

Health Education And Disaster Relief Empowerment Pemuda Reaktif Tanggap Bencana (Pereda Bencana) In Youth SMP Negeri 2 Martapura Timur Banjar Regency, South Kalimantan

Istiana^{1*}, Vina Yulia Anhar², Ihya Hazairin Noor³, Zuhrufa Wanna Yolanda⁴, Husnul Fatimah⁵, Agus Muhammad Ridwan⁶, Farid Ilham Muddin⁷

^{1,2} Medical Study Program, Faculty of Medicine, University of Lambung Mangkurat

³ Public Health Study Program, Faculty of Medicine, University of Lambung Mangkurat

^{4,5} Association of Alumni Faculty of Medicine, Lambung Mangkurat University

^{6,7} Master Student of Master Public Health Study Program, Faculty of Medicine, Lambung Mangkurat University, Banjarbaru, Indonesia

*Corresponding Author:

Email: dr.istiana@ulm.ac.id

Abstract.

In 2021 based on data from the South Kalimantan Regional Disaster Management Agency , there have been floods that hit 11 districts/cities in South Kalimantan , in where floods cause community activities to be completely paralyzed. Banjar Regency is the district with the second most flooding with a total of 32 flood disasters in the Regency area. Flood disasters occurred in 15 sub -districts and recorded as many as 275,906 souls and 22,967 houses were affected , while 27 . 440 people evacuated i. Disaster knowledge is needed by the community, especially teenagers, because teenagers play an important role in understanding this context and can reduce the risk and danger of flood disasters. One of the solutions formulated is to conduct counseling on disaster mitigation which is packaged in the Reactive Youth and Disaster Response (PEREDA DISASTER) program for students at SMPN 2 Martapura Timur, Banjar Regency . To increase knowledge and information for students of SMPN 2 Martapura Timur regarding flood disasters and Disaster Risk Reduction (DRR). This research is a descriptive research . The method used by the community service team is through health education in the form of counseling with the aim of increasing adolescent understanding and preparedness for flood disasters with communicative activities . The implementation of this community service is carried out through several stages . namely site surveys and situation analysis, licensing, equalization of perceptions, preparation of materials and instruments, finalization of targets, coordination of activities, implementation of counseling and demonstrations, evaluation of knowledge improvement and reporting. Based on the analysis, some students experienced an increase in the post-test, to be precise as many as 37 students experienced an increase, 23 students did not experience a decrease or increase, and 5 students experienced a decrease. Health education and the formation of disaster-responsive reactive youth (PEREDA DISASTER) can increase students' knowledge as seen from the results of research which states that respondents already know about floods, their causes, impacts, diseases that often occur and steps that must be taken during and after floods.

Keywords: Disaster Risk Reduction, Youth, Flood

I. INTRODUCTION

Disasters are a series of events that threaten, disrupt and harm people's lives which are generally caused by natural, non-natural and human factors, resulting in fatalities, environmental damage, property losses, psychological impacts and disruption of other community needs [1]. Flood is one of the many types of disasters. Flood is an event that overflows water above normal in where water inundates a land or land that is not usually flooded in a certain time interval, which is generally due to continuous rain , resulting in overflow of rivers, lakes, seas, drainage when the flow exceeds the volume of water and cannot be reabsorbed quickly by surface of the ground through which it passes [2]. Astronomically, the territory of Indonesia is located at 950 BT-1410 BT and 60LU. The intensity of the rainfall is quite high, making it 110 South latitude, which means that Indonesia is in the tropics, so that Indonesia also has a tropical climate with high temperature and rainfall. Flood disasters and victims ranks first of the many disasters in the world, reaching 55% [3]. In Indonesia, floods account for 38% of all disasters. Due to land use, climate change, and rising sea levels, it can increase the likelihood of flooding during the rainy season [3,4]. In 2021, based on data from the South Kalimantan Province Regional Disaster Management Agency, there has been a major

disaster experienced by the people of South Kalimantan , in where floods and landslides occur simultaneously which causes community activities to be completely paralyzed. Floods and landslides hit 11 regencies/cities in South Kalimantan. On January 14, 2021, the status of the South Kalimantan area was raised to flood emergency response , flood disasters occurred with various water levels, namely 30 centimeters, 50 centimeters, 2 meters and 3 meters .

