



The Description Of Family Caregiver Knowledge Levels On Post-Hospitalization Stroke

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Abstract: Stroke is a non-communicable disease with serious health issues, ranking as the third leading cause of death worldwide and the primary cause of physical disability. Family knowledge about stroke is crucial because the family's understanding influences preventive behavior against stroke attacks through lifestyle changes. A lack of knowledge about stroke can lead to delays in seeking treatment during an attack, depression, and unpreparedness in caring for the patient. These factors contribute to the severity of the patient's condition, recurrent stroke attacks, paralysis, and even death. This study aims to determine the level of knowledge among family caregivers about post-hospitalization stroke in the neurology clinic of Dr. Moewardi General Hospital, Surakarta. This research uses a quantitative method with a descriptive approach. The sampling technique applied purposive sampling with a total of 45 respondents. The instrument used was a questionnaire to measure caregivers' knowledge about stroke. The collected data were then analyzed using descriptive statistics. The results showed the level of knowledge among family caregivers about stroke: 9 respondents (20.0%) had good knowledge, 20 respondents (44.4%) had moderate knowledge, and 16 respondents (35.6%) had poor knowledge. From these findings, it can be concluded that family caregivers of stroke patients have a moderate level of knowledge about stroke.

Keywords: Knowledge, Family, Stroke

Introduction

Stroke is a non-communicable disease that commonly occurs in both developed and developing countries, including Indonesia (Wibowo & Novitasari, 2021). Stroke remains a serious global health concern, as it can suddenly cause physical and mental disabilities or even death, affecting both young and elderly individuals (Samsir *et al.*, 2022). Neurological disorders in stroke patients can lead to the loss of motor function, causing weakness or hemiparesis (Prok *et al.*, 2016). This weakness may result in imbalance and difficulty walking due to impairments in muscle strength, balance, and movement coordination (Rahayu, 2020). Stroke patients may also experience aphasia, which refers to difficulties in language processing or production, resulting in communication barriers (Alifudin & Ediaty, 2019).

According to data from the World Stroke Organization (WSO), stroke is the second leading cause of death globally, accounting for nearly 6 million deaths in 2016. Stroke is also

the leading cause of physical disability, affecting individuals in both productive and elderly age groups, with over 13 million new cases annually (Alfisyah *et al.*, 2021). Globally, 70% of stroke-related deaths and 87% of physical disabilities due to stroke occur in low- and middle-income countries (Pratiwi *et al.*, 2022). Based on the 2018 Basic Health Research (Riskesdas), the prevalence of stroke in Indonesia has been increasing annually, reaching 10.9‰, compared to 7.0‰ in 2013. The highest prevalence of stroke in Indonesia occurs in East Kalimantan Province at 14.7%, followed by Central Java Province at 11.8% (Kemenkes RI, 2018). In Surakarta, stroke ranks as the second leading cause of death among the top ten diseases, claiming 482 lives (Surakarta City Health Office, 2021).

For stroke patients, care begins in the hospital and continues at home. Stroke is often a long-term and recurrent condition. Patients frequently experience repeated hospitalizations due to complications after discharge (Nurhayati *et al.*, 2022). Stroke care must be comprehensive to improve, maintain, and restore health, maximize independence, and reduce the risk of disability and complications (Fatmawati, 2020).

Family caregivers are the most important partners in the healthcare of stroke patients. Approximately 25–74% of stroke patients require assistance from family caregivers to perform daily activities. Family caregivers play a critical role in informal care, treatment, and recovery of stroke patients (Kaur *et al.*, 2018). Many families of stroke patients must adapt to the caregiver role to care for their loved ones (Rohmah & Rifayuna, 2021). Families provide essential support during the recovery and rehabilitation phases. Proper support and care from the family can improve the patient's health, reduce rehabilitation time, minimize disabilities, and decrease dependency on others. The role and support of families significantly impact the physical health of family members (Maria *et al.*, 2022).

