E-ISSN: 2962-6110
P-ISSN: 2964-7843
JSRET
jsret.knpub.com
Journal of Scientific Research, Education, and Technology

How to Prevent Stroke in Hypertension Patients?

Arum Dwi Ningsih, Rizky Meuthia Pratiwi, Lutfi Wahyuni, Binarti Dwi Wahyuningsih
Universitas Bina Sehat PPNI Mojokerto, Indonesia

ABSTRACT

Stroke is a disease that causes neurological dysfunction, long-term disability, and death. Long-term increases in blood pressure can trigger stroke. Therefore, stroke prevention behavior needs to be improved as an effort to prevent stroke in hypertension patients. The purpose of this study is to represent stroke prevention behavior carried out by hypertension patients. The research design used is quantitative descriptive with a cross-sectional approach. The study was conducted in the working area of the Sooko Community Health Center with a population of hypertension patients, the number of samples was 52 respondents with a sampling technique using purposive sampling. The results showed that most of the respondents carried out stroke prevention behavior in the adequate category as many as 27 respondents (52%). Stroke prevention behavior in the sufficient category can be reflected in the respondents' efforts to control blood pressure, take antihypertensive drugs as recommended, limit consumption of foods high in salt and fat, do regular exercise, and have regular health checks, although not yet done consistently.

Keywords: *Prevention Behavior, Stroke, Hypertension*

Corresponding author
Name: Arum Dwi Ningsih
Email: arumdn87@gmail.com

INTRODUCTION

Stroke is a disease that causes neurological dysfunction and can lead to death and long-term disability. Two major groups of factors influence the incidence of stroke: non-modifiable risk factors such as age, gender, and heredity. Modifiable risk factors include unhealthy lifestyles, dyslipidemia, obesity, hypertension, diabetes mellitus, and hypercholesterolemia. Hypertension is the main risk factor for stroke. It increases the risk of stroke sixfold. The higher the patient's blood pressure, the greater the risk of stroke (Sari, 2022). Long-term elevated blood pressure can cause blood vessel damage and atherosclerosis, reducing blood circulation to the brain and potentially triggering a stroke. Therefore, stroke prevention behaviors need to be improved as a preventative measure for hypertension patients.

According to the Global Stroke Fact Sheet, there were approximately 11.9 million new cases of stroke worldwide in 2021. Stroke is the third leading cause of death and disability globally. Global data shows that 7.3 million stroke-related deaths occurred in 2021Feigin et al., 2025). Neurological deficits in stroke patients can have an impact on decreasing cognitive function, mental health, motor skills, visual skills and language

skills, thereby reducing the ability of stroke patients to carry out daily life activities (Thielscher et al., 2026).

Based on the results of the 2023 Indonesian Health Survey (SKI) conducted by the Ministry of Health of the Republic of Indonesia, the prevalence of stroke, diagnosed by doctors, among all age groups reached 8.3 per 1,000 (8.3%). This figure indicates that stroke remains a public health problem that requires serious attention in prevention and control efforts. The prevalence of stroke in men was recorded at 8.8%, higher than in women at 7.9% (Munira et al., 2023).

Various studies have shown that healthy behaviors play a crucial role in stroke prevention in hypertensive patients. A 2021 study by Husnaniyah et al. found that stroke prevention behaviors include adherence to antihypertensive medication, regular blood pressure checks, a low-salt and low-fat diet, a regular physical activity program, maintaining a healthy body weight, avoiding alcohol consumption, and smoking. Implementing these stroke prevention behaviors has been shown to significantly impact blood pressure control, thereby reducing the risk of stroke. Certain unhealthy behaviors can increase the risk of stroke (Husnaniyah et al., 2021).

According to the Centers for Disease Control and Prevention (CDC), most stroke risk factors can be prevented through lifestyle changes and chronic disease management. The CDC states that controlling blood pressure is one of the most effective steps in stroke prevention. However, the success of hypertension control is greatly influenced by a person's behavior in the health program provided by health professionals (CDC, 2024).

Community health centers (Puskesmas), as first-level healthcare facilities, play a crucial role in the prevention and control of non-communicable diseases, including hypertension and stroke. The Sooko Community Health Center, Mojokerto Regency, operates within a region with a high prevalence of hypertension, necessitating special attention in preventing stroke complications. Despite the implementation of various promotive and preventive programs, hypertension patients still fail to optimally implement stroke prevention practices. This can increase the risk of stroke, leading to a reduced quality of life, disability, family burden, and increased healthcare costs..

