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The Effect of Disaster Management Training with Simulation Method on Flood Disaster Preparedness Behavior in SMAN 2 Tuban Students

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ABSTRACT

Indonesia is a disaster-prone area, not only natural disasters but also non-natural disasters. Students are one of the nation's assets that are prone to disasters and there is no preparedness in dealing with disasters. However, based on the experiences of students from PMR and SATGAS KESDA member organizations, it shows that there has been no learning of disaster simulation training. The purpose of this study was to determine the effect of disaster management training with the simulation method on flood disaster preparedness behavior in SMAN 2 Tuban students. The research method used is pre-experimental, with a one-group pre-post-test design. The research sample was 28 students who were members of the PMR and SATGAS KESDA member organizations which were selected by simple random sampling. Disaster Simulation SOP research instrument and preparedness behavior questionnaire sheet. The results showed that most of the students' preparedness behavior in dealing with flood disasters before being given disaster management training with the simulation method was categorized as unprepared behavior, and after being given disaster management training with the simulation method most of them were categorized as ready behavior. The results of the statistical test showed that there was an effect of disaster management training using the simulation method on flood preparedness behavior in SMAN 2 Tuban students with p value = 0.001 at =0.05 ($p<0.05$). It is hoped that disaster management training with the simulation method can be applied by health workers, the education office, to be used as a reference for students and provide disaster management training with the simulation method by increasing students' preparedness behavior in dealing with flood disasters.
Keywords: training; disaster management; simulation; preparedness behavior; floods

INTRODUCTION

There have been many disasters in Indonesia, such as volcanic eruptions, earthquakes, tsunamis, floods, hurricanes, and landslides. The main factors that can cause the disaster to cause victims and large losses, namely lack of understanding of the characteristics of hazards, attitudes, or behaviors that result in a decrease in natural resources, lack of early warning information that results in powerlessness or incompetence and unpreparedness in dealing with disasters (Bakornas, 2007).

preparedness is one part of the disaster management process and in the current concept of disaster, the importance of preparedness is one of the important elements of pro-active disaster risk reduction prevention activities, before a disaster occurs (LIPI-UNESCO, 2006).

Preparedness is more emphasized on efforts to prepare the ability to carry out emergency response activities quickly and accurately in relation to disaster management efforts in Indonesia, schools as public spaces have a real role in building community resilience. School preparedness is intended so that the school community knows, understands, and cares about the natural surroundings as well as improve skills to reduce risk in the event of a disaster (Romdiati 2009 & Hidayati et al, 2011).

However, in reality the level of school preparedness in Indonesia is currently still low. This shows that the effort of disaster preparedness in schools is an important shared agenda which is the effort and responsibility of school residents and school stakeholders.

According to data from the National Disaster Management Agency (BNPB) in kompas.com in 2017, disaster events recorded 2,175 disaster events in Indonesia. The number consists of 737 floods, 651 tornadoes, 577 landslides, 96 forest and land fires, 19 droughts, 18 earthquakes, 8 tidal waves/abrasion, and 2 volcanic eruptions.

Based on the initial survey that was conducted on March 14, 2019 at SMAN 2 Tuban, from the results of interviews with students, from 10 respondents, 6 children said that they did not know about preparedness behavior in dealing with floods, lack of education and training about floods and the absence of subjects. specifically related

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to disasters. This shows that there is a problem of lack of student preparedness behavior in dealing with flood disasters.

According to the Indonesian Institute of Sciences (LIPI) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) (2006, p. 2013) there are five factors that influence disaster preparedness, namely: knowledge and attitudes towards disaster risk, policies and guidelines, plans for emergency situations. disaster emergencies, disaster warning systems, and the ability to mobilize resources.

The impact that will occur if preparedness is low, namely causing more severe impacts of flood disasters such as high fatalities, serious injuries, many victims who are displaced and disease arising from damaged environmental conditions. So that there are several learning media including multimedia, audio media, audio visual media, visual media and realiata media that can be used to improve understanding and preparedness in dealing with floods, one of which is the simulation method.

