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ANALYZING THE APPLICATION OF THE STROKE PREVENTION CHECKLIST TO PREVENT STROKE RE-ATTACK

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ABSTRACT

Introduction: Stroke occurs when a blood vessel in the brain is blocked or ruptured. This prevents the brain from getting blood and oxygen, causing brain cells to die. **Objective:** The purpose of this study was to determine the effect of the stroke prevention checklist on preventing re-attack strokes, using a survey research method, namely using samples from a population and using a questionnaire as an instrument for collecting primary data. **Method:** The type of quantitative research uses a survey method, cross-sectional design. Sampling uses a non-probability sampling technique and uses 45 samples that are purposive sampling (stroke patients). The instrument in this study uses the prevention checklist format from the American Stroke Association in 2022. The analysis is divided into univariate, namely describing the characteristics of respondents (age, gender, diagnosis) and research variables. Furthermore, bivariate analysis was carried out to see the relationship between the independent variable, namely the stroke prevention checklist, and the dependent variable, namely re-attack stroke, and using the chi square test. Multivariate analysis uses a regression test. **Results** of the study showed that the application of stroke prevention checklist in preventing recurrent stroke attacks was very effective. The results of the simultaneous test showed that the variable of maintaining a diet was the most effective preventive measure in preventing stroke (p = 0.003). **Conclusion:** People who have had a stroke have a greater risk of having another stroke, especially if the risk factors are not well managed.

Keywords: *post stroke; re-attack stroke; stroke; stroke prevention checklist*

INTRODUCTION

Stroke occurs when a blood vessel in the brain is blocked or ruptured. This prevents the brain from getting blood and oxygen, causing brain cells to die. Stroke is the 5th leading cause of death in the US and a leading cause of disability. Stroke can happen at any age. 80% of strokes are preventable by making healthy choices. Most strokes can be treated immediately The sooner stroke patients receive help, the greater their chances of recovering with little or no disability (ASA, In 2024). The death rate from disability was found to be high in strokes of undetermined cause and cardioembolism. cardiovascular risk factors are both biological and lifestyle. The 2018 Basic Health Research (Riskesdas) recorded the highest prevalence of stroke in DI Yogyakarta (14.6%), followed by North Sulawesi (14.0%), prevalence based on age is highest at age ≥75 years 50.2%), based on gender male 11.0% and female 10.9%, based on place of residence in the city 12.6% higher than in the village (RISKESDAS, 2018). Therefore, this study aims to determine the effect of stroke prevention checklist to prevent re-attack stroke, so as to be able to solve problems related to the National Research Master Plan in the field of Health focus, research theme Commodification of local wisdom in the health sector to handle health problems, Research topic local wisdom to support clean and healthy lifestyles.

Problem formulation of several interventions for recurrent stroke prevention is community support for early prevention, recognition, and modification of risk factors in people who are susceptible to stroke. Also Lifestyle such as diet, physical activity, diet and antithrombotic treatment (Kleindoefer D, 2021). Other studies show that the number of patients who understand that recurrence prevention is important in ischemic stroke and that prevention is achieved through risk factor control is still limited, family knowledge and attitudes are the most important stroke risk factors. life after stroke

will not be the same as before stroke. Many changes occur in stroke patients and their families. After stroke, patients often experience changes in emotions and behavior. Stroke survivors may also feel anxious, angry, or depressed. Each stroke patient has unique risk factors that contribute to stroke. Knowing the causes of stroke is important to prevent recurrent stroke. Certain lifestyle choices increase the likelihood of having a stroke. Although some risk factors cannot be controlled, most can be managed (ASA, In 2024).

Previous studies have shown that secondary prevention has been effective in reducing recurrence, and recurrence is now maintained at a low level. The largest proportion of first recurrent strokes is the same subtype as the index stroke. However, only for cardioembolic and hemorrhagic strokes are the majority of first recurrences of the same type (54% and 51%, respectively) (Flach C, 2020).

