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## The Level of Knowledge, Motivation, and Self Efficacy of Post-Stroke Patients in Lumajang



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### Abstract

Post-stroke conditions can be stressful and unpredictable. Knowledge, motivation, and self-efficacy are essential to the long-term care of post-stroke patients. This study aimed to analyze the correlation between the level of knowledge, motivation, and self-efficacy of post-stroke patients in Lumajang. This study used a cross-sectional design. The population of this study was post-stroke patients in Lumajang. The sampling technique used consecutive sampling with the number of samples obtained, namely 55 samples. The variables of this study were the level of knowledge, motivation, and self-efficacy. The data collection was carried out by using a questionnaire. The data analysis was performed by using the Spearman Rank test. The results showed a correlation between knowledge and motivation with self-efficacy in post-stroke patients, with p-values of 0.004 (r: 0.383) and 0.000 (r: 0.581). A person who had high knowledge and motivation would show positive results in managing his disease; for example, in the stroke concept, the patient will actively participate in the rehabilitation program, treatment program, and schedule visits to health care facilities.

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## INTRODUCTION

Stroke is a chronic disease that needs special attention. Stroke can cause severe brain damage, resulting in obstruction of the patient's mobility to carry out daily activities (Irvan, Nuraini and Gayatri, 2021). According to WHO, *stroke* is defined as a focal clinical sign that develops rapidly (sometimes global) brain function disorders, which lasts more than 24 hours or results in death without any other cause than vascular (Canavan et al., 2013). Post-stroke conditions can be stressful and unpredictable. After going through a critical period of stroke, it does not mean that there are no more problems that can arise. Some of them are consistency in maintaining physical and psychological health status. In addition, it also requires the ability to regulate from within. This is necessary in order to maintain the continuity of the long-term treatment and rehabilitation process that will be undertaken.

Stroke is the leading cause of disability in the United States (Robinson-Smith & Pizzi, 2003) and is the number 3 cause of death in the United States (Price & Wilson, 2006). Two-thirds of strokes occur in developing countries. The World Health Organization (WHO) in 2012 stated that the death caused by stroke was 6.7 million people. The prevalence of stroke in Indonesia increased from 8.3 thousandths in 2007 to 12.1 thousandths in 2013. Riskesdas 2018 data shows that the prevalence of stroke in Indonesia based on diagnosis by health workers is found to be 7.0 per mile and based on diagnosis by health professionals or symptoms of 12.1 per mile (Riskesdas, 2018).

*Self-efficacy* can be defined as a person's belief in exercising control over himself which is manifested in particular actions and describes one's stability in the face of new situations or stressful conditions (Volz *et al.*, 2016). Patients who have undergone stroke treatment may begin to show depressive symptoms within a few months of the event as the stroke progresses to a long-term disease (Sarkar *et al.*, 2021). In one study, it was stated that three things are considered important in stroke patients, namely problems that may arise afterward, adaptive coping strategies, and effective adaptation responses to solve these problems (Dharma & Rahayu, 2021).

Self-efficacy is also closely related to the incidence of post-stroke depression. The incidence of depression will appear at six months after the stroke. The reason could be dissatisfaction with the recov-

ery process and too high expectations (Volz, Möbus, Letsch, & Werheid, 2016). If this is not followed up, it will have an impact on the patient's psychological condition. It is well known that psychological conditions also play a role and affect physical conditions.

Knowledge and awareness of symptoms, risk factors, and actions taken to reduce the risk of recurrent stroke events should concern post-stroke patients (Faiz *et al.*, 2019). This knowledge should be one of the interventions provided in health care facilities and be conveyed in terms that are easy for the patient to understand. With adequate knowledge about stroke, it is expected that post-stroke patient motivation and self-efficacy will also be at optimal levels. Motivation is related to efforts to meet needs; the greater the need, the greater the motivation from within a person to do something (Donsu, 2017). Some previous studies have not identified the correlation between knowledge, motivation, and self-efficacy specifically. This study aims to analyze the correlation between the level of knowledge, motivation, and self-efficacy of post-stroke patients in Lumajang.

