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THE RELATIONSHIP OF COMMUNITY KNOWLEDGE AND ATTITUDE TOWARDS EARTHQUAKE DISASTER MANAGEMENT EFFORTS

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ABSTRACT
Indonesia is highly vulnerable to natural disasters, with regions across the country frequently affected by events such as earthquakes, tsunamis, and volcanic eruptions. Key factors contributing to high casualty rates and significant losses during disasters include limited understanding of hazard characteristics, attitudes or behaviors that degrade natural resources, lack of early warning information, and overall unpreparedness. Ban Village, located in Kubu District, Karangasem Regency, lies in a disaster-prone zone close to Mount Agung and Mount Abang. Following a recent earthquake, Cegi Hamlet, in particular, suffered extensive damage, with many homes destroyed and residents lacking adequate disaster response knowledge and skills. This study aimed to assess the knowledge and attitudes of Cegi Hamlet residents toward earthquake disaster preparedness. The research employed a cross-sectional study design with a target population of Cegi Hamlet residents who met specified inclusion and exclusion criteria. A sample of 80 respondents was selected using purposive sampling. Data were collected through a structured questionnaire measuring levels of knowledge, attitudes, and responses to earthquake disasters. Data analysis involved the Kolmogorov-Smirnov test for distribution analysis, which indicated a non-normal distribution, followed by Spearman's Rank correlation to examine the relationship between knowledge and attitudes. The results indicated a significant positive relationship between knowledge and attitudes toward earthquake disaster response efforts ($p = 0.000$, $p < 0.05$). In conclusion, there is a significant correlation between community knowledge and attitudes in Cegi Hamlet, Ban Village, Karangasem Regency, suggesting that enhancing knowledge could positively influence disaster preparedness and response behaviors.

Keywords: attitude; disaster management; earthquake; knowledge

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INTRODUCTION

Indonesia is one of the disaster-prone countries, where areas in Indonesia are greatly affected by disasters. Geologically, the Indonesian archipelago is located on the path of the earth's plate subduction, such as the subduction of the Indo-Australian Ocean plate with the Eurasian Continental Plate which stretches from the west coast of Sumatra to the south coast of Java to the east to Nusa Tenggara. The causes of disasters can be categorized into two, namely natural disasters, namely disasters caused by events caused by nature including earthquakes, tsunamis, volcanic eruptions, floods, droughts, hurricanes, and landslides. Man-made disasters, events due to human actions such as aircraft or vehicle collisions, fires, riots, sabotage, explosions, power outages, communication disruptions, transportation disruptions, and disease outbreaks, etc. Meanwhile, based on the scope of the area, disasters consist of local disasters, these disasters have an impact on the surrounding areas (Romdhonah et al., 2019).

The main factors that can cause the disaster to cause victims and major losses are lack of understanding of the characteristics of the hazard, attitudes or behaviors that result in a decrease in natural resources, lack of early warning information resulting in unpreparedness, and helplessness or inability to deal with disasters. Preparedness is grouped into four parameters, namely knowledge and attitudes, emergency planning, warning systems and resource mobilization (Anggraini et al., 2018).

Ban Village, Kubu District, Karangasem Regency, which is located in a disaster-prone area because it is close to Mount Agung and Mount Abang. Ban Village has 16 (sixteen) small hamlets, namely Bukit Hamlet, Ban Hamlet, Panek Hamlet, Cucut Hamlet, Bonyoh Hamlet, Temakung Hamlet, Darmaji Hamlet, Cegi Hamlet, Pucang Hamlet, Dlundungan Hamlet, Daya Hamlet, Jatituhu Hamlet, Bunga Hamlet, Pengalusan Hamlet, Manikaji Hamlet and Belong Hamlet. Of the 16 (sixteen) hamlets of Ban Village, Cegi Hamlet is located on a hillside where the majority of the community has lived there for a long time, their livelihood is gardening and utilizing the surrounding land. The condition of this hamlet is also very far from telecommunications and information access and public buildings such as: schools, places of worship, offices are very far from this hamlet. The condition of Cegi Hamlet when the earthquake occurred in October 2021 did indeed show extraordinary damage, many residents' houses collapsed due to the earthquake. This condition was exacerbated because the community was confused and did not know how to save themselves or what disaster mitigation should be done. The community in Cegi Hamlet still has a very poor understanding of disaster mitigation, this is also because the level of education and knowledge of the community is very low. The role of the local government should be able to provide information about disasters, especially earthquakes, to the people of Cegi Hamlet whose conditions are on the hillside.