One in four stroke survivors will have another stroke. Most strokes can be prevented through education and lifestyle changes by moving, eating healthy, managing blood pressure, sleeping healthy, and quitting smoking and vaping. Consult with your health care team about managing stroke risk factors to help prevent recurrent stroke. Prevention checklist is a step to prevent having another stroke (ASA, 2022) Increasing patient and family knowledge in detecting signs of stroke risk factor prevention is targeted to change behavior and improve healthy lifestyles to prevent recurrent stroke (Amila, 2018). The purpose of this study was to determine the effect of the stroke prevention checklist on preventing re-attack strokes, using a survey research method, namely using samples from a population and using a questionnaire as an instrument for collecting primary data

METHOD

The type of quantitative research using the survey method uses a cross-sectional design with the nature of the research, namely explanatory research, based on the perceptions of respondents. The population in this study were all stroke patients in the ward of Gunung Maria Hospital, Tomohon. Sampling used a non-probability sampling technique and used 45 samples that were purposive sampling (stroke patients). The instrument in this study used the prevention checklist format from the American Stroke Association in 2022. The analysis is divided into univariate, namely describing the characteristics of respondents (age, gender, diagnosis) and research variables, namely the stroke prevention checklist and re-attack stroke. Furthermore, bivariate analysis was carried out to see the relationship between independent and dependent variables and using the chi square test (categorical). Multivariate analysis used a regression test to see the most related variables which were carried out simultaneously on the dependent variable.

RESULTS

Table 1 Frequency Distribution Characteristic of Respondents

Respondent Characteristics	N	%
Age		
48 -59 Years	27	60
60-70 Years	18	40
Gender		
Male	18	40
Female	27	60
Diagnosis		
Sea Quill of Cerebral Infarction	10	22,2
Fracture Compression Veterbral	1	2,2
Stroke	17	37,8
Pre Stroke Attack	3	6,7
Re-Attack Stroke	1	2,2
Post Stroke	13	28,9
Total	**45**	**100**

Based on table 1 which discusses age, it can be seen that most respondents are aged 48-59 years, as many as 27 people, with a large percentage (60%). While respondents aged 60-70 years are 18 people with a percentage (40%). By gender, it shows that the majority of respondents are female, with a large percentage (60%), while the majority of respondents are male, with a large percentage (40%). By diagnosis, it shows that the

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most common diagnosis is Stroke with 17 respondents (37.8%); the second most is Post Stroke with 13 respondents (28.9%); the third most is Sea Quill of Cerebral Infarction with 10 respondents (22.2%); the fourth most is Pre Stroke Attack with 3 respondents (6.7%); the fifth most is Fracture Compression Vertebral and Re-Attack Stroke, each with 1 respondent (2.2%).

Table 2. Stroke Prevention Checklist Completion Results

Variable	Results			
	Already Done		Not done	
	N	%	N	%
Knowing the Causes of Stroke	30	66.7	15	33.3
Overcoming High Blood Pressure	30	66.7	15	33.3
Cholesterol Control	27	60	18	40
Reduce Blood Sugar	33	73.3	12	26.7
Conducting Independent Mobilization/Movement	33	73.3	12	26.7
Maintaining Diet	27	60	18	40
Lose Weight/Maintain Ideal Weight	33	73.3	12	26.7
Quit smoking	29	64.4	16	35.6
Involved In Care Plan Decisions	37	82.2	8	17.8
Take Medication As Prescribed	30	66.7	15	33.3
Join A Program That Includes Sports, Education, Counseling	21	46.7	24	53.3

Based on Table 2, the results showed that after the data collection process on respondents using the Stroke Prevention Checklist, there were 30 respondents who already knew about the causes of stroke (66.7%), while 15 respondents (33.3%) did not know about the causes of stroke. Respondents who had been able to overcome high blood pressure were 30 respondents (66.7%) and those who had not been able to overcome high blood pressure were 15 respondents (33.3%). Respondents who had controlled cholesterol were 27 respondents (60%) while those who had not controlled cholesterol were 18 respondents (40%). Respondents who had reduced blood sugar were 33 respondents (73.3%) and those who had not reduced blood sugar were 12 respondents (26.7%). Respondents who had diligently mobilized or moved independently with a total of 33 respondents (73.3%) and those who had not mobilized or moved independently were 12 respondents (26.7%).

