ISSN 2354-8428
e-ISSN 2598-8727

JURNAL KEPERAWATAN

KOMPREHENSIF

COMPREHENSIVE NURSING JOURNAL

Published by :

Sekolah Tinggi Ilmu Keperawatan
PPNI Jawa Barat

Vol. 10 No. 5, October 2024

JURNAL KEPERAWATAN KOMPREHENSIF	VOL. 10	NO. 5	Bandung October 2024	ISSN 2354-8428	e-ISSN 2598-8727

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Volume 10 Issue 5 October 2024

Research Article

Empowering Post-Stroke Patients to Improve Self-Care and Prevent Recurrent Stroke Using Stroke Empowerment Education

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Received : 02/08/2024
Revised : 22/10/2024
Accepted : 26/10/2024
Online : 31/10/2024
Published : 31/10/2024

Abstract

Aims: Stroke can lead to varying outcomes, ranging from recovery with disability, death, to surviving with recurrent strokes. Post-stroke patients require special attention to improve self-care behaviors. Stroke empowerment education is an educational approach given to stroke patients with an empowerment-focused approach centered on the patient. This study aimed to determine the effect of stroke empowerment education on the self-care of post-stroke patients as an effort to prevent recurrent strokes at RSUD Gambiran Kota Kediri.
Methods: The research design used was a Quasi-Experiment with a pre-post test design with a control group. Sampling was done using accidental sampling technique, resulting in 98 respondents. Data collection on self-care was conducted using the modified version of The Subjective Self-Care Performance Scale questionnaire.
Results: The results of the Wilcoxon Signed Ranks Test showed significant improvement (p = 0.000) in self-care among post-stroke patients after Stroke Empowerment Education.
Conclusion: This study concluded that there was an effect of stroke empowerment education on improving self-care among post-stroke patients as an effort to prevent recurrent strokes at RSUD Gambiran Kota Kediri. As a recommendation, the results of this study can be continued as an intervention in hospitals to enhance services for post-stroke patients to improve self-care as an effort to prevent recurrent strokes.

Keywords:
Post-Stroke, Reccurent Stroke, Self-Care, Stroke Empowerment Education

INTRODUCTION

Stroke is a serious and emergency medical condition that occurs due to cessation of blood flow to the brain which causes damage to brain cells (1). In Indonesia, stroke is the main cause of death and disability with its incidence continuing to increase from year to year (2). After someone experiences a stroke, they will face big challenges in carrying out daily activities, which include mental, social and physical aspects (1). The challenges faced by post-stroke patients not only impact the patient's quality of life but can also increase the risk of recurrent stroke (3,4).

Every year approximately 15 million people suffer a stroke according to global data (5). From the global data, around 5 million people experience permanent disability and another 5 million die (6). According to Riset Kesehatan Dasar, the incidence of stroke in Indonesia reaches 10.9 per 1000 population. Based on research results, it shows that around 25% of post-stroke

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

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patients will have a second stroke within the first five years after the first stroke (7). Based on medical record data from the RSUD Gambiran Kediri City, in 2021 the number of stroke patients was 5.116 (Medical Records RSUD Gambiran Kediri City, 2021).

Stroke can cause various disease courses, ranging from recovery with disability, death to survival with the risk of recurrent stroke attacks (8,9). Some patients after a stroke may experience physical disabilities, such as paralysis or speech disorders, requiring long-term care and physical rehabilitation programs to restore body function (7,10). On the other hand, post-stroke patients can recover optimally and reduce the risk factors that cause recurrent stroke by making lifestyle changes and implementing an appropriate medication program (11).

Patients after a stroke have a higher risk of experiencing a recurrent stroke. The possibility of recurrent stroke remains significant, especially in the 6-month period after the first stroke (12,13). To avoid recurrent stroke, it is very important to pay attention to risk factors by taking appropriate steps such as lifestyle changes, carrying out appropriate therapy and undergoing examinations to obtain appropriate information about an individual's risk of stroke or recurrent stroke (14,15).

Patient self-care behavior includes patient compliance in taking medication, maintaining diet, maintaining physical fitness, avoiding alcohol, avoiding smoking, reducing consumption of foods high in cholesterol and increasing the ability to manage stress (16). Patients who have experienced a stroke require special attention in improving their self-care abilities or self-care behavior (17). This is important to help patients restore independence and reduce the risk of recurrent stroke. By improving self-care behavior, patients can learn how to manage daily activities and self-care more efficiently which will ultimately improve quality of life (18).

