Correlation between family support and self-efficacy in stroke survivors

Yurike Septianingrum1*, Ah Yusuf1, Ika Yuni Widyawati1, T Fahzilatul Zrechva2, Lono Wijayanti1, Nety Mawarda Hatmanti2, Andikawati Fitriasari2

ABSTRACT

Introduction: The sudden change in condition due to disability in stroke patients impacts their psychological condition and behavior. Low self-efficacy in stroke patients can affect depression and low quality of life. One of the factors that can increase self-efficacy in stroke patients is family support. This study analyzed the correlation between family support and self-efficacy in stroke survivors.

Methods: This cross-sectional study involved seventy-one stroke survivors who were included in the inclusion criteria selected through purposive sampling. Data were collected using a demographic data questionnaire, the Family Support Questionnaire, and the Stroke Self-Efficacy Questionnaire (SEQ). The data were analyzed using the Spearman rho correlation test with a significance level of α ≤ 0.05.

Results: Half of the participants were women (50.7%), married (88.7%), and aged (Mean±SD, 56.23±6.273). The result showed a significant correlation between family support and self-efficacy (p = 0.000) with medium relationship strength (r = 0.58).

Conclusion: The higher the family support, the higher the self-efficacy of stroke patients. Nurses are expected to be able to provide family education to provide continuous support to family members who suffer from a stroke so that self-efficacy in stroke survivors increases.

Keywords: aged, family, nurses, survivors.


INTRODUCTION

Non-hemorrhagic stroke, especially ischemic stroke, is the most common stroke of all types of stroke but has a lower mortality rate and a better prognosis than hemorrhagic stroke.4,2 There are more than 7.6 million new ischemic strokes each year. Globally, more than 62% of all stroke events are ischemic strokes, more than 77 million people living today have an ischemic stroke and 3.3 million people die from ischemic stroke each year.3 The prevalence of stroke in Indonesia in 2018, based on a doctor’s diagnosis in the population over 15 years, was 10.9%, or an estimated 2,120,362, and in East Java Province, as many as 12.4% of all stroke sufferers.4 Approximately 75% of stroke patients experience difficulties in activities of daily living. If a stroke occurs after age 65, approximately 80% of individuals will experience chronic disability.5 A study by Szczepańska-Gieracha & Mazurek (2020) showed as many as 56.57% of stroke patients had low self-efficacy, whereas the lowest was in patients whose families did not have the capacity to care.6 Most stroke survivors have a disability and need ongoing lifelong support.7 Sudden life changes cause most stroke patients to have low self-efficacy.8 According to Bandura’s theory, those who have poor self-efficacy lack confidence in their capacity to carry out daily tasks.9 Low self-efficacy causes patients to be unconfident and unmotivated to carry out daily living activities.10 A low level of self-efficacy is also a driving factor for depression during the first two years after a stroke. The lower the self-efficacy, the higher the level of depression at one and six months after a stroke, causing a decrease in the quality of life of patients.11,12

Many studies discuss the role of social support and self-efficacy in stroke patients. A cross-sectional study showed there is a relationship between family dependence and self-efficacy with stroke rehabilitation motivation.13 Furthermore, a study indicates that self-efficacy and rehabilitation outcomes may affect mood but not the other way around. Patients who had made a successful functional recovery and had high levels of self-efficacy, in particular experienced a greater increase in mood.14 Most individuals with disabilities following a stroke are permitted to return home. Patients sometimes depend heavily on others, and family members assist patients with everyday tasks. Therefore, individuals undergoing rehabilitation require a caregiver to help them as their bodies heal. The treatment and rehabilitation of stroke patients depend heavily on roles and family support.14 The motivation of stroke patients, their knowledge of post-stroke follow-up care, and their quality of life are all positively impacted by family support.13 Family support includes informational,
emotional, instrumental, and rewarding memory support.\textsuperscript{15} The motivation of stroke patients, their knowledge of post-stroke follow-up care, and their quality of life are all positively impacted by family support. Patients who lack motivation often lack family support because they are unaware of the key barriers to rehabilitation.\textsuperscript{19} Good family support can prevent stressors from emerging in patients and boost self-confidence so they can effectively handle their conditions.\textsuperscript{14}

So, this study aimed to analyze the correlation between family support and self-efficacy in stroke survivors.

