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APPLICATION *FAST* IN PRE-HOSPITAL STROKE HANDLING*LIFE SUPPORT* FAMILY

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Article Info	ABSTRACT
	The success of stroke treatment is highly dependent on the speed, accuracy and accuracy of the initial treatment. The family plays an important role in dealing with stroke attacks of family members. The golden time in treating a stroke is ± 3 hours, which means that within the first 3 hours after having a stroke, the patient must immediately receive comprehensive and optimal therapy. This research was conducted to identify prehospital stroke treatment*life support* carried out by the family starting from early detection, delivery and quick referral at Jombang Hospital. This research was conducted in the room at Jombang Hospital on 42 respondents (families of stroke patients). This study design uses a descriptive questionnaire using a prehospital treatment of stroke. The results showed that the majority of Prehospital Stroke Life Support Handling was in the good category (61.9%) both in terms of early detection, delivery, and rapid referral of stroke patients. This research can be the basis for providing education to the public on the dimensions of stroke patient detection in terms of face detection and positioning as well as on the dimensions of patient delivery and stroke transportation in terms of ambulance use.. *This is an open access article under the CC BY-SA license.*

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INTRODUCTION

Stroke patients are patients who experience a brain attack that appears suddenly with a marked disturbance of blood flow due to a blockage or rupture of blood vessels in the brain which causes brain cells to lack blood and substances carried by blood such as oxygen and food which can lead to

death of these cells in a short time (Agoes, 2012). The main impact of stroke is disability, both mild and severe, and the worst is death. Stroke is still a major health problem because it is the second leading cause of disease in the world.

Stroke is the main cause of death in almost all hospitals in Indonesia with a mortality rate of around 15.4%. The prevalence of stroke in Indonesia in 2018 is estimated to be 10.9 per mil. The incidence of stroke in East Java Province is 12.4 per mil at age > 15 years (Riskesdas, 2018). Stroke patients at Jombang General Hospital in 2018 were 256 (inpatient and outpatient) patients (Medical Records, 2018), the success of stroke treatment is highly dependent on speed, accuracy and accuracy of initial treatment (Ministry of Health, 2014). The golden time in stroke management is ± 3 hours, meaning that within the first 3 hours after having a stroke, the patient must immediately receive comprehensive and optimal therapy from the hospital emergency team to obtain optimal treatment results (Morton, 2012).

The most common case in Indonesia in terms of handling patients to the hospital since the onset of a stroke occurs is delay in treatment (Wirawan & Putra, 2013). Appropriate treatment early in the event of a stroke will reduce the disability rate by 30%. The success of handling prehospital conditions in families of patients with stroke is strongly influenced by the level of family knowledge in detecting strokes, families are able to identify risk factors for stroke, the location of the incident that is far from health services, companionship of spouse as a support system, history of previous stroke, disease stroke co-morbidities associated with stroke severity, and economic factors in financing

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treatment. Several factors of delay emphasize the components of patient care centered on family decision-making during handling, coordination, communication, patient family support and empowerment of health facilities (Charles, 2013).

There are still many members of the public who do not know or at least the signs and symptoms that appear as an acute stroke is still the main problem of delayed management after an acute stroke. Another problem that is often found in society is attitude, behavior and low level of education which can also affect delays in the management of acute stroke patients. Pre-hospital management are actions or initial treatment that can be given to stroke patients both while still at home and before being referred to the hospital. Initial treatment can be carried out by the family, community or health workers.

The first community that the patient meets is the family. A family is the basic unit of society where members have a commitment to care for one another both emotionally and physically. Stroke attacks in family members are often not noticed by other family members, they assume that attacks that occur in one family member are common colds and fatigue. The family plays an important role in dealing with acute stroke attacks on family members. Emphasis on the community and family that recognition of early signs and symptoms of stroke and efforts to refer to the hospital must be done immediately because

The success of stroke therapy is largely determined by the speed of action in the acute phase. The longer the referral to the hospital or the longer the time between the attack and the time of therapy, the worse the prognosis. Based on the background above, the researcher is interested in conducting research related to the application of fast in handling pre-hospital stroke life support in families.

METHOD

This quantitative research is a descriptive study with a questionnaire design. The sample in this study were 42 families with family members who were treated at Jombang General Hospital using consecutiva sampling. This research was conducted in February 2019. The research location was at Jombang General Hospital, and the variables in this study were pres hospital*stroke life support* as measured using the initial treatment questionnaire*pre hospital* on the incidence of stroke which was translated with a reliability test of 0.953 and a validity test of 0.645-0.862 with 20 questions about 3 dimensions, namely early detection, patient delivery, and patient transportation. Data analysis uses frequency distribution and presentation.

RESULTS

The results of this study explain the demographic characteristics and treatment*pre hospital* stroke *life support* family along with the description in 3 dimensions.

