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FACTORS THAT INFLUENCE THE OCCURRENCE OF STROKE IN ADULTS IN THE VILLAGE HOHIDIAI CLINIC KUSURI WESTERN DISTRICT OF NORTH HALMAHERA TOBELO

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ABSTRACT

Stroke is also the sala of the causes of physical disability or disability and death because stroke is a loss of blood and blockage and rupture of blood vessels to the brain so that the supply of nutrients and oxygen to the brain is reduced. Stroke can be prevented by early detection and control of risk factors. Factors that could affect these adults because they can suffer a stroke with increasing age.

Research purposes, General, to know and understand the factors gender, hypertension, diabetes, and cholesterol whether it can affect the occurrence of stroke in adults. Specifically, to determine the factors that influence the occurrence of stroke age in adults. To determine the stress factors that can influence the occurrence of stroke in adults.

Research methods, This type of research is quantitative with cross-sectional (cross-sectional). Quantitative surveys or studies that tried to explore how and why health phenomenon that happens.

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Then analyzing the correlation between risk factors and the effects of factors. The approach taken in this study was cross-sectional, namely an approach that is studying the dynamics of the correlation between risk factors with the effects of the approach, observation and data collection at one time. Only done once and the measurement of the variables is done during the examination.

Research result, The relationship of age with stroke risk factors in adults in the bivariate analysis obtained Chi-Square test results convinced p-Value = 0.00. And the value of p-Value <0.05 was statistically shown that there is a significant correlation between age and the level of risk factors for stroke in adults. And relationship stress with stroke risk factors in adults in this study using bivariate analysis and test results obtained Chi-Square value p-value = 0.02 and p-value Value <0.05. This value means that there is a statistically significant relationship between the stress level of stroke that occurs in adults

Preliminary

Background

stroke by *World Health Organization (WHO)*, is a loss of blood to the brain, usually due to the rupture of blood vessels to the brain or blockage of the blood vessels to the brain so that the supply of nutrients and oxygen to the brain is reduced. Stroke causes physical disorder or disability.

North Maluku Health Office year (2018). The prevalence of stroke in North Maluku 4.1% of patients who had a stroke. ⁽⁴⁾ Health Department in North Halmahera, 2017 from January-December 791 inhabitants, in 2018 from January -December 443 people, while in 2019 than in January -July carrying 157 people. (5)

Based on the survey results Clinic Hohidiai number of patients who are undergoing or suffering

from a stroke of 2017 in January-December amounted to 19 people (2.28%). In 2018, from January-December amounted to 58 people (6.69%). Whereas in 2019 of headress January-July amounted to 30 people. And based on the results of the survey, stroke patients who are under treatment, that overall they have a stroke with a different cause or factor. (7)

Sala stroke is a disease that often I have encountered in various circles of society, even to the family, so that I was a graduate student of nursing at the College of Health Sciences Makariwo (STIKMAH) Halmahera. Very want facto and interested in investigating the factors that could affect the occurrence of stroke.

Formulation of the problem

Based on the results of a survey of stroke patients in the clinic Hohidiai (Village Kusuri), District of West Tobelo, North Halmahera. Formulation of the problem can be described in this study is "any factors which may affect the occurrence of stroke. And whether age and stress factors can also affect the occurrence of stroke in adults ?

Research purposes

General purpose

To know and understand the factors gender, hypertension, diabetes and cholesterol whether it can affect the occurrence of stroke in adults.

Special purpose

- a. To determine the age factor affecting the occurrence of stroke in adults.
- b. To determine the stress factors that can influence the occurrence of stroke in adults.

Benefits of Research

This research is expected to be useful for:

1. Educational institutions as reference further research related to factors that influence the occurrence of stroke in adults.
2. Place additional materials research as knowledge in treating patients with a wide range of factors that can influence the occurrence of stroke.
3. Writers as knowledge and application of science in the course of epidemiology, as well as add to the experience in the research.
4. For further research, as a starting material in conducting further research relating to factors that influence the occurrence of stroke in adults, so as to increase knowledge and insight on the stroke.

Literature review

STROKE

Definition Stroke

Stroke can be interpreted as a nervous system disorder that occurs suddenly and due to disturbance in the blood vessels in the brain. Circulatory disorders that occur due to blocked blood vessels in the brain, or the rupture of blood vessels in the brain.

classification of Stroke

Stroke has been classified into two parts based on the cause, namely:

1. hemorrhagic stroke

Hemorrhagic stroke is caused by bleeding into the brain tissue (called hemorrhagic intra-cerebral or intracerebral hematoma), or into the subarachnoid space is a narrow space between the brain and the surface layer of tissue covering the brain (called subarachnoid hemorrhagic).

