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Stroke Self-Management Program Based on Health Behavior Theory on Self-Management Behavior and Subjective Well-Being of Post-Ischemic Stroke Patients

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Abstract

Background: Patients who have recently experienced a stroke urgently require self-management to boost their motivation, confidence, and capacity to adhere to a healthy lifestyle-based diet, treatment plan, and therapy. **Aim:** This study was to analyze the effect of stroke self-management on patients with post-ischemic strokes' self-management behavior and subjective well-being using the health behavior theory. **Methods:** With a total sample of 118 respondents divided into 59 respondents in the intervention and control groups, the study's quasi-experimental design combined with consecutive sampling to determine the sample in accordance with the inclusion and exclusion criteria. The Stroke Self-Management Behavior Performance Scale (SSBPS) and the Satisfaction with Life Scale (SWSL) were the instruments used in this study. t-test statistical analysis with $p<0.5$. **Results:** The results showed that the mean self-management behavior in the intervention group was 74.52 before and after the intervention, while the mean of subjective well-being before and after the intervention differed by 16.74 in the control group. In the intervention group, the mean self-management behavior was 34.18 before and after the intervention, while the mean of subjective well-being before and after the intervention was 9.64. Data analysis demonstrated that the impact of a stroke self-management program based on health behavior theory on post-ischemic stroke patients' self-management behavior and subjective well-being was significant (p

= 0.00). **Conclusion:** To help stroke patients better their self-management skills and subjective well-being over the long term, health behavior theory-based stroke self-management may be adopted.

Keywords: *health behavior theory, self-management behavior, stroke self-management program, subjective well-being*

1. Introduction

The main cause of mortality and disability worldwide is stroke (Corcoran & McCullagh, 2018; Virani et al., 2021). Following a stroke, patients go through physical, psychological, and social changes that have an impact on their self-management skills and subjective well-being (Li et al., 2021; Lou et al., 2017). The World Stroke Organization estimates that 13.7 million new cases of stroke occur each year, and that 87% of stroke-related fatalities and disabilities take place in developing countries (Ackerson et al., 2018). Between 2013 and 2018, Indonesia had an increase in the incidence of stroke from 7% to 10.9% (Kemenkes RI, 2018). In the Outpatient Clinic at the Surabaya Islamic Hospital, observations of 55 post-ischemic stroke patients revealed that 78% did not exercise frequently and 94% thought their role had been altered as a result of having survived a stroke.

Patients with long-term stroke rehabilitation have feelings of helplessness (Fugazzaro et al., 2021; Xing & Wei, 2021). The patient's capacity to treat and control stroke is one of the key elements of long-term care (Ruksakulpiwat & Zhou, 2021). When employing the pre-posttest approach, Lo, et al.'s (2017) investigation of the effects of the stroke self-management program on self-efficacy and self-management behavior revealed varied significantly between the intervention and control groups (Lo et al., 2018). Additionally, Xing et al. (2021) examined the impact of self-management on stroke patients' knowledge, beliefs, behavior, and subjective well-being and found that the intervention group achieved significantly better results (Xing & Wei, 2021). Long-term education is necessary for stroke patients as a promotion and prevention measure against recurrent stroke episodes.

The term stroke self-management program refers to the self-management of stroke survivors to boost their motivation, confidence, and capacity to adhere to their food, medications, and therapy (Fryer et al., 2016). As a result, health behavior theory needs to be modified to maintain and enhance health (Glanz et al., 2015). The goal of this study was to examine how a stroke self-management program based on health behavior theory affected post-ischemic stroke patients' self-management behavior and subjective well-being.

The adoption of a stroke self-management program based on health behavior theory in ischemic post-stroke patients is the urgency of this research. Health behavior theory-based stroke intervention self-management programs can help patients become more independent and reduce their risk of impairment and post-stroke recurrence. so that post-ischemic stroke patients' subjective well-being and self-management behaviors advance. It is required to evaluate the effects of a stroke self-management program based on health behavior theory on patient self-management behavior and subjective well-being.

