Study of Situational Disaster Nursing in Community Preparedness for Tidal Water Disaster in Bahagia Village Pangkal Babu, Tanjung Jabung Barat Regency

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ARTICLE INFO	ABSTRACT
  Dr.Ns. Andi Subandi, S.Kep., M.Kes Department of Nursing, Faculty of Medicine and Health Science, University of Jambi Royal Palm Estate Blok B.10.No.02 Citra Raya City Mendalo Jambi Email: andisubandi@unja.ac.id 	Safe Community is a condition that is expected to guarantee a sense of security and health of the community by involving the active role of the entire community, especially in dealing with daily emergencies and during disasters. Bahagia Village has a high risk of tidal water disaster but has never been touched by preparedness disaster from the government, while the significant obstacles are diarrheal disease and common skin disease. there is no provision of counseling or motivating the community to prepare for disaster management. In Tanjung Jabung Barat Regency, there are 3 districts that are prone to disasters, one of which is Tungkal Ilir District 1. Tungkal Ilir 1 District is geographically located on the high seas and within a radius of 1 km from the sea. Based on the BNPB's RBI (Indonesian Disaster Risk) study, land within a radius of 2 km from the sea has a greater risk of disaster with various potential disasters. In the last 10 years, there have been at least 5 tidal water disasters in Tungkal Ilir 1 District, especially in Bahagia Village. This condition underlies the need for a situational study of disaster preparedness in Tanjung Jabung Barat Regency to improve disaster risk reduction (DRR) efforts in order to create a rural-based safe community. This study aims situational state of disaster nursing preparedness of the community around the tidal area in order to realize a disaster preparedness village. This research was conducted with a quantitative survey analysis research with a combination of phenomenological approaches. The sample in this study are 60 respondents, the sampling technique known as purposive sampling. the parameters measured are the level of knowledge, policies and guidelines, emergency response plans, resource mobilization, and disaster warnings. Parameters are measured by disaster preparedness scores. The results of this study show that based on the disaster preparedness score, Bahagia Village community has classified as very ready on knowledge parameter (80,06%),as not ready on policies and guidelines parameter (12,08), as less ready on emergency response plan parameter (41,83%), as less ready on disaster warning (48,45%), and as not ready on mobilization resources parameter (16,67%).

INTRODUCTION

Disaster preparedness is one part of disaster management which is defined as the readiness of communities in all levels to recognize the threats that exist around them and have mechanisms and ways to deal with disasters. Preparedness is carried out at the pre-disaster stage which aims to build and develop the capacity necessary to effectively manage all sorts of emergency situations and bridge the transition from response to sustained recovery. Increased preparedness is one of the important elements of disaster risk reduction activities that

are pro-active, before the occurrence of a disaster. It can be concluded that disaster preparedness is to predict— whenever possible — preventing disasters, mitigating the impact of disasters on vulnerable populations, and responding and effectively addressing disaster consequences (BNPB, 2010).

Tidal water disaster is a pattern of fluctuations in sea level that is influenced by the pull force ofcelestial objects, especially by the moon and sun to the mass of sea water on earth This occurs due to sea level rise caused by tides. In addition, tidal disasters are also caused by external power factors such as water, wind, or swell thrust (waves that move very far away from the generating area); storms in the sea; as well as melting polar ice triggered by global warming (Nurdiantoro,, 2020).).

Human activities can trigger the occurrence of tidal water disasters. Excessive groundwater pumping, dredging of shipping lanes, and coastal reclamation are forms of human activity that triggered this disaster. Exploitation of coastal land by humans causes a decrease in groundwater levels that trigger sinking of land surfaces and sea water intrusion Impacts due to tidal water disasters include various aspects of life such as changing the physical environment, decreasing environmental quality, and economic losses (Nurdiantoro,2020).

In Tanjung Jabung Barat Regency there are 3 districts that are prone to disaster, one of which is Tungkal Ilir District 1. Tungkal Ilir 1 district is geographically located on the high seas and within a radius of 1 km from the sea. Based on the study of RBI (Indonesian Disaster Risk) BNPB, land within a radius of 2 km from the sea has a greater risk of disaster with various potential disasters (Isa, (2019). In the last 10 years, there have been at least 5 tidal water disasters in Tungkal ilir 1 District, especially in Bahagia Village. It is also supported by Subandi research (2019) that studies conducted in 3 districts / cities in Jambi province can be concluded that disaster management preparations in Jambi Province are still uneven, especially the study of disaster risk. This condition underlies the need for disaster preparedness situational studies in Tanjung Jabung Barat Regency to increase disaster risk reduction (PRB) efforts to realize rural-based safe communities.