Stroke occurrences may result from a lack of knowledge, understanding, and experience regarding the disease itself (Jessyca & Sasmita, 2021). Knowledge about stroke includes definitions, risk factors that exacerbate the condition, signs and symptoms, and possible complications. These aspects serve as parameters to assess an individual's knowledge of stroke (Jessyca & Sasmita, 2021).

Family knowledge about stroke is crucial because it influences preventive behaviors through lifestyle changes. Families can also serve as educators to promote stroke detection and lifestyle changes, such as managing hypertension, diabetes mellitus, heart disease, and atherosclerosis through medications and diet, quitting smoking and alcohol consumption, losing weight, exercising regularly, and reducing stress. Thus, families of stroke patients are expected to have accurate knowledge about stroke, enabling them to care for patients at home and prevent recurrent strokes (Dewi & Wati, 2022).

The lack of health education reduces the ability and knowledge of family caregivers in caring for stroke patients. This can impact recovery, including patient adaptation, cognitive changes, functional independence, mental health, motivation, and quality of life, potentially leading to recurrence or repeated attacks (Fang *et al.*, 2017). Families acting as long-term caregivers for stroke patients also require support in the form of education on care management. Health education programs can facilitate patient recovery and prevent stroke recurrence (Azali *et al.*, 2021).

Methodology

This study is a quantitative research with a descriptive approach. The study was conducted at the Neurology Clinic of Dr. Moewardi General Hospital, Surakarta, from June to July 2023. The population in this study comprised family caregivers of stroke patients accompanying the patients during outpatient treatment at Dr. Moewardi General Hospital, Surakarta. The sample size in this study consisted of 45 respondents, selected using purposive sampling. The research instrument utilized a questionnaire to assess caregivers' knowledge levels about stroke, adapted from the study by Sukron & Phutthikhamin (2016). The instrument was tested for validity and reliability by the researchers, yielding validity scores ranging from 0.380 to 0.624 and a reliability score of 0.794, thus deemed valid and reliable.

Data were analyzed using descriptive statistics and presented in the form of frequency distributions. This study has undergone ethical clearance by the Health Research Ethics Committee of Dr. Moewardi General Hospital, Surakarta, and was granted an ethical clearance certificate with Number: 655/IV/HREC/2023.

Result and Discussion

The results of the research analysis are presented in the table below:

Table 1. Frequency Distribution of Respondents' Characteristics Based on Age, Gender, Education Level, Source of Information (n=45)

	Frequency	Percentage
Age		
18 - 35	10	22,2
36 - 45	16	35,6
46 - 55	12	26,7
56 - 65	7	15,6
Gender		
Male	24	53,3
Female	21	46,7
Education Level		
Elementary School	8	17,8
Junior High School	11	24,4
Senior High School	17	37,8
Higher Education	9	20,0
Source of Information		
No Information Received	27	60,0
Health Education	10	22,2
Print Media	3	6,7
Social Media	1	2,2
Others	4	8,9

Table 2. Frequency Distribution of Family Caregiver Knowledge About Stroke (n=45)

Knowledge Level	Frequency	Percentage
Good	9	20,0
Moderate	20	44,4
Poor	16	35,6

Table 3. Frequency Distribution of Respondents' Answer Scores Based on Each Stroke Knowledge Domain (n=45)

Knowledge Domains	Mean (SD)	Median (Min-Max)
General Stroke	2,38 (0,936)	2,00 (0-4)
Stroke Risk Factors	4,36 (1,583)	4,00 (1-7)
Stroke Signs and Symptoms	2,49 (1,014)	3,00 (0-4)
Stroke Treatment	2,24 (0,802)	2,00 (0-3)