Based on this description, stroke prevention behavior in hypertensive patients is an important aspect to investigate. This study is expected to provide an overview of stroke prevention behavior in hypertensive patients in the Sooko Community Health Center (Puskesmas) area in Mojokerto Regency. The results can serve as a basis for healthcare professionals in developing more effective education and intervention programs to improve stroke prevention behavior in high-risk groups, thereby reducing the incidence of stroke.

METHOD

The research design used in this study was descriptive quantitative. This study aims to represent stroke prevention behaviors carried out by hypertensive patients. The approach used was cross-sectional, namely data collection was carried out at a specific time to obtain a picture of stroke prevention behaviors in hypertensive patients. The population in this study were all hypertensive patients in the work area of the Sooko Community Health Center and active in Prolanis activities. The study sample consisted

of 52 respondents, using a purposive sampling technique. Inclusion criteria included patients who had been diagnosed with hypertension by a health professional, aged ≥18 years, able to communicate well, and willing to be research respondents by signing an informed consent form. The research instruments used were a questionnaire on respondent characteristics and a questionnaire on stroke prevention behaviors that covered several aspects, namely compliance with taking antihypertensive medication, blood pressure control, a healthy diet low in salt and fat, physical activity, smoking cessation, limiting alcohol consumption, stress management, and routine health checks. The questionnaires were given directly to respondents and filled out according to the conditions experienced by the respondents. The collected data were then subjected to editing, coding, scoring, and tabulation before being analyzed. Data analysis used descriptive statistics to describe the frequency and percentage distribution of each research variable.

FINDING AND DISCUSSION

RESEARCH RESULT

Table 1 Frequency Distribution of Respondents Based on Respondent Characteristics at the UPTD Sooko Health Center April 2026

Respondent Characteristics	Category	f	%
Gender	Male	24	46,2
	Female	28	53,8
Total		52	100
Age	30-44 years	13	25,0
	45-59 years	17	32,7
	60-74 years	11	21,2
	>75 years	11	21,2
Total		52	100
history of hypertension	<1 years	14	26,9
	1-5 years	24	46,2
	>5 years	14	26,9
Total		52	100
Comorbidities	there are comorbidities	19	36,5
	no comorbidities	33	63,5
Total		52	100

Primary data source 2026

Table 1 shows that the majority (53.8%) of respondents were female, totaling 28 respondents. In addition, a small portion (32.7%) of respondents were aged 45–59 years, namely 17 respondents. Based on the duration of suffering from hypertension, almost half (46.2%) of respondents had suffered from hypertension for 1–5 years with a total of 24 respondents. Finally, seen from the presence or absence of comorbidities, the majority (63.5%) of respondents did not have comorbidities, namely 33 respondents.

Table 2 Frequency Distribution of Respondents Based on Stroke Prevention Behavior in Hypertension Patients at the UPTD Sooko Health Center April 2026

Stroke Prevention Behavior	F (frequency)	percentage (%).
Good prevention behavior	10	19,2
Adequate prevention behavior	27	52
Poor of behavior	15	28,8
Total	52	100

Primary data source 2026

The research results presented in Table 2 show that the majority of respondents carried out stroke prevention behavior in the sufficient category, as many as 27 respondents (52%).

DISCUSSION

The results of the study, presented in Table 2, show that the majority of respondents 27 respondents (52%) categorized stroke prevention behaviors as adequate. This result indicates that most respondents have taken several stroke prevention measures, but their implementation has not been optimal and still requires improvement. Adequate stroke prevention behaviors are reflected in respondents' efforts to control blood pressure, take antihypertensive medications as recommended, limit consumption of foods high in salt and fat, engage in regular exercise, and undergo regular health checks, although these have not been done consistently.

Stroke prevention behaviors that fall into the moderate category can be influenced by various factors, such as knowledge level, age, education, family support, access to health services, and individual motivation to maintain their health. Furthermore, a person's health behavior is also influenced by supporting factors such as the availability of health facilities, as well as motivating factors such as family and health care professional support. If any of these factors is not optimal, then the prevention behavior tends to be at a moderate or moderate level (Notoatmodjo, 2014). The findings of this study indicate that respondents are aware of the importance of stroke prevention, but there are still obstacles in implementing healthy behaviors sustainably.

