YOUTH PERSPECTIVE OF MIDDLE STUDENTS ON DISASTER MANAGEMENT USING THE SIMULATION METHOD IN INCREASING RESILIENCY

Sri Sumartini[1]*, Sehabudin Salasa[2], Linda Amalia[3]

[1,2,3]Nursing Program, Faculty of Sport Education and Health, Universitas Pendidikan Indonesia
Jl. Dr. Setiabudhi No. 229, Kota Bandung 40154

ABSTRACT

*Corresponding Author:
Sri Sumartini
Nursing Program, Faculty of Sport Education and Health, Universitas Pendidikan Indonesia
srisumartini@upi.edu

Indonesia is a country located between two continents and two oceans, where the volcanic mountain paths meet, namely the Pacific Circum and the Mediterranean Circum; it is one of the countries with a significant enough disaster potential. However, on the other hand, this condition has a logical consequence that Indonesia is highly vulnerable to natural disasters. West Java it self is one of the areas prone to natural disasters. The National Disaster Management Agency (BNPB) stated that disasters most frequently hit eight provinces during 2016; West Java ranked third after Central Java and East Java. Analyze the level of resilience of disaster management before and after being given the simulation method and know the role of high school students in disaster management using the simulation method. The research method used a quantitative analysis design, with a quasi experimental research design with pre-post experimental measuring the resilience of students who received simulation exercises without a control group. Sampling used the simple random sampling technique with the criteria of grade 10 and grade 11 students, as many as 30 students at SMAN 1 Parongpong, Lembang, West Bandung Regency. The instrument used in the study used the Connor-Davidson Resilience Scale (CD-RISC) questionnaire. The study's results showed differences in the perceptions of youth in disaster management and the role of senior high school students in resilience before and after the stimulation method was used. The simulation method is more effective in increasing resilience to disaster management.

Keywords:
Disaster, Resilience, Teenager

BACKGROUND

Indonesia is located at the confluence of 3 (three) world tectonic plates, namely the Euro-Asia plate in the north, the Indo-Australia plate in the south, and the Pacific Ocean plate in the east. Geographical position, topographical conditions, geology, and climate in Indonesia place Indonesia as a country rich in natural and mineral resources. Nevertheless, on the other hand, this condition has a logical consequence that Indonesia is highly vulnerable to natural disasters.

Indonesia's geographical location is inseparable from various threats of natural disasters. Based on data from the Health Crisis Management Center (PPK) of the Ministry of Health, in the period (2010-

2012), there were around 1015 disaster events that caused health crises or an average of 338 times per year. Based on these data, disasters occur daily in Indonesia (Ministry of Health RI Research and Development Agency, 2018).

In line with the data above, the National Disaster Management Agency (BNPB) stated that disasters most frequently hit eight provinces in 2016. West Java was ranked third after Central Java and East Java (BPBD Kabupaten Bandung Barat, 2017). The types of disasters often vary, including floods, tornadoes, and landslides. The magnitude of the threat is directly proportional to the population in West Java, which is classified as dense, so the potential for victims due to disasters is even more tremendous. The Provincial Government of West Java in 2011 recorded almost ± 46,497,175 residents in West Java. This number is spread across 26 Regencies and Cities likely to be affected by the disaster (BNPB, 2011).

Potential disasters in Indonesia can be grouped into two main groups: main hazard potential and collateral hazard potential. This main hazard potential can be seen, among others, in the earthquake potential map in Indonesia, which shows that Indonesia is a region with earthquake-prone zones, a landslide potential map, a volcanic eruption potential map, and a tsunami disaster potential map, maps of potential flood disasters, and others. From the above indicators, it can be concluded that Indonesia has a high main hazard potential which requires an effort to reduce the impact of disasters that may arise.

Efforts to minimize the impact of disasters have been launched by the United Nations (UN), which designated the period from 1990-1999 as the "International Decade for Natural Disaster Reduction (IDNDR: International Decade Natural Disaster Reduction)" and carried out various activities to contribute and promote efforts to reduce the impact of disasters. The International Strategy for Disaster Reduction (ISDR) has been established to continue the IDNDR's mission.