Respondents who have maintained a good diet are 27 respondents (60%) and those who have not maintained a good diet are 18 respondents (40%). Respondents who have tried to lose weight or maintain ideal weight are 33 respondents (73.3%), while those who have not lost weight or maintained ideal weight are 12 respondents (26.7%). Respondents who have stopped smoking are 29 respondents (64.4%). This is because most of the respondents are female so they do not smoke. Meanwhile, respondents who have not stopped smoking are 16 respondents (35.6%). Respondents who have been involved in treatment plan decisions are 37 respondents (82.2%), while those who have not been involved in treatment plan decisions are 8 respondents (17.8%). Respondents who have taken medication according to a doctor's prescription are 30 respondents (66.7%) and those who have not taken medication according to a prescription are 15 respondents (33.3%). Respondents who have not joined a program that includes sports, education and counseling are 24 respondents (53.3%), while those who have joined are 21 respondents (46.7%).

Table 3. Results of Completing the Stroke Prevention Checklist in Connection with Stroke Incidents in Patients

Diagnosis	Knowing the Causes of Stroke			
	Already Done		Not done	
	N	%	N	%

Knowing the Causes of Stroke				
Sea Quill of Cerebral Infarction	9	20	1	2.2
Fracture Compression Veterbral Stroke	1	2.2	0	0
Pre Stroke Attack	5	11.1	12	26.7
Re-Attack Stroke	2	4.4	1	2.2
Post Stroke	1	2.2	0	0
Overcoming High Blood Pressure	12	26.7	1	2.2
Sea Quill of Cerebral Infarction	8	17.8	2	4.4
Fracture Compression Veterbral Stroke	1	2.2	0	0
Pre Stroke Attack	6	13.3	11	24.4
Re-Attack Stroke	2	4.4	1	2.2
Post Stroke	0	3	1	2.2
Cholesterol Control	13	28.9	0	0
Sea Quill of Cerebral Infarction	4	8.9	6	13.3
Fracture Compression Veterbral Stroke	1	2.2	0	0
Pre Stroke Attack	12	26.7	5	11.1
Re-Attack Stroke	2	4.4	1	2.2
Post Stroke	1	2.2	0	0
Reducing Blood Sugar	13	28.9	0	0
Sea Quill of Cerebral Infarction	4	8.9	6	13.3
Fracture Compression Veterbral Stroke	1	2.2	0	0
Pre Stroke Attack	12	26.7	5	11.1
Re-Attack Stroke	2	4.4	1	2.2
Post Stroke	1	2.2	0	0
Carrying out Independent Mobilization/Movement	13	28.9	0	0
Sea Quill of Cerebral Infarction	4	8.9	6	13.3
Fracture Compression Veterbral Stroke	1	2.2	0	0
Pre Stroke Attack	12	26.7	5	11.1
Re-Attack Stroke	2	4.4	1	2.2
Post Stroke	1	2.2	0	0
Maintaining Diet	13	28.9	0	0
Sea Quill of Cerebral Infarction	9	20	1	2.2
Fracture Compression Veterbral Stroke	1	2.2	0	0
Pre Stroke Attack	10	22.2	7	15.6
Re-Attack Stroke	3	6.7	0	0
Post Stroke	1	2.2	0	0
Losing Weight and Maintaining Ideal Body Weight	3	6.7	10	22.2
Sea Quill of Cerebral Infarction	4	8.9	6	13.3
Fracture Compression Veterbral Stroke	1	2.2	0	0
Pre Stroke Attack	12	26.7	5	11.1
Re-Attack Stroke	2	4.4	1	2.2
Post Stroke	1	2.2	0	0
Quit Smoking	13	28.9	0	0
Sea Quill of Cerebral Infarction	4	8.9	6	13.3
Fracture Compression Veterbral Stroke	1	2.2	0	0.0
Pre Stroke Attack	10	22.2	7	15.6
Re-Attack Stroke	2	4.4	1	2.2
Post Stroke	1	2.2	0	0
Involved in Care Plan Decisions	11	24.4	2	4.4
Sea Quill of Cerebral Infarction	6	13.3	4	8.9
Fracture Compression Veterbral Stroke	1	2.2	0	0
Pre Stroke Attack	13	28.9	4	8.9
	3	6.7	0	0