**METHODS**

**Materials**

This study was conducted in the neurology outpatient ward at Rumah Sakit Islam Jemursari Surabaya. The study was conducted for two weeks and during this time, all presenting ischemic stroke patients who met the inclusion criteria were eligible to participate. Age above 40 and the absence of dementia symptoms (Mini-Mental State Examination (MMSE) score <24) were the inclusion criteria. The following exclusion criteria were used: the inability to perform cognitive function tests (due to severe vision loss or aphasia), the presence of intellectual disability, impaired consciousness, or other severe mental disorders during an examination or in medical records, as well as drug or substance addiction to other psychoactive substances. A total of seventy-one stroke survivors were chosen using purposive sampling.

Participation in this study is voluntary and without coercion. Patients were asked to sign an informed consent if they agreed to participate in this study. There is no consequence to their clinical care if they do not agree to participate. The research explanation is given in detail, patients, and families can contact the telephone number written on the research explanation sheet. The study received ethical approval from Health Research Ethics Commission Rumah Sakit Islam Jemursari Surabaya with number 105/KEPK-RSJS/RS/ VIII/2022.

**Data collection procedures**

Data collection is carried out directly by using complete personal protective equipment. The questionnaire was given through a Google form to prevent the transmission of COVID-19. Filling out the questionnaire was assisted by the family and research assistants. The questionnaire consists of three parts: a demographic data questionnaire, a family support questionnaire, and a self-efficacy questionnaire.

The family support questionnaire was compiled based on the types of family social support, including emotional, informational, instrumental, and reward/assessment support. The instrument used is a family social support questionnaire. The questionnaire consists of 20 statement items by choosing one answer and giving a checklist (√) of the four answer choices provided. The scoring system used is never: 1; sometimes: 2; often: 3; always: 4. The measurement results of the 20 question items have a score range of 20-80, which will then be grouped into three categories, namely low, medium, and high. The measurement results are determined using the cut-off point. The cut-off point is the limit value between normal and abnormal or the limit value for positive and negative test results. Score range between 20-80. The results of this questionnaire are categorized using the cut-off point formula into low: 20–40, medium: 41–60, and high: 61–80. All statement components are reliable because the questionnaire instrument meets the reliability requirements with a Cronbach alpha value of 0.728.\textsuperscript{15} The Indonesian version of the Stroke Self-Efficacy Questionnaire (SSEQ) instrument\textsuperscript{15} consists of 13 question items to assess respondents’ self-efficacy from certain domains of post-stroke functional ability. The 13 question items are grouped into two, namely the activity question item group (question numbers 1, 2, 3, 4, 5, 6, 7, and 8) and the self-management item group (question numbers 9, 10, 11, 12, and 13), each question has 4 answer choices which are described in a scale range of 0-3. Score range between 0-39. Calculation results are low: 0-12, moderate: 13-26, and high: 27-39. The instrument validity test showed that all instruments were valid (p<0.005) and reliable (PSI ≥ 0.80).\textsuperscript{16}

**Data analysis**

The data that has been obtained will then be analyzed using IBM SPSS version 26. All data collected were analyzed using Spearman Rho, with semi-quantitative (ordinal) data types with a significance level of α ≤ 0.05.

**RESULTS**

A total of seventy-one stroke survivors participated in this study. Half of the participants were women (50.7%), married (88.7%), and aged (\textit{Mean}±\textit{SD}, 56.23± 6.273) (see Table 1). Most of the participants had high family support (38%), while almost half had moderate (42.3%) and high (42.3%). High family support and self-efficacy were shown by males (19.7%; 28.1%) and married (3.2%; 42.3%) (summarized in Table 2).