## METHOD

This study used a cross-sectional design. The population of this study was post-stroke patients in Lumajang. Inclusion criteria in this study were post-stroke patients with stable condition and had a stroke for at least 6 months. The sampling technique used was consecutive sampling with the number of samples obtained, namely 55 samples. The variables of this study were the level of knowledge, motivation, and self-efficacy. Data collection was carried out using a questionnaire. The knowledge questionnaire consists of 10 statement items that were compiled and modified from the research of Reani Zulfa (2012). The motivation questionnaire consists of 12 statement items that were compiled and modified from the research of Dheanita Rusti (2017). The self-efficacy questionnaire consists of 13 statement items from The Stroke Self-Efficacy Questionnaire (Riazi, Aspden and Jones, 2014). Data analysis was performed using the Rank Spearman test.

## RESULT

Based on Table 1, it is found that almost half of the respondents are 56-65 years old (49.1%), most of the respondents are male (58.2%), most of the

**Table 1. Respondent Characteristic**

No	Characteristic	Frequency	Percent (%)
1	Age		
	26-35	12	21.8
	36-45	6	10.9
	46-55	8	14.5
	56-65	27	49.1
	>65	2	3.6
2	Gender		
	Male	32	58.2
	Female	23	41.8
3	Education		
	SD	29	52.7
	SMP	14	25.5
	SMA	5	9.1
	College	7	12.7
4	Duration of stroke		
	<1 year	9	16.4
	>1 years	46	83.6
5	Knowledge		
	Low	31	56.4
	High	24	43.6
6	Motivation		
	Low	6	10.9
	Moderate	36	65.5
	High	13	23.6
7	Self-efficacy		
	Low	8	14.5
	Moderate	35	63.6
	High	12	21.8

Source: Primary Data

respondents have primary school education (52.7%), almost all respondents have suffered a stroke for more than one year (83.6%), most respondents had low knowledge (56.4%), most respondents had the moderate motivation (65.5%), and most respondents had moderate self-efficacy (63.6%).

Based on Table 2, the results show a correlation between the level of knowledge and the self-efficacy of post-stroke patients (p-value: 0.004). The strength of the correlation between these two variables is low (r: 0.383). Based on Table 3, the results show a correlation between motivation and self-efficacy of post-stroke patients (p-value: 0.000). The strength of the correlation between these two variables is moderate (r: 0.581).

**DISCUSSION**

The results of the analysis of the characteristics of the respondents showed that almost half of the respondents in this study were 56-65 years old. Age, as one of the distinct characteristics of people, is an essential variable in epidemiological studies because there are quite a lot of diseases found with various frequency variations caused by age (Noor, 2008). In one study, it was stated that the percentage of the age group > 55 years suffered more strokes compared to the 40-55 year age group (Lestari, 2010). Another study also states that stroke tends to occur in older adults (Budi, Bahar, & Sasmita, 2020). The increase in stroke frequency with increasing age is related to the aging process,

**Table 2. Correlation Between Knowledge Level and Self-efficacy in Post-Stroke Patients**

Knowledge	Self-efficacy						Total	
	Low		Moderate		High		f	%
	f	%	f	%	f	%		
Low	8	14.5	19	34.5	4	7.3	31	56.4
High	0	0	16	29.1	8	14.5	24	43.6
<b>Total</b>	<b>8</b>	<b>14.5</b>	<b>35</b>	<b>63.6</b>	<b>12</b>	<b>21.8</b>	<b>55</b>	<b>100</b>

p 0.004 < 0.05    r: 0.383

in which all organs of the body decline in function, including the brain's blood vessels. Blood vessels become inelastic, especially the endothelial part, which experiences thickening at the intima, resulting in a narrower lumen of blood vessels and de-

creasing cerebral blood flow (Kristiyawati, Irawaty, & Hariyati, 2009).