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Re-Attack Stroke	1	2.2	0	0
Post Stroke	13	28.9	0	0
Taking Medication According to Prescription				
Sea Quill of Cerebral Infarction	8	17.8	2	4.4
Fracture Compression Veterbral	1	2.2	0	0
Stroke	6	13.3	11	24.4
Pre Stroke Attack	2	4.4	1	2.2
Re-Attack Stroke	0	0	1	2.2
Post Stroke	13	28.9	0	0
Joining a Program that Includes Exercise, Education and Counseling				
Sea Quill of Cerebral Infarction	6	13.3	4	8.9
Fracture Compression Veterbral	1	2.2	0	0
Stroke	7	15.6	10	22.2
Pre Stroke Attack	2	4.4	1	2.2
Re-Attack Stroke	1	2.2	0	0
Post Stroke	4	8.9	9	20.0

Based on table 3 of Knowing the Causes of Stroke after cross tabulation, the results obtained that out of 15 respondents who did not know the cause of stroke, there was 1 respondent (2.2%) who was diagnosed with sea quill of cerebral infarction, 12 respondents (26.7%) were diagnosed with stroke, 1 respondent (2.2%) was diagnosed with pre-stroke attack and 1 respondent (2.2%) was diagnosed with post stroke. Out of 30 respondents who already knew the cause of stroke, there were 9 respondents (20%) who were diagnosed with sea quill of cerebral infarction, 1 respondent (2.2%) was diagnosed with Fracture Compression Vertebral, 5 respondents (11.1%) were diagnosed with stroke, 2 respondents were diagnosed with pre-stroke attack, 1 respondent (2.2%) was diagnosed with re-attack stroke and 12 respondents (26.7%) were diagnosed with post stroke.

The results of the Chi Square test obtained a p value = 0.003 (<α = 0.05) which states that there is a relationship between knowing the cause of stroke and stroke diagnosis.

Based on the table about Overcoming High Blood Pressure after cross tabulation, the results obtained that out of 15 respondents (33.3%) who had not overcome high blood pressure, there were 2respondents (4.4%) who were diagnosed with stroke sea quill of cerebral infarction, 11 respondents (24.4%) were diagnosed with stroke, 1 respondent (2.2%) was diagnosed with pre-stroke attack and 1 respondent (2.2%) was diagnosed with post stroke. Out of 30 respondents (66.7%) who had overcome high blood pressure, there were 8 respondents (17.8%) who were diagnosed with sea quill of cerebral infarction, 1 respondent (2.2%) was diagnosed with Fracture Compression Vertebral, 6 respondents (13.3%) were diagnosed with stroke, 2 respondents (4.4%) were diagnosed with pre stroke attack and 13 respondents (28.9%) were diagnosed with post stroke.

The results of the Chi Square test obtained a value of p = 0.004 (<α = 0.05) which states that there is a relationship between overcoming high blood pressure and stroke diagnosis.

Based on the table about Cholesterol Control, the results obtained that out of 18 respondents (40%) who had not controlled cholesterol, there was 1 respondent (2.2%) who was diagnosed with stroke sea quill of cerebral infarction, 7 respondents (15.6%) were diagnosed with stroke, and 10 respondents (22.2%) were diagnosed with post stroke. Out of 27 respondents (60%) who had controlled cholesterol, there were 9 respondents (20%) who were diagnosed with sea quill of cerebral infarction, 1 respondent (2.2%) was diagnosed with Fracture Compression Vertebral, 10 respondents (22.2%) were diagnosed with stroke, 3 respondents (6.3%) were diagnosed with pre-stroke attack, 1 respondent (2.2%) was diagnosed with re-attack stroke and 3 respondents (6.7%) were diagnosed with post stroke.

