-stroke patients at RSU ANNA Medika Madura. The research aims to determine whether there is a relationship between self-concept and post-stroke depression in stroke patients. This research method uses cross-sectional. The independent variable is self-concept, while the dependent variable is post-stroke depression. The total population was 94 stroke patients with a sample of 76 respondents. The sampling technique uses purposive sampling. The instruments used were self-concept questionnaires and HDRS. The statistical test uses the Spearman rank correlation test with a 0.05. The results of the Spearman rank test for the self-concept variable with post-stroke depression obtained a p-value of  $0.000 < \alpha 0.05$ . This research concludes that there is a relationship between self-concept and post-stroke depression in stroke patients. It is hoped that the researchers' suggestions can increase understanding about stroke, improve self-concept to avoid depression.

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## INTRODUCTION

A stroke is when something goes wrong with the blood vessels in your brain, and it can cause serious problems like the inability to move or talk. There are two main types of strokes – one where the blood vessels get blocked (called ischemic) and another where they burst (called hemorrhagic). The blocked kind is more common and happens most often (almost 90% of strokes are ischemic). Meanwhile, hemorrhagic stroke is caused by a leak or rupture of blood vessels in or around the brain, thereby blocking blood flow to brain tissue. This neurological disease causes several complaints, including facial or limb paralysis, slurred speech, changes in consciousness, and visual disturbances. When someone has a stroke, it can make them feel weak on one side of

their body, confused, and have trouble walking or keeping their balance. They may also get headaches (Mufidah et al., 2021; Dewi et al., 2023).

Stroke can cause disturbances in areas of the brain that function as neurobehavior, which can cause psychiatric symptoms such as post-stroke depression. Depression occurs as a result of one of the complications after experiencing a stroke (post-stroke) and is associated with decreased healing function, activity or social support, and cognitive function (Pribadhi et al., 2019; Rahmawati et al., 2023). Meanwhile, Post Stroke Depression (PSD) is a post-stroke neuropsychiatric complication that most often occurs in around half of all stroke patients. Several hypotheses are involved in the incidence of PSD: psychosocial vulnerability and biological determination (Nurhasanah, 2023).

According to the World Stroke Organization, globally, more than 12.2 million, or one in four people over the age of 25, will experience a stroke, or more than 101 million people alive today; more than 7.6 million, or 62% of strokes are ischemic new every year. More than 28% of all strokes are intracerebral hemorrhages, and 1.2 million are subarachnoid hemorrhages. About 795,000 people in the United States suffer a new or recurrent stroke. Around 610,000 of them were first-time strokes, while 185,000 were recurrent strokes (World Stroke Organization, 2022). Prevalence (per mile) of Stroke based on a Doctor's Diagnosis in a Population Aged ≥15 Years according to Province, Riskesdas 2018 has a result of 10.9% (RISKESDAS, 2018). Meanwhile, stroke data in East Java is 1.24 per 1,000 population, which has decreased significantly compared to the previous year (Putri, 2023).

The results of a preliminary study at RSU ANNA Medika Madura, Bangkalan Regency on December 5, obtained data for the last 3 years, namely 4,432 stroke patients in 2021, 4,812 stroke patients in 2022, and 5,857 stroke patients in 2023. Data for the previous 3 months was obtained from September 2023 to November 2023, namely 1,749 stroke patients. The number of stroke patients in September was 549; in October, there were 604 patients, and in November, there were 596 patients. Collecting initial data from 10 stroke patients at the Neurology Polytechnic of RSU ANNA Medika Madura using the HDRS questionnaire on 4-15 December 2023 found that 6 patients had mild depression, 2 patients had moderate depression, and 2 patients did not experience depression. Generally, what PSD patients often experience includes somatic anxiety such as headaches and back pain, and patients often complain of needing help.

Factors that influence the level of post-stroke depression are low education level, low socio-economic status, family support, and self-concept (Mesir et al., 2020). Meanwhile, Reni et al. (2020) explained the causes of post-stroke are education level, duration of suffering from stroke, and motor disorders. The impact of the level of depression on stroke, namely, a negative effect on the recovery of cognitive function and daily activities, a worse functional recovery process, a worse quality of life, and a higher risk of mortality, depression not only has an effect on the quality of life but also reduces functional ability, worsen healing outcomes and increase mortality (Baihaki et al., 2021).

