Analysis of Factors Related To Preparedness of Puskesmas (Community Health Center) Nurse in Facing Flood Disaster

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Abstract:
Background: The incidence of disaster in Indonesia is dominated by hydrometeorological activity, and 75% of total disaster is the flood. Preparedness is the critical phase in the range of disaster management because this phase will determine the independence, success of responsive response, level of suffering the victim, and the safety of the victim's life in the event of the disaster.
Purpose: to analyze factors related to the preparedness of Puskesmas nurse in facing flood disaster in Kendari City of Southeast Sulawesi.
Method: This research uses descriptive analytic design with Cross-sectional approach. The number of respondents in this research are 176 nurses of Puskesmas by using purposive sampling. This research conducted in Kendari City of Southeast Sulawesi at Puskesmas located in flood-prone areas, namely, Puskesmas Mata, Puskesmas Kandai, Puskesmas Lepo-Lepo, Puskesmas Benu-Benua, and Puskesmas Poasia.
Result: correlation test of Spearman Rank indicates that there is a significant correlation between knowledge (p =0.000), attitude (p =0.000), self-efficacy (p =0.000), government policy according to nurse perception (p =0.000), and infrastructure (p =0.000) with the preparedness of Puskesmas nurse in facing flood disaster. Logistic regression test indicates that self-efficacy is the most correlated factor with the preparedness of Puskesmas nurse in facing flood disaster with Exp(B) value of 8.139.
Conclusion: Factor of knowledge, attitude, self-efficacy, government policy according to nurse perception, and infrastructure facilities are significantly correlated with the preparedness of Puskesmas nurse in facing flood disaster, but self-efficacy is the most correlated factor with the nurse preparedness compared to four other factors.
Keywords: Knowledge, attitude, self-efficacy, family preparedness, government policy, infrastructure facilities, nurse preparedness

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I. Introduction

Disaster is a phenomenon that can happen anytime, anywhere, and override anyone with a sudden event process (Mitchel et al., 2015). Disaster occurs when the local resource is unable to cope with the emergence of an event or threat, whether caused by human or nature. The condition then has implication for human life and livelihood (Hodge et al., 2017). Indonesia is one of the countries in the world with the very high incidence of disaster. Every year the incidence of disaster ranges from 1.500-2.000 times (National Disaster Relief Agency (BNPB), 2016). The incidence of disaster in Indonesia is dominated by hydrometeorological activity, and 75% of total incidents are flood. In 2017-2018 the flood disaster is predicted to still dominate the disaster in Indonesia (Indonesia Disaster Data and Information (DIBI) -BNPB, 2017).According to BNPB (2016), Kendari City is one of the areas in Southeast Sulawesi with high disaster risk index of 148.4. 80% of the disaster that occurred in Kendari City is flood. The Regional Disaster Relief Agency (BPBD) of Kendari City (2017) states that the flood disaster in Kendari City is caused by geographical condition with the low land, high rainfall, and overflowing of the largest river in Kendari City, namely, Wanggu river. This is in accordance with the statement of the National Meteorology, Climatology, Geophysics Agency (BMKG) of Kendari City (2017), which states that Kendari City has the trend of high rainfall and increased from 2013 to 2017 by 11-20%. BMKG Kendari City (2017) also predicts that in 2018 it will still experience an increase in rainfall of 1-2%, so it is still at risk for flood disaster.The disaster has a negative impact both partially and universally. Disaster impacts can disrupt and exacerbate the stability of various aspects of life (Shannon, 2015). Disaster can also cause deterioration of health condition both physically and psychologically (Pourvakhshoori et al., 2017). According to BPBD Kendari City (2017), the flood victims that occurred in Kendari City in 2016 as many as 7.106 people, and 57.3% of suffering health problems both physical and psychic. The flood victims that occurred in July 2017 is

