Does Family's Knowledge Correlate with Departure Time Interval at Ischemic Stroke Patient to Emergency Department?

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Abstract

Ischemic Stroke is a symptom that binds with minimal time in this intervention. If an ischemic stroke patient has anextention the departure time interval, it can result in disability and death. Family knowledge is one of the factors affecting the departure time interval to emergency department. Nevertheless, the relationship between knowledge and the interval of departure time of ischemic stroke patients to emergency department is controversial. The aimed of this research is analyze the family knowledge relationship with the interval of the departure time of ischemic stroke patients do emergency department of Banyuwangi Blambangan General Hospital. The study used a prospective cross sectional approach on 100 respondents. Data retrieval is done to the family of ischemic stroke patients using the questionnaire and observation directly when the patient comes to emergency department after a Commuted Tomography scan examination. Data analysis is conducted to analyze the family knowledge relationship with The departure time interval of ischemic stroke patients. Bivariate analysis using Spearman test. The finding show that obtained 56% families do not know the minimum time to be achieved in order for ischemic stroke patients to receive effective reperfusion therapy. Spearman test results between the knowledge with the departure time interval obtained p value = 0.009 with a 0.005 which means there is a family knowledge relationship with the interval of departure time. Family knowledge relates to the departure time interval of ischemic stroke patients to emergency department as measured since the onset of symptoms.

Keywords: *departure time interval, family knowledge, minimum time.*

Introduction

Ischemic Stroke is a collection of symptoms that appear sudden, progressive, and rapid results from the blockage of the brain veins[9]. Stroke is the third cause of death in the world after cardiovascular disease and cancer [18]. Approximately 800,000 people who live in the United States are diagnosed with stroke disease [17]. Note the last 5 years at the Haukland University Hospital, Norway stroke patients are restarted and suffer death at very high risk [1]. In Korea the incidence of stroke was approximately 11.6 million in 2010, acute ischemic Stroke accounted for 10.4% of the cause of death [10]. The prevalence of stroke is increasing as people age, the older the person's age, the more risky stroke occurs. In Indonesia, stroke is the main cause of death among cardiovascular disease and cancer. The number of ischemic strokes in Indonesia in 2018 reaches 713,783 people per year [6].

Treatment of ischemic stroke patients, one of them with thrombolytic therapy, but this therapy is effectively administered when the patient comes to IGD maximum 3 hours after the onset of attack [5,15]. Because thrombolytic therapy is very sensitive to the time of the patient's arrival to IGD. If ischemic stroke patients have slowdown intervals of departure time, they can result in disability and death [3,8]. In the United States since the last 10 years shows that less than 25% of ischemic stroke patients come to emergency services within 3 hours [19]. This shows the low number of patients who are eligible for thrombolytic therapy in emergency services.

The resulting increase in death is an extension of the time interval between the onset of symptoms until the patient departs to the hospital. This is due to low knowledge of the minimum time required of an ischemic stroke patient to arrive at IGD 3 hours after the onset of symptoms [4]. Previous studies have shown that knowledge of stroke risk factors affects the delay of

the patient arriving at the hospital[12]. Knowledge does not relate directly to the arrival time of the patient to IGD [16]. It is also supported by Reeves [13] which conveys that the level of knowledge has no effect on the arrival time of the patient to the emergency installation. Because not everyone who has a good knowledge, will make the correct decision making when discovering the symptoms of stroke.

Based on this, researchers want to reexamine there is a the relationship with the interval of departure time of ischemic stroke patients to IGD hospital Blambangan Banyuwangi.

Material and Method

The research design used is observational analytic with cross sectional approach. The research samples are some of the core families that come bring ischemic stroke patients to IGD RSUD Blambangan Banyuwangi. Number of samples as much as 100 respondents. Data retrieval is done using questionnaire and observation. The sampling technique used is purposive sampling. 3 criteria of inclusion in this study include 1) patients who came to IGD with ischemic stroke, 2) patients brought directly by the 3 core families) patients who were brought in private vehicles. Exclusion criteria of ischemic stroke patients by reference, ischemic stroke patients who died before taking the data. Data obtained from the questionnaire which was filled by the respondent and saw the observation sheet. The study was conducted for 60 days from 16 June 2018 until 16 August 2018. Grouped then processed and carried out test of normality Kolmogorov-Smirnov to know the data is normal distribution or not. Bivariate data analysis is conducted using Spearman test to assess the knowledge relationship with the time interval of ischemic stroke patients to IGD.