This disaster risk reduction strategy can be started by increasing human resources capacity because one of the causes of disaster casualties is that people need to understand the characteristics of the disaster threats surrounding them. Simulation is one of the methods used to increase disaster preparedness. This method can be claimed because it reflects the possible impact caused during a disaster. Ariviyanti & Pradoto, 2014 reveals that a disaster event experienced by someone can be a stimulus that makes the experience and influences one's preparedness in dealing with disasters.

Law number 24 of 2007 defines a disaster as an event or series of events that threaten and disrupt people's lives or livelihoods caused, both by natural or non-natural factors as well as human factors resulting in human casualties, environmental damage, loss of property and psychological impact (Fasa, 2019).

Preparedness behavior will support an individual's ability to bounce back from traumatic events, called Resilience (Cahyanti & Santikayasa, 2018). Data shows that adolescents have a reasonable resilience rate after the 2004 Aceh tsunami disaster (Habibah et al., 2018). In line with this, Djalante et al., 2011 provides an ecological model for understanding human development, which states that the development of children and adolescents is primarily constructed in the context of family, educational, and community settings.

Resilience is a continuous indicator of the life of someone who lives in a difficult situation. Resilience describes the process and results of success in adapting to difficult circumstances or challenging life experiences, especially situations with high-stress levels or traumatic events (Ariviyanti & Pradoto, 2014; Niam, Lubabun Ardianto, & Hendra, 2013). Reivich and Shatte His book entitled "The Resiliency Factor" reveals that resilience is the ability to overcome and adapt to complex events or problems that occur in life. Survive in a depressed state, and even deal with adversity or trauma experienced in life (Pidgeon et al., 2014).

Education is a conscious effort carried out by (educators) in a planned, programmed, and controlled manner to prepare individuals through teaching guidance or training activities for their future roles (Alexander, 2013). With that education, individual adolescents actualize their potential through educational tools or media so that students (adolescents) can find their own activities and experience positive changes in their personality, namely cognitive, affective, and psychomotor changes (Panitzek et al., 2011). On this basis, increased preparedness in the school environment can increase student resilience to disasters.

METHODS

The problem to be studied by researchers is an emotional problem. Therefore, researchers chose to use quantitative research methods. To determine how to find, collect, process, and analyze the research data. This research is used to measure the ability of senior high school students to increase the role of

disaster management and increasing Resilience. The Quasi-Experimental research design with Pre- and Post-Experimental measures the Resilience of students who receive simulation exercises without a control group.

Quantitative research methodology begins by establishing a specific object of study, eliminating it from the totality or context of magnitude so that the object of study becomes explicit or transparent. After that, a new theoretical framework is prepared according to the specific object of study. It can generate research hypotheses or problems, data collection instruments, sampling, and analysis techniques from there. Other methodological designs can also be determined, such as determining significance limits and adjustment techniques if there are deficiencies or errors in data, administration, or analysis (Notoatmodjo, 2003). In other words, everything is carefully designed and planned before researchers go into the field to conduct their research activities. Research time in July 2022, research location at State Senior High School I in Lembang West Java.

Research subjects are subjects intended to be studied by researchers. The object of research is the object used as research or is the point of attention of researchers. In this study, the subjects were students from Parongpong 1 Public High School in Lembang and representatives from grades 10 and 11 who were active in school activities. The sampling technique used by the researchers was consecutive sampling so that the samples that would become the research subjects were respondents who took part in the simulation and filled out the resilience questionnaire, with the criteria of active student status at SMAN 1 Parongpong-students who received simulation method training 30 Representative students.

A research instrument is a tool used to collect data. The instrument used in this study was a questionnaire. Questionnaires are a list of well-organized, mature statements where respondents only give sure signs (Notoadmodjo, 2012). The instrument used is the Connor-Davidson Resilience Scale (CD-RISC) questionnaire.

