

THE INFLUENCE OF DISASTER PREPAREDNESS HEALTH EDUCATION USING VIDEO MEDIA ON STUDENTS' KNOWLEDGE AND ATTITUDES AT SDN 1 SUKASARI TANGERANG CITY

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ABSTRACT

Indonesia is a country that has a high level of natural disaster vulnerability, such as volcanic eruptions, earthquakes, tsunamis, floods, landslides, and so on. Disaster education to reduce disaster risk in childhood is very important. Of this study was to determine the effect of education on student knowledge with video media in disaster preparedness at SD Sukasari. This research is a quantitative study (quasi experiment) with a pre test and post test approach with control group design. Determination of the sample using Non Probabilty sampling type by purposive sampling. Respondents of this study were third and fourth grade students of Sukasari Elementary School, which were calculated using paired categorical comparisons with 22 respondents in each group. The analysis used univariate analysis to see a description of the characteristics of respondents, bivariate analysis to determine differences in knowledge and attitudes about disaster preparedness education in both groups, paired data tested paired t-test or Wilcoxon non-parametric test if the data was not normally distributed. The results showed a p value of knowledge of 0.9, p value of attitude of 0.538 and p value of behavior of 0.878. This shows that there is no difference between video media and lectures. That both media have benefits in increasing the knowledge, behavior and attitudes of students at SDN Sukasari 1 Tangerang City.

Keywords: Natural Disasters, education, video, knowledge, Behavior

INTRODUCTION

Geographically, the Indonesian Archipelago is located in the border zone of three large plates, namely: the Eurasian Plate, the Indo-Australian Plate, and the Pacific Plate. In addition to deformation at the plate boundaries, the tectonic movement of the earth's plates causes the formation of many active faults both on land and on the seabed. These plate boundaries and active faults are the source of tectonic earthquakes. (Agung & Ihsan, 2018).

Indonesia is a country that has a high level of vulnerability to natural disasters, such as volcanic eruptions, earthquakes, tsunamis, floods, landslides, and so on. According to DIBI (Indonesian Disaster Information Data) in the period from January to December 2018, reported disaster events in Indonesia have resulted in 2,412 deaths and missing people, 2,104 injured people and more than 11.015.859 people forced to evacuate (BNPB, 2019).

It was recorded that at least 257 disasters occurred in Indonesia out of a total of 2,866 natural disasters in Asia during that period. Data shows that Indonesia is one of the countries with a high level of earthquakes in the world, more than 10 times the level of earthquakes in the United States. Earthquakes caused by the interaction of tectonic plates can cause tidal waves if they occur in the ocean. During the period 1600 - 2000, 105 tsunamis were recorded, 90 percent of which were caused by tectonic earthquakes, 9 percent 12 by volcanic eruptions, and 1 percent by landslides (Source: Disaster Mitigation Center, ITB. 2008).

Natural disasters are natural phenomena that no human being can predict when they will occur, even though humans with all their knowledge try to read the natural phenomenon (Emosda, Lela, & Fadzrul, 2014). Disaster risk reduction efforts are carried out by considering several aspects, such as aspects of sustainability and participation from all elements of society. In the child age group, the impact of disasters is considered more worrying, so that in Law Number 24 of 2007 concerning Disaster Management, children are grouped into the vulnerable category. This means that children need special efforts regarding understanding disaster mitigation.

The role of teachers in learning is as a facilitator, mediator, and guide. Teachers can only help the process of changing knowledge in students' heads through their role in preparing scaffolding and guiding, so that students can achieve a more perfect level of understanding compared to previous knowledge (Perdana, 2016).

Disaster education to reduce disaster risk in childhood is very important. Early introduction to

disasters and the benefits of forests and ecosystems in the environment around the house are real media that can be worked on and provided to the younger generation in forming disaster preparedness behavior (Widjanarko and Minnafiah, 2018) Children are one of the groups most at risk of disasters. Low knowledge and understanding of disaster risks then result in a lack of preparedness in facing disasters. Good disaster management must be integrated into the education sector, because education is one of the determining factors in disaster risk reduction activities. This integration activity can be started early, namely children at the kindergarten-elementary school level to junior high school-high school level (Arifianti, 2011).