Findings

Based on the results of the study received characteristic data respondents:

Table 1. The average age characteristic of respondents

Variable	n	Mean ± SD	95% CI
Age	100	53.16 ±6.980	51.77 – 54.55

Based on table 1 The average age of respondents (patient families) is at the age range of 53 years.

Table 2. Characteristics of the respondent by gender

Variable	Category	n	Percentage
Gender	Laki-laki	53	53%
	Perempuan	47	47%

According to table 2 men's responsibilities are more than women 53%.

Table 3. Characteristics of respondents based on last education

Variable	category	n	percentage
Last education	low	2	2%
	medium	54	54%
	high	44	44%

According to the last 3 education table respondents at the intermediate level of 54 respondents (54%).

Table 4. Average departure time interval of ischemic stroke patients to IGD

Variable	n	Mean ±SD	95% CI
Departure time interval	100	189.79±46.535	180.56 – 199.02

Based on the table 4 the average departure time interval to IGD 190 minutes.

Table 5. Family knowledge relationship with the departure time interval

Variable	n	p	r
Knowledge	100	0.009	- 0.261

Based on table 5 of the test Spearman obtained the value of P value 0.009 (0.05) indicates that there is a relationship between knowledge with the interval of departure time. Value R =-0261 whose correlate strength is weak and negative. That means the lower the family knowledge the longer the departure time intervals to IGD.

Discussion

According to Notoatmodjo[11], knowledge or cognitive is a factor that plays a vital role in forming an individual reaction (overt behavior). But knowledge will result in proper action when followed by a good understanding of information. Knowledge becomes important because the creation of knowledge then becomes an understanding of the actions or decisions that families will take when finding one member suffers from an ischemic stroke.

Based on the study acquired families who know the minimum time of therapy in ischemic stroke as much as 44%. This shows still low knowledge of minimal time so that patients with ischemic strokes arrive at the hospital before 3 hours. Lack of knowledge about the minimal time will cause the patient to arrive at IGD to be late. When reperfusion therapy is administered more than 3 hours, the effectiveness will be reduced [4]. The average departure time interval in 100 patients with ischemic stroke is 190 minutes. The departure time Interval is the time span from the appearance of symptoms until the patient will depart to the hospital. Although observing the time 190 with 180 minutes is only a 10 minute difference but due to the treatment of ischemic stroke is sensitive to minimal time. If that little time is neglected it will reduce the impact of administering reperfusion therapy[4].

The knowledge of signs and symptoms of stroke for society is crucial in the initial introduction and decision-making efforts to bring patients to the hospital. This factor is so important considering the windows period for 3 hours positive therapy of the attack. The patient's understanding should be assured, and the family and society are valid and free from unrighteous understandings[7].

Based on the results of statistic analysis obtained P value 0.009 (0.05) indicates that there is a relationship between family knowledge with the interval of time of ischemic stroke patients to IGD. This means that family knowledge of minimal time is also important in addition to stroke risk factors. Families with an understanding of stroke risk factors will immediately detect when one of their family members suffers an ischemic stroke. The research similarly Sundseth et al[14] stating that knowledge of stroke symptoms and stroke risk factors may increase the alertness of stroke and increase the number of patients who can receive thrombolysis. In addition the family will take the patient to the hospital immediately after the onset of the attack if it knows the minimum time in providing therapy to make an impact. Knowledge of symptoms and risk factors of ischemic stroke alone is not enough for families to get to the hospital immediately[2]. Often the symptoms of stroke are not easily recognizable, because the symptoms that arise vary according to the condition of the community. The explanation should be given to the general public, especially those who are of high risk, need to emphasize that the initial treatment is very important for his safety. In search of public information, usually share each other about facts that have been obtained. Ideas such as ensuring simple and valid information about early warning signs, signs and stroke handling in patients are a great way to general education[7]. Because it is also important to know

the minimum time for the patient to get effective therapy in IGD so that the goal of reperfusion and increase life expectancy can be achieved.

Conclusion

So it can be concluded that the family knowledge about the minimum period of reperfusion/thrombolytic therapy relates to the departure time interval of ischemic stroke patients.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: This study was declared a laik of ethics from the Brawijaya University's ethics commission under the ethics number 151/EC/KEPK-S2/06/2018.

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