7.311, and 59.8% of suffering health problems. Preparedness is the most important part of disaster management that can be used as a strategy to face and mitigate the disaster. (Labrague et al., 2016). The International Council of Nurse (ICN) and the World Health Organization (WHO) (2009), also emphasize that preparedness is critical phase in the range of disaster management because this phase will determine the independence, success of responsive response, the level of suffering the victim, and the safety of the victim's life in the event of disaster. United Nations International Strategy for Disaster Reduction (UNISDR) (2014) & United States Agency for International Development (USAID) (2013) become disaster preparedness as the main priority in disaster management program. Preparedness of health personnel contributes greatly to the efforts to suppress the worsening health condition of disaster victims (Loweri et al., 2017). According to BNPB (2016), the power of health personnel resources can be obtained from the community of volunteers and the local government. The health personnel in the government group consists of all medical professions scattered throughout the hospital and Puskesmas. Puskesmas as primary health care facility is the spearhead of public health service in the respective working areas (Department of Health the Republic of Indonesia (Depkes RI, 2012). According to BNPB (2016), Puskesmas is also one of the rsources in disaster management responsible for health cluster at the village level based on the working area.The nurse is the profession with the largest population in Puskesmas, and most often interacts with the community (Depkes RI, 2012). According to Loweri et al. (2017), when the nurse has a good level of disaster preparedness, the community has a chance to improve the health condition that is disrupted by the disaster, so that the mortality rate may be reduced.The nurse preparedness in facing disaster is influenced by many factors. The results of research conducted in Israel by Menilkov et al. (2014) shows that good knowledge of disaster management, realistic assessment of disaster, and self-efficacy can improve the level of nurse preparedness in facing disaster. The study conducted in Sweden by Phetricco & Loerzus (2016) finds that the government policy factor and the completeness of detention infrastructure facilities are directly proportional to the level of nurse preparedness in facing disaster. Other research also mentions that in principle the determinant factor of nurse preparedness level is grouped into two: 1) individual factor that consists of knowledge and attitude; 2) organizational factor such as facilities and infrastructure (Veenema et al., 2016).The level of health personnel preparedness including nurses in facing disaster in central and eastern Indonesia is still relatively low (BNPB, 2013). Data on health personnel preparedness including Puskesmas nurse in Kendari City also shows the low level of preparedness that is at index 37.98 (BPBD Kendari City, 2016).The preliminary study at the Department of Health of Kendari City shows that there are five Puskesmas located in flood-prone areas, namely, Puskesmas Lepo-Lepo, Puskesmas Mata, Puskesmas Kandai, Puskesmas Benu-Benua, and Puskesmas Poasia. The interview results of the researcher towards 10 nurses at five Puskesmas prone to flood show that 70% of nurses state that the availability of supporting infrastructure facilities for flood preparedness is still lacking. 60% of nurses say that the local government policy has not provided maximum space for the Puskesmas nurse to do the flood disaster preparedness. In addition, only 40% of nurses are able to answer correctly regarding the understanding and objectives of preparedness in disaster management that the researcher asks. Based on these phenomena, the researcher is interested to conduct research and analyze what factors are related to the preparedness of Puskesmas nurse in facing flood disaster in Kendari City of Southeast Sulawesi.

II. Research Method

This research uses descriptive analytic design with Cross-sectional approach. Respondents in this study are 176 nurses of Puskesmas by using purposive sampling. This research conducted in Kendari City of Southeast Sulawesi at Puskesmas located in flood-prone areas, namely, Puskesmas Mata, Puskesmas Kandai, Puskesmas Lepo-Lepo, Puskesmas Benu-benua, and Puskesmas Poasia. The research carried out from November 6, 2017, to December 6, 2017. The instrument used in this research is the questionnaire. The bivariate analysis uses Spearman rank test to see the relationship of knowledge, attitude, self-efficacy, government policy according to nurse perception, and infrastructure facilities with the preparedness of Puskesmas nurse in facing flood disaster. While multivariate analysis uses logistic regression test to find out the most related factor with the preparedness of Puskesmas nurse in facing flood disaster.

III. Research Result

Based on the research that has been done obtained the following results:

Table 1. Characteristic of Respondents by Age and Length of Work

	N	Minimum	Maximum	Mean	Standard Deviation (SD)	
Age (year)	176	22	54	32.22	7.077	
Length of Work (year)	176	1	20	7.41	5.266	

Source: Primary Data (2017)

Distribution of respondents shows that the average age of respondents 32.22 years, where the youngest age is 22 years old and the oldest age is 54 years with the distribution of data 7.077. Distribution of Average

work duration for 7.41 years, where the minimum length of work for 1 year and maximum 20 years with the distribution of data 5.266

Table 2. Characteristic of Respondents by Sex, Education, Experience of Disaster Training, and Source of Disaster Training

Characteristic	Frequency (n)	Percentage (%)
Sex		
Man	43	24.4
Woman	133	75.6
Total	176	100
Education		
SPK	16	9.1
Diploma-III	90	51.1
Diploma-IV	7	4.0
Bachelor	32	18.2
Ners	31	17.6
Total	176	100
Experience of disaster training		
Never		
1 time	113	64.2
>1 time	52	29.6
Total	11	6.2
	176	100
Source of disaster training		
Government program		
Non government program	25	39.7
Total	38	60.3
	63	100

Source: Primary Data (2017)

Based on table 5.2 found that the majority of female respondents are 133 respondents (75.6%). Some of D-III Nursing is 90 respondents (51.1%). Almost all respondents never attend disaster training, namely, 113 respondents (64.2%). Most of the respondents who haveattended the training are not training sourced from the government program, namely, 38 respondents (60.3%).

Table 3. Distribution of Respondents Based on Knowledge, Attitude, Self-efficacy, Government Policy According to Nurse Perception, Infrastructure Facilities, and Nurse Preparedness

Variable	Objective Criteria	Frequency (f)	Percentage (%)
Knowledge	Less	93	52.8
	Good	83	47.2
	Total	176	100
Attitude	Less	106	60.2
	Good	70	39.8
	Total	176	100
Self-efficacy	Less	95	54.0
	Good	81	46.0
	Total	176	100
Government Policy According to Nurse Perception	Less	97	55.1
	Good	79	44.9
	Total	176	100
Infrastructure	Less	104	59.1
	Good	72	41.9
	Total	176	100
Nurse Preparedness	Less	116	65.9
	Good	60	34.1
	Total	176	100

Source: Primary Data (2017)

Based on table 3 found that the most of respondents have less knowledge about disaster preparedness, namely, 93 respondents (52.8%), less attitude are 107 respondents (60.2%), less self-efficacyare 95 respondents (54.0%), less government policy according to nurse perception are 97 respondents (55.1%), less supporting infrastructure facilities of disaster preparedness are 59.1%, and the most of respondents have less preparedness in facing flood disaster are 116 respondents (65.9%).