2. Materials and methods

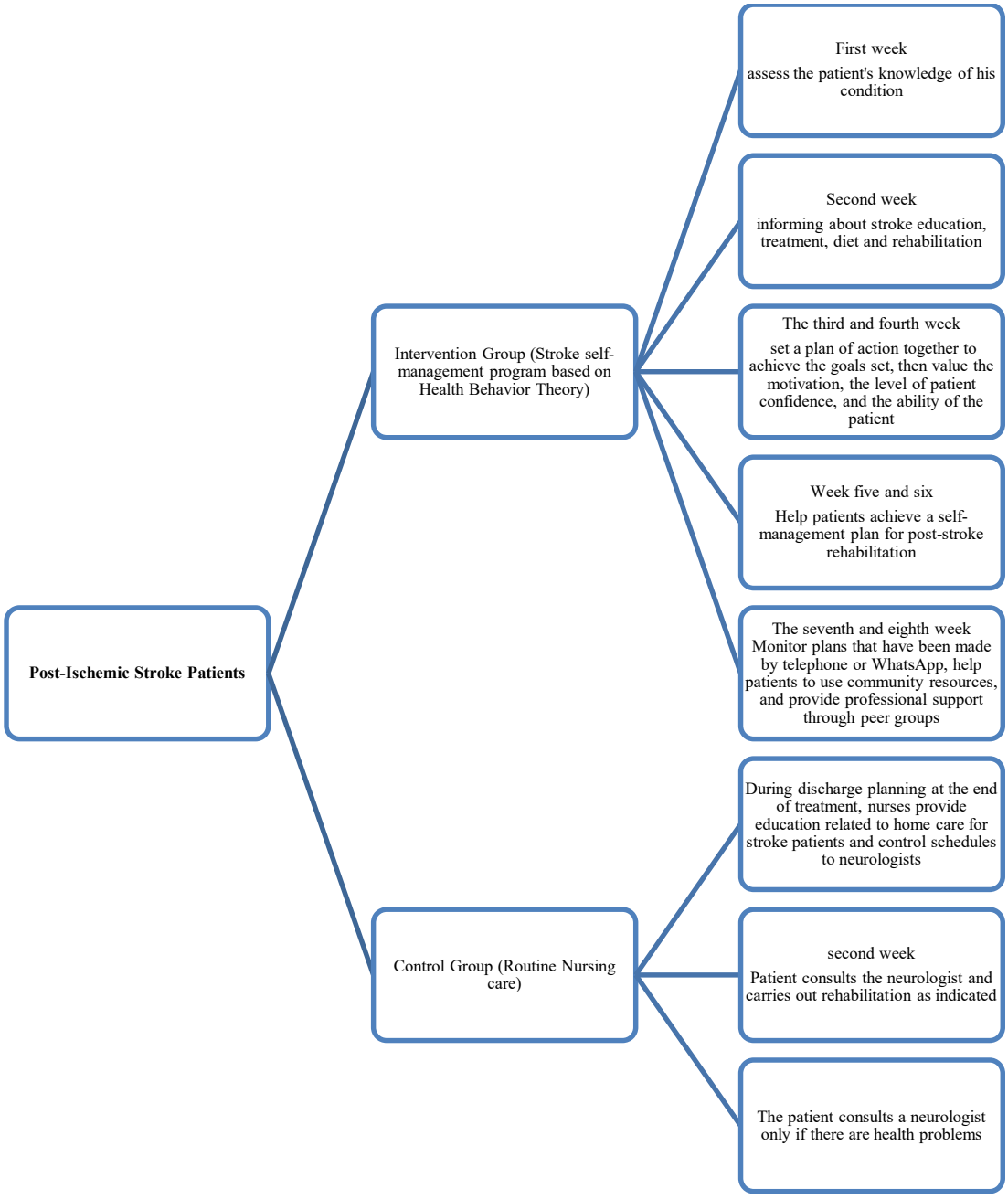
2.1 Design and sample

The untreated control group was used in this study's quasi-experimental research approach, together with dependent pre- and post-test samples. The target population for this study consisted of all post-stroke patients at the Outpatient Polyclinic at the Islamic Hospital in Surabaya. There were two groups of participants in this study: the intervention group and the control group. There will be 118 people in the sample, as predicted. Additionally, 59 respondents in the intervention group and 59 respondents in the control group were split up

