Original Article

The Effect of Booklet Media Counseling on Increasing Knowledge of Disaster Risk Among Adolescents at Pancasila Islamic Boarding School

Tria Nopi Herdiani [1], Sanisahhuri [2], Veky Puspa Lora[1]

[1] Midwife Professional Education Study Program, Tri Mandiri Sakti Bengkulu Institute of Health Sciences, Bengkulu, Indonesia
[2] Public Health Study Program, Tri Mandiri Sakti Bengkulu Institute of Health Sciences, Bemgkulu, Indonesia

ARTICLE INFO

ABSTRACT

Background: Indonesia is one of the countries with the highest disaster risk in the world, because according to the 2017 World Risk Index, Indonesia ranks 33rd in the world compared to other countries. According to data from the National Disaster Management Agency (BNPB), there were 2,572 natural disaster events in 2018 and 2,862 events in 2017. This study aims to determine the booklet media counseling on increasing disaster risk knowledge among adolescents at the Pancasila Islamic Boarding School in Bengkulu City

Methods: This research is a quantitative study, using a pre-experimental design using a one group pets and posttest design. The population in this study were high school students of Pancasila Islamic Boarding School in grades 10 and 11 in science and social studies. There were 33 students. The sampling technique in this study used Accidental sampling

Results: The results of the study were obtained: (1) Knowledge of the Pancasila Islamic boarding school students in Bengkulu city about the effect of booklet media counseling on increasing knowledge of disaster risk in adolescents Before being given booklet media, 31 people (93.9%) lacked knowledge and 2 people (6.1%) moderate knowledge. (2) Knowledge after high school students at Pancasila Islamic boarding school Bengkulu City About the effect of booklet media counseling on increasing knowledge of disaster risk in adolescents After being given a media booklet, 8 people (24.2%) lacked knowledge, 21 people (63.6%) had moderate knowledge and 4 people (12.1%) have good knowledge. (3) There is an effect of Knowledge of Media Booklet on increasing knowledge of Disaster Risk in adolescent students of Pancasila Islamic Boarding School Bengkulu City.

Conclusion: Based on results of research there is an effect of Knowledge of Media Booklet on increasing knowledge of Disaster Risk in adolescent students of Pancasila Islamic Boarding School Bengkulu City.

Corresponding Author Contact:
Tria Nopi Herdiani, Midwife Professional Education Study Program, Tri Mandiri Sakti Bengkulu Institute of Health Sciences, Bengkulu, Indonesia
Email:
direja.mandira1415@gmail.com

janh.candle.or.id

Background

Countries in the Asia-Pacific region are four times more vulnerable to natural disasters than those in Africa, and 25 times more vulnerable than those in Europe and North America. Indonesia ranks second after Bangladesh in the list of the highest number of deaths due todisasternature in the Aia-Pacific. Over the past 20 years, various natural disasters in this country have also caused economic losses of at least US$22.5 billion and the loss of 191,164 lives (Suparwati, 2020).

Disasters in Indonesia recorded 763 disasters that occurred from 1 January to 9 March 2021. This data includes the number of events, distribution maps, disaster impacts, and damage causedcausedof disasters that occurred throughout Indonesia. In early 2021, disasters that occurred due to hydrometeorological factors became the most dominant. Hydrometeorological disasters are disasters whose impacts are triggered by weather and climate conditions with various parameters. several parameters including increased rainfall, decreased rainfall, extreme weather such as heavy rain accompanied by strong winds and lightning or lightning and so on (Saptoyo, 2021).

Throughout 2021 natural disasters in the form of floods occurred as many as 337 events, 186 tornadoes, and 144 landslides. followed by 70 incidents, 13 earthquakes, 12 tidal waves and abrasion, and 1 drought. of the series of disasters that occurred in the area of the impact of the damage, namely that a total of 53,847 houses were damaged. The damage varies from light to heavy damage. Other damage data shows that 1,700 public facilities were damaged, namely 858 educational facilities, 658 worship facilities, 184 health facilities, 289 offices, 102 bridges. Not only has an impact on damage to buildings and property (Saptoyo, 2021).

According to the Indonesian Disaster Information Data (BNPB, 2014) that Bengkulu Province since the last five years, 2014-2019, experienced 90 times the number of disaster events including 42 floods, 29 landslides, 12 tornadoes, 2 forest and land fires, 5 earthquakes and various impacts including health problems. In the Decree of the Minister of Health of the Republic of Indonesia number 876/Menkes/SK/XI/2006 concerning national policies and strategies for handling crises and health problems, it is stated that the handling of crises and other health problems focuses more on pre-disaster efforts, namely prevention, mitigation, and preparedness (Silviani & Absari 2020).