Table 4. Analysis Result of Bivariate Spearman Correlation Test Between Knowledge, Attitude, Self-efficacy, Government Policy According to Nurse Perception, and Infrastructure Facilities with Preparedness of PuskesmasNurse in Facing Flood Disaster in Kendari City of Southeast Sulawesi

		Nurse Preparedness
Knowledge	Correlation Coefficient (r) Sig. (2-tailed) (p) N	0.713 0.000 176
Attitude	Correlation Coefficient (r) Sig. (2-tailed) (p) N	0.665 0.000 176
		Nurse Preparedness
Self-efficacy	Correlation Coefficient (r) Sig. (2-tailed) (p) N	0.707 0.000 176
Government Policy According to Nurse Perception	Correlation Coefficient (r) Sig. (2-tailed) (p) N	0.580 0.000 176
Infrastructure Facilities	Correlation Coefficient (r) Sig. (2-tailed) (p) N	0.572 0.000 176

Source: Primary Data (2017)

Table 4 shows that knowledge, attitude, self-efficacy, government policy according to nurse perception, and infrastructure facilities have p-value = 0.000 <α (0.05), so H0 is rejected which means there is significant correlation between knowledge, attitude, self-efficacy, government policy according to nurse perception, and infrastructure facilities with preparedness of Puskesmas nurse in facing flood disaster in Kendari City of Southeast Sulawesi. The relationship value of each variable is 0.713, 0.665, 0.707, 0.580, and 0.572 which means the nature of the relationship is strong with the direction of the positive relationship.

Table 5. Analysis Result of Multivariate of Knowledge Relation, Attitude, Self-efficacy, Government Policy According to Nurse Perception, and Infrastructure Facilities with Preparedness of PuskesmasNurse in Facing Flood Disaster in Kendari City of Southeast Sulawesi

Variable	p Value	$Exp(B)$	R Square
Knowledge	0.042	6.644	0.749
Attitude	0.033	3.732	
Self-efficacy	0.010	8.139	
Government Policy According to Nurse Perception	0.034	3.500	
Infrastructure Facilities	0.013	4.032	

Source: Primary Data (2017)

Based on table 5.10 found that logistic regression analysis in this research uses enter method. The value of R Square shows the value of 0.749 approaching the value 1, so the multivariate analysis has good quality and feasible to use. The p-value on all variables are < α (0.05), which means that there is the relationship between knowledge, attitude, self-efficacy, government policy according to nurse perception, and infrastructure facilities with the preparedness of Puskesmas nurse in facing flood disaster in Kendari City of Southeast Sulawesi. The strength of relationship of the independent variable can be seen in the value of *Exp(B)*. The calculation result is obtained value of *Exp(B)* knowledge is 6.644, value of *Exp(B)* attitude is 3.732, value of *Exp(B)* self-efficacy is 8.139, value of *Exp(B)* government policy according to nurse perception is 3.500, and value of *Exp(B)* infrastructure facilities is 4.032. Based on the results of the analysis, the self-efficacy variable is the independent variable that is the most related to the dependency variable of preparedness compared with the variable of knowledge, attitude, government policy according to nurse perception, and infrastructure facilities.

IV. Discussion

1. Knowledge relationship with Preparedness of PuskesmasNurse in Facing Flood Disaster In Kendari City of Southeast Sulawesi