2. Ischemic stroke

ischemic stroke nearly 85% of strokes are caused by: a blockage by a blood clot, narrowing of an

artery or some of the arteries leading to the brain, or embolus (feces) that in spite of the heart or arteries extracranial (arteries that are outside the skull) which causes blockage in one or some extracranial artery (artery inside the skull). This is called a cerebral infarction or ischemic stroke. (12)

Cause Stroke

A stroke usually by comparing one of the six events below, namely:

1. Artery blockage

The blockage of arteries in the brain by a clot (thrombosis) is the most common cause of stroke.

2. stroke embolism

Another cause is blood or a piece of atherosclerotic plaque runs through the blood flow in the brain. When the blood flow stops, brain cells do not receive oxygen and glucose needed to function so that a stroke occurs.

3. cerebral Hemorrhage

A cerebral hemorrhage occurs when a blood vessel in the brain ruptures and bleeds into the surrounding brain tissue. A cerebral hemorrhage cause stroke by stopping the supply of blood and oxygen to the brain. In addition, network blood can cause swelling of the brain (cerebral edema).

4. Subarachnoid hemorrhage

In a subarachnoid hemorrhage, blood accumulates in the space under the arachnoid membrane covering the brain. Blood coming from an abnormal blood vessel that leaks or ruptures. Often this is an aneurysm.

- 5 vasculitis

Another rare cause of stroke is vasculitis, a condition when blood vessels dreaming and cause a decrease in blood flow to the brain tissue.

6. Migraine

Migraine or vascular headaches can cause narrowing of the blood vessels of the brain. Some

others, such as migraine even resemble a stroke with the disappearance of the function of one side of the body or vision or speech.

Stroke effect

The brain controls many things that take place in our bodies. Damage to the brain can affect movement, feelings, behavior, speech/language and the ability to think. Stroke can cause interference with some part of the brain, while the rest of the brain to work normally. Effect of the stroke to someone depends on:

- a. Part of the brain affected by the stroke.
- b. How serious a stroke is happening.
- c. Age, health condition and personality of the sufferer.

Some of a stroke are often encountered: Paralysis of one side of the body, Impairment of vision, aphasia, disorders of perception, Fatigue, Depression, Emotional lability, disorders of memory and personality changes.

Terjadinyan Stroke Risk Factors

There are several kinds of risk factors that cause stroke are:

1. Modifiable risk factors are factors that can prevent the occurrence of disease by giving the intervention. These risk factors affected by many things, especially behavior. Modifiable risk factors include pattern/lifestyle, hypertension, stress, and diabetes mellitus. (15)
2. Factors that can not be modified are risk factors that can not be changed despite the intervention because it includes the characteristics of a person starting from the beginning of life. Non-modifiable factors include age and gender. (16)

- a. Risk factors that can not be modified

- 1) Age

Stroke can happen to everyone and at all ages, including children. The incidence of ischemic stroke

patients are usually elderly (60 years and older) and the risk of stroke increases with age due to experience degenerative organs in the body. Strokes can occur at any age, but more than 70% of strokes occur in over 65 years.

- 2) Gender

Men have a greater tendency to have a stroke in early adulthood compared with women with a ratio of 2: 1.

- b. Risk factors that can be modified

- 1) stress

The effect of stress that can be caused by stress factors in the process of artery sclerosis through increased spending hormones such as cortisol, epinephrine, adrenaline and ketokolamin.

- 2) Hypertension

Hypertension is an increase in blood pressure above normal where the systolic blood pressure above 140 mmHg and diastolic pressure above 90 mmHg. Hypertension can lead to rupture or narrowing of the blood vessels of the brain, while the narrowing of the arteries can reduce the blood supply of the brain and causes the death of brain cells.

- 3) Diabetes mellitus

Diabetes mellitus arteriskelerosis precipitating both the small blood vessels and major blood vessels or blood vessels of the brain and heart.

