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Quality of Life of Hemorrhagic and Ischemic Stroke in Kendari City

Ikaningtyas Kartika Dewi, Rahmawati, Wa Ode Yuliasyry

Mandala Waluya University, Indonesia

Correspondence : tika.supodo@gmail.com

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ABSTRACT

Introduction: Stroke is second leading cause of death worldwide which of effect can impact on quality of life. This study aims to analyze correlation hemorrhagic and ischemic stroke impact on quality of life.

Method: The research was conducted in retrospective cohort study. Population is 22 hemorrhagic and 28 ischemic stroke patients. Using simple random sampling, the study involved 19 hemorrhagic and 19 ischemic stroke patients. The data was obtained using medical record from Bahteramas Hospital and AqoL-4D questionnaires.

Result: 84,2% hemorrhagic stroke patients suffered poor quality of life compared to 15,8% suffered moderate quality of life. 31,6% ischemic stroke patients suffered poor quality of life compared to 68,4% suffered moderate quality of life. Data were analyzed by Chi Square and Relative Risk Test with result hemorrhagic stroke to poor quality of life shows $X^2: 8.744$, $p: 0.003$, $RR 3.87$ ($\Phi 0.533$).

Conclusion: The conclusion hemorrhagic stroke is risk factor, as it is 3,87 times more risky in causing poor quality life.

Introduction

Stroke is widespread disease that threatens human safety because it's role as second leading cause of death worldwide. World Stroke Organization (WSO) stated that 12,224,551 new cases of stroke were found every year.^{1,2} Stroke incidence rate is 157.9/100,000 and its prevalence rate is 1,085.015/100,000. Stroke mortality rate is 84.69/100,000 and its disability rate 1,815.15/100,000.^[3,4,5,6,7,8]

Indonesia is experiencing a surge in the number of stroke prevalence from 7[°]/₁₀₀ in 2007 to 10,9[°]/₁₀₀ in 2018 based on Indonesia Health Survey 2018. Indonesia Health Ministry released data of stroke incidence rate in 2022, which is 3,382.2/100.000, and mortality rate is 131.8/100,000. There is concern that stroke reported data does not cover all of real stroke cases.^[9,10,11]

Hemorrhagic stroke is more dangerous, although the incidence rate is smaller than

ischemic stroke. Hemorrhagic stroke causes 49.2% of deaths of all sufferers compared to 21.7% for ischemic stroke. Apart from death, stroke also causes 38% disability and dependency in daily life for sufferers. Disability and decreased cognitive function caused by stroke have an impact on reducing the quality of life experienced by stroke sufferers. [3,4,12,13,14]

In general, people only know stroke as a whole disease. However, stroke is actually divided into two, namely hemorrhagic stroke and ischemic stroke. Hemorrhagic stroke is a stroke caused by bleeding or rupture of blood vessels, while ischemic stroke is a stroke caused by a blockage in a blood vessel. Of the two types of stroke, hemorrhagic stroke is more dangerous. The incidence of hemorrhagic stroke compared to ischemic stroke is 13% compared to 87%. However, the mortality rate for hemorrhagic stroke is 49.2% while ischemic stroke is 21.7%.

In Indonesia, Southeast Sulawesi ranks 24th out of 34 provinces with a stroke prevalence value of 8.3%. Although this ranking looks far from the top position, this condition does not take into account the actual reporting figures for stroke incidents and deaths in Southeast Sulawesi. Currently, in Southeast Sulawesi, there is only one hospital that uses CT-Scan to diagnose stroke types, namely Bahteramas Hospital. The lack of health facilities in the form of hospitals that are able to provide diagnosis and treatment for strokes also influences the incidence, prevalence and mortality rates due to stroke in Southeast Sulawesi.

Bahteramas Regional Hospital, Southeast Sulawesi Province reported that during 2012 to 2016, stroke (both ischemic stroke and hemorrhagic stroke) was the biggest cause of death in hospitalized patients. The highest number of causes of death in Bahteramas Regional Hospital inpatients was Hemorrhagic Stroke at 11.76%.

The complexity of stroke problems due to increasing risk factors for stroke and the impacts it causes on the decline in quality of life, makes stroke one of the health problems that requires serious treatment. This treatment must also be

comprehensive because there are various factors that affect health problems in stroke patients, both directly and indirectly.