The result of the bivariate analysis shows that the knowledge of Puskesmas nurse on the disaster preparedness is significantly related to the preparedness of Puskesmas nurse in facing flood disaster in Kendari City of Southeast Sulawesi. The result of this research is supported by the research conducted on 243 nurses in Israel with the result that there is a relationship between nurse knowledge with preparedness in facing disaster (Melnikov at al., 2014). Mondargue & Lircones (2015) through the result of their research state that knowledge is one of the factors that affect the level of nurse preparedness in facing and tackling disaster. Another research conducted at Sidrap South Sulawesi also emphasizes that the factor that the most closely related to the preparedness of health personnel including the nurse in facing disaster is knowledge factor (Mustamin, 2015)Veneema et al (2016) state that the less nurse knowledge on the disaster preparedness is one of the obstacles for a nurse to achieve the good level of preparedness in facing disaster. According to Mondargue & Lircones (2015), knowledge is the foundation that strongly determines the nurse's ability regarding appropriate decision-making in preparation, patient, and society to cope with disaster. If the nurse's knowledge is lacking, the nurse will have difficulty in making an appropriate decision about what actions should be planned and undertaken in the event of the disaster. The International Council of Nurse (2009) also emphasizes that cognitive knowledge or ability on disaster is a very important thing to disaster management both in the mitigation, preparedness, responsive response, and rehabilitation stages. Good cognitive or knowledge will be able to support the nurse's competence in preparing for disaster management.The result of the field research shows that the knowledge of Puskesmas nurse in Kendari City about disaster preparedness is still in the less category, especially on the aspect of action or effort that must be done in facing flood disaster. According to Arsenljevlc et al (2017), good and lack of knowledge of a person is influenced by several factors such as education, age, and experience.Knowledge and education are two things that can not be separated, it is expected that the higher one's education the knowledge will be wider or better. According to Baker (2013), education contributes to the knowledge that influences one's attitude and behavior to participate in disaster preparedness. The same is also pointed out by Chen et al (2016), that education can facilitate nurse to increase or improve knowledge about the disaster, which will encourage the creation of disaster preparedness behavior. The result of the field research obtained that there are five educational backgrounds of Puskesmas nurses in flood-prone areas in Kendari City, namely: Health Nurse School (SPK), Diploma III in Nursing (D-III), Diploma IV in Nursing (D-IV), Bachelor of Nursing (S-1), and Ners (Ns). From the fifth education level, D-III Nursing is the educational background that dominates Puskesmas nurse in Kendari City that is 51.1%, while the education level of Ners nursing is only 17.6%. The nurse's knowledge of disaster preparedness is also influenced by the age factor (Mondargue & Lircones, 2015). According to Raes et al (2015), age is directly proportional to the process of individual mental development, where the increasing age of the individual, the process of individual mental development will be the better, but at a certain age the individual memory will decline and this greatly affects the ability of individual in receiving and managing information. Notoatmojo (2012) states that the differences in the level of knowledge at each age level can be reviewed from the knowledge domain that is knowing, understanding, application, analysis, synthesis, and evaluation. The higher the level of the individual cognitive domain the higher the individual's ability in processing and applying an information or knowledge received. The result of the univariate analysis shows that the average age of Puskesmas nurse in flood-prone areas of Kendari City is 32 years old with the oldest age is 54 years old. Another factor that affects nurse knowledge about disaster preparedness is the experience in conducting disaster preparedness and experience. According to Azwar (2010), the experience can be used as an effort to gain knowledge by repeating experiences that have ever been gained in solving the problems encountered. The experience of Puskesmas nurse in disaster-prone areas related to disaster preparedness and mitigation efforts can also be seen in the experience of disaster training. This is consistent with the statement of Melnikov et al (2014) that the nurse can develop knowledge about disaster management through experience in disaster training and seminar. The result of univariate analysis found that the most or 64.2% of Puskesmas nurse in flood-prone areas in Kendari City have never attended training on disaster management.Based on the above description, the researcher can conclude that knowledge has relation to the preparedness of Puskesmas nurse in facing flood disaster. In addition, the researcher also believes that the nurse knowledge on preparedness in facing flood disaster is influenced by education, age, and experience of disaster training.

2. Attitude Relationship with Preparedness of PuskesmasNurse in Facing Flood Disaster in Kendari City of Southeast Sulawesi

The result of the bivariate analysis shows that the attitude has the significant relationship with the preparedness of Puskesmas nurse in facing flood disaster in Kendari City of Southeast Sulawesi, with $p= 0.000 < α$ (0.05). While the result of the univariate analysis shows that 107 (60.2%) nurses of Puskesmas in flood-

prone areas in Kendari City have less attitude and concern related to preparedness in facing flood disaster. The field research also found that there is still Puskesmas nurse who considers that preparedness planning in facing flood disaster such as disaster risk assessment, community education, early warning and disaster training in the work area is necessary to be done because it is the responsibility of BPBD completely.The result of this study is consistent with the result of the research conducted in Saudi Arabia which states that attitude is one of the factors that determines the level of nurse preparedness in facing disaster (Ibrahim, 2014). The result of Mondargue & Licornes (2015) states that the nurse attitude toward disaster preparedness is related to the level of nurse preparedness in coping with and overcoming the disaster. This is then confirmed by the result of the research of Magnaye et al (2011) which states that the nurse attitude towards disaster preparedness is directly proportional to the level of nurse preparedness in facing disaster. Particularly attitude to their respective roles when disaster strikes, emergency stance, and attitude in serving disaster victims in the different situation and cultural background. According to Mondargue & Licornes (2015), the nurse attitude towards disaster preparedness is divided into two namely the attitude of refusal and acceptance. Both of these types of attitudes greatly determine the awareness and willingness of nurse to participate in making preparedness and planning efforts of disaster management. A good attitude or accepting attitude, not only making the nurse has the willingness to perform disaster preparedness, but it will also encourage nurse to always improve his/her knowledge of disaster preparedness.Giesen (2015) states that a good attitude towards an object begins with acceptance and interest in the object, by providing a response followed by completion or problem solving with full of responsibility. This is in accordance with what is said by Notoatmojo (2012), that the individual attitude has four levels namely receiving, responding, valuing, and responsible. The receiving stage means that the nurse has an interest in preparing for disaster preparedness by finding out and paying attention to any information on disaster preparedness. Responding that the nurse wants to explain and discuss disaster preparedness to the community or colleagues who need the information. Valuing means that proactive nurse invites others to improve preparedness in the form of socialization and training to the community about disaster management preparedness. While responsible means that nurse pursues and does seriously preparedness efforts in dealing with disaster starting from disaster risk assessment and health problem due to disaster, the compilation of disaster nursing plan, early warning, community education, training and simulation, resource readiness data collection, and evaluation of preparedness component.According to Ondulana (2014), person's attitude towards an object is influenced by several things namely education, knowledge, and experience. This is supported by Tuhusetya (2012) which states that education and knowledge are two things that determine the formation of a person's attitude. It is further said that one of the purposes of disaster education is to instill a standby, responsive, and responsive attitude to disaster. With a good attitude toward disaster preparedness, the nurse not only knows and understands the concept of disaster but able to give the responsive response in facing and tackling the disaster so that the impact in health sector due to disaster can be suppressed (Ibrahim 2014). In addition to education and knowledge, the experience is also one of the factors that contribute to the creation of good attitude towards an object (Odulana, 2014). According to Ibrahim (2014), the experience of nurses in disaster management and training on disaster management greatly determines the nurse attitude on preparedness. The existence of such experience will make the nurse has a memory of preparedness in facing disaster, and know the advantages if the preparedness is done vice versa. The result of univariate analysis shows that 51.1% nurses of Puskesmas in disaster-prone areas in Kendari City have education background of D-III Nursing, 52.8% have less knowledge about flood disaster preparedness, 64.2% have never participated in disaster training, and 60.2 % Puskesmas nurses have less attitude toward preparedness in facing flood disaster in Kendari City. Based on the above description, the researcher can conclude that the attitude related to the preparedness of Puskesmas nurse in facing flood disaster in Kendari City of Southeast Sulawesi. Besides, the researcher believes that nurse attitude toward preparedness in facing flood disaster is influenced by education factor, knowledge, and disaster training experience.

