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The Effect of Earthquake Disaster Counseling on Student Preparedness Behavior at SMAN 1 Bengkulu City

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ABSTRACT

Student preparedness is a series of activities carried out to anticipate disasters through organizing and through appropriate steps to anticipate possible disasters in order to avoid casualties, property losses, and changes in life order. This study aims to study the effect of earthquake disaster counselling on student preparedness behavior at State Senior High School 1 Bengkulu City. This type of research is pre-experimental using a one-group pre-test and post-test design. The population in this study were all students who participated in the PMR (youth red cross) activities, totaling 39 students. The sampling technique used the total sampling method. Data is taken using secondary data and primary data. Data analysis used data normality test, univariate and bivariate analysis. Prior to the earthquake disaster counselling, it was found that from 39 respondents there were 4 people (10.3%) with low preparedness behavior, 27 people (69.2%) with moderate preparedness behavior and 8 people (20.5%) with high preparedness behavior. Meanwhile, after counseling, from 39 people there were 8 people (20.5%) with moderate and 31 people (79.5%) with high preparedness behavior. From the results of the Wilcoxon Signed Rank Test, it was obtained that it was -5,135 with an Asymp value. Sig(p)=0,000. Because the value of p <0.05, it can be concluded that there is an influence of earthquake disaster counseling on the preparedness behavior of students at the State High School 1 Bengkulu City.

Keywords: *Earthquake Disaster, Preparedness Behavior*

I. INTRODUCTION

According to WHO (World Health Organization) Disaster is any event that causes damage, ecological disturbance, loss of human life or deterioration of health or health services on a certain scale that requires a response from outside the affected community or area. Disasters are threatening situations and conditions that occur in people's lives. Depending on the scope, this disaster can change the pattern of life from normal people's living conditions to be damaged, eliminate property and human life, damage the social structure of society, and cause a spike in basic needs (Sabir, 2016).

Indonesia is an archipelagic country with a very high potential for natural disasters, especially earthquakes, volcanic eruptions and tsunamis, because it is located at the three confluences of the earth's plates, namely the Indo-Australian, Eurasian and Pacific. Bengkulu is one of the areas located in the collision area of 2 large tectonic plates, namely the Indo-australian plate in the south and the Eurasian plate in the north, which is characterized by the presence of tectonic earthquake centers in the Mentawai islands and surrounding areas. The situation described above causes Bengkulu City to be potentially prone to disasters, namely earthquakes, tsunamis, floods, landslides, and waves (Silviani & Absari, 2020).

According to the International Federation of Red Cross and Red Crescent Societies, in 2015 there were 574 disasters that occurred worldwide, 32,550 people were reported dead and 108,493 people were affected by disasters, and caused losses of 70,285 million US dollars. The highest number of disaster events by continent occurred in Asia with 240 disasters (41.81%), America with 124 disasters (21.6%), Africa with 116 disasters (20.21%), Europe with 70 disasters (12.20%) and Australia as many as 24 disasters 4.18% (Juharoh, 2021).

Indonesia is ranked 37 out of 180 countries most vulnerable to disasters. Based on data from the National Disaster Management Agency (BNPB) it was stated that on July 29, 2018, an earthquake measuring 6.4 Mw occurred on Lombok Island, 20 people died, and 401 others were injured. Then on August 5, 2018, another earthquake struck Lombok with a magnitude of 7 Mw, the National Disaster Management Agency (BNPB) again stated that 259 people

had died, and 1,033 were seriously injured. In the two earthquakes that hit the city of Lombok, there were many people who became victims, ranging from minor injuries to death (Marzali & et al, 2021).

Meanwhile, according to Ikbal & Rebbi's research in 2018 with the title the effect of health counseling on earthquake preparedness for SMPN 13 Padang students, the results showed that the average preparedness of SMPN13 Padang students in dealing with earthquake disasters before being given counseling was 17.36 and the average Preparedness of SMPN 13 Padang students after being given counseling was 56.20 and there was a significant effect or difference between the measurement of disaster preparedness for students of SMPN 13 Padang with a p value of 0.000. It can be concluded that there is a significant effect or difference between the measurement of disaster preparedness for the students of SMPN 13 Padang in the first and second measurements.

Bengkulu Province is one of the areas located on the west coast of Sumatra Island which is geographically directly adjacent to the Indian Ocean. In addition, Bengkulu is also located between two active faults, namely the Semangko and Mentawai faults which make Bengkulu Province and its surroundings an area prone to earthquakes. In general, earthquake occurrences in Bengkulu province have a center at sea with a frequency of occurrence more than 5 times a month with locations around the island of Enggano. In general, earthquake occurrences in Bengkulu province have a center at sea with a frequency of occurrence more than 5 times a month with locations around the island of Enggano (Agwil, et al, 2020).