During the earthquake, many people in Cegi Hamlet experienced minor injuries, panic and fear of where to evacuate to a safe place. Moreover, information about evacuation routes and their handling is not yet fully known by the community. From the above conditions, it is very necessary to provide an understanding of earthquake disaster knowledge to the people of Cegi Hamlet so that earthquakes can be minimized both in terms of victims and other losses. The community must really know about evacuation or earthquake disaster mitigation so that it can be used by themselves or to convey information to other communities (Virgiani et al., 2022).

Evacuation and earthquake disaster mitigation do need attention and education that is really conveyed to the people of Cegi Hamlet, especially since the conditions of the people of Cegi Hamlet are in areas that are very difficult to reach or are on hilly slopes.The purpose of this study is to assess the knowledge and attitudes of the Cegi Hamlet community regarding disaster preparedness, particularly for earthquake mitigation. Given that Indonesia, and specifically Cegi Hamlet in Ban Village, Karangasem Regency, is highly vulnerable to natural disasters such as earthquakes, understanding the community's level of preparedness is essential. With limited access to information and essential services, residents of Cegi Hamlet showed considerable confusion and lack of self-rescue skills during the October 2021 earthquake, resulting in property damage and injuries. Therefore, this study aims to identify gaps in knowledge and provide essential disaster education to enhance preparedness, reduce casualties, and support self-rescue and mitigation strategies in future disasters.

METHOD

This study used a cross-sectional design, an observational approach to explore data on community knowledge and attitudes, collecting independent and dependent variable data simultaneously at one point in time. The study took place in Cegi Hamlet, Ban Village, Karangasem Regency, from April to May 2022. The target population was the community of Cegi Hamlet, with a sample size of 80 individuals who met the inclusion criteria—being healthy, aged appropriately, and willing to participate. The sampling technique used was purposive sampling. Data distribution was tested with the Kolmogorov-Smirnov test, showing a non-normal distribution, followed by Spearman Rho analysis for bivariate analysis of the independent and dependent variables

RESULT

Table 1.
Frequency distribution of respondent characteristics (n = 80)

Karakteristik	Category	f	%
Ages	20-30 th	5	6,3
	31-40 th	16	20,0
	41-50 th	19	23,8
	51-60 th	27	33,8
	>60 th	13	16,3
Gender	Male	35	43,8
	Female	45	56,3
Education	Dropped Out	7	8,8
	Elementary School	45	56,3
	Junior High School	24	30,0
	High School	4	5,0

The data distribution reveals that the majority of participants are aged 51-60 years (33.8%) and predominantly female (56.3%). Education levels show that most participants did not complete elementary school (56.3%), while smaller proportions left school at junior high (30.0%), and senior high (5.0%) levels.

Table 2.
The relationship between knowledge and attitudes with earthquake disaster management efforts (n = 80)

Independent variable	Dependent variable (Treatment efforts)	
	p	r
Knowledge	0,000	0,764
Attitude	0,000	9,500

Spearman's Rank test shows a significant relationship between knowledge and preparedness ($p = 0.000$, $r = 0.764$, strong) and between attitude and preparedness ($p = 0.000$, $r = 0.500$, moderate). Thus, both factors are significantly related to preparedness, with knowledge showing a stronger correlation.