3. **Relationship of Self-efficacy with Preparedness of PuskesmasNurse in Facing Flood Disaster in Kendari City of Southeast Sulawesi**

The result of bivariate analysis states that there is a significant relationship between self-efficacy and preparedness of Puskesmas nurse in facing flood disaster in Kendari City of Southeast Sulawesi, which is shown with $p= 0.000 < α$ (0.05). The result of this study is in accordance with the research conducted in Israel by Melnikov at al (2014), which states that personal factor such as self-efficacy is more important for Israel nurses to shape disaster preparedness compared to organizational factor.Self-efficacy is an individual's judgment about the ability to behave and do something to achieve a particular goal. Or in other word self-efficacy is an individual's belief that it has the ability to perform certain tasks well (Bandura, 1997). According to Alwisol (2009) self-efficacy of a person is divided into two namely open or good self-efficacy and closed or less self-efficacy. A person with closed or less self-efficacy will tend to give up easily, while someone with open or good self-efficacy will always try to diligently carry out the duties and responsibilities and overcome the existing

challenges. In preparedness of disaster management, self-efficacy is one of the factors affecting disaster preparedness (Ansthobar & Miellen, 2013). Nurses who have a good self-efficacy will make them able to respond and do something to change and improve the bad condition around in the event of a disaster. While nurses who have less self-efficacy tend to consider themselves unable to do everything and will produce a passive or pessimistic attitude so that preparedness effort in facing disaster is not done seriously and full of responsibility (Melnikov at al., 2014).The above description is reflected in the result of univariate analysis which shows that the most of Puskesmas nurses namely 54.0% have less self-efficacy related to preparedness in facing flood disaster in Kendari City. It is also followed by the high percentage of the number of Puskesmas nurse with poor preparedness in facing flood disaster in Kendari City of Southeast Sulawesi namely 65.9%.

In general, the good and bad individual self-efficacy on the subject is influenced by several things such as mastery experiences, vicarious experiences, social persuasion, and physiological and emotional states (Bandura, 1997). Meanwhile, according to Feist & Feist (2010), factors that affect the Self-efficacy of a person that is the level of education, gender, experience, and culture. This is in line with the statement of Ansthobar & Miellen (2013), that self-efficacy of nurses related to preparedness in facing disaster can develop, increase, and even decrease due to the level of education, gender, experience, and value and culture.The level of education determines self-efficacy of a person as well as the nurse. Nurse with the high level of education than the insight and knowledge of nursing will also be better, it will then make the nurse more confident and self-confident in making the decision to do something including preparedness in facing disaster. According to Melnikov at al (2014), the higher the education level of a nurse, the belief in the ability to perform preparedness activity in facing disaster will also improve otherwise. This is seen in the result of univariate analysis where the most of Puskesmas nurses in flood-prone areas in Kendari City have education background of D-III Nursing, followed by 54.0% nurses of Puskesmas have less self-efficacy related to preparedness in facing flood disaster in Kendari City of Sulawesi Southeast.

According to Feist & Feist (2010), self-efficacy of a person is also influenced by gender factor, where women have a higher self-efficacy in managing their roles in both the family and the work environment. Bandura (1997), also states that women have better self-efficacy in performing their duties and responsibilities in the workplace than men. the statement is in contrast to the result of univariate analysis in this study, where the most of Puskesmas nurses in flood-prone areas in Kendari City of female sex is equal to 75.6%, but the percentage of preparedness of Puskesmas nurse in facing flood disaster in Kendari City which is in low category is even greater that is 65.9%.Another factor that affects self-efficacy of a person in doing something is the experience. According to Bandura (1997), the experience can form a person's beliefs to behave and act either the experience of him/herself and the experiences of others who are in conformity with what he/she will do at the time. According to Feist & Feist (2010), in general experience related to success in doing something can certainly improve self-efficacy of a person, whereas failure experience in doing something can give two effects that are decreasing self-efficacy in doing something and increasing self-efficacy due to feel ready to do something by knowing things that are not necessary to be done through previous failure experiences. Ansthobar & Miellen (2013) explain that experience becomes one of the determinants of nurse self-efficacy in disaster management, including when conducting preparedness activity in dealing with and tackling disaster. Melnikov at al (2014) further explains that experience that can improve self-efficacy of the nurse in performing disaster preparedness is the training experience in disaster management. With the training experience, the nurse will be more confident and feel to have the ability in doing disaster preparedness. This is in accordance with the result of univariate analysis which found that the most of Puskesmas nurses in flood-prone areas in Kendari City do not have training experience or never followed the disaster training as many as 64.2%, and the most of Puskesmas nurses have poor preparedness in facing flood disaster in Kendari City of Southeast Sulawesi namely 65.9%.

