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Self-efficacy and self-care among non-hemorrhagic stroke patients: A cross-sectional study

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Abstract

Background: Self-care is a vital component in the recovery process of non-hemorrhagic stroke patients, who often encounter physical and psychological challenges that reduce their independence. One influential factor in self-care ability is self-efficacy.

Purpose: To determine the relationship between self-efficacy and self-care in non-hemorrhagic stroke patients.

Method: A descriptive correlational, specially focusing on cross-sectional method. The study took place from December 2023 – December 2024 in Dr. Kariadi General Hospital, Semarang. The independent variable was self-efficacy dependent variable is self-care in non-hemorrhagic stroke patients. Using purposive sampling and lameshow formula 55 participants were selected who met specific inclusion and exclusion criteria. The analysis proceeded with a univariate test to determine the frequency distribution of respondent's characteristics, followed by bivariate analysis using pearson correlation.

Results: Here strong and statistically significant positive relationship $r = 0.698$, $p = 0.000$ between self-efficacy and self-care with a mean self-efficacy of 25.57 ± 4.60 and self-care of 56.32 ± 16.8 , concluded that greater levels of self-efficacy are significantly correlated with greater self-care ability.

Conclusion: The study a significant positive correlation between self-efficacy and self-care in non-hemorrhagic stroke patients, indicating that increased confidence in patients correlates with their ability to engage in self-care independently.

Keywords: Non-Hemorrhagic Stroke; Self-Care; Self-Efficacy; Stroke Patients.

INTRODUCTION

Stroke is one of the leading causes of long-term disability and mortality worldwide, including in Indonesia, with a significant burden both medically and socially. According to data from the World Stroke

Organization, approximately 13.7 million new stroke cases and 5.5 million stroke-related deaths occur globally each year, with 70% of these cases taking place in low- and middle-income countries (Feigin,

Brainin, Norrying, Martins, Sacco, Hacke, & Lindsay, 2022). Stroke is a major contributor to long-term disability and mortality worldwide, with 1 in 4 adults over 25 expected to experience a stroke in their lifetime. In Indonesia, as globally, stroke remains a leading cause of death, accounting for millions of deaths annually and significant years of life lost due to disability (Nguyen, Le, Bui, Hoang, & Do, 2025).

One of the most common types of strokes is non-hemorrhagic stroke, which, despite not involving bleeding, still causes serious impairments in patients' motor and cognitive functions. The resulting disability limits the ability to carry out daily activities. These limitations can lead to psychological impacts, including feelings of inferiority, misfortune, fear, and hopelessness, which are often associated with low self-efficacy (Badwaik, & Badwaik, 2021). Physical limitations such as hemiparesis due to non-hemorrhagic stroke often led to difficulties in daily activities and self-care, ultimately affecting patients' quality of life. Self-efficacy, or an individual's belief in their own ability to overcome problems, is a critical factor in enhancing stroke patients' self-care abilities. Stroke survivors with low self-efficacy often struggle to perform self-care independently (Deverux, & Berns, 2023).

Although several studies have highlighted the importance of self-efficacy in supporting stroke recovery, there is still a gap in the literature regarding the direct relationship between self-efficacy and self-care, especially among non-hemorrhagic stroke patients in Indonesia (Rasyid, Pemila, Aisah, Harris, Wiyarta, & Fisher, 2023). This gap underscores the need for targeted research that specifically examines how self-efficacy influences self-care behaviors in this population. Understanding this relationship is crucial for developing effective rehabilitation programs tailored to the unique cultural and social contexts of Indonesian stroke patients (Szczepeńska, & Mazurek, 2020). Investigating the factors that enhance self-efficacy, such as education, social support, and

access to resources, healthcare providers can create interventions that empower patients to take an active role in their recovery. Addressing this gap can contribute to the broader field of stroke rehabilitation by providing insights that inform best practices and policies aimed at improving patient outcomes and promoting long-term independence (Adamit, Shames, & Rand, 2023).

Most existing research tends to focus on the effects of rehabilitation interventions on functional outcomes, without explicitly exploring the psychological role of self-efficacy in mediating self-care success. The lack of empirical data investigating how patients' self-confidence influences their level of independence in post-stroke care presents a challenge in developing targeted nursing intervention (Jeddi, Aghebati, Ghavami, & Rezaeitalab, 2023). Need for a deeper understanding of how self-efficacy can enhance patients' motivation and engagement in their recovery process. From psychological aspect, nursing interventions can be better tailored to support patients in achieving greater independence and improved self-care outcomes (Amiri, Abolhassani, Alimohammadi, & Roghani, 2022).