Table 1. Respondents' Demographic Characteristics (n=42)
Respondent Demographic Characteristics (n=45)

Characteristics	f	%
Age		
17-25 years	4	9,6
26-35 years	6	14,3
36-45 years	23	54,8
46-55 years	6	14,4
56-65 years	2	4,9

Gender		
- Man	14	33,3
- Woman	28	66,7
Last education		

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- No School	1	2,4
- SD	17	40,5
- Middle/High School	8	19,1
- SMA / SMA	13	30,8
- College	3	7,2
Relationship with patient		
- Partner	12	28,6
- Child	27	64,3
- Brother	3	7,1

Based on the table above, based on the ages of 36-45 years, there are 23 respondents (54.8) and 28 respondents (66.7%) are female. Meanwhile, based on recent education, the majority of elementary school graduates were 17 respondents (40.5%) and child-patient relationships were 27 respondents (64.3%).

Table 2. Pre-hospital treatment

Pre-hospital care	f	%
Good	26	61,9
Enough	10	23,8
less	6	14,3

Whereas the majority of respondents had pre-hospital handling skills for family members who experienced a stroke in the good category, namely 26 respondents (61.9%). Shows that in the detection dimension, most families have been able to observe speech complaints (pelo) and efforts that have not been made are observing slanted faces and families not immediately lifting stroke patients from their original position. In the dimension of sending patients, the majority of families have taken patients to the hospital, while the effort that most families have not done is to call an ambulance. The last dimension in the initial management of stroke patients is transportation. In this dimension, it can be seen that most families use ordinary cars to refer patients and there is no oxygen, tensimeters and other medical devices in them.

DISCUSSION

The majority of the late adult age category with the characteristics of helping others, have life experiences and learning processes that allow individuals to develop by applying what they have learned. Awareness to help others who are in trouble is included in providing initial treatment to stroke patients. This is in line with research conducted by Putra (2015) which shows that there is a positive relationship between the ability to help and self-concept from late adolescence to adulthood. The gender of the respondents is mostly female.In all cultures, norms lead to different attitudes and behaviors for boys and girls, this begins during the process of growing up as boys and girls. For example, men have the role of being very polite, whereas women are more loving and concerned about the value of long-term, closed relationships. Women are indeed higher in helping, entertaining, sharing and giving charity than men, but the difference is not significant (Retnaningsih, 2005).

Education means the guidance given by someone to the development of other people towards certain ideals that determine humans to act and fill life to achieve safety and happiness (Tirtarahardja, 2005). Education is needed to obtain information such as things that support health so that it can improve the quality of life. Based on this research, the last education of the respondents was mostly elementary school graduates. This shows that the lower the education, the lower a person's basic ability to think in making decisions, especially in the initial treatment of prehospital stroke

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patients. Attachment is an affectionate bond that is formed between one individual and another and lasts over time and place. With regard to helping behavior, the quality of a child's attachment to his parents can influence his prosocial behavior. Attachment between children and parents plays an important role in children's social development, one of which is prosocial behavior (helping) (Retnaningsih, 2005). This statement is in line with the results of this study that most of the relationships that exist with stroke patients are as children, so that there is prosocial behavior carried out in this case dealing with stroke before being taken to the hospital.

Pre Hospital *Stroke* Life Support *Family*

1. Detection

Rapid recognition and reaction to signs of stroke and TIA. The first complaint of most patients (95%) started outside the hospital. This is important for the wider community, including those closest to the patient, to know about stroke and emergency care. Early detection of stroke is important to do so that there is no increase in complaints, patient disability, or death. Therefore, education on early stroke detection needs to be provided to the community on an ongoing basis. Handling stroke is an emergency and is commonly known by the term *Time is brain.* This means that handling stroke patients at the prehospital stage is important and should not be late by identifying stroke complaints and symptoms for patients and their loved ones. Some signs or symptoms that are common in stroke patients include: hemiparesis, sensory abnormalities on some sides of the body, hemianopia or sudden blindness, diplopia, aphasia, vertigo, dysphagia, dysarthria, ataxia, seizures or sudden loss of consciousness.

The use of terms to facilitate detection is made FAST (*Facial movement, Arm movement, Speech, Test all three*) (AHA, 2015). According to the National Stroke Association (NSA), to FAST ask the person to smile, then raise both arms, and repeat simple words. If you observe these signs, seek medical attention immediately. This measuring instrument is quite simple and can be used by lay people and health workers (Pinzon & Laksmi, 2010). This study shows that most families have observed difficulty speaking / slurred speech, the family asks if there is numbness in the feet and hands as well

Ask if there is paralysis in the patient's arm. However, there are still families who do not observe a slanted face and do not immediately lay the patient in a higher head position.

Based on these results, respondents have done 2 (*Arm and Speech*) of 3 FAST detection in early stroke management at home. This is different from research conducted by Wiwit (2010) that cadres (community) know more about the initial symptoms of stroke on the face (*face*) and arms (*arms*) because these symptoms are most commonly found in stroke patients making it easier for cadres to remember the early symptoms of a stroke

on certain body parts. In Hariyanti's research results, Tita, et al. (2015) about *Health Seeking Behaviour* In stroke patients, it was found that out of 101 stroke patient respondents with complaints of weakness in half of the body, there were 58 people (57.4%), while with complaints of gringgingen there were 15 people (14.8%), while with complaints of unable to speak (aphasia) there were 3 people (2.9%), while with complaints of unclear speech as many as 7 people (6.7%), and the rest with complaints of dysarthria as many as 18 people (17.8%). The results of this study did not mention a slanted face as a shape *health seeking behavior* in strokes.