Value and culture are also factors that determine both the lack of self-efficacy of nurses in performing disaster preparedness (Ansthobar & Miellen, 2013). It is also asserted by Suk et al (2015) which state that culture is a factor affecting self-efficacy of the nurse in carrying out its various tasks and roles. According to Melnikov at al (2014) the values of beliefs prevailing in the environment where nurses work will have an effect on the optimism and pessimism of nurses in conducting activities or programs of disaster preparedness. The people of Kendari City have confidence value called Pombadoa which means that by making a disaster-related preparation that uncertainly happens, it will bring about a real disaster. This can be one of the obstacles of nurses in performing disaster preparedness especially at the time of socialization and disaster training to the community, which has an impact on pessimism about the implementation of disaster preparedness activities. This is followed by less preparedness in facing flood disaster in most or 65.9% nurses of Puskesmas in Kendari City of Southeast Sulawesi.Based on the above description it can be concluded that self-efficacy has the relationship with the preparedness of Puskesmas nurse in facing flood disaster. The researcher also believes that self-efficacy of the nurse in conducting disaster preparedness is influenced by the level of education, disaster training experience, and value and culture of the nurses work.

4. **Government Policy Relation According to Nurse Perception With Preparedness of PuskesmasNurse in Facing Flood Disaster In Kendari City of Southeast Sulawesi**

The result of the bivariate analysis shows that there is a significant correlation between government policy according to nurse perception with the preparedness of Puskesmas nurse in facing flood disaster in Kendari City of Southeast Sulawesi, which is shown with p-value = 0.000 < α (0.05). The result of this study is consistent with the research result of Phetricco & Loerzus (2016) which state that government policy is the most important factor in nurse preparedness in facing disaster. Furthermore, it is said that government policy can give space for nurses to prepare in anticipation of disaster.Veneema et al (2014), through the result of their research state that the government policy is impartial to the role of nurses in disaster management, is one of the factors that inhibit the achievement of good nurse preparedness in facing disaster. The nurse will also experience difficulties and confusion in conducting disaster preparedness at work if local government policy is not supportive (Phetricco & Loerzus, 2016). According to Labrague et al (2016), government policy can be a clear guide for nurses in making preparedness and planning efforts of disaster management, so that the disorientation of disaster management in their work areas can be avoided. This is reflected in the result of the univariate analysis that has been done by the researcher found as many as 55.1% of Puskesmas nurses in flood-prone areas in Kendari City have a perception that government policy that supports the preparedness of Puskesmas nurse in facing flood disaster is still lacking. The government policy that is less according to the nurse perception is also followed by the less nurse preparedness in facing flood disaster in Kendari City of Southeast Sulawesi with the percentage of 65.9%.The disaster management system in Indonesia, especially in the health cluster, has actually been stated in Permenkes No. 1653 the year 2008, which affirms that each regency and city is obliged to form the task force (Satgas) in its working area in an integrated and coordinated manner with Disaster Management Implementation Unit (Satlak PB). Caretaker for regency and city health management is Head of Regency/City Department of Health under the coordination of disaster management unit. While at the level of district and village the implementation of health service duties under the leadership of the Head of Puskesmas that is responsible to the Head of Regency/City Department of Health.Ideally the government policy of the Regency/City Department of Health interpreted by the Heads of Puskesmas in disaster-prone areas should support disaster management programs in the level of district and village as set out in Permenkes No. 1653 the year 2008 namely: Creating geomedical map, evacuation route, training and simulation disaster, resource inventory, accepting and responding to early warning system, formation of field health team, and coordination in disaster planning formulation. The result of the field research shows that only two Puskesmas that are Puskesmas Poasia and Puskesmas Benu-Benua that have the geomedical map and flood evacuation route, but the socialization of geomedic map and evacuation route to all nurses at the Puskesmas have not been done optimally. Puskesmas Lepo-Lepo has evacuation route but it has no geomedical map, while Puskesmas Kandai and Puskesmas Mata have no geomedic map and evacuation route. In addition, the average training of nurses on disaster management is still lacking, limited, never even. This is seen in the result of univariate analysis where most or 64.2% of Puskesmas nurses in flood-prone areas in Kendari City never attended disaster training, 29.5% of Puskesmas nurses ever participated in disaster training once, and only 6.2 % of Puskesmas nurses who have attended disaster training more than once. From the total nurses who have attended disaster training, it is found that 60.3% of nurses have attended disaster training that is not sourced from the government program.

