



OVERVIEW OF PUBLIC KNOWLEDGE ABOUT STROKE IN THE WORK AREA OF KAWAL PUBLIC HEALTH CENTER

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ABSTRACT

Stroke is a disorder of the central nervous system that is most often found and is the main cause of impaired functional activity in adults. The prevalence of stroke incidence based on RISKESDAS tahun 2018 is increasing from 7% to 10.9% at the age of ≥ 15 years. Stroke attacks can cause weakness and paralysis in one or even both sides of the patient's body, this weakness can cause difficulties when walking and doing activities. The degree of disability experienced by stroke patients depends on the severity of hemiparesis, 30-60% of patients who experience hemiparesis will experience a complete loss of body functions within 6 months after the stroke. The purpose of this study is to provide an overview of public knowledge about stroke in the work area of the Kawal public Health Center.. The method in the study was a descriptive survey of the knowledge of the community in the working area of the Kawal Public Health Center, Riau Islands Province, about stroke. The study was carried out in July 2020 with a total sample of 39 respondents. The results of the study were obtained where the picture of public knowledge about stroke with good knowledge was 16 people (41.02%) and sufficient knowledge as many as 7 people (17.94%). Suggestions need to improve health promotion about stroke through print or electronic media and further research on the identification of stroke risk factors in the community of the Kawal Public Health Center work area.

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1. INTRODUCTION

Non-Communicable Diseases (NCDs) are diseases that can be prevented if risk factors are controlled. Non-Communicable Diseases (NCDs) such as cardiovascular, stroke, diabetes mellitus, obstructive pulmonary disease and certain cancers, in public health can actually be classified as one of the main NCD groups that have the same risk factors (common underlying risk factors). Major risk factors (the dominant factor) are usually diseases and other disorders that are already lodged in the body of stroke sufferers. Some of these factors include hypertension (high blood pressure), heart disease, diabetes mellitus, polycythemia (many blood cells), and having had a stroke. Minor risk factors are factors that usually occur due to lifestyle and diet factors of sufferers who do not pay attention to the various negative consequences of these patterns and lifestyles. Some of these factors include: high blood fat levels, smoking, obesity, lack of exercise, and high uric acid levels. In addition to these factors, other factors can result in the possibility of stroke, for example, syphilis, brain malaria, blood diseases that cause blood viscosity to increase miscellaneous [1,2]

Major risk factors include: hypertension (high blood pressure), heart disease, diabetes mellitus, polycythemia (many blood cells), had a stroke. Minor risk factors include high blood fat levels, smoking, obesity, lack of exercise,

high uric acid levels. In addition to the above factors, there are also other factors that can result in the possibility of stroke, for example syphilis, brain malaria, blood diseases that cause blood viscosity to increase and others. There are several risk factors from 90% of stroke cases that occur in Indonesia. Risk factors include: diabetes, heart problems or a history of stroke / TIA, obesity, sedentary / less actively moving lifestyle, poor diet, hypertension, smoking or exposure to cigarette smoke, drinking alcohol, hyperlipidemia. 1/4 of stroke cases due to unhealthy diet, especially the small consumption of vegetables and fruits [1,3]

According to the *WHO* that stroke is a condition in which rapidly developing clinical signs are found in the form of focal and global neurological deficits, which can be burdensome and last for a long time for 24 hours or more and or can lead to death, in the absence of other obvious causes besides vascular. That **1.27 Trillion of JKN financing for stroke in 2016**. Data from the Health Organizing Agency (BPJS) in 2015 stated that stroke cost health services of Rp1.15 trillion and increased to **Rp 1.27 trillion** in 2016. This means a **10.4% increase in financing for stroke within 1 year** [4]

Stroke is a disorder of the central nervous system that is most often found and is the main cause of impaired functional activity in adults. Stroke can cause permanent disability so that it can affect the productivity of the stroke sufferer himself. Based on *World Stroke Organization* (WHO) data, there are 13.7 million new cases annually and 5.5 million deaths from strokes that occur in low- and middle-income countries. The prevalence of stroke events based on RISKESDAS in 2018 increased from 7% to 10.9% at the age of ≥ 15 years [5].

86.7% of respondents had a non-hemorrhagic stroke; 63.3% of respondents experienced poor initial treatment of stroke at home. The neurological damage that many patients suffer is weak muscle tone, loss of taste sensation and paralysis. Only rigidity is associated with the initial handling at home ($p= 0.042$). Stroke is closely related to blood vessels. Stroke occurs there is a disturbance of blood flow to parts of the brain. If there is a brain area that lacks blood supply suddenly and the sufferer experiences an innervation disorder according to the affected brain area. The form can be a side paralysis (hemiplegia), reduced strength next to the limb (hemiparesis), speech disorders, taste disturbances (sensations) in the face, arms or legs. Stroke attacks can cause weakness and paralysis in one or even both sides of the patient's body, this weakness can cause difficulties when walking and activities. The degree of disability experienced by stroke patients depends on the severity of hemiparesis, 30-60% of patients who experience hemiparesis will experience a complete loss of body functions within 6 months after the stroke. Weakness of the limbs caused by acute stroke will cause stiffness, paralysis, weakened muscle strength so as to reduce somber movement and limb function, life *activities, daily living* (ADL) activities will be disrupted resulting in physical mobility barriers [6,7].