Rain with moderate intensity caused flooding in South Kalimantan Province. Based on data from 2008-2021, Banjar Regency is the district with the second most flooding with a total of 32 flood disasters in the Regency area. The flood disaster occurred in 15 sub-districts , namely Kec. Martapura, Kec. Astambul, Kec. pengron. district. Sungai Pinang, Kec. Matarama n , Kec. West Martapura, Kec. East Martapura, Kec. Simpang Empat, Kec. Tabuk River, Kec. Karang Intan, Kec. Lucky Baru, Kec. Cintapuri Darussalam, Kec. Peat, District. Kertak Hanyar, Kec. Prosperous Tatah . Banjar Regency itself is recorded as 275,906 souls and 22,967 houses were affected , while 27 . 440 people evacuated i [5]. Disaster knowledge is the ability to remember events or series of events that threaten and disrupt people's lives and livelihoods, both by natural factors or non-natural factors and human actors that can result in human casualties, environmental damage, property losses, and psychological impacts. . Disaster knowledge will be needed by people who live in disaster-prone areas, because of various information about the types of disasters that can threaten them, disaster symptoms, estimated disaster coverage areas, self-rescue procedures, recommended places to evacuate, and other information that the community may need. before, during and after a disaster occurs can minimize disaster risk [6]. Adolescents spend more time in school. Schools are also places that are prone to disasters .

According to data from the Indonesian Child Protection Commission (2016), adolescents and children who have experienced trauma are more difficult to heal than adults. Children generally do not have adequate coping mechanisms physically and emotionally to deal with trauma. This trauma can lead to mental disorders as they grow up and affect their temperament (7). Socialization is really needed by the community to reduce the anxiety that occurs . One of the efforts that can be made to overcome this problem is by empowering the surrounding community to help provide enlightenment or socialization about the impact of disasters and preparations for dealing with problems, especially regarding first aid problems that can be done by the community, such as injuries, fainting, accidents. minor accidents, how to evacuate disaster victims that can be done by the surrounding community (Purnawati et al, 2020). Knowledge is one of the elements that is the main key for preparedness that can influence people's attitudes and concerns in anticipating disasters. Knowledge about flood disaster preparedness should be given to the community. Counseling is one source of information that plays an important role in increasing preparedness knowledge [8]. One solution that can help with this implementation is to empower youth by forming youths at SMPN 2 Martapura Timur, Banjar Regency . Of course, by establishing a Disaster-Reactive and Responsive Youth (PEREDA DISASTER) must provide provisions by providing training in accordance with the abilities possessed by the youth .

II. METHODS

This research is descriptive research. Descriptive research shows that the symptoms studied in this study already exist without being made by the researcher. The symptoms described are the knowledge and preparedness of adolescents against flood disasters . In addition, it is also to describe the relationship between knowledge about flood disasters and community preparedness for flood disasters. The method used by the community service team is through health education in the form of counseling with the aim of increasing adolescent understanding and preparedness for flood disasters with *communicative activities* . The *Communicative activities method* is an active listening activity, in where the speaker or participant repeats the words that have been conveyed. This activity is intended to clarify whether the participants have understood what was conveyed so as to improve the listening skills of the participants. This method of *Communicative activities* is combined with slide shows to make it easier for participants to understand the material presented.

The stages of implementation are in the form of lectures, discussions/questions and answers and demonstrations. The use of media/tools during counseling are LCD, laptop, *power point* and teaching aids . The implementation of this community service is carried out through several stages, namely: location *survey* and situation analysis, licensing to related parties, equalization of perceptions to all teams and school parties, preparation of materials and instruments, finalization of targets, coordination of activities, implementation of counseling and demonstrations, evaluation of increasing target knowledge with *pre-post tests* at the beginning and end of activities and reporting. Participants who were targeted in community service activities were 65 grade VII students of SMPN 2 Martapura Timur, Banjar Regency. Community service activities will be held on Saturday, May 21, 2022 .