- 4) Hiperkolestrolemia

Naturally our body through the liver function of cholesterol forming about 1000 mg per day of saturated fat. In addition, the body is fulfilled cholesterol consuming animal-based foods, cholesterol is what sticks to the surface of the blood vessel wall which is increasingly thickened and can cause constriction of blood vessel walls, called atherosclerosis.

level Stroke

When someone is having a stroke, they may experience a severe stroke or mini-stroke. Many people

who suffered a mild stroke do not seek medical help is needed for those conditions, thereby putting them at a higher risk of experiencing a life-threatening stroke. (18)

a. Mild stroke

Mild stroke is a warning that someone could eradicate a major stroke in the future. If that is so important to avoid delaying treatment because it can cause a severe stroke. Symptoms of stroke include:

- 1) Numbness and tingling sensations may be experienced at one side of the body.
- 2) Many people find that they are able to precisely move over wrong one side of the body when they suffered a mild stroke
- 3) Language can be difficult. Many people find that they are unable to speak properly and that they are confused using words.
- 4) Banya people suffering a TIA had difficulty understanding spoken words to them.
- 5) Many sufferers experience physical complications such as headaches and challenges of running.

b. stroke weight

A severe stroke occurs when a blockage in the veins or arteries occurs. It can also occur when there is bleeding in the brain.

Stroke prevention

Prevention of stroke can be done to minimize the existing risk factors. The incidence of stroke can be caused by several factors, stroke risk factors can not be controlled consist of age, gender, and risk factors that can be controlled consist of history, stress, hypertension, history of diabetes mellitus, obesity, and cholesterol.

Handling Stroke

Determining the exact location and rapidly from the point of occurrence of stroke and determine the extent of the damage is very important in treatment decisions. Stroke caused by a blocked artery to be treated in a manner completely different from a stroke caused by bleeding in the brain. The key to survival and quicker recovery is prompt medical treatment.

Some alternative treatment of stroke include:

1. ACUPUNCTURE

Acupuncture is useful to balance or unblock the flow *chi* (Vital energy) in the body. In addition, the stroke with acupuncture therapy can also activate the nerve and stimulate the muscles.

2. Massage

Massage is known to help reduce stress and depression became emotional problems however occurs in stroke patients. Controlling stress and depression is an important part of the treatment of stroke, for both mental and physical welfare.

3. Herbal Medicines

Herbal medicines can increase the blood flow to the brain and others offer protective benefits against ischemic stroke. But be careful to use it, more testing needs to be done.

4. Aromatherapy

This therapy uses the appropriate essential oils for massage, bathing, inhaled, gargle, compresses, and smeared. Pemijataan has done so that the essential oil can penetrate the skin and into the body network that requires, as well as affecting the performance of the organ in the body. This therapy can also help relieve stress on people affected by stroke.

5. yoga

For stroke patients, who are suggested exercises are *asana* and *pranayama*. Asana is the stretching exercise for the entire body, massaging

organ internal organs, glands, circulation and excretion breathing) is useful for calming the mind, physical rest stimulates the blood supply to the whole body and improves the circulatory system.

6. hydrotherapy

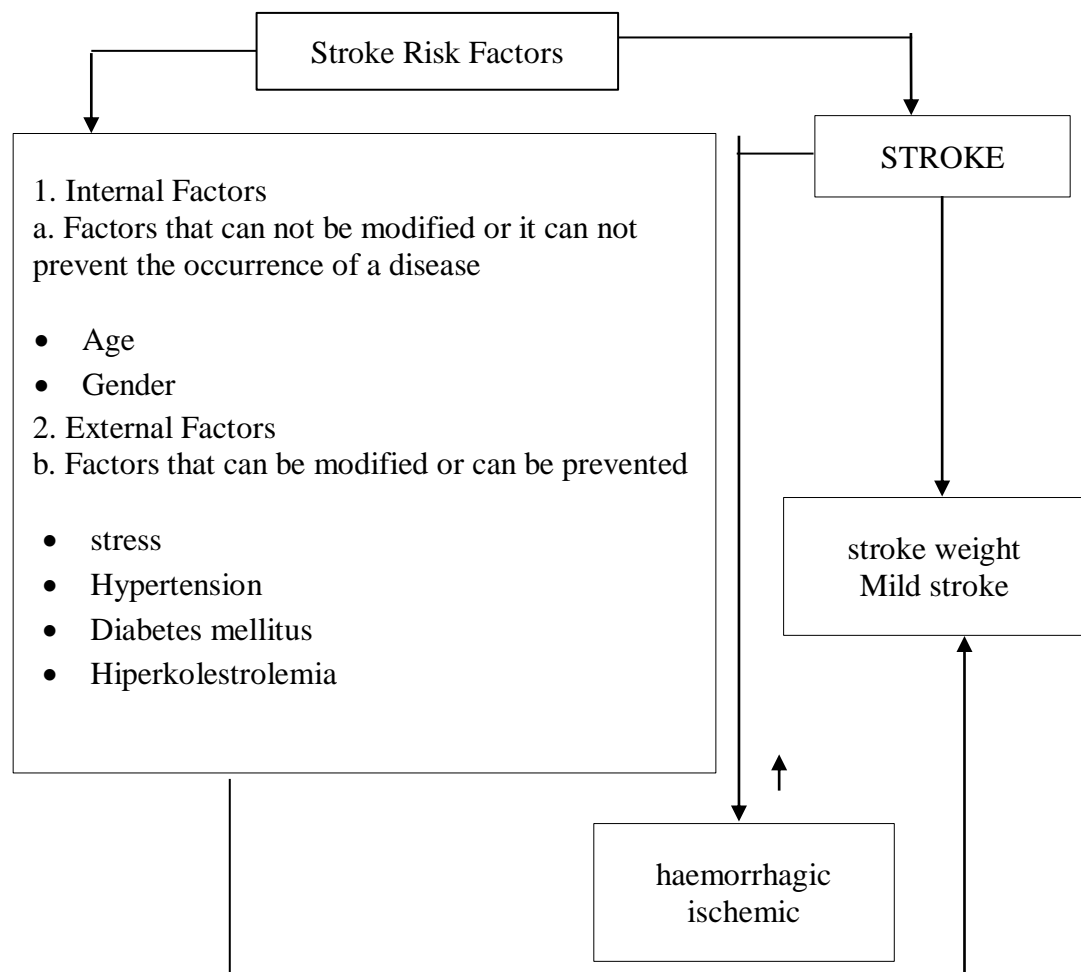
Stroke therapy with hot water can be used to reduce the soreness and stiffness in muscles.