Discussion

Age can affect an individual's ability to acquire information, whether directly or indirectly. In the late adulthood range, between 36 to 45 years, humans have a very good ability to absorb information, and their memory has not yet declined. Memory loss typically occurs in the geriatric population. Memory begins to decline when individuals reach 50 years old and worsens in those over 60. This is due to the decline in brain function, such as memory loss, slower thinking, behavioral disturbances, mental issues, language problems, understanding, perception, mood disorders, and difficulties in performing daily activities (Swaroop *et al.*, 2013). This aligns with the theory by Notoatmodjo (2012), which states that a person's age will influence their ability to absorb and process information (Rachmawati, 2019)

According to Hartati (2015), in Indonesia, men and women have different roles. Based on the marriage law, women generally manage household duties, such as washing, cooking, cleaning the house, serving their husbands, and caring for family members. However, with the changing times, men can also take on the role of caring for sick family members, as women today also work to earn a living, resulting in gender equality in the roles of men and women. Utami *et al.*, (2022) argue that men and women have equal rights when it comes to knowledge and attitudes. Knowledge levels depend on how much information is received and processed, which then leads to appropriate attitudes.

A high school education level enables individuals to have a better understanding of health compared to those with a basic education level, such as elementary and junior high school, which are required by the government. The high school education level also influences the absorption of information, whether from mass media or print media. The higher the education level, the more likely an individual is to read new literature in the field of health (Iqromi, 2019). An individual with a high school education level has the ability to receive information or knowledge, which can lead to a tendency to adopt a positive attitude

when caring for a sick family member. A higher education level influences the knowledge and ability of family members to access healthcare facilities for prompt and appropriate treatment (Ariska *et al.*, 2020).

The results of the study showed that the majority of respondents had never received information sources about stroke, with 27 respondents (60.0%). In a study conducted by Kurniasih *et al.*, (2020), it was stated that the majority of family caregivers had never received information about stroke and stroke patient care, with 34 respondents (56.7%). Additionally, in a study by Azali *et al.*, (2021), it was found that 26 family caregivers had never received information or had no experience in caring for stroke patients (86.7%). Sources of information can be obtained through print media, such as books, magazines, newspapers, as well as electronic media like television, radio, mobile phones, and can also be acquired through health education and counseling programs (Kosasih *et al.*, 2018). One of the most frequently used sources of information is the internet.

However, an individual's skills and understanding in searching for and evaluating health information on the internet are often limited. They may face difficulties in distinguishing between accurate and inaccurate information and lack the critical ability to assess the reliability of health information (Kemenkes RI, 2020). The lack of information is also caused by the mismatch between the high demand for education and the health education provided to family members of stroke patients after discharge. Health education is often only conducted briefly when the patient is discharged, and the information provided is often just in the form of brief notes, which results in the education's objectives not being fully achieved. The failure to achieve the educational objectives is also due to an individual's limited ability to retain and absorb new information, which tends to be forgotten after a certain period (Azali *et al.*, 2021).

Based on the results of the study conducted, it was found that the majority of family caregivers had a moderate level of knowledge about stroke, with 20 respondents (44.4%) in this category, and the smallest number was in the good category, with 9 respondents (20.0%). According to research by Azali *et al.*, (2021), the majority of family caregivers had a moderate level of knowledge about stroke, with the highest number in the moderate category (73.3%). This was because the respondents had never received health information about stroke and did not have experience caring for stroke patients. Additionally, a study by Maratning *et al.*, (2021) also found that the majority of family caregivers had a moderate level of knowledge about stroke, with 15 respondents (50%) in this category. This was also due to the lack of information sources received by the family about stroke.

The moderate level of knowledge of family caregivers about stroke can be caused by the lack of information sources obtained by the respondents about stroke or the disparity between the need for education and the health education received by the family after the stroke patient is discharged. Health education is only conducted briefly when the patient is discharged, and the information received is often in the form of small notes, which causes the goal of the education to not be fully achieved. The inability to achieve the educational

goal can also be caused by the limited ability of a person to retain and absorb new information, and the tendency to forget after a certain period (Azali *et al.*, 2021).