In the last ten years, the number of natural and non-natural disasters in the world has increased significantly. From 1999 to 2015, the number of disasters around the world fluctuated which meant that the number of disasters could not be predicted with certainty. Most natural disasters in the world are caused by climate change. In recent decades, the five countries most frequently affected are China, the United States, Indonesia, the Philippines and India. China is the country that experienced the most natural disasters, 2005-2014 (Center For Research On The Epidemiomolgy Of Disaster, 2015).

Indonesia has an area of 5,180,053 square kilometers, covering 1,9,570 square kilometers of land area and 3,257,483 square kilometers of sea (62.9%), with a coastline of 81,000 kilometers (World Bank Risk Report, 2018). bygeographicallocated on a series of tectonic plates: Australia, the Pacific Ocean, Eurasia and the Philippines which makes Indonesia vulnerable to geological changes. In addition, there are 5,590 watersheds (ADS) between Sabang and Merauke, and these waters also make up Indonesia. This means that based on the World Risk Report (2018). Indonesia is an archipelagic country so it is one of the most

disaster-prone countries. In addition to geographical conditions that are prone to disasters (Work Risk Report, 2018).

By enacting law number 24 of 2007 concerning disaster management, it is hoped that disaster management will improve, because the central government and regional governments are responsible for implementing disaster management. Disaster management is carried out in a targeted manner starting from pre-disaster, during emergency response and post-disaster (Rahmi & Satria 2013).

The National Disaster Management Agency (BNPB) states that in the last 30 years (1982-2014) there have been 13,729 disasters, whichdominatedby floods and followed by landslides, winds, droughts and other disasters (Kemendikbud, 2015). As for the results of the 2015 disaster risk study, there are five types of disasters with the highest number of people exposed, namely: extreme weather (putting pickaxe) as many as 244 people, drought of 228 million people, floods of 100 people, earthquakes of 86 million people and landslides of 14 million people (BNPB, 2017).

Disaster is a manifestation of a combination of distress (which was previously potential) and humans (or other objects that concern human interests) so that it becomes an urgent emergency. For guidelines in handling, the reference is often used to refer to the number of people who are exposed to distress that causes death, illness and injury. HandlingDisasters can also be based on the size of material damage, namely damage to property and daily life. Furthermore, when danger arises and threatens humans, an emergency is formed, namely a situation that is very urgent and has the potential to interfere with the community's ability to face life's challenges (Kemenkes RI, 2018).

In Indonesia, the number of teenagers and young people is growing very fast.

Between 1970 and 2000, the 15-24 age group increased from 21 to 43 million or from 18% to 21% of the total population of Indonesia (Rosyda, 2019). According to the Ministry of Health of the Republic of Indonesia in 2017, the number of people aged > 15 years was 34,344,399 people (Kemenkes RI, 2018).

Methods of delivering messages that aim to increase knowledge. One of them is the extension media with lectures and question and answer is a method that is quite effective as a message delivery. Extension media that can be used to attract students' attention is to use images that are modified with writing. Pictures can lead to diverse student creativity in discussing. Excellence with pictures can clarify a problem by seeing clear pictures and in accordance with the subject matter. Students will be clearer on a subject or material presented (Wardha 2019).

Knowledgedisaster risk needs to be prepared early on to communities at risk of disaster to avoid or minimize disaster risk. One of the efforts made is through disaster education. through education, this step is a strategic way to reduce disaster risk. Schools are the most effective place to provide education about disasters. Disaster education can be used as a provision for students when students are faced with a condition where their lives are threatened by disaster. This disaster education can be provided through the curriculum or extracurricular. but students are given skills on how to reduce the risk of disaster hazards (Achmad & Banten 2020).

AmountThere are 7 schools in Bengkulu City for SMA and MA, namely for SMA there are 7 public schools and 18 private schools with a total of 25, while MA public schools are 2 and private schools are 5 with a total of 7 schools. The number of high school students and high school students consisted of 5,132 male and 5,780 female students with a total of 10,912 while

the MA consisted of 896 male students and 1377 female students with a total of 2,273. The number of MA students at the Salafiyah Hidayatul Islamic Boarding School is 89 (Statistics, 2019).

Students at MA Muhammadiyah are 78 and the number of MA Islamic boarding schools is 99, so it can be concluded that the MA Islamic boarding schools are at high risk of disaster because the students there do lodging. From the consideration of disaster risk, integrated efforts are needed to prevent disaster risk (Statistics, 2019).