systems of the body. While pranayama (controlled

Theoretical framework

The theoretical framework is a framework that thinks about the relationship between the variables in accordance with the theory and the support of the relevant findings towards a decent hypothesis test.⁽²⁰⁾

Figure 2.2 Theoretical framework



Scheme 311 sources: Onggo TI, et al. Book 5 Incredibly Deadly Disease, 2015

Research design

This type of research is quantitative with cross-sectional (cross-sectional). Quantitative surveys or studies that tried to explore how and why health phenomenon that happens.

Location and Time Research

1. Location Research

The study was conducted at the Clinic Hohidiai, (Village Kusuri), District of West Tobelo, North Halmahera.

2. Time Research

This research was conducted in July 2019.

Implementation phase

Data collection technique

Data were collected from secondary data and primary data. Secondary data are seen on the factors that influence the occurrence of stroke in adults, and primary data obtained by observation and interviews with respondents using questionnaires that had been prepared in advance, in order to measure the factors that influence the occurrence of stroke for patients using Guttman scale,

Data analysis

Data analysis is the process of simplification of data into a form that is easier to read and interpret.

The value of the data obtained for each variable, which was then analyzed descriptively using univariate analysis and bivariate. Statistical analysis of the data used for categorical with chi-square test is said meaningful when $p \leq 0.05$. The analysis was performed with the help of a computer with the SPSS program for windows version 25.0.

1. Univariate analysis

A univariate analysis performed to get an overview of the distribution and frequency of

independent and dependent variables. The data is presented in tabular form and be interpreted.

2. analysis Bevariat

Bivariate analysis was conducted to see the relationship between independent variables (factors and life that influence the occurrence of stroke) with the dependent variable (hemorrhagic and ischemic) if these variables had a significant relationship or a relationship just by chance. In this analysis used a statistical test that is test of time squared (X^2), where the rules for the value of a statistical calculation (X^2), is greater than the value derived from the table ($X^2 \text{ count} > X^2 \text{ table}$), then H_0 is rejected Dahn when calculating ($X^2 \text{ count} < X^2 \text{ table}$), then H_0 failed rejected.

Kal formula Squares

Information:

$$X^2 \text{ hit} = \sum \frac{(f_o - f_e)^2}{f_e}$$

X^2 = Value of chi - square

f_o = frequency of observation

f_e = The expected frequency

Σ = Number

Signifiakan test in health research is done by using the limit of significance $\alpha = 0.05$ and 95% *confidence interval* provided that when:

a) $P \text{ value} \leq 0.05$ means that H_0 is rejected ($P \text{ value } \alpha$).

The statistical test showed a significant relationship

b) $P \text{ value} > 0.05$ means that H_0 failed in decline ($P \text{ value } \alpha$). The statistical test showed no significant relationship.