The result of univariate analysis conducted by the researcher shows that government policy that supports nurse preparedness in facing flood disaster in Kendari City is still not optimal. Therefore, the policies that support the preparedness of Puskesmas nurse in facing flood disaster in Kendari City such as development programs of insight, knowledge, and skill of disaster management through the provision of training, seminar and workshop are very important to be considered and improved. According to Magnaye et al (2011), the reparation and improvement of nurse preparedness in facing disaster will be more effective if the personal factor owned by the nurse is supported by an external factor such as government policy through sustainable and integrated disaster management programs.

5. **Relation of Facilities and Infrastructure with Preparedness of PuskesmasNurse in Facing Flood Disaster In Kendari City of Southeast Sulawesi**

The result of the bivariate analysis shows that the infrastructure of supporting preparedness is significantly related to the preparedness of Puskesmas nurse in facing flood disaster in Kendari City of Southeast Sulawesi. The result of this study is consistent with the research result of Phetricco & Loerzus (2016) which state that infrastructure facilities have the relationship with the level of nurse preparedness in facing disaster. Veneema et al (2014) through the result of the research also confirms that the infrastructure facilities are one of the factors that contribute to both determining and the lack of nurse preparedness level in facing disaster.According to UNISDR (2014), the components of infrastructure facilities that support preparedness in facing disaster consists of 4 things, namely the availability of adequate infrastructure facilities, the mechanism of proposing facilities and infrastructure, the feasibility of infrastructure facilities, and the compliance of

infrastructure facilities. Meanwhile, according to Phetricco & Loerzus (2016), supporting infrastructure facilities of nurse preparedness in facing disaster in the form of evacuation or transportation equipment during disaster, tool or media of delivery of information or disaster education to the society, medical devices for healthcare and service during disaster, communication for coordination with the parties involved in disaster management, and infrastructure such as room, electricity, and network.The result of univariate analysis finds out that the supporting infrastructure facilities of preparedness of Puskesmas nurse in Kendari City are still less that is 59.1%. The result of the field study also found that five Puskesmas surveyed have room, tissue, and electricity, and sufficient medical devices for the needs of health services during the disaster, but other infrastructure facilities such as rubber boat for transportation during flood, or media for socialization and disaster training, and communication tools for cross-sectoral coordination in the event of disaster are lacking. From 5 Puskesmas, only 2 Puskesmas have the clear mechanism of infrastructure and facilities, those are by always collecting data of requirement of infrastructure facilities of nurse preparedness support routinely namely Puskesmas Poasia and Puskesmas Benua-Benua. The average infrastructure facilities owned by Puskesmas in Kendari City is still feasible for use in preparedness of flood disaster management, but the accuracy of infrastructure facilities based on disaster characteristic such as transportation means to do health service during flood disaster is still lacking. Only 1 Puskesmas has the right transportation facilities such as rubber boat to provide health services during the flood disaster that is Puskesmas Lepo-Lepo. According to Alamsyah (2017), lack of supporting infrastructure facilities of preparedness will have an impact on efforts to prepare themselves and others in facing disaster, even this can lead to chaos in the process of disaster management which leads to delays and inability to help, evacuate, and assist the needs of the victims in the event of disaster. Veneema et al (2014) also state that nurse preparedness in tackling disaster will be hampered if the supporting infrastructure facilities are lacking. This can occur because of all actions of nurse preparedness starting from disaster risk assessment, disaster nursing planning, training and simulation, community education, early warning, even data collection and evaluation of preparedness components require good supporting infrastructure facilities.

Based on the above description it can be concluded that the infrastructure is one of the factors associated with the preparedness of Puskesmas nurse in facing flood disaster, for that each Puskesmas must have and equip infrastructure facilities that support nurse preparedness in facing disaster.

6. Factor That the Most related to Preparedness of Puskesmas Nurse in Facing Flood Disaster in Kendari City of Southeast Sulawesi

The result of the multivariate analysis shows that self-efficacy is a factor that the most related to the preparedness of Puskesmas nurse in facing flood disaster in Kendari City of Southeast Sulawesi, with the value of *Exp(B)* 8.139. The result of this study is consistent with the statement of Ansthobar & Miellen (2013), which state that self-efficacy is one of the factors that greatly affect nurse preparedness in facing and tackling disaster compared with other factors. Further explained that self-efficacy can be determinant of the influence effectiveness of other factors such as knowledge and attitude. Good self-efficacy will make the nurses have the spirit and optimism in conducting disaster preparedness activities by maximizing their disaster knowledge and being open and positive towards various things about disaster preparedness.According to Samuel et al (2015), self-efficacy can produce and instill great motivation in nurses to participate and act in accordance with their roles and responsibilities. If the nurse has a great motivation to engage, participate, and respond to disaster management, it will make the nurses always try to prepare themselves and the community in facing disaster, so that the health impacts of the disaster can be prevented (Melnikov et al. 2014). Motivation formed by strong self-efficacy will last a long time and not easy to decline when the nurses find problems and obstacles to the process of preparation in facing disaster (Adams & Berry, 2012). In addition to the spirit, optimism, and motivation, self-efficacy is also able to shape and increase the commitment of nurses in the work. The birth of strong nurse's commitment to doing a job will have a positive effect on the output to be generated (Tsai et al., 2014). In preparedness of disaster management, the nurse's commitment is needed, so the nurse is able to perform his/her roles and functions in disaster management especially in the stage of disaster preparedness. A strong nurse commitment is reflected in the implementation of the serious and responsible sense of preparedness activity that is a projection of good nurse's self-efficacy towards disaster preparedness in facing disaster (Melnikov et al., 2014). According to Ansthobar & Miellen (2013), component of nurse's self-efficacy related to disaster preparedness is a belief in identifying disaster risks and health care needs in the event of disaster, confidence can make disaster nursing planning, confidence can do early warning to the community, coordination with all parties involved, confidence can follow disaster simulation, and confidence can provide disaster education and disaster training to the community. If the nurse already has all the components of self-efficacy related to disaster preparedness, then this will make the nurses are able to prepare themselves and the community in facing the disaster that will occur, so that indirectly can reduce morbidity, disability, and death from disaster. important for Puskesmas nurse in flood-prone areas in Kendari City of Southeast Sulawesi to have