III. RESULTS AND DISCUSSION

Youth service activities are held at SMPN 2 Martapura Timur on Saturday, May 22, 2022 starting at 08.30 – 12.30 WITA. SMPN 2 Martapura is a junior high school that experiences floods almost every year, so that the learning process is disrupted and even closed for several days. The outreach activities were carried out *offline* with 65 participants of class VII SMPN 2 Martapura Timur, which was located in the Hall. This counseling begins with an opening and remarks from the principal. Before counseling is given , then *pretest* is done first to see ability of the students in the flood disaster preparedness . In theory, it is said that each individual who have never been touched by new knowledge then knowledge will be low compared with those who already have knowledge [9]. This theory is proven by the results research that researchers get, after researchers do the analysis on the results of the *pretest* that has been done by students, it can be seen that there are still many students who do not understand preparedness facing flood disasters . It looks from the average result of the students' *pretest* is 65, 82 of 65 people student. Based on the analysis carried out researcher in students' answers to the questionnaire items that given, looks at the concept of knowledge student many do not understand the question number six which states the steps taken before a flood occurs and during a flood . It means by students' concepts or theories are still weak with Knowledge of disasters is due to the understanding of students that there are still many who are confused with flood disaster preparedness steps . Not only that question about what is meant by PHBS , there are still many students who are less thorough and less precise in understanding the abbreviation of PHBS (Clean and Healthy Life Behavior).

In the implementation of the activity, the first material for the extension participants was presented with a video that had been prepared by the team . This educational video contains several materials, such as understanding, categories, causes, impacts and diseases that arise during floods. In addition, the educational video also discusses preparedness before, during and after floods and PHBS during floods. Furthermore, the second material was delivered by the Banjar Regency Regional Disaster Management Agency (BPBD) with the material "Flood Disaster Prevention and Preparedness". The media used is visual media in the form of *power points* to make it easier for the participants to understand and remember the material. Other supporting factors is an extension worker in activities where this counseling serves as one of the facilitators who guides the participants to understand the material which is a main goal. Efforts made to stimulate the mindset of teenagers in sustainable disaster management, namely by changing , encouraging and increase adolescents' perception of risk factors that may arise as a result of a disaster. Empowerment process in capacity building individuals against threats Death due to disaster can be done with formal education or education informal such as training [10]. Moreover, teenagers who are classified as still in the secondary education period, so that the implementation of the program This empowerment can be done sustainably [11]. Disaster knowledge is the ability to remember events or series of events that threaten and disrupt people's lives and livelihoods, both by natural factors or non-natural factors as well as human factors that can result in human casualties, environmental damage, property losses, and psychological impacts.

Disaster knowledge will be needed by people who live in disaster-prone areas, because of various information about the types of disasters that can threaten them, disaster symptoms, estimated disaster coverage areas, self-rescue procedures, recommended places to evacuate, and other information that the community may need. Before, during and after a disaster occurs can minimize disaster risk [12]. The third

material was delivered by the Medical Aid Team Calamus Scriptorius FK ULM with the material "First Aid in Post-disaster Accidents". The media used in this material are *power points* and teaching aids so that not only the material is given, but the participants also practice in handling several cases. Intervention efforts to change attitudes can be done through two approaches, namely education or coercion/pressure, and the educational approach is the most appropriate as an effort to solve public health problems through the attitude change factor itself. One of the efforts in the form of health education that makes it possible to change behavior is through counseling. According to health education, health education is defined as health education activities carried out by disseminating messages and instilling confidence, so that in the end the desired target is not only aware, knows, and understands, but is also willing and able to do so [13] .