Analysis of the characteristics of respondents based on gender shows that most of the respondents are male. However, this is not one of the de-

**Table 3. Correlation Between Motivation and Self-efficacy in Post-Stroke Patients**

Motivation	Self-efficacy						Total	
	Low		Moderate		High		f	%
	f	%	f	%	f	%	f	%
Low	6	10.9	0	0	0	0	6	10.9
Moderate	2	3.6	28	50.9	6	10.9	36	65.6
High	0	0	7	12.7	6	10.9	13	23.6
<b>Total</b>	<b>8</b>	<b>14.5</b>	<b>35</b>	<b>63.6</b>	<b>12</b>	<b>21.8</b>	<b>55</b>	<b>100</b>

p 0.000 < 0.05 r: 0.581

termining factors that can cause a person to have a stroke. This is because stroke can be caused multi-factorial, not only because of gender, including diabetes mellitus, hypercholesterolemia, smoking, alcohol, and heart disease. A person who has one or more risk factors is more likely to have a stroke than ordinary people at some point during his life if these risk factors are not controlled (Bethesda Stroke, 2012)

Analysis of the characteristics of respondents based on education level shows that most respondents have a basic level of education, namely SD. The level of education is one of the factors that can affect a person's knowledge. In this study, there was a correlation between the level of education and knowledge of post-stroke patients (p-value: 0.001; r: 0.433). Knowledge is information that someone knows or is aware of. Knowledge is not limited to descriptions, hypotheses, concepts, theories, principles, and procedures, which are Bayesian Probability accurate or useful (Taufik, 2010). One study stated that there was a correlation between education and knowledge about stroke (Pasaribu, Tedjasukmana and Gu, 2018). Education is needed to obtain information, for example, things that support knowledge to improve the quality of life (Taufik, 2010). As a disease that requires long-term care, stroke patients must learn about the disease and the entire range of treatments they will undergo. This is to maintain the continuity of the patient care process.

It has been explained that post-stroke patients need knowledge about stroke for the continuity of care; it requires health workers to provide explanations and knowledge about matters related to stroke in post-stroke patients. The education provided must use easy-for post-stroke patients to understand who come from the general public. As a disease with

long-term treatment, stroke patients must have good self-efficacy. Several things can affect self-efficacy, including knowledge and motivation.

In one study, it was stated that there was a statistically significant correlation between knowledge and self-efficacy in the management of pediatric pain (Stanley and Pollard, 2013). Another study states a significant correlation between knowledge and self-efficacy in family caregivers of mental disorders patients (Pratama and Widodo, 2017). The higher a person's knowledge, the higher the self-efficacy. Apart from knowledge, motivation also has something to do with self-efficacy. One study states a correlation between motivation and self-efficacy (Ariani, Sitorus and Gayatri, 2012). A person who has high motivation will show positive results in managing his disease; for example, in the stroke concept, the patient will actively participate in the rehabilitation program, treatment program and schedule visits to health care facilities. The findings in this study are people with an age range of 56-65 years have moderate motivation with a significant amount. This shows that this age becomes a motivational barrier to be able to live optimally in post-stroke patients.

Efficacy is a belief and is accompanied by a trust-based ability to exercise control within its limits of function and over events (Zakeri, Rahmany, & Labone, 2016). Self-efficacy is a fundamental idea of social cognitive theory. Self-efficacy is an individual's belief in organizing and performing specific tasks needed to achieve expected results (Bandura, 1997). By having good self-efficacy, post-stroke patients can overcome things or problems that can affect their life. Patients become aware of the coping ability to adapt, regulate life after stroke, and control feelings. Therefore, it is essential to ensure that post-stroke patients have good knowl-

edge, motivation, and self-efficacy. It is associated with the long-term goal of post-stroke patient care, namely, improving the patient's quality of life.

## CONCLUSION

The results showed that there was a correlation between knowledge and self-efficacy in post-stroke patients. The higher the knowledge, the higher the self-efficacy. Other results from this study indicate that there is a correlation between motivation and self-efficacy in post-stroke patients. A person who has high motivation will show positive results in managing his disease; for example, in the stroke concept, the patient will actively participate in the rehabilitation program, treatment program and schedule visits to health care facilities.

## SUGGESTION

Post-stroke conditions can be stressful and unpredictable. Therefore, the role of nurses must be increased in providing holistic nursing care for post-stroke patients. The general purpose of providing holistic nursing care to post-stroke patients is to help patients regain independence in daily activities. Activities that can be carried out include providing health education with interesting and attractive media. The information provided may include concepts about stroke, treatment, and the required rehabilitation process. In addition, nurses also need to ensure that post-stroke patients still have a strong motivation to undergo a series of therapies. This is important to do to maintain the high self-efficacy of post-stroke patients.

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