Before carrying out the research, it had undergone an ethical test at the Faculty of Technology and Health Sciences, Jenderal Ahmad Yani University, with Number: 02/KEPK/FITKES-UNJANI/IV/2022.

RESULTS

Based on the table above, the majority of respondents were female, 21 people (70%), 19 years old (63.3%), and 16 years old (56.7%).

The results of the data normality test are expected, judging by the symmetrical histogram. The test is seen from the Skewness value / standard error of Skewness with a result that is less than or equal to 2.

Perspectives of High School Youth Students on Disaster Management Prior to Simulation Methods in Increasing Resilience.

Perspectives of Young High School Students on Disaster Management After the Simulation Method in Increasing Resilience.

The univariate results show differences in the perspective of the Resilience Level of High School Teenagers on disaster management before and after the simulation is carried out.

Bivariate analysis data were tested using a paired t-test to compare the resilience values before and after the simulation. This test method was chosen after fulfilling several conditions, including normal distribution. The statistical test results obtained a p-value of 0.000, indicating a significant difference between the first and second measurements.

DISCUSSION

Resilience is a process or result of positive adaptation resulting from interactions between individuals and their external environment (Nuari, 2016). Resilience is an individual's response to everything when facing difficulties or trauma, managing the pressures of everyday life, and a set of thoughts that make it possible to seek new experiences and view life as progress (Satria & Sari, 2017). Vigilance is crucial if many victims, and material loss is always the main thing in every disaster. So, disaster preparedness training is needed for youth using simulation. The role of simulation in disaster management can measure a person's readiness to deal with disasters (Indriasari, 2018).

Simulation is a training method using learning experiences to present situations that mimic certain concepts, principles, and skills like real situations. The simulation uses a learning process carried out directly on objects designed to look like the actual situation (Tumbol & Poli, 2018). With the simulation method for emergency and disaster preparedness, the results showed that the resilience capabilities before and after the intervention were carried out, there were differences in the Perspective of High School Teenagers on Disaster Management with the Simulation Method in Improving Resilience with the results of the Mean Pre Simulation with a score of 61.97 and Post Simu-

Table 1. Frequency Distribution of Respondents

No	Characteristics	f	%
1.	Gender		
	Male	9	30
	Female	21	70
2.	Class		
	Class XI	19	63.3
	Class XII	11	36.7
3.	Age		
	15 Years	1	3.3
	16 Years	17	56.7
	17 Years	10	33.3
	18 Years	2	6.7

Table 2. Frequency Distribution of the Perspective of High School Students on Disaster Management Before the Simulation Method in Increasing Resilience

No	Score Range	Score	f	%
1.	Min Score	28	1	3.3
2.	Max Score	88	1	3.3

Table 3. Frequency Distribution of the Perspectives of High School Teenagers on Disaster Management Before the Simulation Method in Resilience Building

No	Rentang Score	Score	f	%
1.	Min Score	63	2	6.7
2.	Max Score	90	1	3.3

Table 4. Analysis of the Perspective of Senior High School Students on Disaster Management Using Simulation Methods in Increasing Resilience

No	Resilience	Adolescent Perspective With Simulation Methods		
		N	Mean	SD	Sig. (2-tailed)
1.	Pre-Simulation	30	61.97	14.56	.000
2.	Post-Simulation	30	73.97	6.14	

lation with Mean 73.97. It shows that disaster preparedness education and simulation training gives good results. This study also used the role-playing method, namely the learning method, as part of a simulation aimed at increasing creativity and critical thinking in taking action and making decisions about actual events or events that may arise.

Adolescents' involvement in disaster preparedness simulations shows that all children are active in every simulation action after three exercises and three actions carried out indoors or outdoors. Besides teaching media, media training includes phantom dolls and tools supporting the post-disaster evacuation and trauma training process. The use of teaching media is based on the correct selection to increase youth's ability to be more effective and efficient in training methods (Mulyadi, 2018).