Simulation is a way of presenting a learning experience by using artificial situations to understand certain concepts, principles or skills. Simulation can be used as a teaching method with the assumption that not all learning processes can be carried out directly on the actual object (Sanjaya, 2013)

This is supported by the statement by Steward & Wan (2007) in their research on the role of simulation in disaster management to measure a person's readiness in dealing with disasters. According to Olson et al, 2010 in his research also stated that education about disaster preparedness by using simulations in the form of games or games can give better results than those that do not use simulations.

Based on the description above, the researcher is interested in conducting a study entitled "The Effect of Disaster Management Training with Simulation Methods on Flood Disaster Preparedness Behavior in SMAN 2 Tuban Students"

METHODS

This research belongs to the type of "pre-experimental" analytic research using the "One-group pre-post test design" research method. This research was conducted by giving a pre test (initial observation) before being given treatment (x), after being given treatment, then doing a post test (final observation). This is done for the resulting differences between the pre test and post test.

The population of this study was 30 students of SMAN 2 Tuban. The sample in this study were some of the students who are members of the PMR and SATGAS KESDA member organizations at SMAN 2 Tuban totaling 28 children, who were selected by simple random sampling technique.

The instruments used in this research are Standard Operating Procedures (SOP) and questionnaires. The questionnaire consists of 15 questions consisting of 3 groups of questions. Questions 1-5 are included in knowledge, questions 6-10 are in attitude, and questions 11-15 are in preparedness.

Disaster Management Training with Simulation Method is carried out for 1 month in 3 meetings, namely 3 sessions (meetings) each session with a duration of ± 60 minutes.

RESULTS

Table 1. Preparedness behavior score before being given disaster management training with simulation methods at SMAN 2 Tuban in May 2019

No.	Category of Preparedness Behavior	Frequency	Percentage
1.	Ready	5	17,9
2.	Quite ready	21	75
3.	Not ready	2	7,1
Total		28	100

Based on table 1, it can be seen that some (75%) respondents have preparedness behavior in the quite ready category.

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Table 2. Preparedness behavior score after being given disaster management training with simulation methods at SMAN 2 Tuban in May 2019

No.	Category of Preparedness Behavior	Frequency	Percentage
1.	Ready	21	75
2.	Quite ready	7	25
3.	Not ready	0	0
Total		28	100

Based on table 2, it can be seen that some (75%) respondents have preparedness behavior in the ready category.

Analysis of the Effect of Disaster Management Training with Simulation Methods on Flood Disaster Preparedness Behavior in SMAN 2 Tuban Students

Based on the results of the analysis, it can be seen that before being given training on disaster management using the simulation method, 21 (75%) respondents had preparedness behavior in the less prepared category; while after being given training in disaster management using the simulation method, 21 (75%) respondents had preparedness behavior in the higher category, namely ready.

The data obtained were analyzed using the Wilcoxon test with a significance level of 0.05, so that p-value = 0.001, it can be concluded that H0 is rejected, meaning that there is an effect of disaster management training with the simulation method on the preparedness behavior of SMAN 2 Tuban students.

DISCUSSION

Preparedness Behavior Before being Given Disaster Management Training with Simulation Method

Based on the results of the research, it can be seen that most of the respondents (75%) have preparedness behavior in the less prepared category.

According to Mulyadi, et al (2015) there are several factors that play a role in increasing preparedness behavior to face flood disasters. Preparedness behavior plays a very important role in dealing with disasters. The better the behavior about disasters, the more prepared a person will be in dealing with flood disasters, where in every attitude determination, knowledge, mindset, beliefs and emotions play an important role.

Stuart and Laraia (2008) in Pinilih (2012) state that age is related to one's experience, ability to utilize sources of support and skills in coping mechanisms. The age factor affects the increase because the higher the age of the child, they are able to digest positive and negative attitudes that socialize. Gender also affects preparedness behavior in dealing with flood disasters. Respondents' ages ranged from 15-17 years.

Almost all of the respondents are female as many as 19 (67.9%) while a small proportion of respondents are male as many as 9 (32.1%), that many behaviors are less ready to be dominated by men than women.