The results of the Chi Square test obtained a value of p = 0.013 (<α = 0.05) which states that there is a relationship between cholesterol control and stroke diagnosis

Based on the table about Reducing Blood Sugar, the results obtained that out of 12 respondents (26.7%) who had not reduced their blood sugar, there were 6 respondents (13.3%)

who were diagnosed with stroke sea quill of cerebral infarction, 5 respondents (11.1%) were diagnosed with stroke and 1 respondent (2.2%) was diagnosed with pre-stroke attack. Out of 33 respondents (73.3%) who had reduced their blood sugar, there were 4 respondents (8.9%) who were diagnosed with sea quill of cerebral infarction, 1 respondent (2.2%) was diagnosed with Fracture Compression Vertebral, 12 respondents (26.7%) were diagnosed with stroke, 2 respondents (4.4%) were diagnosed with pre-stroke attack, 1 respondent (2.2%) was diagnosed with re-attack stroke and 13 respondents (28.9%) were diagnosed with post-stroke.

The results of the Chi Square test obtained a value of p = 0.046 (<α = 0.05) which states that there is a relationship between reducing blood sugar and stroke diagnosis**.**

Based on the table about Carrying out Independent Mobilization/Movement, the results obtained were that of the 12 respondents (26.7%) who had not mobilized/moved independently, there were 6 respondents (13.3%) who were diagnosed with stroke sea quill of cerebral infarction, 5 respondents (11.1%) were diagnosed with stroke and 1 respondent (2.2%) was diagnosed with pre-stroke attack. Of the 33 respondents (73.3%) who had mobilized/moved independently, there were 4 respondents (8.9%) who were diagnosed with sea quill of cerebral infarction, 1 respondent (2.2%) was diagnosed with Fracture Compression Vertebral, 12 respondents (26.7%) were diagnosed with stroke, 2 respondents (4.4%) were diagnosed with pre-stroke attack, 1 respondent (2.2%) was diagnosed with re-attack stroke and 13 respondents (28.9%) were diagnosed with post stroke. The results of the Chi Square test obtained a p value of 0.046 (<α=0.05) which states that there is a relationship between carrying out independent mobilization/movement and a stroke diagnosis**.**

Based on the table about Maintaining Diet, the results obtained that out of 18 respondents (80%) who had not maintained their diet, there was 1 respondent (2.2%) who was diagnosed with stroke sea quill of cerebral infarction, 12 respondents (26.7%) were diagnosed with stroke, 1 respondent (2.2%) was diagnosed with pre-stroke attack and 1 respondent (2.2%) was diagnosed with post stroke. Out of 30 respondents who had maintained their diet, there were 9 respondents (20%) who were diagnosed with sea quill of cerebral infarction, 1 respondent (2.2%) was diagnosed with Fracture Compression Vertebral, 5 respondents (11.1%) were diagnosed with stroke, 2 respondents were diagnosed with pre-stroke attack, 1 respondent (2.2%) was diagnosed with re-attack stroke and 12 respondents (26.7%) were diagnosed with post stroke.

The results of the Chi Square test obtained a p value = 0.013 (<α = 0.05) which states that there is a relationship between maintaining a diet and a stroke diagnosis

Based on the table about Losing Weight and Maintaining Ideal Body Weight the results obtained were that of the 12 respondents (26.7%) who had not reduced their weight/maintained their ideal weight, there were 6 respondents (13.3%) who were diagnosed with stroke sea quill of cerebral infarction, 5 respondents (11.1%) were diagnosed with stroke and 1 respondent (2.2%) was diagnosed with pre-stroke attack. Of the 33 respondents (73.3%) who had reduced their weight/maintained their ideal weight, there were 4 respondents (8.9%) who were diagnosed with sea quill of cerebral infarction, 1 respondent (2.2%) was diagnosed with Fracture Compression Vertebral, 12 respondents (26.7%) were diagnosed with stroke, 2 respondents were diagnosed with pre-stroke attack, 1 respondent (2.2%) was diagnosed with re-attack stroke and 13 respondents (28.9%) were diagnosed with post-stroke.