Table 1. Frequency Distribution of Respondents Characteristics

No.		Frequency	Percentage
1.	Age		
	12 years old	10	15.39
	13 years old	21	32.30
	14 years	24	36.92
	15 years	10	15.39
2.	Gender		
	Woman	35	53.85
	Man	30	46.15

Source: Primary Data 2022

Based on the table, it can be seen from 65 respondents aged 12 years as many as 10 people (15.39%) , teenagers 13 years as many as 21 people (32.30%) , teenagers 14 years as many as 24 people (36.92%) and teenagers 15 year as many as 10 people (15.39%) . Age is one of the factors that affect one's knowledge of experience against disasters and awareness that accesses good information through training a disaster as well as information media that can affect knowledge. along someone 's age then it will happen good development progress physical and psychological. Psychological development somebody what happens is like the level of thinking it will be develop to more mature and mature direction . The older you get, the more knowledge and experience you have about disasters and preparedness behavior disaster one will increase [14]. One of the disasters that can be experienced when children are in the school environment is floods. Children who are in school must be ready and alert to deal with this flood disaster in order to minimize the risks that may occur due to the flood disaster . Teenagers are the young generation who have a role in anticipating flood disasters and also in emergency response [15] .According to Zuhriana in 2019, age has a significant relationship with the level of knowledge in this study, one of the components is age at the level of knowledge.

The more mature and strong a person is, the more mature they will think and work in terms of the beliefs of a more mature society. This is as a result of the experience of the soul [12]. Knowledge and preparedness attitude owned by the community is obtained from the experience of experiencing a flood disaster almost every year, the experience you have the community provides knowledge about the flood disaster that hit and will affect attitude d a n community concern to be ready to anticipate flood disasters [16].For the gender of 65 female respondents as many as 35 (53 , 92 %) respondents, and male respondents as many as 30 (46 , 15 %) respondents. According to Vladmir et al (2018) , women show a deeper understanding of events and because of their high level of understanding women show more attitudes and behaviors towards disaster victims [17] . In the research of Putri Agina (2017) , it shows that there is no relationship between gender and the ability and knowledge of mitigation disaster respondents who are male and female, but the difference type gender can form different perceptions in decision making in disaster mitigation and ethical and cognitive problem solving [11]. Some literature studies too mention that men or women have a level of knowledge of disaster mitigation cognitively different but in reality it shows women are more diligent, diligent and be careful if given a task or do something but it can't prove and explain that women have a higher level of knowledge or cognitive better [18]

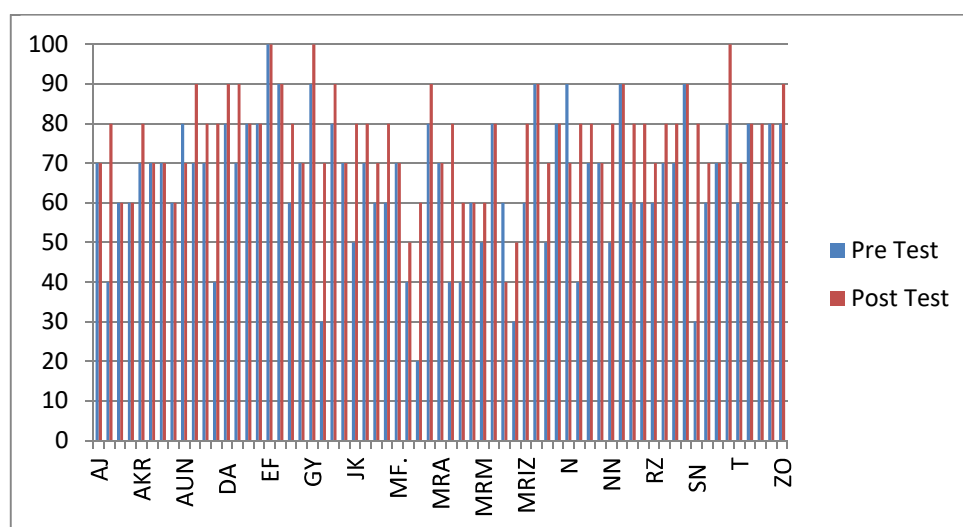


Fig 1. Graph of the Frequency of Students' Knowledge Values before and after counseling