The results of data analysis and interpretation of data obtained from students in dealing with flood disasters amounted to 28 respondents who were members of the PMR (Teenager Red Cross) and SATGAS KESDA (Smada Resilience Officer Unit) before being given training on flood disaster management with simulation methods at SMAN 2 Tuban showed that most of the respondents had unprepared preparedness behavior, this was because the students did not have experience and knowledge about the dangers of flood disasters and had never attended other training. Respondents tend not to have knowledge about understanding preparedness in the face of a disaster or flood disaster, and if they are not given disaster management training with simulation methods for students in dealing with flood disasters, it can result in student preparedness behavior being less prepared.

Preparedness Behavior After being Given Disaster Management Training with Simulation Method

Based on the results of the study, it is known that after being given training, most of the respondents (75%) have preparedness behavior in the ready category.

According to Hasibuan and Mudjiono (2008) simulation is an imitation or act that only pretends (from the fact stimulate which means pretending or acting as if; and stimulation means imitation or pretending).

The results of data analysis and interpretation of data obtained from students in dealing with flood disasters totaled 28 respondents who were members of the PMR (Teenager Red Cross) and SATGAS KESDA (Smada Resilience Officer Unit) after being given training on flood disaster management with simulation methods at

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SMAN 2 Tuban that most of the respondents have preparedness behavior. Simulation can be used as a teaching method with the assumption that not all learning processes can be carried out directly on the actual object.

The benefits of giving this simulation method can be proven by the increase in the results of the pre-test and post-test data which is marked by changes in behavior that are assessed in individual questionnaires. Disaster Management Training with Simulation Method is held for 1 month in 3 meetings. Each session in the meeting lasted for 2 hours. After the intervention or activity has been carried out, a final assessment (post test) is carried out. Respondents who participated enthusiastically and actively were proven to have obtained significant benefits and results from this activity. It is proven that the simulation method is very effective and interactive to improve student preparedness behavior in dealing with flood disasters.

Analysis of the Effect of Disaster Management Training with Simulation Methods on Flood Disaster Preparedness Behavior in SMAN 2 Tuban students

The results of data analysis prove that there is an effect of disaster management training with the simulation method on flood disaster preparedness behavior in students.

According to Olson et al (2010) in his research, education about disaster preparedness by using simulations in the form of games or games can give better results than those that do not use simulations. Giving simulations using the role playing or game method can be done to help control excessive activity (hyperactivity), train the ability to maintain attention on certain objects, and control the level of aggressiveness.

The results of this study indicate that the provision of knowledge using disaster management training with the simulation method can improve student preparedness behavior in dealing with flood disasters, it is important for students to interact in an environment where the ability to interact is the key to enriching students' personal experiences. .

Based on the data, it is known that most of the respondents before being given training in disaster management with the simulation method had less prepared preparedness behavior, while after being given the disaster management training with the simulation method they had prepared preparedness behavior. This shows an increase in the provision of training with the simulation method on student preparedness behavior because disaster management training with the simulation method has a positive impact on students in dealing with flood disasters and the simulation method can improve student preparedness behavior in dealing with flood disasters, it is important for students to interact In an environment, the ability to interact is the key to enriching students' personal experiences.

The results showed that there was an effect of Disaster Management Training Using Simulation Methods on Flood Disaster Preparedness Behavior in SMAN 2 Tuban students showing effective results to train certain skills, both professional and for daily life and to grow students' creative power.

The success of the implementation of the simulation was due to support from various parties, including the presence of a teacher or trainer who accompanied the implementation, support from parents and the desire of students to add experience to student life, students were very enthusiastic about participating in the simulation to completion and actively providing feedback when the trainer or teacher gave question.

CONCLUSION

From the results of this study, it can be concluded that:

1. Most of the respondents prior to being given training in disaster management with the simulation method at SMAN 2 Tuban had preparedness behavior in the category of less prepared.
2. Almost all of the respondents after being given training in disaster management using the simulation method at SMAN 2 Tuban had preparedness behavior in the ready category.
3. There is an effect of disaster management training with the simulation method on the behavior of flood disaster preparedness in students of SMAN 2 Tuban.

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