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The Effect of Family Education on the Fulfillment of Family Health Tasks in Handling Case of Hypertension Post Earthquake in Sigi Regency

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Abstract---*The role of a good family is indispensable in handling cases of hypertension, direct involvement of family members is a form of support so that hypertension care management can run well. The purpose of this study was to determine whether there was an effect of family education on the fulfillment of family health tasks in handling hypertension cases after the earthquake in the Sigi Regency. This research was conducted from December 2018 to March 2019 using an analytical survey pre and post-test design with a sample of 30 respondents from families with hypertension. Sampling using non-probability sampling technique with a purposive sampling approach. The data were then analyzed using the McNenmar test. There is a significant difference between blood pressure before education and after family education was conducted (ρ value = 0.001), while at the level of family knowledge, there was a significant difference before and after family education was carried out on the fulfillment of family health tasks in handling hypertension cases after the earthquake in Sigi district. There is an effect of family education on reducing blood pressure in patients with hypertension after the earthquake that occurred in the Sigi Regency.*
Keywords---*disaster, education, family health tasks, hypertension.*

Introduction

In general, a natural disaster is an adverse event that results from the natural process of the rotation of the planet earth. Natural disasters occur because of changes in nature, both slow changes and extreme changes. Natural disasters caused by purely natural factors occur due to various processes that occur in nature. Not a single human was involved in it. This event is an event that follows the laws of nature. However, some natural disasters occur because of human intervention, for example, landslides caused by felling trees in the forest (IABI, 2016; Bankoff et al., 2013). Judging from the geographical location, Indonesia is located between the meeting of the Pacific plate, the Indo-Australian Plate, and the Eurasian plate. This makes Indonesia vulnerable to the threat of earthquakes. This causes Indonesia to have a high risk of earthquake disasters. So far, there have been many earthquakes in Indonesia and have caused many casualties and economic and social losses (Kurniawan, 2016).

Earthquake events, in addition to causing material losses in the form of buildings, livestock, and agriculture, can also cause human casualties. An earthquake that results in loss of life is called an earthquake. The earthquakes described above almost claimed human lives as well as property. Therefore, these events are known as earthquake disasters (John et al., 2007; Manley et al., 2006). The death toll caused when an earthquake occurs is not solely

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caused by the earthquake itself but is often triggered by other events that accompany it, such as tsunamis, landslides, and floods (Subagya, 2015). On September 28, 2018, an earthquake occurred on the west coast of the island of Sulawesi with a magnitude of 7.4 on the Richter scale, followed by a tsunami. Experience proves that natural disasters have a direct impact on the people of an area. Not only physical damage, but many families lost their children as a result of the disaster. The loss of loved ones and long-lived homes is a psychological pressure for residents that can lead to the emergence of PSTD (Post Traumatic Stress Disorder) or post-disaster stress (Jia et al., 2010; Ireland et al., 2006; Rusman et al., 2017).

The idea behind the title of this problem arises from the observations of researchers. The province of Central Sulawesi, especially in the city of Palu, has an active Palu Koro fault. The Palu Koro Fault is a fault with the second-largest movement in Indonesia, after the Yapen fault, the Yapen Islands, and West Papua. After the earthquake, several problems emerged, such as the problem of economic and social losses and health problems both physically and psychologically. This is likely to happen because their minds and body resistance decreases to cause stress and ultimately affect health conditions and cause hypertension. The relationship between stress and hypertension is that an increase in sympathetic nerves can cause an increase in blood pressure. Prolonged stress can lead to high blood pressure. Stress can also increase vascular resistance to stimulate sympathetic nerve activity (Rezky, 2017; Wikipedia, 2018). Comprehensive family care is a complex process, requiring a logical and systematic approach to working with families and family members. Therefore, the role and duties of the family here are very important in dealing with health problems. Changes in the stage of family development are followed by changes in family development tasks based on the functions of the family. In addition to the family must know their health problems, the family is also able to decide the right action for family members who have health problems, how to take good care of their family, how to modify the environment properly to ensure the health of the family members and how to take advantage of the existing health service facilities and adapt the family to problem stressors so that families can overcome health problems independently (Padila, 2012; Suprajitno, 2012; Dion & Betan, 2013).

Methods

Population and sample

The population of this study is all people recorded as hypertension sufferers in the puskesmas area affected by the earthquake in Sigi district. Sampling in this study used a non-probability sampling technique with a purposive sampling approach, namely the method of determining the sample with specific considerations by the researcher with the following criteria:

- Inclusion criteria for
  Patients with hypertension: Willing to be a respondent, have been a victim of an earthquake, live with family, and have no history of hypertension before the disaster.
- Exclusion Criteria Included
  In the exclusion criteria are: respondents who have hypertension accompanied by other diseases and have difficulties in communicating.

Data collection methods

In this study, the instrument used in data collection was a questionnaire containing questions to be answered by respondents and an instrument in the form of an observation sheet. This study uses an analytic survey with *pre* and *post-tests*, where researchers will provide educational interventions about five family health tasks in caring for sick family members (Wu et al., 2013; Evans, 2008). After that, the family will fill out the questionnaire that has been provided, and the researcher will conduct an initial blood pressure check on family members who suffer from hypertension. Then the researcher will observe again in the subsequent blood pressure examination to find out the effect of family education on the fulfillment of family health tasks that have been carried out for family members who suffer from hypertension.

Results

This section describes the characteristics of respondents based on gender, level of education, occupation, and role in the family. These characteristics can be seen in the table below.

