

## The Relationship Between Family Support and Anxiety Levels Among Stroke Patients in the Inpatient Ward of Dr. Drs. Moh. Hatta Brain Hospital, Bukittinggi, in 2024

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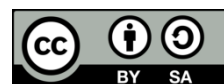
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### ABSTRACT

Stroke is the third leading cause of death and disability worldwide. Besides experiencing physical impairments, stroke patients are also prone to psychological problems such as anxiety. Emotional instability experienced by stroke patients can lead to heightened anxiety, making proper family support essential in reducing their anxiety levels. Family support helps stroke patients feel valued and accepted, which can increase their enthusiasm and motivation. This study aims to determine whether there is a relationship between family support and anxiety levels in stroke patients in the inpatient ward of Dr. Drs. M. Hatta Brain Hospital, Bukittinggi. The research design employed a correlational method using a cross-sectional approach. The population consisted of 125 stroke patients, with a sample of 55 respondents selected using accidental sampling. The research instrument used a questionnaire. Based on the results of the chi-square statistical test, a p-value of 0.000 ( $p < 0.005$ ) was obtained, indicating a significant relationship between family support and anxiety levels in stroke patients at the inpatient ward of Dr. Drs. M. Hatta Brain Hospital in 2024. It can be concluded that there is a relationship between family support and anxiety levels in stroke patients, and it is recommended that families provide support by showing greater care for the patients and offering motivation to help stroke patients undergo rehabilitation more effectively, thereby reducing their anxiety levels.

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### INTRODUCTION

Stroke is one of the most serious non-communicable diseases that continues to pose a major public health burden worldwide. It is characterized as a sudden neurological disorder resulting from the disruption of blood flow to the brain, which may occur either due to the rupture of a blood vessel (hemorrhagic stroke) or due to obstruction caused by a thrombus or embolus (ischemic stroke) <sup>[1]</sup>. Such disruptions lead to irreversible brain damage within minutes, affecting a patient's motor, sensory, and cognitive functions. The World Health Organization <sup>[2]</sup> classifies stroke as the third leading cause of death and long-term disability globally, with an estimated 13.7 million new cases each year and more than 5.5 million stroke-related deaths. Beyond its neurological implications, stroke profoundly influences multiple aspects of life, including physical capacity, occupational productivity, social roles, and psychological well-being.

The psychological impact of stroke is often underestimated compared to its physical consequences. Anxiety, in particular, emerges as one of the most common psychosocial responses among stroke survivors. This anxiety manifests in various ways, ranging from excessive worry about health deterioration, fear of stroke recurrence, dependence on caregivers, to concerns about financial strain and social isolation<sup>[3]</sup>. Patients who previously lived independently may suddenly become reliant on others for daily activities, which in turn heightens feelings of helplessness and vulnerability. A preliminary survey conducted at Dr. Drs. Moh. Hatta Brain Hospital in Bukittinggi confirmed that many stroke patients experienced moderate to severe anxiety during hospitalization. Some reported fear of complications, while others attributed their anxiety to inadequate family presence or emotional support<sup>[4]</sup>.

Family support has long been identified as a critical protective factor in alleviating psychological distress in chronically ill patients. Within the context of stroke, the family serves not only as the primary caregiver but also as the most immediate source of emotional, informational, and financial assistance<sup>[5]</sup>. The presence of supportive family members can foster a sense of security, reduce stress, and encourage patients to adhere to treatment regimens.<sup>[6]</sup> emphasized that family involvement contributes significantly to both physical recovery and spiritual well-being in stroke patients. Similarly,<sup>[7]</sup> demonstrated a strong association between family support and reduced anxiety levels in patients undergoing long-term treatment, highlighting that individuals with strong family backing displayed better coping strategies and more optimistic outlooks.