Pancasila Islamic Boarding School Bengkulu City which is located at Rinjani Jembatan Kecil street, Singaran Pati District, Bengkulu City. This school is led by Mr. Nunu, S.AG this school has been accredited A. The majority of all students and teachers of the Pancasila Islamic boarding school are Muslim, the school this has 6 classes, 194 subjects and 14 teachers.

The formulation of the problem in this study is how "the influence of booklet media counseling on increasing knowledge of disaster risk in adolescents in Pancasila Islamic Senior High School". The purpose of this study was to determine the booklet media counseling to increase knowledge of disaster risk in adolescents at the Pancasila Islamic Senior High School, Bengkulu City.

Method

Type The research in this study is a quantitative study, using a pre-experimental design using a one group pre and posttest design. The population in this study were high school youth of Pancasila Islamic Boarding School in grades 10 and 11 in science and social studies. At the time of conducting the research, the researcher carried out research on June 12-13, 2021, getting 33 high school students from the Pancasila Islamic Boarding School in Bengkulu city. This sampling technique is using the accidental Sampling technique.

Data collection in this study was carried out using primary data and secondary data. Data analysis usingdata normality testUnivariate and Bivariate analysis.To determine the effect of counseling will use the Wilcoxon test where if p <0.05 means the calculation results are significant.

Results

Respondents in this study were students in grades 10 and 11 (IPA and IPS) at the Pancasila Islamic Senior High School, Bengkulu City, as many as 33 people who met the criteria desired by the researcher and had various characteristics. In accordance with the results of the study, the data on the characteristics of the respondents were obtained as follows:

a. Knowledge before and after counselling

Tabel 1. Knowledge before and after counselling

	N	Minimum	Maximum	Mean	Std. Deviation
Before	33	2.00	6.00	4.3333	0.98953
After	33	4.00	9.00	6.2424	1.19975
Total	33				

Based on Table 1 above, it can be seen that most of the respondents who were registered as students in grades 10-11 SMA Pesantren Pancasila Bengkulu City showed that from 33 samples obtainedMark the average knowledge before being given a booklet was 4.33 with a minimum value of 2.0 and a maximum of 4.0 and the average value of knowledge after being given a booklet of 6.24 with a minimum value of 4.0 and a maximum of 9.0 with std deviation of 1.19975.

janh.candle.or.id

b. Knowledge before counselling

Tabel 2. before counselling

No		Frequency	Percentage (%)
1	Lack of knowledge	31	93.9
2	Moderate knowledge	2	6.1
	Total	33	100.0

Based on table 2 above, it can be seen that knowledge before counseling was carried out using booklet media from 33 samples there is 31 people (93.9%) lack of knowledge and 2 people (6.1%) have moderate knowledge.

c. Knowledge after counseling

Tabel 2. After counseling

No		Frequency	Percentage (%)
1.	Lack of knowledge	8	24.2
2.	Moderate knowledge	21	63.6
3.	Good Knowledge	4	12.1
	Total	33	100.0

Based on table 3 above, it can be seen that knowledge afterdone counseling using booklet media from 33 samples there were 8 people (24.2%) with poor knowledge, 21 people (63.6%) with moderate knowledge and 4 people (12.1%) good knowledge.

2. Normality Test

Tabel 3. *Tests of Normality*

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Knowledge before counseling	.265	33	.000	.866	33	.001
Knowledge after counseling	.216	33	.000	.922	33	.020

a. Lilliefors Significance Correction

Table 3 above shows the results of the normality test of the data using the Shapiro-Wilk test, it is known that p value = 0.001 for knowledge before counseling using booklet media and p value = 0.020 for knowledge after counseling using booklet media, because both p values < 0.05, meaning that the two groups of data are not normally distributed, so they do not meet the requirements for the Paired sample t-test, so the Wilcoxon Signed Ranks Test will be used.