good self-efficacy related to disaster preparedness because it can increase the preparedness of Puskesmas nurse in facing flood disaster. Self-efficacy can be good if the three supporting factors are also good those are the level of education, disaster training experience, and the value and social culture that support preparedness in facing disaster.The majority of Kendari people still have a belief that the disaster occurring in their area is a form of reprimand from the God for wrongness they may have committed, besides that some of Kendari people also believe that when planning or preparing before the disaster, the disaster will really happen which is called Pombadoa. These belief values that can make the Puskesmas nurse pessimistic and have less faith to be able to do preparedness in facing flood disaster by involving the community, such as the provision of training and disaster education related to the things that must be prepared in facing flood disaster.Nevertheless, the people of Kendari City dominated mostly by Tolaki Tribe, also have other tradition that is rooted in ancestral culture and still practiced today. The tradition is Mekombulu and Mepokoaso which can be interpreted as deliberation and mutual cooperation. The tradition of Mekombulu and Mepokoaso appear as an instrument that can be utilized by Puskesmas nurse to access the social network or to do preparedness in facing flood disaster, especially preparedness activities involving the community. This cultural tradition can also be a balancing of the social value of local community Pombadoa which can hamper the preparedness activities of Puskesmas nurse in facing flood disaster.

Mekombulu in Indonesia Language is "asemble". Mekombulu is one of the traditions of the community which is done regularly to gather and discuss the problems faced by the local community whether it is custom, health, a disaster that befalls other community members, a disaster that threatens the local area, and others. Mepokoaso a kind of mutual help or mutual assistance in the form of energy for the community members who get the accident or who are having a celebration such as delivering the sick community members to Puskesmas or hospital, calling health personnel to check on the sick community members, helping other community members to save themselves and property during disaster, opening garden, moving the stage house together, and other. With the tradition of Mekombulu and Mepooaso of the local community, the Puskesmas nurse does not need to feel pessimistic to do preparedness in facing flood disaster especially programs which involve the community. Mekombulu and Mepokoaso become cultural capital which can be utilized by Puskesmas nurse to conduct preparedness activities in facing flood disaster so that it can improve self-efficacy nurse in facing and tackling flood disaster in Kendari City of Southeast Sulawesi.

V. Limitation

Reference sources for nurse preparedness in facing disaster both from Indonesia and abroad are still lacking, thereby reducing the freedom of researcher in conducting the discussion.

VI. Conclusion

There is a significant correlation between knowledge, attitude, self-efficacy, government policy according to nurse perception, and infrastructure facilities with the preparedness of Puskesmas nurse in facing flood disaster in Kendari City of Southeast Sulawesi. Self-efficacy is the closest factor related to nursing preparedness compared to other factors.

VII. Suggestion

For Nurses

It is expected to increase preparedness in facing flood disaster through the development of positive knowledge, attitude, and self-efficacy towards disaster preparedness. The development of knowledge can be done by attending training, seminar or workshop on disaster management both held by government and non-government. The development of attitude can be done since nursesare in education so as early as possible they understand the importance of disaster preparedness and understanding of the competence of disaster nursing. While the development of self-efficacy, the nurses can use local wisdom or local culture that can strengthen disaster preparedness activities such as Mekombulu and Mepokoaso tradition in Kendari City of Southeast Sulawesi.For the Government of Department of Health It is expected to create policies that support the preparedness of Puskesmas nurse in facing flood disaster. The Policies such as regular training to Puskesmas nurse on disaster management, scholarship policy to continue education for Puskesmas nurses who still have educational background of SPK and D-III Nursing, and to provide and evaluate routinely the need of supporting infrastructure facilities for preparedness of Puskesmas nurse which is tailored to the disaster characteristic at risk in the working area of Puskesmas. Such as the procurement of inflatable boat for the needs of medical services in the event of the flood disaster. Local wisdom approach in the preparation of disaster management programs to the health cluster is also important for consideration by the local government.Further ResearcherIt is expected that this research can be developed with qualitative research such as ethnography study to be more deeply explored about the pattern and community's culture of Kendari City that can affect either positively or negatively self-efficacy and preparedness of Puskesmasnurse in facing flood disaster in Kendari City of Southeast Sulawesi.

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