In addition to mitigating anxiety, family support has been shown to play a vital role in enhancing treatment compliance and rehabilitation outcomes.<sup>[8]</sup> reported that stroke patients who received continuous encouragement and assistance from their families were more likely to adhere to physiotherapy sessions and lifestyle modifications. Without such support, patients frequently reported feelings of despair, withdrawal from social interactions, and a lack of motivation to engage in rehabilitative exercises<sup>[9]</sup>. These findings underscore that the role of the family extends beyond providing physical care; it also encompasses motivating, encouraging, and sustaining the patient's psychological resilience during recovery.

Despite these well-documented benefits, many families struggle to provide adequate support due to limited knowledge about stroke management, financial constraints, or cultural perceptions regarding illness and caregiving. In Indonesia, where the burden of stroke is rapidly increasing, these challenges are particularly pronounced. According to the 2018 National Basic Health Research<sup>[10]</sup>, the national prevalence of stroke reached 10.9 percent, reflecting a significant rise from previous years. This prevalence was especially notable among adults aged 55–64 years, who constituted the largest proportion of stroke patients. In West Sumatra Province, the prevalence escalated from 7.5 percent in 2017 to 10.9 percent in 2022, making stroke one of the top three causes of death in the region<sup>[11]</sup>. These statistics illustrate that stroke not only represents a global health crisis but also a pressing local concern with serious psychosocial implications. In regions such as West Sumatra, where community-based health systems are still developing, families often carry the primary responsibility for long-term care. Consequently, understanding the relationship between family support and psychological outcomes such as anxiety is crucial for designing interventions that can address both medical and non-medical aspects of stroke care.

## METHOD

### 1. Research Design

This study employed a quantitative research method using a correlational approach with a cross-sectional design. The cross-sectional design was selected because it is appropriate for examining the relationship between independent and dependent variables at a single point in time. In this design, measurements are conducted only once within the study period without any follow-up, allowing data to be collected simultaneously. The focus of this study was to investigate the relationship between family support and anxiety levels among stroke patients undergoing treatment in a hospital<sup>[12]</sup>.

### 2. Population and Sample

The population of this study consisted of all stroke patients hospitalized in the inpatient ward of Dr. Drs. Moh. Hatta Hospital, Bukittinggi, in March 2024, totaling 125 patients. The sampling technique applied was accidental sampling, which selects respondents based on their availability and suitability with the research criteria. The number of samples was determined using the Slovin formula as follows:

$$n = \frac{N}{1 + N(d^2)}$$

Where  $N = 125$  represents the population size and  $d=0.1$  indicates the tolerated margin of error. The calculation is shown below:

$$n = \frac{125}{1 + 125(0.1^2)} = \frac{125}{1 + 1.25} = \frac{125}{2.25} = 55$$

Based on the calculation, the final sample size was 55 respondents.

### 3. Inclusion and Exclusion Criteria

The inclusion criteria consisted of stroke patients aged between 25 and 65 years, both male and female, and those in a condition that allowed for interviews. The exclusion criteria were patients who refused to participate and patients whose clinical condition did not permit them to be interviewed.

### 4. Research Location and Time

The study was conducted at Dr. Drs. Moh. Hatta Brain Hospital, Bukittinggi, during the period of June to July 2024.

### 5. Research Instruments

Data collection was conducted using two main instruments. The first instrument was the Family Support Questionnaire adapted from Bayu (2018), consisting of 18 items covering four dimensions: emotional support, appraisal support, instrumental support, and informational support<sup>[9]</sup>. The total score was categorized into three levels, namely low family support with scores ranging from 18 to 35, moderate support ranging from 36 to 53, and high support with scores from 54 to 72.

The second instrument was the Hamilton Anxiety Rating Scale (HARS), which is widely used to measure the level of anxiety. It consists of 14 groups of symptoms with a scoring range from 0 to 4. The total score ranges from 14 as the minimum to 56 as the maximum, with higher scores indicating a more severe level of anxiety<sup>[13]</sup>.