The results of the Chi Square test obtained a p value of 0.046 (<α=0.05) which states that there is a relationship between reducing weight/maintaining ideal weight and stroke diagnosis

Based on the table about Quit Smoking the results obtained that out of 16 respondents (35.6%) who had not stopped smoking, there were 6 respondents (13.3%) who were diagnosed with stroke sea quill of cerebral infarction, 7 respondents (15.6%) were diagnosed with stroke, 1 respondent (2.2%) was diagnosed with pre-stroke attack and 2 respondents (4.4%) were diagnosed with post stroke. Out of 29 respondents

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(64.4%) who had stopped smoking, there were 4 respondents (8.9%) who were diagnosed with sea quill of cerebral infarction, 1 respondent (2.2%) was diagnosed with Fracture Compression Vertebral, 10 respondents (22.2%) were diagnosed with stroke, 2 respondents (4.4%) were diagnosed with pre stroke attack, 1 respondent (2.2%) was diagnosed with re-attack stroke and 11 respondents (24.4%) were diagnosed with post stroke.

The results of the Chi Square test obtained a p value of 0.282 (>α=0.05) which states that there is no relationship between quitting smoking and stroke diagnosis.

Based on the table about Involved in Care Plan Decisions the results obtained that of the 8 respondents (17.8%) who had not been involved in my care plan decision, there were 4 respondents (8.9%) who were diagnosed with stroke sea quill of cerebral infarction and 4 respondents (8.9%) were diagnosed with stroke. Of the 37 respondents (82.2%) who had been involved in my care plan decision, there were 6 respondents (13.3%) who were diagnosed with sea quill of cerebral infarction, 1 respondent (2.2%) diagnosed with Fracture Compression Vertebral, 13 respondents (28.9%) diagnosed with stroke, 3 respondents (6.7%) diagnosed with pre-stroke attack, 1 respondent (2.2%) diagnosed with re-attack stroke and 13 respondents (28.9%) diagnosed with post-stroke.

The results of the Chi Square test obtained a value of p = 0.176 (> α = 0.05) which stated that there was no relationship between involvement in care plan decisions and stroke diagnosis

Based on the table about Taking Medication According to Prescription, the results obtained that out of 15 respondents (13.3%) who had not taken medication according to the prescription, there were 2 respondents (4.4%) who were diagnosed with stroke sea quill of cerebral infarction, 11 respondents (24.4%) were diagnosed with stroke, 1 respondent (2.2%) was diagnosed with pre-stroke attack and 1 respondent (2.2%) was diagnosed with re-attack stroke. Out of 30 respondents (66.7) who had taken medication according to the prescription, there were 8 respondents (17.8%) who were diagnosed with sea quill of cerebral infarction, 1 respondent (2.2%) was diagnosed with Fracture Compression Vertebral, 6 respondents (13.3%) were diagnosed with stroke, 2 respondents (4.4%) were diagnosed with pre-stroke attack and 13 respondents (28.9%) were diagnosed with post-stroke.

The results of the Chi Square test obtained a p value = 0.004 (> α = 0.05) which states that there is a relationship between taking medication according to the prescription and a stroke diagnosis.

Based on the table about Joining a Program that Includes Exercise, Education and Counseling the results obtained that out of 24 respondents (53.3%) who had not joined the program that included sports, education and counseling, there were 4 respondents (8.9%) who were diagnosed with stroke sea quill of cerebral infarction, 10 respondents (22.2%) were diagnosed with stroke, 1 respondent (2.2%) was diagnosed with pre-stroke attack and 9 respondents (20%) were diagnosed with post stroke. Out of 21 respondents (46.7%) who had joined the program that included sports, education and counseling, there were 6 respondents (13.3%) who were diagnosed with sea quill of cerebral infarction, 1 respondent (2.2%) was diagnosed with Fracture Compression Vertebral, 7 respondents (15.6%) were diagnosed with stroke, 2 respondents (4.4%) were diagnosed with pre stroke attack, 1 respondent (2.2%) was diagnosed with re-attack stroke and 4 respondents (8.9%) were diagnosed with post stroke.

