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OPTIMIZING FAMILY EMPOWERMENT IN IMPROVING KNOWLEDGE AND BEHAVIOR AS PREVENTION OF RECURRENT STROKE

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ABSTRACT

Family as an informal caregiver has a very important role in the care of stroke patients. Families do not have sufficient knowledge and skills in caring for stroke patients because they are not trained. Families actively involved in care will feel more prepared to face new responsibilities in caring for stroke patients. This community service activity aims to improve knowledge and behavior to prevent recurrent stroke. The method used in this community service activity is a participatory education approach, including educational methods using the stroke self-management education module. This activity was conducted in May 2024 at RW 07, Banyu Urip Village, Surabaya. It was attended by 20 families of stroke patients. Evaluation of knowledge using the recurrent stroke prevention knowledge questionnaire and behavior using the stroke patient care behavior questionnaire. The community service results showed that family caregivers' knowledge and behavior increased after the family empowerment program. Family empowerment can improve knowledge and behavior in family caregivers of stroke patients in preventing recurrent stroke. Family empowerment programs can be provided periodically by community nurses to improve the ability of family caregivers to improve the quality of life of stroke patients.

Keywords: Behavior, Family Caregivers, Family Empowerment, Knowledge.

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INTRODUCTION

Stroke is the third leading cause of death in the world if left untreated, due to focal or global brain functional impairment that will progress rapidly due to blood flow to the brain that persists for more than 24 hours or leads to death (WHO, 2024). In both developed and developing countries, it is estimated that stroke causes 11.8% of all deaths and long-term disability. However, developing countries do not have sufficient information, resources, policies, and structures to bear the burden of stroke (Deepradit et al., 2023).

Based on data on the distribution of stroke cases in East Java in 2021, it shows that the highest stroke cases (>1,357 cases) were in Surabaya City, and mainly occurred in women with 16,194 stroke cases (Putri, 2023). One of the urban villages in Surabaya City is Banyu Urip Urban Village, which is located within the Sawahan Sub-District, Surabaya City Government. This urban village has approximately 39,300 people, consisting of 9 Hamlets and 91 Neighborhoods. Banyu Urip Urban Village is bordered to the north by Kupang Krajan Urban Village, to the east by Darmo Urban Village, to the west by Simomulyo Urban Village, and the south by Putat Urban Village. One of the densely populated hamlets is the 7th hamlet, which consists of 177 male and 168 female residents, with 54 elderly residents. The 7th hamlet is in a densely populated area. There are two educational facilities, two kindergartens. Most residents use the government-owned health facility, Banyu Urip Community Health Center, when experiencing health problems. The results of interviews with 10 residents of the 3rd hamlet, all of them (100%) suffer from non-communicable diseases (NCDs), where 70% suffer from hypertension, 80% suffer from DM, and 20% have experienced a stroke.

So far, educational programs related to stroke have been frequently conducted, but have not focused on family empowerment. On the other hand, the role of the family as informal caregivers is very important in meeting the basic needs of patients and their daily activities. Most families of stroke patients in the RW 07 Banyu Urip village do not understand how to care for stroke patients. They do not help stroke patients to be independent in performing ADLs, which would be better than always serving them.

Recurrent stroke is one of the complications that often arise after patients return home from hospitalization. Patients who have suffered a stroke have a risk of developing a secondary stroke. This secondary stroke attack can be more fatal than the first stroke, due to the increased extent of brain damage that occurred due to the previous stroke attack (Amila et al., 2019). Low awareness of stroke risk factors, poor recognition of stroke symptoms, suboptimal stroke services, and low adherence to therapy programs for stroke re-prevention are problems that arise in stroke services in Indonesia. These four things contribute to the increase in the incidence of new stroke, the high mortality rate due to stroke, and the high incidence of re-stroke in Indonesia.

Family functioning is an important part of post-stroke care as the family plays an

important role in the rehabilitation of stroke patients (Creasy et al., 2015). Family members are the first to take on the role of caregiver immediately after a stroke. Family members, particularly immediate family members, can support primary caregivers through direct or indirect supervision by assisting them in medical appointments, providing caregiving, helping them with household chores, and offering transportation (Deyhoul et al., 2020; Thongthawee, B., Matchim, Y. & Kaewsriwong, 2018).

Family-centered empowerment is widely used internationally for chronic diseases, especially stroke, resulting in improved functional ability of patients (Fouad et al., 2022). Family-centered empowerment will increase patients' motivation to recover, their ability to adjust and adapt after stroke, and their ability not to feel embarrassed by changes in their appearance and body function.

OBJECTIVES

General Purpose

The general objective of this community service activity is to increase the empowerment of family caregivers in caring for stroke patients and preventing recurrent stroke.

Special Purpose

The specific objectives of this community service activity are:

1. Understand the prevention of recurrent stroke
2. Understand how to care for stroke patients through stroke patient self-management
3. Able to demonstrate how to measure blood pressure, blood sugar levels, and manage medication.

PLAN OF ACTION

Strategy Plan

Several stages of preparation are carried out by the implementers of community service activities before carrying out activities, among others:

1. Coordinating with Banyu Urip urban village and the Head of the 7th hamlet;
2. Establishing time contracts with 7th hamlet residents who have families with stroke;
3. Providing health education on how to prevent recurrent stroke.