Information sources can be obtained through printed media such as books, magazines, newspapers, and electronic media such as television, radio, and mobile phones. Information can also be obtained through health education and counseling programs (Kosasih *et al.*, 2018). One of the most frequently used information sources is the internet. However, a person's skills and understanding in searching for and evaluating health information on the internet are often limited. They may have difficulty distinguishing between accurate and inaccurate information and may lack critical thinking skills in evaluating the reliability of health information (Kemenkes RI, 2021). This was confirmed during interviews, where respondents stated that they were not familiar with stroke as a disease because they had never received comprehensive information about it. They only received minimal education from doctors, which was limited due to the doctors' time constraints.

Additionally, the respondents rarely sought information about stroke on the internet and were primarily focused on their family member's stroke recovery and treatment. Furthermore, environmental factors, such as community health posts (posyandu), also played a role. Respondents had never received general education about stroke from these health posts because posyandu typically prioritize health checks over education about stroke. As a result, the respondents only knew about stroke based on their limited understanding. This was further evidenced by the average score of respondents' answers for the general knowledge of stroke domain, which had a mean value of 2.38 (SD 0.936).

The moderate level of knowledge of family caregivers about stroke can also be caused by the family's experience in caring for stroke patients, especially if the patient has had a stroke for a long time. Over time, the family might have gained some knowledge about stroke concepts (Agustiani *et al.*, 2023). Based on this, the researcher assumes that a moderate level of knowledge about stroke is not only influenced by information but also by the family's experience in caring for stroke patients. Families can understand the concept of stroke, including recognizing the symptoms, based on their experience of observing a family member or other patients experiencing a stroke. This is supported by Oktovin *et al.*, (2020), who explained that experience can shape a person's knowledge. In this case, families understand stroke concepts based on personal experiences, including recognizing stroke symptoms from their family members and other stroke patients. This was also evidenced by the average score for respondents' answers for the stroke symptoms knowledge domain, which had a mean value of 2.49 (SD 1.014).

The moderate level of family caregivers' knowledge about stroke could also be influenced by the incomplete discharge planning provided at the hospital for the family and patient (Yaslina *et al.*, 2019). Currently, discharge planning for patients at the hospital is only carried out when the patient is about to be discharged. The discharge plan usually only includes a patient's discharge resume, brief information about follow-up appointments, prescribed medications, and dietary instructions after discharge (Mitchell *et al.*, 2018). The

phenomenon today is that nurses only provide discharge planning when the patient is discharged, without a gradual process from admission to discharge. This cannot be considered proper discharge planning because it is given within a short period, and the information provided is very limited, making it unlikely to achieve a behavioral change in the patient and family (Irmawati *et al.*, 2021).

This was confirmed during the interviews when respondents stated that when accompanying their family member for a follow-up visit, they only received minimal education from the doctor due to time limitations. The nurses at the clinic also provided only limited education about follow-up appointments, rehabilitation, and medication collection at the pharmacy. This was also supported by research conducted by Afdhal (2023), which found barriers in the implementation of discharge planning education at the stroke unit of Dr. Sardjito Hospital in Yogyakarta. Respondents experienced difficulties in receiving and understanding too much information at once, and they were confused by the medical terms used by health professionals.

Conclusion

Based on the research conducted, out of 45 family caregivers, the majority of respondents were late adults aged 36–45 years, totaling 16 respondents (35.6%). The most common gender among respondents was male, with 24 respondents (53.3%). The highest level of education attained by most respondents was high school, with 17 respondents (37.8%). Additionally, the majority of respondents (27 respondents, 60%) had never received any information about stroke. The description of the level of knowledge of family caregivers about stroke post-hospitalization at the neurology clinic of RSUD Dr. Moewardi Surakarta shows that the majority have adequate knowledge, with 20 respondents (44.4%). The lack of information sources, the high demand for education, and limited education time can be factors that hinder the achievement of educational goals, impacting memory, comprehension, and information retention. Therefore, it is essential to find a more effective educational approach for families with stroke patients.

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