CONCLUSION

Providing emergency and disaster simulation methods has a positive influence and increases Resilience in adolescents in dealing with unexpected circumstances.
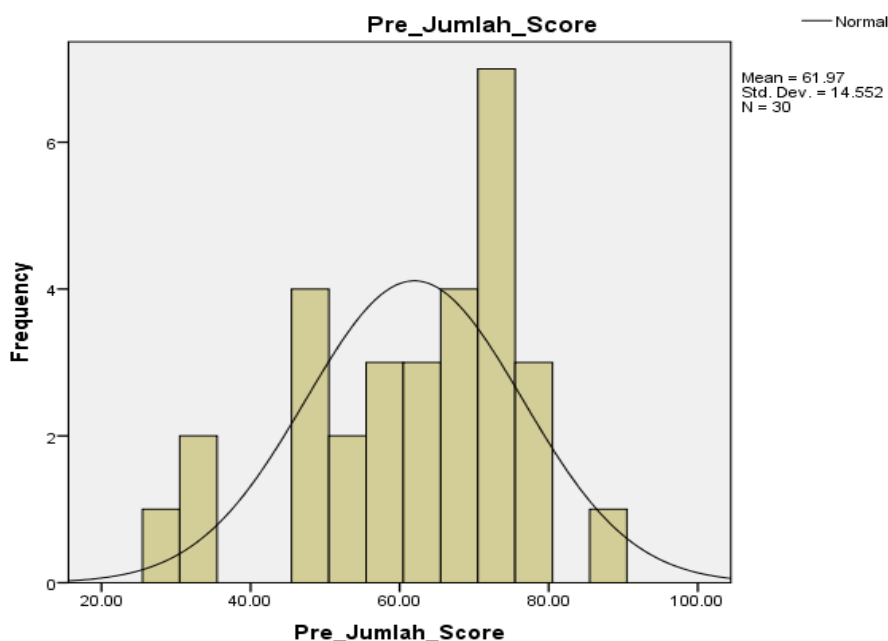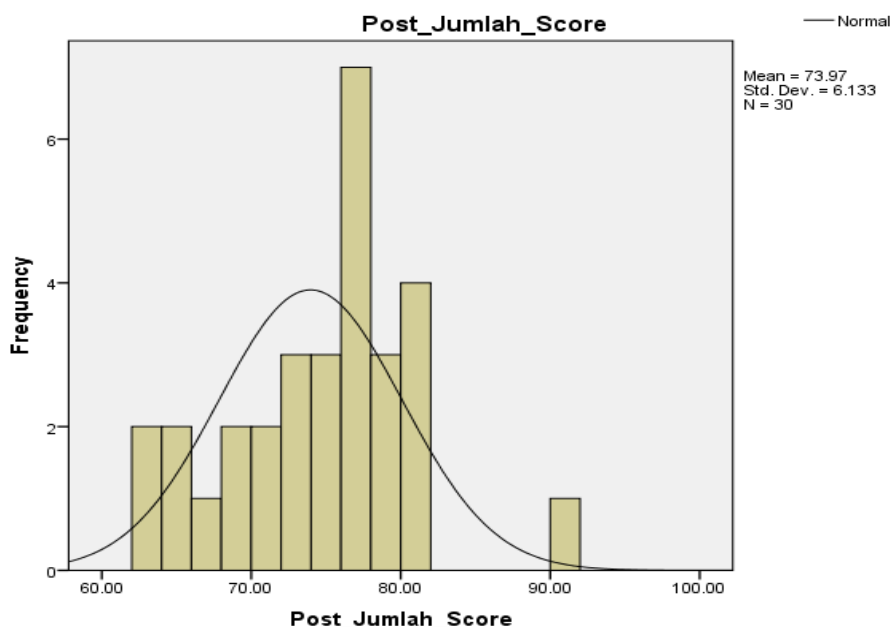
Figure 1. Pre Simulation Normality Test

Figure 2. Post Simulation Normality Test

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