The clinical manifestations of patients with non-hemorrhagic (ischemic) stroke include: Tends to occur at rest or sleep. The process of occurrence of non-hemorrhagic (ischemic) stroke is slower than that of hemorrhagic. It can occur in a state of high blood pressure or it can be normal. It is common to have sudden paralysis of the face or limb (hemiparesis), followed by impaired sensibility in one or more limbs, loss of consciousness, aphasia (difficulty in speech) and dysarthria (wayward speech or pelo) [8]

Based on data from the Tanjungpinang City Health Office, it was found that stroke cases in - 2017 amounted to 108 cases. Data from the Raja Ahmad Tabib Regional Hospital, Kepri Province, the number of stroke events in 2016 was recorded at 71 cases, while in 2017 the number of stroke events decreased, where 35 cases were recorded [9]. Based on this description, the author is interested in conducting research on the description of public knowledge about stroke in the work area of Kawal Public Health Center.

2. RESEARCH METHOD

The design in this study is a descriptive survey which is carried out on a set of objects that usually Im to see a picture of phenomena (including health) that occur within a certain population [10]. This study describes a picture of the knowledge of the people of the work area at the Kawal Public Health Center about stroke. The population in the study is a subject example human beings, clients who meet the criteria that have been set [11]. The population in this study is the entire community domiciled in the working area of the Kawal Public Health Center. While the sample is the part of the population to be studied or part of the number of characteristics possessed by the population [12]. The sample consists of an affordable portion of the population that can be used as a research subject through sampling [11]. The number of samples in this study was people who visited the Kawal Public Health Center at the time the study was conducted.

All questionnaires that have been collected will be processed through the following stages: (1) Data editing (editing), interview results, questionnaires, or observations from the field must be edited (editing) first (2) Coding (coding), after all questionnaires are edited or edited then coding or coding is carried out, namely converting data formed sentences or letters into number or number data. (3) Enter data (data entry), data, namely the answers from each respondent which in the form of codes (letters and numbers) are entered into the program or computer software



(SPSS). (4) Data cleaning (cleaning), if all data from each data source or respondent has been entered, it is necessary to check again to see the possibility of code errors, incompleteness [10].

This research data is primary data, which is data obtained by direct researchers. Data was obtained by direct interview techniques with respondents using questionnaires. After obtaining permission, the researcher went to the respondents during each working hour of the Public Health Center and cooperated with the registration officer in determining the respondents according to the criteria of this study sample. In this study, data analysis was carried out universally, namely by describing the variables studied including percentage analysis and percentage distribution. From the results of the questionnaire about people's knowledge of stroke. For positive questions and if the respondent's answer is correct, it will be given a score of 1 (one), while if the respondent's answer is wrong, it will be given a score of 0 (zero) and for a negative statement if the respondent's answer is correct, it will be given a score of 0 (zero) while if the response answer is wrong, it will be given a score of 1 (one).

3. RESULTS AND ANALYSIS

3.1. Research Results

In this section, the researcher will explain the results of research on the picture of public knowledge about stroke at the Kawal Health Center in 2020. This research has been carried out for one week from July 07 to July 15, 2020. The results of the study were obtained from questionnaire sheets filled with interviews with 39 people.

3.1.1 General Data

The age distribution of respondents was <20 years old 7 people (17.94%), aged 20-35 years about 17 people (43.58%) and aged >35 years around 15 people (38.46%). Then the distribution of the education level of respondents was 34 people (87.17 %) highly educated and a small part of the poorly educated 5 people (12.82 %). As for the jobs of respondents, among others, 13 people worked (33.33%), did not work around 19 people (48.71%) and unemployed 7 people (17.94%).

3.1.2 Special Data

Tabel 4.1 Distribution of respondents by knowledge of the definition of stroke

No	Criterion	Frequensy	Percentage (%)
1	Good	23	58,97
2	Enough	7	17,94
3	Less	9	23,07
	Total	39	100

The aforementioned T 4.1 shows that 5, 8.97% of the public with good knowledge of the definition of stroke and 17.94% are knowledgeable enough.