Table 2. Frequency distribution of Adolescent Knowledge

Knowledge	Frequency	Percentage
Increase	37	56.92
Permanent	23	35.39
Decrease	5	7.69
Total	65	

Based on the table above, it can be seen that 37 people (56.92%) had an increase in the scores of the participants in the *post-test* rather than *the pre-test*, 23 people (35.39%) had the same score in both *t - tests*, and some small as many as 5 people (7.69%) experienced decrease in scores in the *post-test* than in *the pre-test*. Based on the analysis, some students experienced an increase in *the post-test*, to be precise as many as 37 students experienced an increase, 23 students did not experience a decrease or increase, and 5 students experienced a decrease. The inhibiting factor that caused the decline was that on average the participants had difficulty in answering the question "What to do before the flood", because participants had a bit of difficulty distinguishing actions before the flood and when the flood occurred, so that most of the post test results of participants contained many correct answers. Wrong. However, these inhibiting factors are not used as a significant obstacle in implementation because during the process of extension activities can run fluently and most of the children experienced an increase in knowledge. The results of *the post-test* of participants showed that 56.92 % of participants experienced an increase in knowledge, 35.39 % had a fixed value without changing from *pre-test* to *post-test* and 7.69 % of participants experienced a decrease. This matter shows that the level of knowledge of participants has increased because participants are able to absorb the counseling material provided by the resource person well and This can be seen from the results of the respondent's research which states that the respondent already knows about floods, their causes, impacts, diseases that often occur and the steps that must be taken during and after the flood.



Fig 2. Group photo after the counseling activity at SMPN 2 Martapura Timur

The counseling can run well, and the participants also look serious in paying attention to the counseling. Indirectly, participants' knowledge about flood preparedness has increased because counseling has been carried out on flood preparedness. According to Notoadmojo (2011) "health counseling is an application of the concept of education in the health sector, the advantages of counseling are to change knowledge/understanding, opinions, change attitudes and perceptions, and instill new behavior or habits [19]. This is in line with Yusuf's Research (2019), which states that after being given counseling, the results showed that the level of knowledge of participants increased by 77.51% [20]. Based on the results of the analysis, then stated that there is a difference knowledge level before and after given meaningful counseling counseling affect students' knowledge in dealing with disasters. With so n, it can be concluded that disaster counseling flooding and the formation of disaster response reactive youth (DIASER RELIEF) in students SM PN 2 Martapura in dealing with flooding is considered effective to be used in conveying information information or preparedness messages to the public. So the behavior of adolescent readiness experienced a significant change to a better direction, because the community is following well the education provided by the researchers.

IV. CONCLUSION

Through outreach activities and the formation of Disaster Response Reactive Youth (PERDA DISASTER) to students at SMPN 2 Martapura Timur, it will increase students' understanding of Disaster Risk Reduction (DRR). In addition, students are also provided with first aid in several cases so that it can be applied when a flood disaster occurs.

V. ACKNOWLEDGE

The authors would like to thank the Regional Disaster Management Agency of South Kalimantan Province, the Calamus Scriptorius Medical Assistance Team, Faculty of Medicine ULM, the Principal of SMPN 2 Martapura Timur along with the teachers and students who contributed to outreach activities and the formation of Disaster Response Reactive Youth (DISAM) as well as the community members. parties involved in the implementation of this activity.