Post-stroke patients need appropriate support and guidance in improving self-care behavior through promotive strategies so that patients can manage their health conditions more effectively (19). Promotive strategies for stroke patients involve education and information about health provided to patients and families as well as skill development and support in planning and implementing independent care (20). According to Chen et al , with promotive strategies post-stroke patients can recognize the early symptoms of recurrent stroke, overcome disorders that may arise after a stroke and increase their ability to carry out daily activities more independently (21).

Although rehabilitation programs exist, post-stroke patients often struggle with self-care, leading to reccurent strokes. This study evaluates the impact of stroke empowermebt education on self-care behavior at RSUD Gambiran Kediri City.

METHODS

Design and Sampling

This research used a Quasi-Experimental research design with a pre-post test with a control group in June – August 2024. The accidental sampling technique with inclusion and exclusion criteria was chosen to determine the sample. The sample criteria included: the patient were required to have good communication abilities and the patient did not experience severe cognitive impairment. Exclusion criteria were the stroke-patients not willing to be respondents. The sample in this study consisted of stroke patients at the Neurology Polyclinic at RSUD Gambiran Kediri City. The sample size was 196 respondents divided into 2 groups, namely the intervention group with 98 respondents and the control group with 98 respondents.

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

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Instrument

Pre-test and post-test were carried out using the subjective self-care performance scale questionnaire modified by the researcher, which consisted of 39 question items with a 5 Likert scale form strongly agree (5) to strongly disagree (1). Data were collected with the score criteria self-care is very good (156-195), self-care is good enough (117-155), self-care is poor (78-116) and self-care is very poor (<78). The questionnaire has first been tested for validity and reliability.

Data collecting procedure

The respondents has receieved informed consent about the research which is the participation was voluntary and the personal information will be kept confidential. Data were taken before and after stroke empowerment education for intervention group. Meanwhile, in the control group, the questionnaire was filled out 2 times without being given stroke empowerment education. Stroke intervention empowerment education was carried out 2 times within a period of 1 month. The first sessions, respondent were given education about medication, diet, smoking habits, alcohol consumption, behavior to prevent reccurent strokes with control or examinations. Then respondents were given counseling to improve the patient's ability to self-care. Post-test was carried out after one month of providing the intervention.

Data analysis

Data were analyzed using SPSS version 23. Descriptive analysis was used to identify the characteristic demographic and the prevalence of self-care among respondents. Analysis to prove the existence of differences in self-care behavior of respondents before and after being given stroke intervention empowerment education was conducted using the Wilcoxon Signed Ranks Test with a p-value, 0.05 as a significant difference.

RESULTS

From the research, the following results were obtained :

Table 1. Characteristics of Respondents

Variabel	Intervention Group		Control Group	
	F	%	F	%
Age				
36 - 45	19	19,3%	17	17,3%
46 - 55	30	30,6%	28	28,6%
56 – 65	38	38,7%	37	37,7%
> 65	11	11,4%	16	16,4%
Total	98	100%	98	100%
Gender				
Male	45	45,9%	39	39,7%
Female	53	54,1%	59	60,3%
Total	98	100%	98	100%
Job Status				
Doesn't work	48	48,9%	54	55,1%
Work	50	51,1%	44	44,9%
Total	98	100%	98	100%

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

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Education				
Elementary School	36	36,7%	33	33,6%
Junior High School	27	27,5%	36	36,7%
Senior High School	21	21,4%	18	18,3%
College	14	14,4%	11	11,4%
Total	98	100%	98	100%
History of other disease				
Hypertension				
Cardiovascular disease	41	41,9%	39	39,7%
Diabetes Mellitus	21	21,4%	20	20,6%
	36	36,7%	39	39,7%
Total	98	100%	98	100%
Suffering from stroke				
> 1 years	46	46,9%	43	43,8%
< 1 years	52	53,1%	55	56,2%
Total	98	100%	98	100%

Table 2. Distribution of self-care before and after stroke empowerment education

Variabel	Intervention Group				Control Group			
	Before		After		Before		After	
	F	%	I	%	F	%	F	%
Self-care is very good	9	9,1	27	27,5	19	19,5	17	17,3
Self-care is good enough	25	25,5	41	41,8	23	23,4	28	28,6
Self-care is poor	45	45,9	20	20,6	42	42,8	41	41,9
Self-care is very poor	19	19,5	10	10,1	14	14,3	12	12,2
Total	98	100	98	100	98	100	98	100

Based on Table 2, it could be seen that before stroke intervention empowerment education was given, most of the intervention group had poor self-care behavior, with 45 respondents (45,9%). In the control group, the majority of respondents also had poor self-care behavior, with 42 respondents (42.8%).