There are two types of management for post-stroke depression, namely pharmacotherapy and non-pharmacotherapy. Ordinary pharmacotherapy using SSRI (Selective Serotonin Re-uptake Inhibitor) and SNRI (Serotonin and Norepinephrine Re-uptake Inhibitor) antidepressants can be used in PSD patients, namely Escitalopram, Citalopram, Fluoxetine. Meanwhile, non-pharmacotherapy can be considered as an adjuvant to PSD, namely a combination of electroacupuncture and psychological intervention, Cognitive Behavior Therapy (CBT), Computerized Cognitive Training (CCT), Behavior-activated therapy, and Mindfulness-based intervention (Nurhasanah, 2023).

## METHOD

This type of research is correlational with a cross-sectional design. The population in this study was 94 respondents with a sample of 76 respondents using a purposive sampling technique on March 26 - April 27, 2024, at the Nerve Polytechnic RSU Anna Medika Madura using a self-concept questionnaire with an interpretation of high self-concept: 71-100, medium self-concept: 41-70, low self-concept: 1-40 and the Hamilton Depression Rating Scale (HDRS) with the interpretation of severe depression: >17, moderate depression: 14-17, mild depression: 10-13, no depression: <10 with the Spearman rank test.

## RESULT

Table 1. Frequency Distribution of Respondents based on Age, Stroke Duration, Self-Concept, and Level of Depression (n=76)

Characteristic	Frequency	Percentage
Age (years)		
46-55 (Early Elderly)	40	53%
56-65 (Late Elderly)	25	33%
>65 (Seniors)	11	14%
Stroke Duration		
<6 Months	4	5%
>6 Months – 2 Years	53	70%
>2 Years	19	25%
Self-Concept		
Low Self Concept	10	13%
Medium Self-Concept	38	50%
High Self Concept	28	37%
Level of Depression		
Severe depression	10	13%
Moderate depression	21	28%
Mild depression	17	22%
No depression	28	37%

Table 1. shows that most respondents are categorized as late elderly, with a percentage of 53% (40 respondents). Most respondents, namely those with stroke duration, were categorized as >6 months – 2 years, with a percentage of 70% (53 respondents). Half of the respondents were categorized as having moderate self-concept, with a percentage of 50% (38 respondents). Most respondents were categorized as experiencing depression, with a percentage of 63% (48 respondents).

Table 3. Correlation between Knowledge Level and Attitudes towards Perineal Wound Care

Self-Concept	Level of Depression								Total		p-value	r
	None		Mild		Moderate		Severe					
	f	%	f	%	f	%	f	%	f	%		
Low	0	0	0	0	0	0	10	100	10	13	0.000	-0.807
Medium	0	0	17	44.7	21	55.3	0	0	38	50		
High	28	100	0	0	0	0	0	0	28	37		
Total	28	37	17	22	21	28	10	13	76	100		

Based on Table 2 above, a small percentage of patients at the Neurological Poly of RSU ANNA Medika Madura had high self-concept scores with no depression, 28 respondents (36.8%).

From the Spearman Rank statistical test results, the P value is obtained as 0.000 means the P value < alpha (0.05). With a correlation value of -0.807, the correlation coefficient between the two variables is strong, so H1 is accepted. This shows that there is a relationship between self-concept and the level of depression at the Neurology Polytechnic of RSU ANNA Medika Madura.

## DISCUSSION

Based on the analysis of questionnaire items for the self-concept questionnaire, it was found that the highest domain was self-identity. This is in line with research (Sedubun & Mahmuddin, 2021). Self-concept is how you see yourself. If you think positively about yourself, you can do things better and get along with others. But if you think negatively about yourself, it can be harder to fit in with others and do well in different situations. Self-concept comprises self-image, self-esteem, role appearance, and personal identity. Therefore, post-stroke patients generally have a negative self-identity. The research results found that most respondents experienced negative changes in their self-identity due to unsupportive support and attention from their families, so patients had a negative perception of themselves. According to researchers, the self-identity component in sleep perception disturbances post-stroke because the patient does not feel comfortable with the current condition and complains of physical limitations, which cause limited mobility to carry out daily activities, and this shows a negative self-concept in the components of self and role towards himself. From there you can appear gloomy, weak, daydreaming, aloof, and silent and not interacting.