The role of students who are also part of the school community that occupies an important aspect in interfering (participating) in the creation of evacuation routes, requires the role of the school community, knowledge about disaster risks is also very important, these efforts are also stated in the Hyogo Framework for Action in 2005 where one of the points prioritizes disaster preparedness education. (prosding spatial thinking).

Training is a short-term educational process (activity) using systematic and organized procedures designed to improve sharing of skills, knowledge, experience, which means changing attitudes (Siagian, 2014). According to (International Federation Red Cross, 2012) preparedness is all efforts to deal with emergency situations and recognize various resources to meet needs at that time. This aims for the community to be well prepared when facing a disaster.

Mitigation and preparedness are part of the disaster management

cycle, namely at the pre-disaster stage. Pre-disaster activities are often forgotten, even though pre-disaster activities are very important because what has been prepared at this stage is capital in facing disasters and post-disasters. Knowledge and understanding of disaster preparedness in students are expected to make students more prepared in facing disasters in order to reduce the loss of life and property among students due to disaster events.

The use of learning media in the teaching and learning process can also arouse new desires and interests for students, arouse learning motivation, and even bring psychological influences to students. In addition to increasing student learning motivation, the use or utilization of media can also increase student understanding of the lesson. The media used has a position as a teacher's aid in teaching. For example, graphics, films, slides, photos, and learning using computers. The form of graphic information, video, animation, sound, and others are easily produced with fairly good quality. For example, a video camera functions to record the desired video to then be transferred and combined with animation, graphics, and text produced by the computer. Its use is to capture, process, and rearrange visual and verbal information. As a teaching aid, media is expected to provide concrete experiences, learning motivation, and increase students' absorption and retention of learning. (Arsyad, A. 2014)

Banten is one of the areas prone to earthquakes because the Indo-Australian plate passes under the Eurasian plate in the south of Banten. In the last 5 years in Banten there have been 2 earthquakes and one of them caused a tsunami in

2018 which was caused by the eruption of Anak Krakatau in the Sunda Strait. At least 426 died, 7,202 were injured and 23 were declared missing

Based on the background above, the researcher is interested in conducting research with the title of the influence of health education using video media about disaster preparedness on knowledge, attitudes and behavior towards the knowledge and attitudes of students at Sukasari Elementary School, Tangerang City, Banten.

LITERATURE REVIEW

Preparedness is the actions that enable governments, organizations, families, and individuals to respond quickly and appropriately to disaster situations to reduce losses and loss of life. Preparedness measures include developing disaster management plans, maintaining resources, and training personnel. The concept of preparedness emphasizes the ability to take preparatory action to respond to emergency situations quickly and appropriately (Muis, 2018). According to (IDEP, 2007), the objectives of preparedness are:

- a. Reducing Threats. Absolutely preventing threats, such as fires, earthquakes, and volcanic eruptions, is impossible. However, there are many ways or actions that can be taken to reduce the likelihood and consequences of threats.
- b. Family Friendliness. Family vulnerability can be reduced if families are prepared, making it easier to take rescue actions when a disaster occurs. Good preparation will help families take appropriate and timely action. Families who have been hit by a disaster can prepare themselves by carrying out

preparedness measures such as making evacuation and rescue plans and receiving disaster preparedness training.

- c. Mitigating Consequences To mitigate the impact of a threat, families need to be prepared to act quickly in the event of a disaster. Generally, in all disasters, the primary issue is the provision of clean water. By preparing in advance, raising family awareness of the importance of clean water sources can reduce the incidence of infectious diseases.
- d. Establishing Cooperation: Depending on the scope of the disaster and the family's capabilities, disaster management can be carried out by the family itself or, if necessary, can collaborate with relevant parties. To ensure good cooperation, in the pre-disaster phase, families need to establish relationships with parties such as the Community Health Center, police, village or sub-district officials (Rahmalia, 2021).