The results of the Chi Square test obtained a p value of 0.415 (>α=0.05) which states that there is no relationship between joining a program that includes sports, education and counseling with a stroke diagnosis

Table 4. Multiple Logistic Regression Test Results

Variables	95% Confidence Interval			
	t	Sig.	LB	UB
Knowing the Causes of Stroke	0.648	0.001	-0.850	1.653
Maintaining a Diet	-3.192	0.520	-2.742	1.617
Cholesterol Control	-2.216	0.003	-2.686	1.743
Take Medication According to Prescription	0.522	0.604	-0.945	1.605

Based on table 4, the results of the multiple logistic regression test (simultaneous test) were obtained, the results obtained were that of the 4 (four) eligible variables included in the simultaneous test, the variable of maintaining a diet was the variable most related to stroke (p=0.003) (t=-3.192). This result also obtained a CI value: -2.742-1.617

DISCUSSION

Knowing the Cause of Stroke

Stroke is a serious problem in public health. The level of knowledge possessed by clients and families can influence the behavior of clients and families in caring for clients who have suffered from stroke. Especially the client's knowledge of factors that can cause clients to experience recurrent strokes (MS, Pengetahuan Sikap dan Tindakan Stroke dan Tentang Hipertensi Sebagai Fktor Resiko Stroke: Panduan Lengkap Stroke, 2021)

In this study, there were 15 respondents who did not know about the causes of stroke and 30 other respondents already knew about the causes of stroke but still experienced re-attack stroke. One effective and efficient way to reduce the incidence of stroke is prevention efforts (Kumalasari, 2022). If we know all the risk factors that cause stroke, we can make prevention efforts such as providing health education on how to prevent stroke so that stroke does not recur (Khaira, 2022)

1. Overcoming High Blood Pressure

As is known, hypertension or high blood pressure is a major risk factor for ischemic stroke. The higher the patient's blood pressure, the greater the possibility of stroke, because hypertension can accelerate the hardening of the walls of the arteries and cause the destruction of fat in smooth muscle cells, thereby accelerating the process of atherosclerosis (MS, 2021) In this study, the results showed that out of 15 respondents who had not yet overcome high blood pressure, there were 2 respondents (4.4%) who were diagnosed with stroke sea quill of cerebral infarction, 11 respondents (24.4%) were diagnosed with stroke, 1 respondent (2.2%) was diagnosed with pre-stroke attack and 1 respondent (2.2%) was diagnosed with post-stroke.

Cholesterol Control

Cholesterol is an essential component of the structural membrane of all cells and is a major component of brain and nerve cells. Cholesterol is found in high concentrations in glandular tissue and in the liver where it is synthesized and stored. Cholesterol can be harmful to the body. Cholesterol, if present in too much blood, can form deposits on the walls of blood vessels, causing narrowing called atherosclerosis. If narrowing occurs in the blood vessels of the heart, it can cause coronary heart disease and if in the blood vessels of the brain, cerebrovascular diseases including stroke (MS, 2019) In this study, there were 18 respondents (40%) who had not controlled cholesterol, there was 1 respondent (2.2%) who was diagnosed with stroke sea quill of cerebral infarction, 7 respondents (15.6%) were diagnosed with stroke, and 10 respondents (22.2%) were diagnosed with post-stroke.

Reduces Blood Sugar

Diabetes Mellitus is an important long-term risk factor. Approximately 40%-60% of diabetic patients are complicated with hypertension which is the strongest risk factor for stroke. Diabetes is one of the most important risk factors for ischemic stroke, especially in patients under 65 years of age. The majority of acute stroke patients experience impaired glucose metabolism, and in most cases this condition is unknown. Because diabetes will worsen the outcome of acute stroke, it is advisable to control and reduce blood sugar in order to prevent recurrent stroke attacks (MS, 2019) In this study, there were 12 respondents (26.7%) who had not reduced their blood sugar, there were 6 respondents (13.3%) who were diagnosed with stroke sea quill of cerebral infarction, 5 respondents (11.1%) were diagnosed with stroke and 1 respondent (2.2%) was diagnosed with pre-stroke attack.