Natural and non-natural disasters can actually be prevented. Disaster prevention activities are intended to eliminate and reduce the threat of disasters. Therefore, it is necessary to have a disaster emergency response, namely a series of activities that are carried out immediately at the time of a disaster, to deal with the adverse effects that arise. The emergency response includes activities to rescue and evacuate victims, property, fulfill basic needs, protect evacuation management, and rescue. This is especially true for natural disasters, which result in many victims (Anies. 2017).

The formulation of the problem in this study is "Is there any effect of earthquake disaster counseling on student preparedness behavior at SMAN 1 Bengkulu city?". The purpose of this study was to study the effect of earthquake disaster counseling on student preparedness behavior at SMAN 1 Bengkulu City.

II. RESEARCH METHODS

The research used in this study was a pre-experiment using a one group pre-test and post-test design. The population in this study were all students who participated in the PMR (youth red cross) activities, namely 39 students, at SMAN 1 Bengkulu City. The sample in this study used a total sampling technique. Data collection techniques using primary data and secondary data. The data analysis technique used univariate analysis, normality test, and bivariate analysis using the Wilcoxon Signed Rank Test.

2.1 Univariate Analysis

Univariate analysis was carried out to obtain the average preparedness behavior before and after the earthquake disaster counseling. After the research was carried out, the following data were obtained:

Table 1
Average Behavior of Student Preparedness Before Earthquake Disaster Counseling is Conducted at SMAN 1 Bengkulu City.

Preparedness Behavior	Frequency (f)	Percentage (%)
Low	4	10.3
Currently	27	69.2
Tall	8	20.5
Total	39	100.0

Based on table 1, it can be seen that from 39 students there are 4 (10.3%) with low preparedness behavior, 27 people (69.2%) with moderate preparedness behavior and 8 people (20.5%) with high preparedness behavior.

Table 2.
Average Student Preparedness Behavior After Earthquake Disaster Counseling at SMAN 1 Bengkulu City

Behavior Preparedness	Frequency (f)	Percentage (%)
Currently	8	20.5
Tall	31	79.5
Total	39	100.0

Based on table 2, it can be seen that from 39 people there were 8 people (20.5%) with moderate and 31 people (79.5%) with high preparedness behavior. These data indicate that there is an increase in preparedness behavior between before and after the earthquake disaster counseling.

From the results of table 2 shows that before and after the earthquake disaster counseling for PMR children from 39 students there were 2 people with low preparedness behavior after the counseling became moderate including 1 male and 1 female, 6 people with moderate preparedness behavior remained moderate, including 4 men and 2 women, this happened because they were not serious in participating in earthquake disaster counseling such as going in and out of zoom when there was an outreach activity.

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While 2 people with low preparedness behavior became high including 2 women, 21 people with moderate preparedness behavior became high including 3 men, 18 women, and 8 people with high preparedness behavior remained high including 4 men and 4 women, this This occurs because the respondent has understood and understood the counseling given so that it increases insight and pays attention to each answer to the statement in the questionnaire. It can be concluded that the data above experienced an increase in preparedness behavior after the earthquake disaster counseling was carried out because the counseling helped improve preparedness behavior in maintaining or increasing awareness and allowing behavioral changes in the field of preparedness.

2.2 Normality Test

The normality test of this data was conducted to determine whether the data were normally distributed or not using the Shapiro-Wilk test as follows:

Table 3
Data Normality Test at SMAN 1 Bengkulu City

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-test Preparedness Behavior	. 216	39	. 000	. 939	39	. 036
Post-test Preparedness Behavior	. 167	39	. 008	. 905	39	. 003

Table 3 describes the results of the normality test for Preparedness Behavior (Pre-test) and Preparedness Behavior (Post-test) data using the Shapiro-Wilk test. From the table, it is known that the p-value (Sig.) for Preparedness Behavior (Pre-test) is 0.036 and the p-value (Sig.) for Preparedness Behavior (Post-test) is 0.003. Because all p<0.05, the data on Preparedness Behavior (Pre-test) and Preparedness Behavior (Post-test) are said to be abnormally distributed. Because the data obtained are not normally distributed so that they do not meet the requirements for the Paired sample t-test, the Wilcoxon Signed Ranks Test statistical test will be used.

2.3 Bivariate Analysis

Bivariate analysis was carried out to determine the effect of earthquake disaster counseling on increasing preparedness behavior about earthquake disasters in students at SMAN 1 Bengkulu City using the Wilcoxon Signed Ranks Test. Based on the results of the study, it can be seen in Table 4 below.

Table 4
The Effect of Earthquake Disaster Counseling on Student Preparedness Behavior at SMAN 1 Bengkulu City

Variable		N	Z	P	Mean Rank	Sum of Ranks
Preparedness Behavior (Post-test) - Preparedness Behavior (Pre-test)	Negative Ranks	4a	-5,135b	0,000	5,63 21,64	22,50 757,50
	Positive Ranks	35b				
	Ties	0c				
	Total	39				

Based on Table 4, it can be seen the effect of earthquake disaster counseling on student preparedness behavior at SMAN 1 Bengkulu City using the Wilcoxon Signed Rank Test. The Wilcoxon Signed Rank Test was used because the data on preparedness behavior (Pretest) and preparedness behavior (Posttest) were not normally distributed. The Wilcoxon Signed Rank Test results obtained at -5,135 with an Asymp value. Sig(p)=0,000. Because the value of p <0.05, it can be concluded that there is an effect of earthquake disaster counseling on the preparedness behavior of students at SMAN 1 Bengkulu City.