RESEARCH METHOD

A descriptive correlational, specially focusing on cross-sectional method. The study took place from December 2023–December 2024 in Dr. Kariadi General Hospital, Semarang. The independent variable was self-efficacy dependent variable is self-care in non-hemorrhagic stroke patients. Using purposive sampling and Ijameshow formula 55 participants were selected who met specific inclusion and exclusion criteria.

The inclusion criteria included patients who had been diagnosed with non-hemorrhagic stroke, were in stable condition, able to communicate verbally, and willing to participate in the study. Exclusion criteria required patients with severe consciousness

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disorders or cognitive impairments that would hinder valid questionnaire responses.

Data obtained from measurement. The Stroke Self-Efficacy Questionnaire (SSEQ) is a measurement instrument designed to assess the level of self-efficacy of stroke survivors in the recovery process and daily activities. The instrument is organized into 13 questions, where each statement is measured using a Likert scale with a range of values from 0 not at all confidence to 10 very confident. After the accumulation of scores from all questions, the level of self-efficacy of stroke survivors can be categorized as follows 27-39 scores indicate high self-efficacy, 13-26 scores indicate moderate self-efficacy and 0-12 scores indicate low self-efficacy.

The Barthel Index is a measurement instrument used to assess the patient's level of daily living

activities independence, such as eating, bathing, and mobility. Scores on the Barthel Index range from 0, which indicates total dependence, to 100, which indicates complete independence. The interpretation of the score is that a score of 0-20 indicates the patient requires full assistance; a score of 21-60 indicates moderate assistance; a score of 61-90 means the patient requires some partial assistance; and a score of 91-100 indicates that the patient is almost independent.

The analysis proceeded with a univariate test to determine the frequency distribution of respondent's characteristics, followed by bivariate analysis using Pearson product moment. This research has obtained permission from Health Research Ethics Committee Faculty of Medicine, Padjadjaran University with number. 1356/EA/KEPK/2023.

RESEARCH RESULTS

Table 1. Characteristics of Respondents (N=55)

Variable	Results
Age (Mean±SD)(Range)(Year)	(48.69±6.351) (20-59)
Age (n/%)	
20-39	2/3.6
40-59	53/96.4
Gender (n/%)	
Male	30/54.5
Female	25/ 45.5
Education (n/%)	
Elementary School	18/32.7
Junior High School	11/20.0
Senior High School	22/40.0
College/Higher education	4/7.3
Indonesian insurance/BPJS (n/%)	
Covered	51/92.7
Not covered	4/7.3
Duration since stroke onset (n/%)	
< 1 years	34/61.8
> 1 years	21/38.2

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Tabel 1. Characteristics of respondent with a mean age and standard deviation (48.69 ± 6.351) ranging from 20-59 years. Most respondents were aged 40-59 years as many as 53 (96.4%), male 30 people (54.5%) and had completed their education at the high school level with 22 (40%). Almost all respondents were covered by BPJS totaling 51 (92.7%) diagnosed with stroke less than 1 year ago was 34 (61.8%).

Table 2. Pearson Correlation Analysis

Variables	Mean $\pm$ SD	r	p-value
Self-Efficacy	25.57 $\pm$ 4.60	0.698	0.000
Self-Care	56.32 $\pm$ 16.8		

Table 2. Shows here is a strong and statistically significant positive relationship $r = 0.698$, $p = 0.000$ between self-efficacy and self-care with a mean self-efficacy of 25.57 ± 4.60 and self-care of 56.32 ± 16.8 , it can be concluded that greater levels of self-efficacy are significantly correlated with greater self-care ability.

DISCUSSION

The findings of this study indicate that many non-hemorrhagic stroke patients have self-efficacy levels ranging from moderate to high and self-care levels ranging from partial dependence to minimal assistance. Furthermore, correlation analysis revealed a significant and positive relationship between self-efficacy and self-care, with a correlation coefficient value of 0.689. This suggests that the higher an individual's confidence in managing their health condition, the greater their ability to perform self-care activities independently.