RESEARCH METHODS

This research method used is a quantitative research with a research design. The respondents of this research were students of grades III and IV of Sukasari Elementary School, because in cognitive development, children aged between 8-10 years experience the development of critical thinking, creative thinking and language development. which is calculated using paired categorical comparative with 22 respondents in each group. The analysis uses univariate analysis to see the description of the characteristics of the respondents, bivariate analysis to determine the differences in knowledge and attitudes about disaster preparedness education in the two groups, paired data are tested using paired t-tests or non-parametric Wilcoxon tests if the data are not normally distributed, and unpaired data are tested using unpaired t-tests or non-parametric Mann Whitney U-tests if the data does not function normally.

RESEARCH RESULT

Tabel 1. Distribution Of Respondent Characteristic Frequencies

Variable	Category	Intervention (n=22)	Control (n=22)	Valuep*
Age	8 Years	5	4	0.152
	9 Years	10	11	
	10 Years	7	7	
Gender	Male	10	11	0.351
	Female	12	11	

Based on table 1, The results of the homogeneity test in the table above show that the characteristics

of respondents in the form of age, education, and occupation in the two groups do not have significant

differences ($p > 0.05$) so it can be said that the variants of the two

groups are the same or homogeneous so that they are worth comparing.

Tabel 2. Differences In Average Knowledge Scores On Pretest And Posttest Using Video In Class (N=22)

Grup	n	mean	Standar deviation	P-value
Pretest knowledge	22	6,182	0,664	0,021
Posttest knowledge	22	6,773	0,922	

Based on table 2 above, it Table 2 shows that the post test value has a mean of 6.7727 while the pre test value has a smaller mean of

6.182. for the standard deviation of the post test is 0.922 and the pre test is 0.664 with a p value of 0.021.

Tabel 3. Differences In Average Attitude Scores On Pretest And Posttest Using Video In Class

Grup	n	mean	Standar deviasi	P-value
Pretest knowledge	22	6,68	0,65	0,011
Posttest knowledge	22	7,23	0,81	

Based on table 3 above, Table 3 shows that the post-test attitude value for the video group has a mean of 7.23 while the pre-test value has

a smaller mean of 6.68. for the standard deviation of the post-test is 7.23 and the pre-test is 6.68 with a p value of 0.011.

Tabel 4. Differences In Average Knowledge Scores Between Posttest Using Video And Lecture Methods

Grup	n	mean	Standar deviasi	P-value
video	22	6,77	0,92	0,9
ceramah	22	7,23	0,81	

Based on table 4 Based on table 4, it shows that the average difference between the two health education methods does not have a significant difference, where the p value is 0.90 with the mean use of video 6.77 and a standard deviation

of 0.092 on the use of cerama mean 7.23 with a standard deviation of 0.81. This means that the use of learning videos or the use of lectures does not have a significant difference in students' knowledge about disasters.

Tabel 5. Differences In Average Attitude Scores Between Post-Video And Lecture Method

Grup	n	mean	Standar deviation	P-value
video	22	33,41	3,89	0,538
Lecture	22	34,14	3,88	

Table 5 shows that the mean value of video use is 33.41 with a

standard deviation of 3.89. While the use of lectures obtained a mean

of 34.14 with a standard deviation of 3.88. From the average difference between the two methods above, it shows a p value of 0.538, which means that there is no significant

difference between the two methods above in changing student attitudes at SDN 1 Sukasari Tangerang City.

Table 6. Differences In Average Behavior Scores Between Post-Video And Lecture Method

Grup	n	mean	Standar deviation	P-value
video	22	19,09	2,74	0,878
lecture	22	18,95	3,12	

Table 6 shows that the mean value of video use is 19.09 with a standard deviation of 18.95. In the use of lectures, the mean value is 18.95 with a standard deviation of 3.12. When viewed from the average difference between the two

methods above, it shows a p value of 0.878, which means that there is no significant difference between the two methods above in changing student behavior at SDN 1 Sukaari, Tangerang City.

DISCUSSION

In accordance with the results of the above research, school age is the most appropriate person in socializing disaster mitigation because students are the fastest to transfer knowledge gained from school to families and communities. Therefore, empowering children from an early age to understand disaster mitigation is the first step in building a disaster-aware society. So that when a disaster occurs students, teachers and the community are no longer confused, panic, because they understand how to reduce disaster risk. (Dholina Inang Pambudi, 2014)

In research conducted by early education is very important because through the application of mitigation it can also help students understand knowledge about natural disasters, attitudes towards natural disasters, the importance of the environment to be maintained to prevent disasters, and find alternative ways

in mitigation efforts. (Beatrix Hayudityas, 2020).