into two groups. The sample will be chosen following the inclusion and exclusion criteria using a straightforward random sampling procedure. The following conditions had to be met for inclusion: ischemic stroke patient experiencing a first attack, stable vital signs, age of 20 or older, CT scan indicating ischemic stroke, and patient in the rehabilitation phase. Patients with ischemic stroke who have myocardial infarction complications, congestive heart failure, stage of renal illness, arrhythmias, patients older than 60 years old, and patients with mental issues are excluded from the study.

2.2 Data collection procedures

Self-Management Behaviors Using the Stroke Self-management Behaviors Performance Scale (SSBPS) by (Lo et al., 2022). is the instrument employed in this study. The Satisfaction with Life Scale (SWSL) by (Diener et al., 2009) is used to measure subjective well-being. The intervention will last for one month, with training sessions lasting 30 minutes each, consisting of two meetings each week, with monitoring done via social media or a cell phone utilizing WhatsApp.



2.3 Data analysis

Paired sample t-tests and independent sample t-tests with p0.005 were used to test the data analysis.

2.4 Ethical clearance

The Chakra Brahmanda Lentera Institution's Ethics Committee approved for this study in May under approval number 033/016/V/EC/KEP/LCBL/2023.

3. Results and discussion

3.1 Result

Table 1. Subjects' characteristics

	Intervention group (n=59)	Control group (n=59)	p-value
Age (mean±SD, years)	44.62±7.814	43.57±8.432	0.842
Gender (n, %)			
Male	34 (57.63)	39(66.10)	0.683
Female	25 (42.37)	20(33.90)	
Education (n, %)			
Middle school	8(13.56)	6(10.17)	0.791
High school	39(66.10)	37(62.71)	
College	12(20.34)	16(27.12)	
Professional (n, %)			
Civil servant	8(13.56)	2(3.39)	0.821
Worker	34(57.63)	38(64.41)	
Entrepreneur	12(20.34)	16(27.12)	
Other	5(8.47)	3(5.08)	
Smoking (n, %)			
Yes	18(30.51)	22(37.28)	0.624
No	41(69.49)	37(62,72)	

The homogeneity test of the characteristics of respondents in the intervention group and the control group was used Lavene's test. It showed a p-value of age (0.842), gender (0.683), education (0.791), professional (0.821), and smoking (0.624). The homogeneity test results in the two groups showed no difference in the characteristics of the respondents in the two groups.

Table 2. Self-management behavior and subjective well-being pre and post intervention and control group.

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Table 2. Before the intervention, the intervention group's mean self-management behavior was 34.31; after the intervention, it was 74.52, with a p-value of 0.000. Prior to intervention, the average value for subjective well-being in the intervention group was 10.08; after intervention, it was 16.74, with a p-value of 0.000, indicating a significant increase in self-management behavior and subjective well-being following the administration of a stroke self-management program based on health behavior theory. In contrast, the control group's mean self-management behavior before the intervention was 34.20 and after the intervention, it was 34.18, with a p-value of = 0.980. Prior to the intervention, the average value for subjective well-being was 9.76, and after it, it was 9.64, with a p-value of 0.465, indicating that neither self-management behavior nor subjective well-being significantly improved in the control group.

Table 3. The value of the difference in self-management behavior and subjective well-being pre and post in the intervention group and the control group.

Variable	Group	Mean	SD	n	t	*p-value*	
						Pre	Post
Self-management behavic	Intervention	74.52	2.31	59	70.64	0.346	0.000
	Control	34.18	3.52	59			
Subjective well-being	Intervention	16.74	2.19	59	15.24	0.758	0.000
	Control	9.64	2.49	59			

The self-management behavior and subjective well-being measures after the intervention have a p-value of 0.000, as shown in Table 3. In the intervention group, the mean self-management behavior before and after the intervention was 74.52, while the mean of subjective well-being before and after the intervention differed by 16.74, and in the control group, the mean self-management behavior before and after the intervention was 34.18, while mean of subjective well-being before and after the intervention was 9.64.