Table 1
Distribution of respondents based on gender, education level, occupation, and role in the family in Sigi Regency

Characteristics of Respondents	Frequency	
	n	%
gender		
man	6	20.0
woman	24	80.0
Education Level		
College	19	63.3
High School	9	30.0
Junior High School	1	3.3
primary school	1	3.3
work		
Housewife	1	3.3
Self-employed	21	70.0
Civil Servants	8	26.7
Role In Family		
mother	8	26.7
father	2	6.7
child	20	66.7
Total	30	100

Source: Primary Data, 2019

Based on Table 1 shows that of the 30 people, the majority are female, with a total of 24 (80%) people, and the rest are male with a total of 6 (20%) people. Judging from the level of knowledge, the majority have a tertiary education level of 19 (63.3%) people, followed by a high school education level of 9 (30%) people, then junior high school and elementary school with 1 (3.3%) each and 1 (3.3%) people. Characteristics based on occupation The majority have jobs as entrepreneurs with a total of 21 (70%) people, followed by jobs as civil servants amounting to 8 (26.7%) people and 1 (3.3%) as housewives. Characteristics of the role in the majority family role is the role of children as many as 20 (66.7%) people, followed by the role of the mother with many 8 (26.7%) and the role of the father with 2 (6.7%) people.

This section describes the analysis of the effect of family education on the fulfillment of family health tasks in handling hypertension cases after the earthquake in the Sigi Regency. A bivariate test was used to determine the difference between the initial and final measurements.

Table 2
Changes in blood pressure pre and post-education in respondents' families

Variable	n	Mean	sd	t	Df	ρ- value
Systolic blood pressure						
Pre Test	30	164	14,269	3,567	29	0,001
Post Test		146	20,734			
Diastolic Blood Pressure						
Pre Test	30	100	8,355	2,276	29	0,030
Post Test		96	7,805			
Total	30	100	30	100		

Table 2 shows that the mean systolic blood pressure measurement results before education were 164 mmHg (SD=14,269) and 146 mmHg (SD=20,734). The results of statistical tests obtained = 0.001 so it can be concluded that there is a significant difference before and after education on systolic blood pressure. Meanwhile, the average diastolic blood pressure measurement before education was 100 mmHg (SD=8,355), and after education was 96 mmHg (7,805). The results of statistical tests obtained = 0.030, it can be concluded that there is no significant difference before and after education on diastolic blood pressure.

Table 3
Effect of family education on fulfilment of family health tasks in handling hypertension cases after the earthquake in Sigi Regency

Research Variables	Pre Test		Post Test		ρ- value
	n	%	n	%	
Knowing Health Problems					
good	13	43.3	29	96.7	0,000
less	17	56.7	1	3.3	
Making Decisions					
good	0	0	27	90.0	0,000
less	30	100	3	10.00	
Caring for Family Members					
good	13	43.3	29	96.7	0,000
less	17	56.7	1	3.3	
Environmental Modified					
good	13	43.3	30	100	0,000
less	17	56.7	0	0	
Utilizing Healthcare					
good	8	26.7	28	93.3	0,000
less	22	73.3	2	6.7	
Total	30	100	30	100	

Table 3 shows that respondents' initial knowledge of fulfilling family health tasks has less dominant data. After conducting family education on the fulfillment of family health tasks, varied results were obtained, where the data tended to increase. The results of statistical tests obtained a value of = 0.000, it can be concluded that there is a significant difference between the level of knowledge before and after family education is carried out on the fulfillment of family health tasks in handling cases of hypertension (Gradman et al., 2010; Duffy et al., 1999; Mann & James, 1998).

Discussion

Based on the results of the study, it can be seen that 30 respondents from family education on fulfilling family health tasks in handling cases of hypertension in the pre-test measurement showed that the dominant respondents were less able to recognize health problems, take care of family members, modify the environment, with each percentage 56.7%, in terms of the variable using health services, it is still less marked by the percentage of 73.3%. In contrast, all respondents in the research variable are not able to make decisions which are shown by the percentage of 100%. After conducting family education on the fulfillment of family health tasks in handling hypertension cases after the earthquake disaster, then post-test measurements were carried out, the results showed that the dominant respondents had improved, both from the variable recognizing health problems (96.7%), caring for family members (96.7%), environmental modification (100%), utilizing health services (93.3%) and making decisions (90%). Family roles are a set of interpersonal behaviors, traits, and activities related to individuals in certain situations (Fitriyani & Setiawan, 2019; Glahn et al., 2007; Ryan & Sawin, 2009).

The results of this study, reinforced by research conducted by Koyongian (2015), regarding the relationship between family roles and compliance with treatment for hypertension patients in Batu Village, Likupang Selatan District, East Minahasa Regency, the study showed that most of the family roles were not good and categorized as non-compliant by 29.7%, the role of the family is not good and obedient to treatment is 6.2%, while the role of the family is good and not compliant is 9.4%, the role of the family is good and obedient to treatment is 54.7%. Based on the test results, the value of value = 0.000, which means that there is a relationship between the role of the family and adherence to treatment for hypertension patients in Batu Village, South Likupang District, East Minahasa Regency.

According to research conducted by Rezky (2017), the relationship between stress and hypertension occurs when an increase in sympathetic nerves can cause an increase in blood pressure. Prolonged stress can lead to high blood pressure. Stress can also increase blood vessel resistance so that it will stimulate sympathetic nerve activity. The role of the family is needed by a sufferer because someone who is sick needs attention from the family. The family can act as a motivator for sick family members so that they can provide emotional support and comply with the treatment recommended by health workers.

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