REFERENCES

- [1] Law of the Republic of Indonesia No. 24 of 2007 concerning the management of coastal areas and small islands.
- [2] Nurrahmah, W. Phenomenological Study of Community Preparedness Experience in Facing Flood Disasters at Rt 001 Rw 012, Bintaro Village, Pesanggrahan District, South Jakarta, 2015. 2014. Thesis. Faculty of Medicine and Health Sciences Islamic University Syarif Hidayatullah's country. Jakarta
- [3] Yusuf, ZK, & Mangile, FK The Effect of Counseling on the Level of Community Knowledge in Facing Flood Disasters. *Jambura Nursing Journal* 2019, 1(2), 48-55.
- [4] Tiara, TM, Romadoni, S., & Imardiani, I. The Effect of Using Animated Video on Public Knowledge About Flood Preparedness in the Village of Silaberanti Lorong Dahlia Palembang. *Indonesian Journal of Health Sciences* 2019. 3(2), 64-70.
- [5] BNPB South Kalimantan. Report on the latest situation of Flood Disaster Emergency Management in the Province of South Kalimantan. [Internet]. 2020. Diakses on: <http://ppidutama.kalselprov.go.id/wp-content/uploads/2021/01/Laporan-Situas-Terkini-Handling-Darurat-Bencana-Banjir.Pdf>
- [6] Chotimah, Ayu Nurul. The Effect of Community Knowledge and Attitudes on Preparedness for Landslides in Pasir Jaya, Bogor. *Journal of Disaster Management*. 2019. 5(2). 1-10.
- [7] Purnawati D, Ridawati, Eka, Sukmawati. Empowering Youth Cadres Using Disaster Response Training. DIKMAS: *Journal of Community Education and Service*. 2022. 2(1). 111-118.
- [8] Notoatmodjo, S. 2012. Health promotion and health behavior.
- [9] Ikbal RN, Rebbi PS. The effect of health education on earthquake preparedness for students of SMPN 13 Padang. *Journal of Health Sciences (JIK)*. 2018. 2(2); 40-46.
- [10] Budimanto, Mudatsir, & Tahlil, T.. Relationship of Knowledge, Disaster Attitudes and Basic Life Support Skills with Earthquake Disaster Preparedness in Nursing Students at the Health Polytechnic of Banda Aceh. *Disaster Science* 2017. 4 (2), 53-58.

- [11] Idris BN, Gladeva Y, Irwan H. Efforts to improve disaster mitigation behavior based on application-based risk prevention for the COVID-19 pandemic incident in adolescents in coastal areas. *Journal of Psychiatric Nursing* 2021 . 4(1): 79-86.
- [12] Zuliani, Hariyanto S. Knowledge, Attitude and Preparedness of disaster preparedness cadres in the face of flood disasters. *Journal of EDUNursing* 2021. 5(1); 77-86.
- [13] Aini, IAN 2020. Community organization in building environmentally conscious behavior in flood-prone settlements in Gambuhan Kidul Hamlet, Gambuhan Village, Kali Tengah District, Lamongan Regency (Doctoral dissertation, UIN Sunan Ampel Surabaya)
- [14] Firmansyah I, Hanny R, Rondhianto. The relationship between knowledge and preparedness behavior in dealing with floods and landslides in adolescents aged 15-18 years at Al-Hasan Kemiri High School, Panti District, Jember Regency. *Scientific Articles of Student Research Results* 2014. 2(8)
- [15] Okravianti N, Dwi RF. The relationship between knowledge and youth preparedness in dealing with floods in Samarinda. *Borneo Student Research* 2021. 2(2): 909-914.
- [16] Erlia, Devi. Analysis of Community and Government Preparedness in Facing Flood Disasters in West Martapura District, Banjar Regency. *JPG : Journal of Geography Education* 2021. 4(3). 15-24.
- [17] Vladimir, M., Giulia, R., Adem, O ., Paola, T., Slavojub, D. The Role of Gender in Preparedness And Response Behaviors Forwards Flood Risk in Serbia. *int. J. Environ. res. Public Health* 2018 , 15 (12), 2761 .
- [18] Nindi Lestiko Ningrum, MS, Wahyuni, W., & Sri Wahyuni, E. Description of community knowledge and behavior towards landslide disaster mitigation in Guntur Hamlet, Ngargoyoso Village, Ngargoyoso District, Karanganyar Regency. [Thesis] 2019. Stikes'aisyiyah Surakarta .
- [19] Notoatmodjo, S. Education and Behavior Health. 2010 . Jakarta. Rineka Cipta
- [20] Yusuf ZK, Felix KM. 2019. The effect of counseling on the level of community knowledge in dealing with flood disasters. *Jumbara Nursing Journal*. 1(2): 48-55.