### 6. Validity and Reliability Test

The HARS instrument is recognized as a standardized tool that has been widely validated in previous studies. It demonstrated validity with all items showing positive correlations above 0.05. The reliability test indicated a Cronbach's Alpha value of 0.793, which is higher than the minimum requirement of 0.6, confirming its reliability. Meanwhile, the family support questionnaire adapted from Bayu (2018) also demonstrated validity with an item-total correlation value of 0.511, which supports its appropriateness for use in this study.

### 7. Data Collection Procedure

The data collection process began after obtaining official approval from the hospital and related authorities. Respondents who met the inclusion criteria were informed about the purpose and benefits of the study and were asked to provide written consent through an informed consent form. Upon agreement, respondents were given the questionnaires to complete under the supervision of the researcher. Completed questionnaires were then collected and reviewed to ensure completeness before proceeding to the analysis stage.

### 8. Data Analysis

Data processing was carried out through several steps including editing, coding, entry, cleaning, and tabulating using statistical software. Data analysis was performed in two stages. Univariate analysis was conducted to describe the frequency distribution and characteristics of each research variable. Bivariate analysis was carried out using the Chi-Square test to examine the relationship between family support as the independent variable and anxiety level as the dependent variable among stroke patients.

**RESULTS**

This study was conducted at Dr. Drs. M. Hatta Brain Hospital Bukittinggi, specifically in the inpatient ward of the Merapi Building. The Merapi Building consists of three floors, each with 25 patient beds. This building is the inpatient unit with the highest number of stroke patients in the hospital. The hospital itself is a Type B Specialized Vertical Hospital owned by the Ministry of Health of the Republic of Indonesia, located on Sudirman Street, Sapiran, Aur Birugo Tigo Baleh District, Bukittinggi City, West Sumatra.

**1. Univariate Analysis**

**Table 1. Frequency Distribution of Family Support among Stroke Patients in the Inpatient Ward of Dr. Drs. M. Hatta Brain Hospital Bukittinggi**

| <b>Family Support</b> | <b>f</b> | <b>%</b> |
|-----------------------|----------|----------|
| Low                   | 22       | 40.0     |
| Moderate              | 27       | 49.1     |
| High                  | 6        | 10.9     |
| Total                 | 55       | 100.0    |

Based on Table 1, it can be seen that almost half of the respondents, namely 27 people (49.1%), received a moderate level of family support.

**Table 2. Frequency Distribution of Anxiety Levels among Stroke Patients in the Inpatient Ward of Dr. Drs. M. Hatta Brain Hospital Bukittinggi**

| <b>Anxiety Level</b> | <b>f</b> | <b>%</b> |
|----------------------|----------|----------|
| Mild                 | 2        | 3.6      |
| Moderate             | 25       | 45.5     |
| Severe               | 23       | 41.8     |
| Panic                | 5        | 9.1      |
| Total                | 55       | 100.0    |

Table 2 shows that almost half of the respondents, a total of 25 people (45.5%), experienced moderate levels of anxiety.

**Family Support for Stroke Patients at Dr. Drs. M. Hatta Brain Hospital Bukittinggi in 2024**

The findings of this study revealed that nearly half of the respondents, namely 27 individuals (49.1%), received a moderate level of family support. This aligns with the perspective that family plays a crucial role in motivating patients to engage in recovery efforts. Adequate support helps patients adapt better to their condition and fosters a sense of security during the rehabilitation process <sup>[9]</sup>.

Bayu (2018) reported that higher family support contributes to reduced mortality, faster recovery, and greater involvement of relatives in treatment and care. Such support encompasses emotional support—such as trust, attention, empathy, and care—appraisal support in the form of encouragement and recognition, as well as instrumental support through tangible assistance in meeting patients’ daily needs.

According to Nursalam (2018), family support is a lifelong process that varies across developmental stages but remains essential for maintaining family functioning <sup>[14]</sup>. This form of support is associated with faster healing, better health adaptation, and improved decision-making regarding health behavior. When a family member experiences a chronic illness such as stroke, the role of the family becomes even more critical. The concept of family-centered nursing emphasizes that the family is central to care delivery, serving as the foundation for caring for each individual member <sup>[15]</sup>.