Discussion

Internal factors

a). **Overview Relationship Between Risk Factors of Age With Stroke Rate In Adult**

The relationship of age with stroke risk factors in adults in the bivariate analysis obtained Chi-Square test results convinced p-Value = 0.00. And the value of p-Value <0.05 was statistically shown that there is a significant correlation between age and the level of risk factors for stroke in adults. The results of this research together with research conducted by Kairatunnisa "Risk Factors Age Relationship With Stroke Genesis" in 2017.²⁴

b). **Overview Relationship Between Risk Factors Sex With Stroke Rate In Adult**

Sex relations risk factors with stroke in adults in the bivariate analysis that has been done and found the statistical test Chi-Square value p-value = 0.21 and p-value Value <0.05. Values are statistically significant that there is no significant relationship between gender and the rate of stroke in adults. These results are similar to studies conducted by Siti Rohmatul Laily "Characteristics Gender Relationship With Level of Ischemic and Hemorrhagic Stroke Genesis" in 2017.²⁵

External factors

c). **Overview Between Risk Factors of Hypertension With Stroke Rate In Adult**

Relations with stroke risk factors of hypertension in adults in this study using bivariate analysis and test results obtained *Chi-Square* p-value = 0.00, and p-value Value <0.05. This value means that there is a statistically significant relationship between hypertension and stroke rates in adults. These results together with the study conducted by Parida Hanum "The relationship between hypertension with stroke characteristics in elderly " in 2018.²⁶

d). **Overview Between Risk Factors Stroke Stress Levels In Adults**

Relationship stress with stroke risk factors in adults in this study using bivariate analysis and test results obtained *Chi-Square* p-value = 0.02 and p-value Value <0.05. This value means that there is a statistically significant relationship between the stress level of stroke that occurs in adults. These results together with the study conducted by Puspita A Ramadani "Relationship Stress Levels in Stroke Genesis" in 2015.²⁷

e). **Overview Between Risk Factors for Diabetes Mellitus With Stroke Rate In Adult**

Relations risk factors of diabetes mellitus and stroke in adults in this study using bivariate analysis and test results obtained *Chi-Square* p-value = 0.00, and p-value Value <0.05. The value of statistical means there is a significant relationship between diabetes mellitus with the rate of stroke that occurs in adults. These results together with the study conducted by NA Alvionita Letelay "Hubungang Type II Diabetes Mellitus Patients With Stroke Stroke Genesis" in 2016.²⁸

f). **Overview Between Risk Factors Kelesterol With Stroke Rate In Adult**

The relationship of cholesterol with stroke risk factors in adults in this study using bivariate analysis and test results obtained *Chi-Square* p-value = 0.00, and p-value Value <0.05. The value of statistical means there is a significant relationship between the level of cholesterol with stroke in adults. These results together with the study conducted by Dona D Nirlawati "The relationship between cholesterol levels by Genesis Stroke" in 2016.²⁸

Conclusion

From the discussion of the results of research on the factors that influence the occurrence of stroke are age and stress, in adults in Hohidiai Clinic, Village Kusuri Tobelo Western District of North Halmahera, in 2019 it can be concluded as follows:

Internal factors

1. Stroke occurs in adults Klinik Desa Hohidiai Kusuri Western District of North Halmahera Tobelo of 30 respondents, 20 respondents (66.7%) the occurrence of a mild stroke, 10 respondents (33.3%) a severe stroke, and that and that ischemic stroke 20 respondents (66.7%) and hemorrhagic stroke in 10 respondents (33.3%).
2. Of the 30 respondents aged 25-50 know, 24 (80%), and those aged > 51 years totaled 6 (20%). Who suffered a mild stroke and 10 (33.3%) of respondents, and that is having a major stroke of 20 (66.7%) of respondents.
- 3 And of the 30 respondents were male sex 14 (46.6%) of respondents. And the female is 16 (53.4%).

External factors

1. Collecting a sample of 30 respondents, 10 (33.3%) of respondents experienced mild stress. And respondents who experienced severe stress, 20 (66.7%) of respondents.
2. Of the 30 respondents who experienced mild hypertension, 13 (43.3%) of respondents, and who has hypertension weight total, 17 (56.7%) of respondents
3. Collecting a sample of 30 respondents, 14 (46.6%) of respondents experienced mild diabetes mellitus, 16 (53.4%) of respondents who experienced severe diabetes mellitus,
4. Of the 30 respondents who experienced mild cholesterol, 11 (36.3%) of respondents, and those with severe cholesterol total, 19 (63.7%) of respondents

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