Method

This research aims to analyze stroke impact on the quality of life in coastal and non-coastal areas of Kendari City. The design of this research is quantitative with cohort retrospective study. The research was carried out by obtaining medical record of stroke patients from Bahteramas Hospital, Kendari City. The research then continued AqoL-4D questionnaire (Indonesian version) to conduct interviews with respondents. [15,16,17]

The population of this study was 22 hemorrhagic stroke sufferers and 28 ischemic stroke sufferers who lived in Kendari City. Using a simple random sampling method, resulting sample of 19 hemorrhagic stroke sufferers and 19 ischemic stroke sufferers was obtained. This research variables consists independent variable which is hemorrhagic stroke and ischemic stroke and dependent variable i.g. quality of life. of three types of variables. The research data obtained was then analyzed descriptively and inferentially with the Chi Square and Relative Risk Test.

Result

Then, the descriptive analysis of stroke type on quality of life, the results showed that 84.2% of hemorrhagic stroke sufferers had a poor quality of life and 68.4% of ischemic stroke sufferers had an adequate quality of life. Inferential analysis using the Chi Square Test, obtained an X^2 count value of 8.744(>3,841), which means there is strong correlation between the type of stroke and quality of life. Using the Relative Risk Test, the RR result was 3,87, which means that hemorrhagic stroke is 3.87 times more likely to experience poor quality of life than ischemic stroke, as shown in **table 1**.

Table 1.
Stroke Type to Quality of Life

Stroke Type	Quality of Life				Total		Chi Square & Phi	RR
	Poor		Moderate					
	n	%	n	%	n	%		
Hemorrhagic	16	84.2	3	15.8	19	100.0	X ² table = 8.744 p-value = 0.003 Phi = 0.533	RR = 3.87 1.338 - 5,316
Ischemic	6	31.6	13	68.4	19	100.0		
Total	22	57.9	16	42.1	38	100.0		

Discussion

Stroke is a disease that has a large impact on death and disability, especially hemorrhagic stroke. Disability caused by stroke does not only involve physical disability, but also disability in terms of decreased cognitive function. This situation will directly impact the quality of life of stroke sufferers.^[3,5]

There were 84.2% of hemorrhagic stroke sufferers experiencing poor quality of life compared to 15.8% with adequate quality of life. Meanwhile, among ischemic stroke sufferers, 31.6% experienced poor quality of life compared to 68.4% who experienced adequate quality of life.

Through the Chi Square Test, results were obtained that hemorrhagic stroke had a strong relationship in causing poor quality of life. By carrying out the Relative Risk Test, it was found that hemorrhagic stroke was 3.87 times more likely to cause poor quality of life.

In research, it was found that the majority of stroke sufferers ultimately suffer from the effects of disability and decreased cognitive function, especially hemorrhagic stroke sufferers. Disabilities in limbs, such as the hands and feet, make it difficult for stroke sufferers to move and walk, so that some sufferers no longer leave the house, and even require complete bed rest. Most stroke sufferers, especially hemorrhagic strokes, cannot become completely independent, requiring assistance for daily needs, including dressing, getting food and daily work. The ability to communicate is also an obstacle for stroke sufferers, where their ability to speak and hear decreases. The vision of stroke sufferers also

decreases, especially in elderly stroke sufferers. This causes social and mental problems in stroke sufferers, where their closeness to family and the surrounding community is no longer the same as before suffering a stroke. Mental problems are also indicated by the large number of sufferers who experience sleep disorders.

Differences in disability and decline in cognitive function, apart from being influenced by the type of stroke, are also influenced by stroke treatment. In 15.8% of hemorrhagic stroke sufferers with adequate quality of life and 68.4% ischemic stroke sufferers with adequate quality of life, it was found that stroke treatment was fast, precise and comprehensive. In these two groups, family support was also found, both financial and moral, which could support the patient's healing and recovery. In this group, information was also obtained regarding the regularity of taking medication to control diseases that are risk factors for stroke.

The severity of the problems suffered by stroke sufferers is more pronounced in hemorrhagic stroke sufferers, because the level of disability and other disorders is more severe in hemorrhagic strokes. The results of this research are in line with previous studies.^[18,19,20,21,22]

Conclusion

The conclusion in this study is that there is a strong relationship between the type of stroke and quality of life, where hemorrhagic stroke is a risk factor for poor quality of life. It is recommended

that this research be continued with a larger/wider sample scale and area coverage.

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