3.2 Discussion

Patients with strokes may experience functional, focal, and global disturbances that affect a variety of bodily processes and manifest as decreased physical mobility, dysarthria, swallowing difficulties, and a decline in sensory and cognitive function, which impairs memory perception and thinking (Amiri et al., 2022). As a result, stroke patients may experience disabilities that make it difficult for them to maintain their independence in their daily lives. In the nine domains of the Stroke Self-management Behaviors Performance Scale, stroke patients score poorly on the domains of engaging in regular exercise and leading a healthy lifestyle. The domains are: regularly exercising, adopting a healthy lifestyle, attending follow-up appointments, managing my emotional responses to my stroke and daily events, regularly engaging in social activities, maintaining regular contact with friends, and continuing to fulfill or adjust my family and social roles following my stroke, and developing my care plan with medical professionals (Lo et al., 2022).

A stroke self-management program based on health behavior theory can help people manage their strokes more effectively, improving their health and well-being in the process. The fundamental goal of self-management interventions for stroke patients is to enhance their coping mechanisms for adjusting to and controlling their post-stroke lives as well as their emotions of self-control (Shuqi et al., 2023). Intervention at stroke Self-management refers to people who are knowledgeable about disease conditions, actively participate in decision-making with health professionals, work together with them to treat and rehabilitate patients, actively monitor and treat disease symptoms, control how a disease affects one's physical, social, and emotional well-being, and lead a healthy lifestyle (Sun et al., 2022).

It is anticipated that offering a stroke self-management program that includes stroke management education will foster positive perspectives through a learning process, changing the patient's degree of health awareness (Kaloeti et al., 2021; Lou et al., 2017). Changes made by stroke survivors can influence healthy behavior, including adherence to exercise, food, and medication, which can boost healthy coping and lifestyle choices (Lo et al., 2018).

The intervention group received two months of stroke self-management together with software to track the patient's clinical condition and develop beneficial behavioral adjustments through sports-based therapy. Giving stroke patients incentives can have a beneficial emotional impact and make them appear more agreeable when performing exercises. The third and fourth weeks of the assessment process should be used to create a plan of action to accomplish the goals, then evaluate the patient's motivation, degree of confidence, and capacity

to improve mood, emotion, social interaction, and recovery time for stroke patients. This procedure can also help stroke victims with their memory and language abilities. The control group simply underwent a rehabilitation program that followed hospital regulations, i.e., once every two weeks of rehabilitation with physiotherapy.

Because patients in the control group only got education from the medical staff when they visited the neurology polyclinic, education in the form of medications, and activity control, there was no increase in self-management behavior and subjective well-being. Patients recovering from a stroke simply remain at home under family supervision. The control group's families were unable to assist the patient in getting the physical activity they required since they lacked experience caring for sick relatives. Stroke patients are unable to be autonomous in carrying out their daily activities since their families only provide for their every need, from getting up to going back to sleep, and they simply lie in bed without performing any exercises. To change the behavior of patients and their families to positive behavior, there is a need for stroke self-management based on health behavior therapy.

The authors only looked at the subjective well-being variables as a whole, therefore it was impossible to assess the limitations of this study on each aspect of subjective well-being.

4. Conclusion

This study aims to examine the impact of a stroke self-management program based on health behavior theory on post-ischemic stroke patients' self-management behavior and subjective well-being. Between the intervention and control groups, there is a statistically significant difference in self-management behavior and subjective well-being (p=0.000). In the future, researchers will incorporate a stroke self-management program with hospital-owned tools, such as telemedicine and telenursing, that stroke patients receiving home-based care can access into discharge planning for post-stroke patients.

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Conflict of interest

The authors declare there is no conflict of interest in this paper

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