The intervention group showed a significant increase in self-care scores, with 41,8% respondents achieving good enough self-care behavior compare to 28,6% respondents in the control group.

The results of data analysis using the Wilcoxon test showed a value of p = 0.000 (p < 0.05), which meant that there was an influence of stroke empowerment education on improving self-care in post-stroke patients as an effort to prevent recurrent strokes at the RSUD Gambiran Kediri.

DISCUSSION

Based on the research results, data was obtained that before the stroke intervention was given empowerment education shows that in the intervention group only 9

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

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respondents (9,1%) had very good self-care behavior, 25 respondents (25.5%) had good enough self-care behavior, 45 respondents (45.9%) had poor self-care behavior and 19 respondents (19,5%) had very poor self-care behavior.

Stroke sufferers experience muscle weakness, decreased range of motion (ROM), impaired sensation, and problems with walking patterns. This decreases the ability of stroke sufferers to care for themselves (22,23). This decreased ability to care for oneself can increase the risk of recurrent stroke. In general, recurrent strokes occur in those who have a lack of self-control and a low level of consciousness (24). However, a recurrent stroke indicates more extensive brain damage, leading to potentially more severe consequences (7).

Preventing recurrent strokes can be done by paying attention to *self-care behavior* regarding risk factors such as hypertension, cholesterol levels, diabetes mellitus, obesity, and other factors (10,14).

Based on the research results, after being given the *stroke empowerment education intervention* in the intervention group, there was an increase in *self-care behavior* in 98 respondents, namely 27 respondents (27.5%) had very good *self-care*, 41 respondents (41.8%) had good enough *self-care*, 20 respondents (20.6%) had poor *self-care*, 10 respondents (10.1%) had very poor *self-care.* The results of statistical tests can be concluded that there is an influence of *stroke empowerment education* on increasing *self-care* in post-stroke patients as an effort to prevent recurrent strokes at RSUD Gambiran Kediri.

Self-care is a strategy for building a health system that involves the active role of patients and families in caring for their own health (24). Patients and families work together to make decisions to improve health and preserve life. Implementing self-care in stroke patients can increase their ability to perform daily activities, reduce the impact of lifestyle caused by disease, reduce dependency, reduce the risk of premature death, and improve quality of life by up to 95% compared to conventional care (16). Previous study indicates that carrying out self-care effectively and efficiently can reduce the risk of disability, prevent recurrent strokes and even reduce death rates (16,24).

A major focus in managing chronic diseases such as stroke is encouraging patients to take a more active role in their own care and encouraging self-care (25). Effective *self-care* behavior can help post-stroke patients reduce the risk of complications, improve body function and improve their quality of life. Without practicing good *self-care*, patients have a high risk of experiencing recurrent strokes and various other health problems (24).

To improve *self-care abilities* in post-stroke patients, a comprehensive and sustainable approach needs to be adopted. Promotional approaches that include educational aspects can help patients better manage their conditions (25). Implementation of effective promotional strategies will help reduce the risk of recurrent stroke, improve patient quality of life, and have a positive impact on overall public health (26). By implementing *stroke empowerment education*, promotional strategies can increase participant participation and help patients make decisions and desired behavioral changes, which come from within the patient himself (27).

Stroke empowerment education is an educational approach aimed at stroke patients with a focus on patient empowerment. *Empowerment*, also known as a patient-centered or collaborative care approach, involves a diverse health team involving patients as well as health care providers in shared decision making (28). *Stroke empowerment education* aims to increase the ability of stroke patients to manage their own disease independently and reduce the risk of complications, thereby supporting increased *self-care* and quality of life. The main concept *of empowerment* focuses on communication, health education and providing needed

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

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information (29,30). According to Chen et al, with promotive strategies post-stroke patients can recognize the early symptoms of recurrent stroke, overcome disorders that may arise after a stroke and increase their ability to carry out daily activities more independently (21).

CONCLUSION

This study indicated that stroke empowerment education has good impact on improving self-care in post-stroke patients as an effort to prevent recurrent strokes at RSUD Gambiran Kota Kediri. It is suggested that healthcare providers are encouraged to integrate stroke empowerment education into discharge planning to support long-term self-care and prevent stroke recurrence.

LIMITATIONS

The use of accidental sampling may limit the generalizability of the results. Addionally, the short intervention period may not capture long-term behavioral changes.

ETHICAL CONSIDERATIONS

The study was approved by the Ethics committee of Institut Ilmu Kesehatan Bhakti Wiyata Kediri with ethical letter of exemption No : 04/FKes/TK/VI/2024.

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