The general purpose of the study was to identify the situational circumstances of community disaster nursing preparedness in the face of tidal tide disasters

METHOD

This study uses quantitative survey analysis research with a combination of phenomenological approaches, which focuses on fact-finding about the experience of rural communities in disaster preparedness whose regions have experienced natural disasters and uses cross sectional design that is looking for data directly at one time (Steubert, 2003). In this study, data collection was conducted with documentation study techniques, indepth interviews, participation observations, focus group discussions (FGD).

The instrument used in this study is a questionnaire. this questionnaire is a preparedness questionnaire to measure community preparedness in the face of tidal disasters. Questionnaire is a modification of the preparedness measuring tool where there are positive and negative questions that overall consist of 55 questions including knowledge of 15 questions, policies and guidance 10 questions, emergency response plan 10 questions, disaster

warning 10 questions and mobilization of HUMAN RESOURCES 10 questions community preparedness in the face of tidal water disasters. Before conducting the study, the questionnaire conducted a validity test and reliability test and obtained results on the knowledge variable consisting of 15 question items that were tested and there was 1 question whose value was lower than the table r (r = 0.444) namely on item number 15 so that the question was declared invalid, while the other 14 questions were declared valid. Then in the emergency response plan variable consists of 10 statement items tested, there are 2 statements whose value is lower than the table r (r = 0.444) which is the 5th and 10th statements so that 2 statements are declared invalid, while the other 8 statements are declared valid. In the disaster warning variable of the 10 statement items tested, there are 2 statements whose value is lower than the table r (r = 0.444) which is the 2nd and 8th statements so that the 2 statements are declared invalid.

Based on the results of the test the knowledge variable obtained the result of the value r Alpha (0.856) greater than the value (0.7), then the 15 questions in this study are declared reliable. Then on the emergency response plan variable obtained the result of the value r Alpha (0.784) greater than (0.7) then to 10 this statement is declared reliable. Furthermore, the disaster warning variable obtained the result of r Alpha (0.710) greater than (0.7) then the 10 statements declared reliable and on the variable mobilization of resources obtained the result of r Alpha (0.819) greater than the value (0.7) then the 10 statements declared reliable.

This research was conducted in Bahagia Village, Tungkal Ilir Subdistrict, Ilir which borders the Pengabuan River to the north, Betara River in the south, Betara River in the east and west with Tungkal II Village and Kampung Nelayan Village. The population in Tungkal Ilir district is 72123 people. The population of Bahagia Village is 1224 people divided into 16 RT. The number of Neighboring Pillars (RT) sampled for this study data there are 6 locations namely RT 4, RT 5, RT 6, RT 7, RT 8, and RT 9. The selection of Rukun Tetangga (RT) is because the location of RT is directly adjacent to the beach and potentially exposed to tidal water disasters. The number of respondents from this study based on solvin formula is 60 people with each RT numbering 10 people. The respondents' criteria were male, aged 23-55 years, and had a livelihood as fishermen or worked around the coast.

RESULT AND DISCUSSION

Level of preparedness of the people in Bahagia Village is measured by the Disaster Preparedness Index (LIPI, 2006) by determining the index per parameter with the following formula.

$$\text{Index} = \frac{\text{Rill score Parameters}}{\text{Maximum score Parameters}} \times 100\%$$

Information:
Parameter rill score: The number of scores obtained by respondents
Maximum score: The number of scores obtained from the number of questions

Table 1. Disaster Preparedness Index

No	Index Value	Category
1	80 - 100	Very ready
2	65 – 79	Ready
3	55 – 64	Almost ready
4	40 – 54	Less ready
5	< 40 (0-39)	Not ready

This study uses five parameters to determine the level of preparedness of the people of Bahagia Village in anticipation of receding disasters, namely knowledge, village policies &guidelines, emergency response plans, resource mobilization and disaster warning.

Overview of Knowledge of Bahagia Village Communities In Anticipation of Tidal Water Disaster

Based on the results of data processing by taking a rill score in the form of percentages, the following results are obtained:
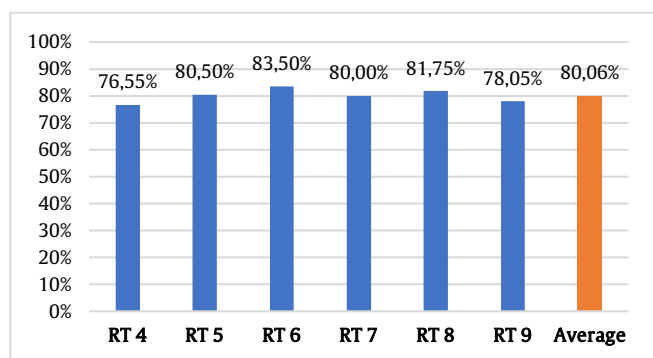
Figure 1
Bahagia Village Community Knowledge on Anticipation of Tidal Water Disaster

Figure 1 shows that Bahagia Village Knowledge of preparedness in anticipation of a Tidal Water Disaster is very ready with the average preparedness index being 80.06%. From this research the public knows what is a disaster, the cause of a disaster, what is a tidal water disaster, the impact of tidal water disasters, how to prevent and when there are tidal disasters but there are some people who do not know related about the form of preparedness and the main purpose of preparedness.