The results of the study, as shown in Table 1, show that the frequency distribution of respondents based on their characteristics shows that the majority of respondents were female (28 respondents, 53.8%). Gender is one factor influencing stroke prevention behavior. Differences in social roles, health awareness, and health care seeking patterns cause men and women to exhibit different preventive behaviors. Women tend to pay more attention to their health, utilize health care services more regularly, and are more compliant with treatment than men. Conversely, men are more likely to have risk factors such as smoking, alcohol consumption, and irregular physical activity, potentially reducing the quality of stroke prevention behavior. Furthermore,

biological and hormonal differences also influence stroke risk and outcomes in men and women (Carcel et al., 2020).

In addition, a history of comorbidities such as diabetes mellitus, dyslipidemia, heart disease, obesity, and a history of previous stroke also influence stroke prevention behavior. Patients with comorbidities generally interact more frequently with healthcare professionals, thus obtaining better information about stroke risk and the importance of prevention. Furthermore, the more comorbidities a person has, the more complex their health management becomes, which can affect adherence to medication and lifestyle changes. Various stroke prevention guidelines emphasize that controlling vascular risk factors such as hypertension, diabetes, dyslipidemia, and heart disease is a key component in preventing both first and recurrent strokes (Kleindorfer et al., 2021).

According to researchers, hypertension control is one of the most effective measures in stroke prevention. Individuals who are unable to optimally control their blood pressure have a higher risk of stroke than those who regularly manage their risk factors. Therefore, the moderate level of preventive behavior indicates the need for increased health education and strengthened adherence to medication and healthy lifestyle changes. Structured health education, counseling on stroke risk factors, and family involvement in supporting health behavior changes can be effective strategies for improving the quality of stroke prevention behavior in hypertensive patients. By improving stroke prevention behavior, it is hoped that the risk of stroke can be minimized, thereby maintaining the patient's quality of life.

CONCLUSION

Based on the results of a study on stroke prevention behavior in hypertensive patients in the Sooko Community Health Center, Mojokerto Regency, it can be concluded that the majority of respondents, 27 respondents (52%), have adequate stroke prevention behavior. This condition indicates that stroke prevention efforts have been implemented, but still need to be improved so that patients are able to implement preventive behavior optimally and sustainably to reduce the risk of stroke.

REFERENCES

Carcel, C., Woodward, M., Wang, X., Bushnell, C., Charlotte, E., George, T., Health, G., South, N., & Wales, N. S. (2020). Frontiers in Neuroendocrinology Sex matters in stroke : A review of recent evidence on the differences between women and men. *Frontiers in Neuroendocrinology*, *59*(August), 100870. https://doi.org/10.1016/j.yfrne.2020.100870

CDC, C. for D. C. and P. (2024). Risk for Stroke. In *Centers for Disease Control and Prevention (CDC)*.

Feigin, V. L., Brainin, M., Norrving, B., Martins, S. O., Pandian, J., Lindsay, P., Grupper, M. F., & Rautalin, I. (2025). *World Stroke Organization : Global Stroke Fact Sheet 2025*. *20*(2). https://doi.org/10.1177/17474930241308142

Husnaniyah, D., Hidayatin, T., & Handayani, E. J. (2021). Perilaku Pencegahan Stroke Pada Penderita Hipertensi di Wilayah Kerja Puskesmas Jatibarang Indramayu. *Jurnal Medika Cendikia*, *8*(1).

Kleindorfer, D. O., Towfighi, A., & Chaturvedi, S. (2021). *2021 Guideline for the*

Prevention of Stroke in Patients With Stroke and Transient Ischemic Attack (Issue July). https://doi.org/10.1161/STR.0000000000000375

Munira, S. L., Thaha, R., Muusadad, A., Junaidi, P., & Kusnanto, H. (2023). *Survei Kesehatan Indonesia (SKI)*. https://drive.google.com/file/d/1rjNDG_f8xG6-Y9wmhJUnXhJ-vUFevVJC/view

Notoatmodjo, S. (2014). Promosi Kesehatan dan Perilaku Kesehatan. In *Rineka Cipta*. https://doi.org/10.24815/jks.v21i3.20578

Sari, I. (2022). Analisis Ekologi : Hubungan Faktor Risiko dengan Prevalensi Stroke di Indonesia 2018. *Jurnal Ilmu Kesehatan*, *3*(4), 132–138. https://arteri.sinergis.org/arteri/article/view/236/101

Thielscher, C. S., Montellano, F. A., Saur, D., Flöel, A., Petzold, G. C., & Haeusler, K. G. (2026). Prevention in stroke - Current state , present gaps and probable next steps. *Neurological Reaseach and Practice*, 1–15. https://www.ovid.com/journals/ijstr/abstract/10.1111/j.1747-4949.2009.00326.x~burden-of-stroke-in-indonesia?redirectionsource=fulltextview