Similarly, Tumiem (2014) highlighted that family support is a key determinant influencing stroke patients. Families who provide continuous attention and care foster a sense of being valued, which strengthens patients’ motivation to undergo rehabilitation consistently <sup>[16]</sup>.

From the researcher’s perspective, families act as the closest support system, always present to accompany patients, provide encouragement, and assist with daily needs. A supportive family environment also promotes psychological well-being, thereby reducing reliance on medical personnel and strengthening patients’ independence.

In conclusion, family support for stroke patients at Dr. Drs. M. Hatta Brain Hospital Bukittinggi in 2024 was generally moderate. This indicates that most families continued to show concern for patients by providing assistance and accompaniment during treatment, which in turn motivated patients to achieve better health outcomes and adapt more effectively to their condition.

### Anxiety Levels in Stroke Patients at Dr. Drs. M. Hatta Brain Hospital Bukittinggi in 2024

The study found that more than half of the respondents, amounting to 25 individuals (45.5%), experienced moderate levels of anxiety. This result is consistent with the study of Thomas and Lincoln (2008), which reported that stroke patients with lower independence scores on the Barthel Index were more likely to experience significant emotional distress, thereby negatively affecting their quality of life <sup>[17]</sup>. Rahmawati (2013) also confirmed a significant relationship between anxiety levels and stroke conditions, with a p-value of 0.003 ( $p \leq 0.05$ ). Similarly, Morris, Wijck, Joice, and Donaghy (2013) reported that patients who had suffered from stroke for six months or longer were more prone to anxiety. This was attributed to deteriorating physical conditions, difficulty in accepting post-stroke limitations, and restrictions on daily activities.

Kaplon and Sadock (2012) define anxiety as a vague, unpleasant feeling of fear often accompanied by autonomic symptoms such as headaches, excessive sweating, palpitations, chest discomfort, and mild gastrointestinal disturbances <sup>[18]</sup>. Anxiety is common among patients with chronic illnesses, including stroke, due to prolonged treatment and uncertainty about their condition. In this regard, nurses play an important role in alleviating anxiety by providing optimal care and health education to both patients and their families <sup>[13]</sup>.

From the researcher's perspective, anxiety in stroke patients manifests as sadness, worry, low self-esteem, and feelings of worthlessness, which may diminish motivation, alter personality, and prolong recovery. Therefore, it can be concluded that the majority of stroke patients at Dr. Drs. M. Hatta Brain Hospital Bukittinggi in 2024 experienced moderate anxiety. Contributing factors include lower educational levels and less optimal treatment. Therapeutic communication is suggested as a means to reduce anxiety, foster patient calmness, and accelerate recovery. Furthermore, family support remains crucial in helping patients through the healing process <sup>[7][4]</sup>.

### 2. Bivariate Analysis

To examine the relationship between family support and anxiety levels among stroke patients in the inpatient ward of Dr. Drs. M. Hatta Brain Hospital Bukittinggi in 2024, a chi-square statistical test was performed.

**Table 3. Frequency Distribution of the Relationship between Family Support and Anxiety Levels among Stroke Patients in the Inpatient Ward of Dr. Drs. M. Hatta Brain Hospital Bukittinggi**

| No    | Family Support | Anxiety Levels | Total    | P-Value  |
|-------|----------------|----------------|----------|----------|
|       |                | Mild           | Moderate | Severe   |
| 1     | Low            | 2 (8%)         | 18 (75%) | 4 (17%)  |
| 2     | Moderate       | 0 (0%)         | 7 (28%)  | 15 (60%) |
| 3     | High           | 0 (0%)         | 0 (0%)   | 4 (67%)  |
| Total |                | 2 (4%)         | 25 (45%) | 23 (42%) |

Based on Table 3, it was found that among the 24 respondents with low family support, the majority (75%) experienced moderate anxiety. Of the 25 respondents with moderate family support, more than half (60%) experienced severe anxiety. Meanwhile, of the 6 respondents with high family support, the majority (67%) also experienced severe anxiety.