Tabel 4.2 Distribution of respondents based on knowledge of the causes of stroke

No	Criterion	Frequensy	Precentage (%)
1	Good	20	51,28
2	Enough	3	7,69
3	Less	16	41,02
	Total	39	100

Tabel 4.2 above shows that 51.28 % of people with good knowledge of the causes of stroke and 7.69 % are knowledgeable enough.

Tabel 4.3 Distribution of respondents based on knowledge of the signs and symptoms of stroke

No	Criterion	Frequensy	Precentage (%)
1	Good	13	33,33
2	Enough	10	25,64
3	Less	16	41,02
	Total	39	100

Tabel 4.3 above shows that 41.02,% of people with insufficient knowledge of the signs and symptoms of stroke and 25.64% are knowledgeable.

Tabel 4.4 Distribution of respondents by knowledge about the initial handling of stroke

No	Criterion	Frequensy	Precentage (%)
1	Good	16	41,02
2	Enough	12	30,76
3	Less	11	28,20
	Total	39	100

Tabel 4.4 above shows that 41.02,% of people with good knowledge of the initial treatment of stroke and 28.20% are less knowledgeable.

Tabel 4. Distribution of respondents by knowledge about stroke prevention

No	Criterion	Frequensy	Precentage (%)
1	Good	28	71,79
2	Enough	6	15,38
3	Less	5	13,88
	Total	39	100

Tabel 4.5 above shows that 7 1.79% of people with good knowledge of stroke prevention and 13.88% are less knowledgeable.

Table 4.6 Distribution of respondents based on knowledge of stroke

No	Criterion	Frequensy	Precentage (%)
1	Good	16	41,02
2	Enough	16	41,02
3	Less	7	17,94
	Total	39	100

Tabel 4.6 above shows that 41.02% of people with good knowledge of stroke and 17.94% of knowledge are less knowledgeable.

3.2. Discussion

This discussion will describe the meaning of the results of the research conducted on the description of public knowledge about stroke at the Kawal Public Health Center. Based on the results of the research that can be seen in table 4.1, it shows that the distribution of public knowledge about the meaning of stroke is that more than half of the community (5., 8.97%) is well knowledgeable and a small part of the community (17.94%) is knowledgeable . Ischemia stroke or non-hemorrhagic stroke is a result that is generally caused by atherosthrombosis of cerebral blood vessels, both large and small. In ischemia strokes, blockages can occur along the path of arterial blood vessels leading to the brain. Blood to the brain is supplied by two internal carotid arteries and and two vertebral arteries. These arteries are branches of the cardiac aortic arch. An atheroma (fat deposit) can form in the blood vessels of the carotid artery, causing reduced blood flow. This state is very serious because each blood vessel of the carotid artery in its normal state delivers blood to most of the brain. Fat deposits can also be released from the walls of the arteries and flow in the blood then clog the small arteri [7]

Based on Table 4.2, shows that the distribution of public knowledge about the causes of stroke is that more than half of the community (51.28%) is well-informed and a small part of the community (7.69%) is sufficiently knowledgeable. A stroke usually results from one of the first four events of thrombosis is the proses of blood clot formation or coagulant in the vascular system (that is, blood vessels or heart) as long as the human being is alive, as well as blood clots in the blood vessels of the brain or neck. The blood coagulant is called a thrombus. The accumulation of clotted blood outside the vascular system is not referred to as a thrombus. This thrombus causes



ischemia of brain tissue which can give rise to edema in its presence. Both cerebral embolisms are blood clots and other materials that are carried to the brain from other parts of the body. It is a blockage of the blood vessels of the brain and blood clots, fat, and air. In general, embolism comes from a thrombus in the heart that detaches and clogs the cerebral arterial system. thirdly cerebral ischemia is a decrease in blood flow towards the brain. The brain normally receives about 60-80 ml of blood per 100g of brain tissue. If cerebral blood flow 20 ml / min symptoms of ischemia and infarction develop. Which is caused by many factors namely hemorrhagic, embolism, thrombosis and other diseases. The fourth Cerebral hemorrhagic is the rupture of cerebral blood vessels by bleeding into the brain tissue or the room around the brain. It recurs into the brain tissue or the room around the brain. This bleeding can occur due to arterosclerosis and hypertension. Rupture of the blood vessels of the brain causes the seepage of blood into the brain perenchyma [13].

Major risk factors (the dominant factor) are usually diseases and other disorders that are already lodged in the body of stroke sufferers. Some of the actors include: hypertension (high blood pressure), heart disease, diabetes mellitus, polycythemia (many blood cells) and have had a stroke. Meanwhile, factors of minor risk are factors that usually occur due to lifestyle and diet factors of sufferers who do not pay attention to the various negative consequences of these patterns and lifestyles. Some of these factors include: high blood fat, smoking, obesity, lack of exercise, high uric acid levels [1].