In this study, the patient's family did not observe much of the slanted face because it focused more on the patient's paralysis and speech difficulties than asking the patient to smile as a detection of facial asymmetry. The treatment of lying down the patient with a higher head position is also not widely practiced due to the lack of information about the initial treatment of stroke when at home. Providing a higher head position in stroke patients will facilitate venous return in the cerebellum leading to the heart.

2. Patient Delivery

The results of this study indicate that when the patient falls, the majority of families think that bringing the stroke patient to the hospital is the right thing to do. This is in accordance with the AHA statement (2015) that the emergency team plays an important role in providing assistance and dispatching patients to receive immediate follow-up treatment with appropriate facilities. The appropriate health facility is a hospital. In this study it was also found that some families did not immediately call an ambulance and at the time of referral they should not

use an ambulance. This is against the protocol *American Heart Association* (2015) that if someone is suspected of having a stroke, then immediately ask for emergency ambulance assistance to get immediate help. Families (ordinary people) are less exposed to ambulance services before entering

hospitals especially for people in Kendal Regency. Prehospital management responsibilities depend on the ambulance service and primary health care. Existence *prehospital stage* (pre-hospital stage) in Indonesia does not get the main attention in Indonesia's health policy strategy. Stage handling

pre-hospitals in Indonesia are still very weak, both in terms of infrastructure and human resources.

An ambulance, as an important element in this stage, for example, so far, has only been considered as a means of transporting patients to the hospital. Instead of placing as part of *prehospital stage*, in Indonesia, the ambulance is part of the inhospital stage handling. With proper treatment in the first hours, the stroke disability rate will be reduced

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by at least 30%. Actions for ambulance patients should be according to protocols or guidelines. The ambulance staff assesses whether the patient has an acute stroke by evaluating it using the FAST method. If results

If the assessment is positive, immediately contact the nearest hospital which will then continue to provide a place for further treatment (AHA, 2015). 3. Transportation

Transportation or ambulance is the main facility for sending patients to the destination hospital. Emergency ambulance officers must have competence in prehospital stroke patient assessment. The results of this study are that most families use ordinary cars (not ambulances) to take your family to the hospital. The main family perception is that the patient arrives at the hospital immediately even with makeshift means of transportation. According to respondents, they did not know how to contact an ambulance and an ambulance should only be used while in the hospital. Based on this phenomenon, the concept *time is brain* has been implemented by the family, namely bringing sick family members as soon as possible to the hospital. On questions about the characteristics of ambulance officers and ambulances, almost all answered no, especially to questions no. 19 and 20, namely the car you use to take your family to the hospital has a siren that is turned on to speed up the process of transporting patients to the hospital and in the car you are using to bring your family to the hospital there are doctors and nurses. According to Levine SR (2009), the ideal facilities that must be in an ambulance are trained personnel (doctors, nurses and ambulance drivers), EKG machines, resuscitation and emergency equipment and medicines, neuroprotectant drugs, telemedicine, glucometers and *pulse oximetri*, and must be able to provide transportation as soon as possible which is indicated by the presence of sirens in each ambulance.

Stroke is a medical emergency that requires prompt treatment to prevent death and disability. To be able to provide fast and precise treatment to people who have had a stroke, time is of the essence. The longer stroke treatment is delayed, the more severe the brain damage that will appear. That's why early recognition of stroke symptoms, in order to speed up the referral process

and delivery of the patient to the hospital is very important in the treatment of stroke. One easy way to use is the FAST method. The FAST method, which detects the presence of symptoms of disturbances in the facial muscles, weakness of the limbs and the presence of speech disorders, provides a way of recognizing early symptoms of stroke that is easy for the public to understand and apply.

With this, it is hoped that the community will be quick and responsive to the presence of stroke symptoms and quickly take the patient to the nearest referral center or immediately call an ambulance. Another thing that should not be forgotten is the provision of standard ambulance facilities for stroke management and staff who are trained in providing first aid in medical emergencies as well. very necessary for initial treatment at the prehospital level in stroke management and it is hoped that the more time that can be saved, the more brain cells that can be saved.

CONCLUSION

The majority of respondents belong to the late adult age category. Most of the respondents were mostly female and lastly educated the majority of respondents graduated from elementary level, while most of the relationships with patients were children and had pre-hospital handling skills for family members who experienced stroke in the good category regarding early detection, patient delivery, and transportation. . This research can be the basis for providing education to the public on the dimensions of stroke patient detection in terms of face detection and positioning as well as on the dimensions of patient delivery and stroke transportation in terms of ambulance use.

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