The chi-square test result showed a p-value = 0.000 ( $p < 0.05$ ), indicating that there is a significant relationship between family support and anxiety levels among stroke patients in the inpatient ward of Dr. Drs. M. Hatta Brain Hospital Bukittinggi in 2024.

### Analysis of the Relationship between Family Support and Anxiety Levels among Stroke Patients in the Inpatient Ward of Dr. Drs. M. Hatta Bukittinggi Brain Hospital in 2024

The statistical analysis using the Chi-Square test with SPSS version 22 produced a p-value of 0.000. Since this value is smaller than  $\alpha = 0.05$ ,  $H_0$  is rejected and  $H_a$  is accepted. This indicates a significant relationship between family support and anxiety levels in stroke patients. In other words, patients who receive strong family support tend to experience lower levels of anxiety, while those who lack adequate support show higher anxiety levels. This finding confirms the theoretical perspective that the family represents the closest social environment capable of influencing both psychological and physical well-being of patients <sup>[5]</sup>.

The results of this study also revealed that the majority of respondents had a high school education background, amounting to 34 individuals (60%). Educational attainment is an important determinant in shaping the quality of family support. Families with higher levels of education are generally more aware of health information, better understand treatment procedures, and more capable of providing effective support during the recovery process <sup>[19]</sup>. Conversely, limited knowledge and awareness due to lower education levels may hinder families from offering optimal assistance to stroke patients.

Furthermore, psychological responses such as anxiety are very common in individuals with chronic illnesses, including stroke. Anxiety can manifest as feelings of worry, helplessness, irritability, or physiological

symptoms such as palpitations and chest discomfort<sup>[18][13]</sup>. Without strong family involvement, these symptoms may persist or worsen, potentially delaying recovery and reducing quality of life. In contrast, the presence of emotional and instrumental support from family members can provide reassurance and strengthen patients' confidence in overcoming their illness<sup>[7]</sup>.

Another important aspect is the role of family support in maintaining patient motivation during rehabilitation. Encouragement, attention, and consistent assistance from family members may significantly improve adherence to treatment regimens and reduce emotional distress<sup>[9]</sup>. Meanwhile, inadequate support often correlates with higher levels of stress and social withdrawal, which in turn intensifies anxiety and feelings of isolation.

Based on the study's findings and relevant theories, it can be concluded that there is a significant relationship between family support and anxiety levels among stroke patients. Adequate family support helps patients feel valued, respected, and cared for, thereby reducing their anxiety and enabling smoother treatment processes. In contrast, insufficient support may worsen patients' emotional conditions and create additional psychological burdens during recovery. These results align with broader evidence that emphasizes the family as a key factor in both the physical and psychological resilience of stroke patients<sup>[20][21]</sup>.

## CONCLUSION

Based on the findings of this study on the relationship between family support and the level of anxiety among stroke patients in the inpatient ward of Dr. Drs. M. Hatta Bukittinggi Brain Hospital in 2024, it was revealed that the majority of stroke patients received family support at a moderate level (49%), while most patients also experienced anxiety at a moderate level (45.5%). Further analysis demonstrated a significant relationship between family support and anxiety levels in stroke patients, with a p-value of 0.000 ( $p < 0.05$ ). This result indicates that stronger family support is associated with lower levels of anxiety among stroke patients.

In line with these findings, the study provides important implications for various stakeholders. For future research, it is recommended to explore other factors that may influence anxiety levels in stroke patients to obtain more comprehensive results. For educational institutions and healthcare providers, these findings may serve as a reference and source of knowledge in improving strategies for stroke patient care. For patients, the results are expected to serve as motivation to better manage their anxiety by actively involving family support. Meanwhile, for the hospital, this study can serve as a foundation for developing health education programs that emphasize the importance of family support as a strategy to reduce anxiety in stroke patients.

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