The results of the Spearman rho correlation test showed that there was a significant relationship between family support and self-efficacy in stroke survivors (p = 0.000). In addition, the

<table>
<thead>
<tr>
<th>Table 1. Characteristics of participant</th>
<th>Frequency, n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respondents’ characteristics</strong></td>
<td><strong>N = 71</strong></td>
</tr>
<tr>
<td>Age, Mean±SD</td>
<td>56.23 ± 6.273 (Min-Max: 45-77)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>35 (49.3)</td>
</tr>
<tr>
<td>Female</td>
<td>36 (50.7)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
</tr>
<tr>
<td>Single or Widow/er</td>
<td>8 (11.3)</td>
</tr>
<tr>
<td>Married</td>
<td>63 (88.7)</td>
</tr>
</tbody>
</table>
strength of the relationship between the two variables is moderate (r = 0.58). The relationship between family support and self-efficacy was positive, which means that the higher the family support, the higher the self-efficacy of stroke patients (shown in Table 3).

**DISCUSSION**

The age of the participant showed between 45-77 years. Increasing age is a serious risk factor for diseases that attack blood vessels because, along with aging blood vessels will experience changes in the structure and function of the presence of large blood vessels, such as the central aorta and carotid arteries which have elastic properties that experience changes in lumen diameter, wall thickness, increased stiffness. Walls and changes in endothelial function. After the age of 45 years, the arterial walls are thickened due to the accumulation of collagen substances in the muscle layers of the blood vessels so that the blood vessels will gradually narrow and become stiff.15

Almost half of them received good family support. One form of family support is instrumental support in the form of all family presence to accompany the patient during treatment. According to research by Cheng et al. (2018), the family’s ability to care for stroke patients at home may support a more positive course of change. Families can help stroke patients’ physical function and emotional health be managed better, according to research on family-centered care by Inci et al. (2016).16,17 Most of the male participants in this study showed high family support and high self-efficacy because of the presence of their wives, who did not work, and had time to accompany them during treatment.

The relationship between family support and self-efficacy shows a positive correlation. The higher the family support, the higher the self-efficacy. This is in line with the research of Kurniawati et al. (2020), which shows that family support and good self-efficacy affect the patient’s motivation level in post-stroke rehabilitation.18 According to Bandura’s social-cognitive theory, a person’s self-efficacy is influenced by four main factors: mastery experience gained from successfully completing a task, vicarious experience gained from watching others complete the task (modeling), verbal (social) persuasion or encouragement from family or friends, and physiological state, where the interpretation of physiological signs such as anxiety, stress, and arousal provides information about efficacy beliefs.19,20 The family’s role significantly impacted the care given to stroke survivors. The type of care that the family could provide for them was diverse and impacted by a number of factors, both physical and in terms of quality of life.21-24 Self-efficacy interventions must be integrated into standard nursing care, including educating families about the role of family support in increasing the self-efficacy of stroke patients.

**CONCLUSION**

Concerning the correlation between family support and self-efficacy in stroke survivors, our findings showed that there is a fairly strong relationship between the two variables. The higher the family support, the higher the self-efficacy of stroke survivors. However, this study has some limitations such as a limited sample size, and it could not be generalized to the stroke population. There were many benefits of family support for patients and families, so it is expected that nurses would be able to provide patients and families with support strategies and information, such as leaflets or booklets, home visits, follow-up phone calls, practical training, family participation in exercise, and counseling. They came in various mixes. Both the hospital and the home settings were used to implement the strategies.

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DISCLOSURE
The authors declare that there is no conflict of interest in this study.

AUTHOR’S CONTRIBUTION
Yurike Septianingrum did conceptualization, data collection, analysis, and manuscript drafting. Ah Yusuf and Ika Yuni Widyawati did conceptualization, results were reviewed. T Fahzilatu Zrechva and Lono Wijayanti compile research instruments and collect data. Nety Mawarda Hatmanti and Andikawati Fitriasari did data analysis and results interpretation. All authors agreed and had responsibility for reviewing the manuscript.

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ETHICAL CLEARANCE
The study received ethical approval from Health Research Ethics Commission Rumah Sakit Islam Jemursari Surabaya with number 105/KEPK-RSIS/S/ VIII/2022.

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