This shows that public knowledge in disaster mitigation is high because most people already consider that tidal water disasters have become a routine habit that occurs at certain times, this habit has occurred for a long time so that they consider the Tidal Water Disaster has become a disaster subscription to them.

This is in line with research conducted by Isa (2019) saying that the level of knowledge of the majority of the public belongs to the high category. This is because Tidal Water Disasters are the most common disasters in coastal areas. The causes and countermeasures can also be known by the general public, ranging from signs, information that displays about tidal water disasters, and others (Isa, 2019).

Overview of Policies and Guidelines of Bahagia Village Communities in Anticipation of Tidal Water Disasters

Based on the results of data processing by taking a rill score in the form of percentages, the following results are obtained:

Figure 2 shows that the village policy and the guidelines of the Bahagia Village community on preparedness in anticipation of a Tidal Water Disaster are not ready with the average preparedness index being 12.08%. This is because the village does not have a warning sign when there will be a disaster, the village also has no plans related to the evacuation site be it the map of the evacuation path or evacuation equipment and equipment and the village does not have a fixed evacuation procedure at high tide. In addition, the village also never conducted simulation training related to disasters.
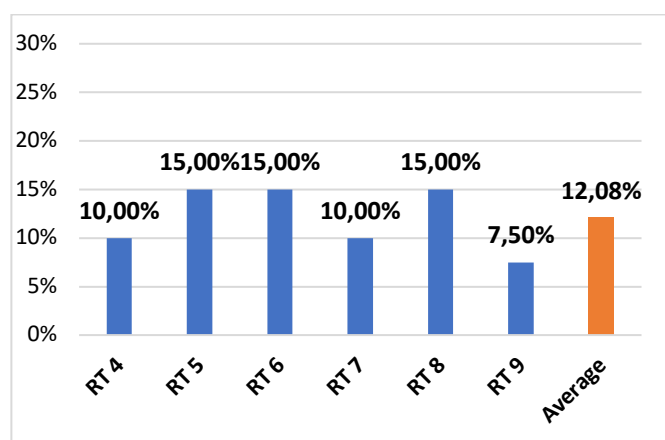
Figure 2
Bahagia Village Community Policies and Guidelines on Anticipation of Tidal Water Disaster

The occurrence of a series of high tides in a relatively short time and repeated each year, requires greater effort to anticipate it, so that losses can be minimized. Various government efforts that are structural (structural approach), it has not been fully able to overcome the problem of tidal water disasters in Indonesia. In addition, although non-physical policies that generally include community participation in disaster management have been made, they have not been implemented properly, not even in accordance with the needs of the community, so their effectiveness is questionable. As a result, the policies set are not effective, even void. Thus, tidal water disaster management which is only oriented to physical development (structural approach), must be synergized with non-physical development (non-structural approach),which provides more space (Nurdiantoro, 2020).

Overview of Emergency Response Plan Of Bahagia Village Communities in Anticipation of Tidal Water Disaster

Based on the results of data processing by taking a rill score in the form of percentages, the following results are obtained:

From Figure 3 it can be seen that the people of Bahagia Village are not ready to have an emergency response plan for preparedness in anticipation of Tidal Water Disasters with the average preparedness index being 41.83%. It is known that the people of Bahagia Village have an emergency

response plan related to evacuation, relief and rescue in the face of low tide disasters that are not ready. This is because the community does not prepare what actions should be done by family members in the event of a disaster, the community does not have simple rescue and evacuation equipment, even the community never participates in training or evacuation simulations and also the average of the community does not prepare a first aid box (PP / drug box) and does not prepare an important phone number that can be contacted in the event of a disaster. But in the event of a disaster the community still has relatives, relatives who are ready to help.
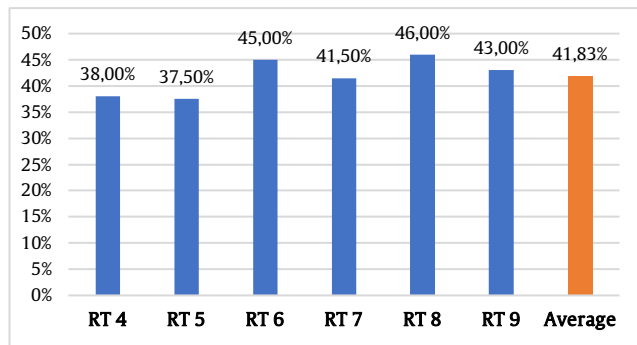
Figure 3.
Bahagia Village Community Emergency Response Plan About Anticipation of Tidal Water Disaster