DISCUSSION

Respondent Characteristics

Respondent characteristics based on age with an age range of 20-30 years totaling 5 people (6.3%), an age range of 31-40 years totaling 16 people (20.0%), an age range of 41-50 totaling 19 people (23.8%) and an age range of 51-60 totaling 27 people (33.8%) and age>60 totaling 13 people (16.3%). The most age level is 51-60 years old, because that age already knows and understands about earthquake disasters and curiosity about disaster mitigation. As one gets older, one's understanding and experience in dealing with disasters increases, both in terms of preparedness and prevention to deal with them personally. The level of preparedness

for landslide disasters can be measured by considering factors such as knowledge and attitudes, emergency response plans, disaster warning systems, and resource mobilization. Knowledge and attitudes are part of the disaster preparedness factors (Andini, 2019).

The older a person is, the more mature a person will be in thinking and working. This also affects a person's cognitive abilities. Then, in terms of public trust, a more mature person will be more trusted than someone who is not yet mature enough. A person's age also affects their comprehension and mindset. The older they get, the more their comprehension and mindset will develop, so that the knowledge they gain will be better. At the age of 20-35 years, individuals will play a more active role in society and social life and will do more preparation for the success of their efforts to adjust to old age. In addition, they will spend more time reading. Intellectual ability, problem solving and verbal ability are reported to have almost no decline at this age (Yari et al., 2021).

Some literature also does not explain that men or women have different levels of knowledge or cognitive. The reality is that women are indeed more diligent, persistent and meticulous when given tasks or doing something, but this does not explain and show that with such an attitude women have a better level of knowledge or cognitive knowledge about natural disaster mitigation. Someone who has extensive experience will have an impact on their cognition. Education is an increasingly important factor in everyday life. The level of education will affect a person's perception of cognition. Someone who is highly educated also has high reasoning (Suwaryo & Yuwono, 2017).

The relationship between knowledge and attitudes with earthquake disaster management efforts

The results of the Spearman Rank test, obtained a significance value on the relationship between knowledge and preparedness of 0.000 with a correlation value of 0.764. The significance value of 0.000 is smaller than 0.05 so it can be concluded that there is a significant relationship between knowledge and preparedness. The correlation value of 0.764 means that there is a relationship of 76.4% which can be categorized as strong. The significance value on the relationship between attitude and preparedness is 0.000 with a correlation value of 0.500. The significance value of 0.000 is smaller than 0.05 so it can be concluded that there is a significant relationship between attitude and preparedness. The correlation value of 0.500 means that there is a relationship of 50.0% which can be categorized as moderate.

Disaster knowledge that is not accompanied by socialization and simulation will not be optimal in understanding disaster mitigation. In this study, all the people of Cegi Hamlet, Ban Village, Karangasem Regency felt the impact of the earthquake that occurred in that place. The preparedness of rural Acehnese communities facing disasters, it was shown that knowledge has an influence on the level of disaster preparedness in rural communities in Aceh. Research conducted by (Rizki et al., 2021) found a relationship between knowledge and the attitude of Wonogiri residents' preparedness in facing disasters. Similar research by (Jahirin et al., 2021) found a positive and significant relationship between disaster mitigation knowledge and community preparedness in facing flood disasters. Research by (Biomi et al., 2024) stated that the average subject preparedness in dealing with earthquake disasters as an effort to form disaster preparedness students in Bali was 60% ready and 40% unprepared.

Knowledge is a very important domain in shaping a person's actions (overt behavior). The level of knowledge in the cognitive domain has six levels (Notoatmodjo, 2012), namely: know, understand, application, analysis, synthesis, evaluation. Notoatmodjo, 2005 stated that knowledge is information that is known or realized by someone that appears when someone uses their senses or reason to recognize certain objects or events that have never been seen or felt before.

CONCLUSION

Based on the results of the study and discussion, it can be concluded that: there is a significant relationship between knowledge and preparedness, meaning that there is a relationship of 76.4% which can be categorized as strong. And there is a significant relationship between attitude and preparedness, meaning that there is a relationship of 50.0% which can be categorized as moderate.

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