Based on table 4.3, it shows that the distribution of public knowledge about the signs and symptoms of stroke is based on almost half of the community (41.02%) being less knowledgeable and a small percentage of the public (25.64%) being adequately knowledgeable. Clinical manifestations of patients with non-hemorrhagic (ischemic) stroke include: tend to occur at rest or sleep, the process of occurrence of non-hemorrhagic (ischemic) stroke is slower than hemorrhagic, high blood pressure or can be normal, paralysis of the face or limbs next door (hemiparesis) that arises suddenly, impaired sensibility in one or more limbs, loss of consciousness and aphasia (difficulty in speech) as well as dysatria (wayward speech or pelo) [8].

Based on table 4.4, the distribution of public knowledge about the initial treatment of stroke is based on almost half of the community (41.02%) being well-informed and a small part of the community (28.20%) being less knowledgeable. The study showed that 86.7% of respondents had a non-hemorrhagic stroke and 63.3% of respondents experienced poor initial treatment of stroke at home. The neurological damage that many patients suffer is weak muscle tone, loss of taste sensation and paralysis. Only rigidity is associated with early handling at home ($p= 0.042$) [14].

Based on table 4.5, it shows that the distribution of public knowledge about stroke prevention is that almost half of society (71.79%) is well-informed and a small part of society (13.88%) is less knowledgeable. Based on table 4.6, it shows that the distribution of people's knowledge about stroke is that almost half of the people (41.02%) are well and sufficiently knowledgeable and a small part of the community (17.94%) is less knowledgeable. This is proven in research that shows that there is a relationship between people with hypertension and stroke with preventive behavior at the Helvetia Health Center medan 2011 with a p value = 0.002 [15].

4. CONCLUSION

The picture of public knowledge about stroke with good knowledge of 16 people (41.02%) and sufficient knowledge of 7 people (17.94% people%).

5. ACKNOWLEDGEMENTS

Suggestion :

- a. Kawal Public Health Center needs to increase health promotion about stroke through print or electronic media.
- b. Further research is needed on the identification of stroke risk factors in the community of the Kawal Public Health Center work area.

REFERENCES

- [1] Aurnyn, virzara. 2014. *Mengenal dan memahami stroke*. Jogjakarta : Kata hati
- [2] Irwan. 2016. *Epidemiologi penyakit tidak menular*. ed 1. Yogyakarta: Deepublish.
- [3] P2PTM Kemenkes, 2017. *Direktorat Pencegahan Dan Pengendalian Penyakit Tidak Menular Dan Direktorat Jenderal Pencegahan Dan Pengendalian Penyakit*.
- [4] Kemenkes RI. 2017. *Data dan Informasi Kesehatan Profil Kesehatan Indonesia 2016*
- [5] Pusat Data dan Informasi Kementerian Kesehatan RI (2019) *Stroke don't be the one* diakses melalui <https://pusdatin.kemkes.go.id> pada tanggal 29 Oktober 2019

- [6] Bakara, D. M., & Warsito, S. (2016). Latihan Range Of Motion (ROM) pasif terhadap rentang sendi pasien pasca stroke Exercise Range Of Motion (ROM) Passive to Increase Joint Range of Post-Stroke Patients, VII(2). Bakara & warsito 2016
- [7] Yueniwati, yuyun. 2016. *Pencitraan Pada Stroke*. Malang : UB Press
- [8] Tarwoto. 2013. *Keperawatan Medikal Bedah Gangguan Sistem Persarafan*. Jakarta : CV. Agung seto
- [9] Dinkes provinsi. 2017. Penyusunan Profil Kesehatan Provinsi Kepulauan Riau. [Sistem Informasi Rujukan Statistik - View Statistik Sektoral \(bps.go.id\)](#)
- [10] Notoatmodjo . 2012. *Metode Penelitian Kesehatan*. Jakarta : Rineka Cipta
- [11] Nursalam. 2013. *Metode Penelitian Pendidikan*. Jakarta: Bumi Aksara
- [12] Hidayat.A.A.2011. *Metode penelitian Keperawatan dan Teknik Analisis Data*. Jakarta: Salemba Medika
- [13] Brunner dan suddart. 2002. *Buku Ajar Keperawatan Medikal Bedah, Edisi 8, Volume 3*. Jakarta : Buku Kedokteran
- [14] *Batubara.O.S dan Tat Florentianus. 2015. Hubungan antara penanganan awal dan kerusakan neurologis pasien stroke. Jurnal Keperawatan Sudirman.10(3):143-157.*
- [15] Damanik, H. (2018). Hubungan Pengetahuan Penderita Hipertensi Tentang Stroke Dengan Perilaku Pencegahan Stroke Di Puskesmas Helvetia Medan Tahun 2016. *Jurnal Keperawatan Priority*, Vol 1, No. 1. Retrieved from <http://jurnal.unprimdn.ac.id/index.php/jukep/article/view/50>