Carrying out Independent Mobilization or Movement

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Physical activity not only plays a role in primary stroke prevention but also in secondary stroke prevention. Physical activity is also used as a therapeutic strategy to maximize functional recovery in post-stroke patient rehabilitation. Inactivity in stroke patients is an independent predictor of recurrent stroke. One in 3 stroke patients will experience another stroke within 5 years, and half of those who survive 5-10 years will die from recurrent stroke. The level of physical activity and mobility is still low in stroke patients. Various reasons cause this, including: weakness/paralysis of one side of the body, poor fitness, and balance disorders. Other factors that influence stroke patient participation in physical activity include mood, motivation, finances, and support from caregivers (Br Surbakti R, 2024) In this study, there were 12 respondents (26.7%) who had not mobilized/moved independently, there were 6 respondents (13.3%) who were diagnosed with stroke sea quill of cerebral infarction, 5 respondents (11.1%) were diagnosed with stroke and 1 respondent (2.2%) was diagnosed with pre-stroke attack.

Maintain a diet

Stroke patients need adequate, tasty and balanced food with enough fiber, fluids (2 liters or more per day), and micronutrients. If the patient's appetite is reduced, they can be given snacks, high-calorie delicious foods in limited quantities every 2-3 hours, along with nutritional supplement drinks. To prevent choking and aspiration pneumonia, the best patient position is the sitting position (Esti A, 2020) In this study, there were 18 respondents (80%) who had not maintained a diet, there was 1 respondent (2.2%) who was diagnosed with stroke sea quill of cerebral infarction, 12 respondents (26.7%) were diagnosed with stroke, 1 respondent (2.2%) was diagnosed with pre-stroke attack and 1 respondent (2.2%) was diagnosed with post stroke.

Lose weight/maintain ideal body weight

Being overweight contributes to other stroke risk factors, such as high blood pressure, cardiovascular disease, and diabetes. (Tanjung A, 2022)

Weight loss is the lifestyle change that has the greatest impact on improving blood pressure. Maintain ideal body weight: excess body weight causes obesity. Obesity can increase the risk of stroke by about 15%. In addition, obesity can cause hypertension and heart disease (AKM, 2023)

In this study, there were 12 respondents (26.7%) who had not lost weight/maintained ideal body weight, there were 6 respondents (13.3%) who were diagnosed with stroke sea quill of cerebral infarction, 5 respondents (11.1%) were diagnosed with stroke and 1 respondent (2.2%) was diagnosed with pre-stroke attack.

Take medication as prescribed

Pharmacological therapy refers to strategies to prevent stroke recurrence, therefore it is very important for patients who have had a stroke to routinely and diligently consume the medication prescribed by the doctor. The main approach of antiplatelet antiaggregant drugs to prevent recurrence is to control hypertension, CEA (Carotid Endarterectomy), and use antiplatelet antiaggregant drugs to prevent recurrence (MS, 2021)In this study, there were 15 respondents (13.3%) who had not taken the medication as prescribed, there were 2 respondents (4.4%) who were diagnosed with stroke sea quill of cerebral infarction, 11 respondents (24.4%) were diagnosed with stroke, 1 respondent (2.2%) was diagnosed with pre-stroke attack and 1 respondent (2.2%) was diagnosed with re-attack stroke.

The implications of this study in the practice of cleanliness in the Hospital are that the use of prevention checklists can help health workers in implementing a systematic approach to prevent recurrent stroke attacks, checklists can be used as educational tools for patients and families and clarify actions to be taken in lifestyle, treatment and control of disease recurrence. Researchers are aware of the limitations of this study, including other evaluations of the effectiveness checklist only conducted in a short period of time. There has been no comparison between the use of this checklist with other interventions that may also be effective in preventing recurrent stroke.

CONCLUSION

The implementation of the Stroke Prevention Checklist helps in improving patient compliance with stroke prevention procedures, because this checklist instrument contains important things that can be done to prevent recurrent strokes. This Stroke Prevention Checklist be integrated as part of the SOP for post-stroke patient care in order to improve the consistency of stroke prevention practices. Checklist-based education programs need to be developed sustainably to increase patient and family awareness of the importance of preventing recurrent stroke attacks.

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