From several studies on gender in relation to natural disasters, women have a greater risk than men. According to Inayah, most of the victims (60 to 70 percent) are women, children and the elderly. With such conditions, disaster management needs to be carried out holistically and does not exclude gender differences at all stages of disaster management from the emergency response stage to the post-disaster reconstruction stage (Inayah Hidayati, 2014).

From the results of the difference test between before being given health education through learning videos and after being given health education with learning videos, the P value is 0.021 or there is a significant difference before and after being given learning videos about disaster preparedness. According to research (Ferawati Sulistyaningrum, 2017) it is evident

from the results of the calculation of the independent sample t-test in the table which shows that the variance of the comparison of knowledge aspects and aspects of student preparedness actions between the control class and the experimental class obtained a significance of 0.000 which is smaller than the significance level of less than 0.05 so that H_0 is rejected and H_a is accepted.

The success of a learning process cannot be separated from learning media as a means of supporting the delivery of information. Students who are still in the concrete operational stage need learning that can make them remember clearly the lessons that have been taught, through this media the teacher can provide a new innovation in the learning process (Kustandi and Sujipto, 2013) in (Febriani, 2017). One of the media that is quite relevant in fostering a sense of preparedness is with animated videos because it can provide a more meaningful learning experience and provide a greater stimulus than reading textbooks so that it creates an impressive impression on the audience (Munir, 2012).

From the results of the difference test before and after providing health education about disaster preparedness with the lecture method in grade 4 children, it shows that there is a significant effect on increasing knowledge about disaster preparedness. In line with research conducted by Rohima & Marthia, 2018, the learning process through the lecture method given to students was able to increase the level of student knowledge (Rohima & Marthia, 2018).

From the results of the average difference in the provision of health education through videos and

lectures on the attitude of the students of SDN 1 Sukasari both have a significant value. The resulting value is 0.33 for giving videos and 0.36 for giving lectures. Research conducted by Lubis 2013 examines the effect of health education lecture method on changes in knowledge and attitudes of elementary school students in Medan. The results showed an increase in student knowledge after receiving health education.

The results of the average difference in the provision of health education through videos and lectures on the attitude of SDN 1 Sukasari students have a significant value. Providing health education to elementary school students is given good and correct health education so that it can change their point of view and can be spread to family, friends and the community. From several studies, providing health education using video media and demonstrations is considered effective and very applicable in increasing student understanding because video media with children's age directly and using demonstration methods that involve all respondents to be active in activities so as to directly influence attitudes, because using learning media can clarify explanations so that they are not too verbal (Mardika, 2019). Whereas in this study the two methods have an average difference between pre and post, but what distinguishes is the mean magnitude where the mean magnitude of the lecture is greater than the video use method. This is possible because third grade students (treatment with video) are still in limited understanding than fourth grade students (with lectures).

The results of the average difference between pre and post videos and pre and post lectures on behavior show a significant value.

Behavior is the result of all kinds of experiences and human interactions with their environment which are manifested in the form of knowledge, attitudes and actions (Okviana, 2015). In accordance with the results of this study where knowledge, attitudes have a value of <0.05 or have an average difference between pre and post using video media and lecture media. In this case both learning media have benefits in increasing knowledge, attitudes and behavior.

The results of the average difference in knowledge, attitudes and behavior between post intervention using video media and post intervention using lecture media measured by independent T test showed a p value of 0.9 knowledge, p value of 0.538 attitude and p value of 0.878 behavior. This shows that there is no difference between video media and lectures, so it can be concluded that both media have benefits in increasing the knowledge, behavior and attitudes of students at SDN Sukasari 1 Tangerang City.

CONCLUSION

Learning media for disaster preparedness health education using video media and lectures showed no difference between video media and lectures, so it can be concluded that both media have benefits in increasing students' knowledge, behavior and attitudes at SDN Sukasari 1 Tangerang City.

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