Implementation

Some of the actions taken by the implementers of community service activities during the implementation of activities include:

1. Providing Stroke Self-Management Education in groups.
2. Demonstration of how to measure blood pressure, blood sugar levels, and manage medication.
3. Discussion and sharing session between families of stroke patients.
4. Evaluation was carried out through a pretest and posttest given before and after counseling activities through a Google form.
5. The results of the sharing session went well, and families could reduce the burden of caregiving while caring for stroke patients.

Setting

This community service activity was carried out in a densely populated residential area—the location at the 7th hamlet hall, Banyu Urip urban village, Sawahan Sub-district, Surabaya. The program will be implemented for one month.

Target

The target participants were 20 families of stroke patients in the 7th hamlet, Banyu Urip urban village, Sawahan Sub-district, Surabaya.

RESULTS AND DISCUSSION

The characteristics of participants (health cadres) are summarized in **Table 1** below:

Table 1. Characteristics of respondents (n=10)

Characteristics	Frequency	Percentage (%)
Age (years), Mean±SD	40 ± 4.137	
Gender		
Male	0	0
Female	10	100
Occupation		
Working	2	20
Not working	8	80
Educational level		
Basic	0	0
Secondary	6	60
High	4	50
Income		
<RMW	10	100
>RMW	0	0

RMW: Regional minimum wage

The participants had a mean age of 40,± 4,137. All participants were female (100%) and had an income less than the regional minimum wage (100%). Most of them were not working (80%) and had secondary education (60%).

Table 2. Participants' knowledge before and after the program (n=10)

Knowledge	Mean	SD	*p*
Pre-test	44	9.661	<0.001
Post-test	92	6.325	

Based on the results of data analysis using a paired t-test shown in **Table 2**, there was a significant difference in knowledge score between pre-test and post-test ($p < 0.001$). After conducting a family empowerment program, family caregiver knowledge increased.

Table 3. Participants' health behavior (n=10)

Health behavior	Pre, f (%)	Post, f (%)	*p*
Healthy Diet			
Poor	10 (100)	0	<0.001
Fair	0 (40)	0	
Good	0	10 (100)	
Medication adherence			
Poor	6 (80)	0	<0.001
Fair	4 (20)	0	
Good	0	10 (100)	
Blood pressure and blood glucose monitoring			
Poor	8 (80)	0	<0.001
Fair	2 (20)	0	
Good	0	10 (100)	
Activities and exercises			
Poor	6 (60)	0	<0.001
Fair	4 (40)	0	
Good	0	10 (100)	
Stress management			
Poor	7 (70)	0	<0.001
Fair	3 (30)	0	
Good	0	10 (100)	

Meanwhile, **Table 3** showed that participants' health behaviour, including healthy diet, medication adherence, blood pressure and blood glucose monitoring, activities and exercises, and stress management. Overall, the indicators show significant differences before and after the community service program.

Empowerment programs for family caregivers to prevent recurrent strokes are highly effective. An increase in their knowledge demonstrates this. Family empowerment programs have been proven

effective in promoting the independence of stroke patients in activities of daily living (ADL) (Deyhoul et al., 2020). Family-based empowerment education programs also enhance the knowledge of family caregivers (Musrah et al., 2024). These family-based programs allow caregivers and family members to discuss the emotions and issues that arise when caring for stroke patients at home (Deepradit et al., 2023). This process helps family caregivers understand their feelings clearly and release stress. At the same time, family members become aware of the challenges in caring for them and the burden borne by caregivers.

Additionally, family members were involved in patient care, including aiding the family caregiver, caring for the patient, doing housework, and providing transportation to medical appointments. This reduced the caregiving workload of family caregivers, allowing them to relax (Etemadifar et al., 2014). Family caregivers can benefit from family support and external resources, which can help reduce their workload and improve efficiency in caring for stroke patients. These findings are consistent with prior studies revealing that supporting educational group intervention can ease the burden of caregiving among family caregivers.

The empowerment model requires collaboration between the nurse and the patient's family to address their problems. Empowerment enables people to know their abilities, capacities, and talents. Many researchers believe empowerment is active, dynamic, and interactive (Izadi-Avanji et al., 2020). This method is created in conjunction with others to improve patient response to treatment, prevent complications, decrease health care costs, and foster a positive outlook on the disease (Haley et al., 2015). Empowering the family involves assisting the patient's family to change their behaviours.

Family involvement is essential in the stages of lifestyle modification, treatment, and long-term rehabilitation because families know the patient's health condition best and play an important role in the recovery process. The general public needs to be adequately informed about the risk factors for stroke. Health workers and health policymakers are expected to pay more attention to preventive, promotive, curative, and rehabilitative measures for stroke.

People who have experienced a stroke are more prone to recurrent strokes, and the impact is more severe than the first stroke, with higher mortality and disability rates. Therefore, it is easier to prevent recurrent strokes. Families, as the most critical source of support, play a crucial role in the rehabilitation and prevention phases, especially when equipped with the proper knowledge.

CONCLUSION

Family empowerment education increases knowledge and changes health behavior among family caregivers. It is hoped that family empowerment-based education programs can be carried out sustainably as an effort to prevent recurrent strokes. Collaboration between community health nurses and Surabaya Hebat cadres can improve health promotion among society regarding stroke prevention and management.

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