III. DISCUSSION

The results of this study illustrate that before the counseling about earthquake disaster (pre-test) 8 people (20.5%) with high preparedness behavior, 27 people (69.2%) with moderate preparedness behavior and there are 4 people (10.3 %) with low preparedness behavior.

Supported from the journal Yanti & Tantoro (2017) which states that behavior is an individual response or an action that can be observed and has a specific frequency, duration and purpose, whether consciously or not. Behavior is a collection of various interacting factors. Meanwhile, according to Supartini, Et. Al, (2017) Preparedness is an activity carried out before a disaster occurs with the aim of facilitating an effective response and developing operational capacity in the event of a disaster.

The results of the study from 39 respondents after the earthquake disaster counseling (post-test) were 31 people (79.5%) with high preparedness behavior, and 8 people (20.5%) with moderate preparedness behavior. Based on these data, it shows that there is an increase in preparedness behavior between before and after the earthquake disaster counseling, namely the pre-test of 39 people, 8 people (20.5%) with high preparedness behavior, 27 people (69.2%) with high preparedness behavior. preparedness is moderate and there are 4 people (10.3%) with low preparedness behavior. And the post-test found 31 people (79.5%) with high preparedness behavior, 8 people (20.5%) with moderate preparedness behavior. The results of this study This is in line with Simeulu and Asmanidar (2020), which states that one form of education for students is through counseling where the counseling provided is counseling on disaster preparedness in dealing with earthquakes with simulation methods and redemo- ration of earthquake preparedness.

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Based on the results of the univariate analysis before the earthquake disaster counseling was carried out, it can be seen that from 39 students there were 4 (10.3%) with low preparedness behavior, 27 people (69.2%) with moderate preparedness behavior and 8 (20. .5%) with high preparedness behavior, and after the earthquake disaster counseling, from 39 students there were 8 (20.5%) with moderate preparedness behavior and 31 people (79.5%) with high preparedness behavior. These data indicate that there is an increase in preparedness behavior between before and after the earthquake disaster counseling.

From the results of the bivariate analysis, it can be seen the effect of earthquake disaster counseling on student preparedness behavior at SMAN 1 Bengkulu City by using the Wilcoxon Signed Rank Test. The Wilcoxon Signed Rank Test was used because the data on preparedness behavior (Pretest) and preparedness behavior (Posttest) were not normally distributed. The Wilcoxon Signed Rank Test results obtained at -5,135 with an Asymp value. Sig(p)=0,000. Because the value of p <0.05, it can be concluded that there is an effect of earthquake disaster counseling on the preparedness behavior of students at SMAN 1 Bengkulu City.

The results of this study are in line with the opinion of Nurmala (2018), that conducting counseling helps improve community knowledge, attitudes, and practices in maintaining or improving preparedness and allowing behavior change to occur. One way to get knowledge properly is to learn from direct personal experience such as knowledge obtained from official and non-formal education.

The results of this study are in line with research conducted by Iqbal & Rebbi (2018), regarding the Effect of Health Counseling on Preparedness for Earthquake Disasters for SMPN 13 Padang Students. 17.36 and the average preparedness of SMPN13 Padang students after being given counseling was 56.20. It can be concluded that there is a significant effect or difference between the measurement of disaster preparedness for the students of SMPN 13 Padang in the first and second measurements. The purpose of preparedness counseling is to prepare students to face disasters and reduce the risk of victims after a disaster occurs.

IV. CONCLUSIONS AND SUGGESTIONS

4.1 Conclusions

1. Of the 39 respondents before being given the earthquake disaster counseling treatment, there were 4 people (10.3%) with low preparedness behavior, 27 people (69.2%) with moderate preparedness behavior and 8 people (20.5%) with high preparedness behavior.
2. Of the 39 respondents after being given the earthquake disaster counseling treatment, there were 8 people (20.5%) with moderate preparedness behavior and 31 people (79.5%) with high preparedness behavior.
3. There is a difference in behavior preparedness for students of SMAN 1 Bengkulu city before and after being given counseling on the earthquake disaster.

4.2 Suggestions

Some suggestions that may be put forward for consideration include:

1. It is hoped that the school and BNPB can work together in order to increase students' knowledge and insight about earthquake disasters through counseling and simulations of earthquake disasters directly to SMAN 1 Bengkulu city students, especially PMR children or can provide books in the library on earthquake disaster mitigation.
2. It is hoped that educators, especially BP teachers, can take part in earthquake disaster training to increase their knowledge and skills so that they can pass it on to their fellow colleagues or students in dealing with earthquake disasters.

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