The emergency response plan includes five indicators. The indicators are (1) what actions the community takes to save themselves from disaster, (2) anywhere where to save household members in the event of a disaster, (3) the plan that the community has for vigilance of the possibility of disaster, (4) whether the community has prepared a first aid box (medicine box) and (5) whether there is a family evacuation route. These parameters will also affect the readiness of individuals or communities in anticipating the occurrence of disasters that are likely to occur. Emergency response plan is one of the preparedness parameters that are valued in this study and has results that are not ready, this is because some respondents such as management groups do not have policies or procedures in anticipating the impact of the threat of disaster. An emergency response plan is a plan owned by individuals or communities in the face of emergencies in a place due to disasters. Emergency response plans relate to evacuation, relief, rescue (Pathias, 2013).

Overview of The Mobilization of Bahagia Village Community Resources in Anticipation of Tidal Water Disasters

Based on the results of data processing by taking a rill score in the form of percentages, the following results are obtained:

Resource mobilization parameters on preparedness in anticipation of Tidal Water Disasters in Bahagia Village (Figure 4) fall into the category of not ready with the average preparedness Index is 16.67%. This is because the community has never participated in training related to the evacuation of victims, training and clean water treatment skills or first aid training in the event of a disaster. People also do not prepare savings, life insurance, land or homes elsewhere that

are relatively safe from disasters and do not even prepare enough food and clothing in a safe place.
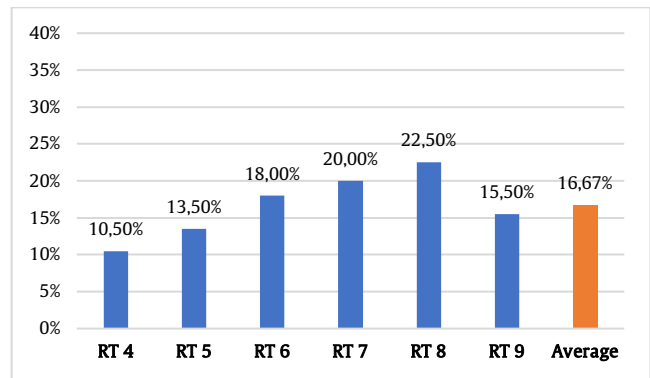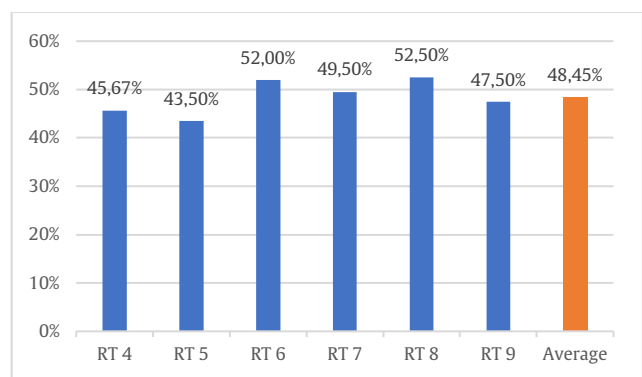

Figure 4
Mobilization of Bahagia Village Community Resources About The Anticipation of Tidal Water Disaster

This research is in line with research conducted by Nurdiantoro, this parameter is in a condition that is not ready and not ready, The value of the resource mobilization index that is in the category of underprepared is an indication of the lack or low capacity of individuals / communities in moving their resources at and after the tide occurs. This is due to their lack of skills in terms of first aid, preparedness, evacuation of victims and clean water treatment. Even if there is related training, it is only followed by a small percentage of individuals / communities only. The existence of savings and insurance as part of community resources also cannot be said to be adequate because of awareness, interest, access or information related to both that are still limited to certain circles. Most individuals / communities claim to have relatives or friends who are ready to help in the event of a disaster. This will reduce the burden and risk associated with disasters that often occur in this area, but still need to be supported by improvement efforts to other factors such as disaster warning systems (Nurdiantoro, 2020).