Self-efficacy plays a crucial role in the recovery process of stroke patients. Self-efficacy as a person's belief in their capacity to organize and execute the actions required to manage prospective situations. In the context of stroke patients, this belief affects motivation, perseverance, and individual engagement in rehabilitation processes and daily self-care needs. These findings align with previous studies that indicated stroke patients with high self-efficacy tend to participate more actively in therapy and adhere better

to rehabilitation programs (Liu, Jin, Wang, Feng, Qiao, Ji, & Wang, 2023).

The physical limitations experienced by non-hemorrhagic stroke patients, such as muscle weakness, mobility issues, and coordination difficulties, significantly impact their self-care abilities. Patients with high self-efficacy are more capable of adapting and finding ways to remain active in self-care activities. This is consistent with a study that reported that individuals with high self-efficacy manage both physical and psychological limitations more effectively post-stroke (Lo, Chau, Choi, Wong, Kwan, & Lu, 2023). This adaptability is crucial, especially in the context of post-stroke recovery, where individuals often face significant physical and emotional challenges. High self-efficacy not only empowers patients to take initiative in their rehabilitation but also fosters resilience in the face of setbacks. As they believe in their ability to manage their care, they are more likely to engage in regular physical activity, adhere to prescribed therapies, and seek assistance when needed (Mei, Xiang, Zhang, Twurnwaah Budu, Lin, & Chen, 2023).

The importance of the relationship between self-efficacy and self-care can also be observed from a neuropsychological perspective, where high intrinsic motivation correlates with increased activity in the prefrontal cortex, responsible for planning and decision-making. This indicates that psychological empowerment through enhanced self-efficacy may

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accelerate neuroplasticity processes in stroke patients (Kobyłańska, Kowalska, Neustein, Mazurek, Wojcik, Belza, & Szczepańska-Gieracha, 2019).

Self-efficacy has been shown to play a key role in enhancing self-care behaviors among non-hemorrhagic stroke patients. Research indicates that interventions focusing on improving self-efficacy, such as self-efficacy-based education and self-management programs, significantly enhance patients' abilities to manage self-care, control risk factors, and improve daily functioning and quality of life post-stroke (Nott, Wiseman, Seymour, Pike, Cuming, & Wall, 2021). Healthcare providers can create a supportive environment that encourages patients to actively participate in their rehabilitation. This proactive approach not only leads to better adherence to treatment plans but also increases resilience, ultimately resulting in better health outcomes and a higher quality of life for stroke survivors (Wiguna, Ritarwan, Sitohang, & Sinaga, 2021).

High self-efficacy also motivates patients to be more confident in performing daily activities, adhering to treatment, and adopting a healthy lifestyle, thereby accelerating recovery and reducing the risk of complications. Additionally, high self-efficacy is associated with lower levels of depression and greater life satisfaction among stroke patients (Zhang, Li, Luo, Niu, & Zhang, 2024). Identifying patients with low self-efficacy, healthcare providers can implement targeted strategies to enhance their confidence. Techniques such as goal setting, positive reinforcement, and skill-building exercises can empower patients, enabling them to take an active role in their recovery. This proactive approach not only fosters a sense of agency but also encourages patients to engage more fully in their rehabilitation, ultimately leading to better functional outcomes (Chumbler, Li, Quigley, Morey, Rose, Griffiths, & Hoenig, 2015). Integrating self-efficacy enhancement strategies into nursing interventions not only addresses the immediate needs

of stroke patients but also promotes long-term health and quality of life (Li, & Wang, 2020).

Structured social support and education can strengthen self-efficacy. Essential to involve families and healthcare professionals in the rehabilitation process. Health education, occupation-based daily activity therapy, and motivational counseling can be effective strategies for enhancing self-efficacy among non-hemorrhagic stroke patients. Furthermore, reinforcing the role of families as primary supporters during recovery can foster a conducive environment for improving patients' self-care (Oh, De Silva, Toh, Pikkarainen, Wu, & He, 2022). Family involvement into rehabilitation programs not only provides emotional support but also encourages a collaborative approach to self-care practices. Family members can play a crucial role in reinforcing positive behaviors, assisting with daily activities, and helping patients set achievable goals, which can significantly boost their self-efficacy (Lorica, Rosdewi, & Solon, 2020).

CONCLUSION

The study a significant positive correlation between self-efficacy and self-care in non-hemorrhagic stroke patients, indicating that increased confidence in patients correlates with their ability to engage in self-care independently. This underscores the critical role of psychosocial support in stroke rehabilitation, emphasizing the need for education, motivation, and structured assistance from healthcare professionals and family members to enhance self-efficacy.

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