Based on the analysis of questionnaire items for the HDRS questionnaire, it was found that the questions that frequently appeared were "feelings of guilt, insomnia, and genital symptoms." This is in line with research (Putri & Herlina, 2021), which shows that the decline in organ function in stroke causes various problems. Apart from physical problems, psychological problems also arise, which will ultimately influence the patient in assessing himself regarding the condition of the illness he is suffering from. The psychological impact patients who experience a stroke include anxiety or stress and depression as a result of stress, which can cause disturbances in the individual in the form of lifestyle changes, for example, as a breadwinner, you will lose your source of income because you cannot work as before, so that the patient becomes afraid of not being able to return. Work. One of the psychiatric complications in stroke patients is depression. According to researchers, apart from physical problems in post-stroke patients, anxiety, stress, and depression are among the most common post-stroke complications. Post-stroke depression is a bad outcome because it can increase limitations in daily activities, cognitive impairment, and premature death, increase the risk of suicide, as well as decrease rehabilitation outcomes and social function outcomes.

Most of respondents were categorized as experiencing depression, with a percentage of 63% (48 respondents). The results of this study showed that most respondents categorized the duration of the patient's stroke as >6 months-2 years, with a percentage of 70% (53 respondents). Based on the analysis of questionnaire items for the HDRS questionnaire, it was found that the questions that frequently appeared were "feelings of guilt, insomnia, and genital symptoms." This is in line with research (Putri & Herlina, 2021) that a decrease in organ function in stroke causes various problems. Apart from physical problems, psychological problems also arise, which will ultimately influence the patient in assessing himself regarding the condition of the illness he is suffering from. The psychological impacts of patients who experience a stroke include anxiety or stress and depression as a result of stress, which can cause disturbances in individuals in the form of lifestyle changes. For example, as a breadwinner, you will lose your source of income because

they cannot work as before, so the patient becomes afraid of not being able to return to work. One of the psychiatric complications in stroke patients is depression.

This is in line with research (Wahyudiet al., 2022) that the level of mild and moderate depression that occurs in respondents is influenced by age, duration of illness, and gender. The results of this study showed that the age of the patients showed that most respondents were categorized as late elderly a percentage of 53% or 40 respondents). According to researchers' assumptions, age is something that influences a person's physical and biological health where the older a person is, the more susceptible that person is to getting sick; this is due to reduced activity and due to the aging process. Apart from the physical problems that many post-stroke patients also experience, anxiety, stress, and depression are among the most common post-stroke complications. Post-stroke depression is a bad outcome because it can increase limitations in daily activities, cognitive impairment, and premature death, increase the risk of suicide, as well as decrease rehabilitation outcomes and social function outcomes.

Based on the research, there is a very strong relationship between self-concept and post-depression in stroke patients at the Nerve Poly RSU ANNA Medika Madura. According to research (Sedubun & Mahmuddin, 2021), stroke causes damage to brain cells, resulting in increased physical disability. Due to physical changes and body structure, patients feel embarrassed and lack self-confidence, which greatly affects the patient's life in various aspects, both physical, emotional, and psychological. So, the patient feels helpless and hopeless and experiences PSD.

This is in line with research (Tering et al., 2023). Stroke causes physical disability and loss of physical function, such as paralysis and communication disorders. This has psychological impacts such as anxiety and changes in self-concept. Physical changes and decreased physical function in stroke patients can have an impact on changes in self-concept, which are related to levels of depression.

According to researchers, this shows that low self-concept in stroke patients will cause a person's level of depression to be higher due to post-stroke disease. A person will have a low self-concept if no support from significant people, especially family. This can create a low self-concept and a negative self-view because they feel they are not appreciated and needed by others.

## **CONCLUSION**

Self-concept at RSU Anna Medika Madura shows that half of the respondents are categorized as having moderate self-concept with a percentage of 50% (38 respondents). Depression at Anna Medika General Hospital showed that most respondents were categorized as experiencing depression, with a percentage of 63% (48 respondents). There is a relationship between self-concept and Post Stroke Depression (PSD) in stroke patients at the Neurology Clinic of RSU Anna Medika Madura. Future researchers should add other variables.

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## **CONFLICT OF INTEREST**

There is no potential conflict of interest for all parties involved in this research.



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