Description of Disaster Warning System Bahagia Village Community in Anticipation of Tidal Water Disaster

Based on the results of data processing by taking a rill score in the form of percentages, the following results are obtained:

Figure 5.
Bahagia Village Community Disaster Warning System About Tidal Water Disaster Anticipation

From Figure 5 it can be seen that the people of Bahagia Village are less prepared in the disaster warning system for preparedness in anticipation of Tidal Water Disasters with an average preparedness score of 48.45%. This is because the community is not aware of the warning signs of disaster, the community also does not get disaster warnings from the village and also the community does not get information that the situation is safe from disaster. When there is a disaster the tide can calm down or not panic and also when there is a Tidal Water Disaster the community immediately turns off the electricity, stove, furnace or gas in the house and lock the door before leaving the house.

This is in line with Gunawan's research (2009) which states that, preparedness is an effort made to anticipate disasters, through organizing appropriate and useful measures. Preparedness is decision-making of pre-disaster precautions including knowledge of the symptoms of a disaster, early symptoms of disaster, regular development and testing of early warning systems, evacuation plans or other measures that must be taken during the alert period to minimize deaths and physical damage that may occur. Underprepared disaster warning systems illustrate the low knowledge and availability of the latest technologies associated with these systems. Individuals / communities in general only rely on local / traditional warning systems such as using TOA (loudspeakers) carried by the apparatus or loudspeakers of mosques, and banging on electricity poles, it is done when the sea water has overflowed so that residents panic and have difficulty evacuating.

Table 2.
Bahagia Village Community Preparedness Level About The Anticipation of Tidal Disaster

Preparedness Parameters	Preparedness Index (%)	Level Of Preparedness
Knowledge	80,08	Very ready
Policies and guidelines	12,08	Nor ready
Emergency response plan	41,83	Less ready
Mobilization of resources	16,67	Not ready
Disaster warning system	48,85	Less ready
Level Of Community preparedness	39,82	Not ready

Based on these results (Table 2) it can be concluded that the level of preparedness of the people of Bahagia Village in anticipation of Tidal Water Disasters including not ready with the preparedness index is 39.82%. From the data obtained some shortcomings / weaknesses, namely readiness tested in Bahagia Village only on one parameter of five parameters as a condition where the community can be said to be ready for disaster, namely the system of knowledge and attitude. Disadvantages include the absence of disaster management groups and rescue plans (who does what) in the event of an emergency, the absence of evacuation plans (evacuation lines, gathering places, evacuation sites), and the absence of disaster emergency equipment (first aid boxes, tents, stretchers), and others. Considering the high tide disaster that occurred in a relatively long time can cause damage to sanitation and clean water systems, as well as potentially cause extraordinary incidence of tular water diseases such as diarrhea and leptospirosis (Kementerian Kesehatan Republik Indonesia, 2010).

The theoretical implication is that the results of research conducted can contribute to the development of disaster alert communities. The practical implication is that the results of research conducted can provide input to stakeholders in Indonesia, especially in Jambi Province in order to develop models or programs, improve the technology used, and even find new models that are more tested in preparedness and countermeasures. Further disaster management research needs to be done in villages that have the potential for high tide disasters. The strategy used in efforts to change the paradigm of society in disaster management is to increase the capacity of the community by providing knowledge, training and education and direct practice (Rumini, 2010). This is intended so that the community is encouraged, the emergence of attention and concern for disaster management efforts, especially the tide and involved and can play an active role in carrying out a series of activities to reduce the risk of high tide disasters in their region. These activities include community organizing activities by forming community disaster management groups, installation of evacuation lines in areas that are considered prone to high tides, the creation of disaster management group posts, the establishment of early warning systems, and disaster simulation training (Bappenas, 2006).

CONCLUSION AND SUGGESTION

From the preparedness parameters studied based on the disaster preparedness index, it can be concluded that the knowledge of the Bahagia Village community about preparedness in anticipating tidal water disasters is classified as very ready. Village policies and guidelines for the Bahagia Village community regarding preparedness in anticipating tidal water disasters are included in the unprepared category. The people of Bahagia Village are also classified as not ready to have an emergency response plan for preparedness in anticipating tidal water disasters. The Bahagia Village community is classified as not ready to have mobilization resources for preparedness in anticipating tidal water disasters. The people of Bahagia Village are classified as less ready to have disaster warnings for preparedness in anticipating tidal water disasters. So the situational situation of the Bahagia Village community can be concluded that they are not ready to face the tidal water disaster. With the results of this study, it is hoped that policy makers can increase attention to coastal communities, especially the Bahagia Village community in order to better facilitate the community in dealing with tidal water disasters.

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