3. Bivariate Analysis

This analysis was conducted to determine between the dependent variable (increased knowledge of disaster risk in adolescents) and the independent variable (media Booklet) using the Wilcoxon sign Rank Test.

a. Ranks

Table 4. Ranks

		N	Mean Rank	Sum of Ranks
Knowledge after – Knowledge before	Negative Ranks	0[a]	.00	.00
	Positive Ranks	33[b]	17.00	561.00
	Ties	0[c]		
	Total	33		

1) Knowledge after < Knowledge before
2) Knowledge after > Knowledge before
3) Knowledge after = Knowledge before

Based on Table 4 above, it can be seen that the negative rank value or negative difference is 0 which means 0 people have decreased knowledge after counseling using booklet media. The result of the positive rank value or positive difference is 33 with a mean rank of 17.00, meaning that 33 people experienced an increase in knowledge after counseling using booklet media. The result of the ties value or similarity value is 0, meaning that there are 0 people with the same knowledge between before and after counseling using booklet media.

a. Test *Statistic*

Table 5. Test *Statistic*

	Knowledge
Z	-5.082[a]
Asymp. Sig. (2-tailed)	.000

a. Based on negative ranks.
b. Wilcoxon Signed Ranks Test

The results of the Wilcoxon Signed Ranks test showed that the p-value = 0.000 <0.05 was significant, meaning that there was a difference in knowledge before and after it was done. counseling using Booklet media, then Ho is rejected andHa accepted. So there is an effect of Booklet media counseling on increasing knowledge of disaster risk in adolescents at SMA Pesantren Pancasila.

Discussions

The results of this analysis indicate that before being given knowledge of disaster risk using Booklet media, it is known that: 31 people with lack of knowledge before being given Booklet media and 2 people with moderate knowledge before being given Booklet media.

The results of research conducted by Wulandari (2019) in his research journal entitled "Analysis of student preparedness in dealing with drought through booklet media" found that the level of preparedness before being given booklet media was still low. Another study was also the same as stated by Astini (2018) in his research journal entitled "On education with the school watching method increasing student preparedness in dealing with disasters at SDN 16 Kesiman Denpasar" the results were found before the School watching method was given in the almost ready category as many as 30 respondents (42.9%) and were in the very ready category as many as 8 people (11.14%).

The results of this analysis indicate that after being given increased knowledge of disaster risk with Booklet media, it is known that there are 8 people with less knowledge after being given Booklet media, 21 people with moderate knowledge after being given

Media Booklets and 4 people with good knowledge after being given Booklet media.

Extension media that can be used to attract students' attention is to use images that are modified with writing. Pictures can lead to diverse student creativity in discussing. Excellence with pictures can clarify a problem by seeing clear pictures and in accordance with the subject matter. Students will be clearer on a subject or material presented (Wardha 2019).

The effect of increasing knowledge of disaster risk on adolescents with booklet media on high school students at the Pancasila Islamic Boarding School in Bengkulu City can be seen from the results of the analysis using the Wilcoxon statistical test conducted from 33 students in the Pancasila Islamic Senior High School in Bengkulu City. the mean value or average knowledge before being given increased knowledge of disaster risk to adolescents with booklet media was 4.33 while the average knowledge after being given increased knowledge of disaster risk to adolescents with booklet media was 6.24. So, from the value before being given the Booklet media, it was 4.33 and the value after being given the Booklet media increased to 6.24, so this increase in the average value of the mean has an increased difference in value.

Some research results state that booklets as learning media have a positive contribution to student learning outcomes (Isnaveni, 2020). Research result Fajar Wulandari stated that learning activities using the booklet media provide a learning environment and have an important position, in the teaching and learning process, because in classroom activities there is certainly an interaction in the delivery of learning materials between teachers and students, so that it will be easier to deliver when using intermediaries, namely in the form of media.

Based on two points, the results of sister Fajar Wulandari's research have an impact on improving student learning outcomes, so it can be said that the use of booklets as a learning medium is effectively applied to the learning process.

Based on the results of the research and the theory shown, the researchers think that adolescents aged 16-17 years are very good to be given education about knowledge in dealing with disaster risk with booklet media.

Conclusions

Based on the results of this study, there are differences in the level of knowledge about disaster risk before and after being given counseling using booklet media.

Suggestions

It is hoped that students can increase their knowledge and awareness in dealing with disasters, especially disaster risk in adolescents and after being given knowledge about disaster risk management in adolescents, they are expected to be able to know what disaster risk is in adolescents, the causes of disasters and the characteristics of disasters, and actions that must be taken. done when a disaster occurs.

Bibliography

Anies. (2018). *Negeri Sejuta Bencana*. Yogyakrta : Ar-Ruzz Media.

Arikunto, s. (2010). *Prosedur penelitian suatu pendekatan praktik*. Jakarta : Rineka Cipta.

Arsyad.Azhar. (2009). *Medika pembelajaran* . jakarta :PT. Rajagrafindo persada.

Azwar, S. (2010). *Sikap dan prilaku dalam : sikap manusia teori dan pengukuran nya* 2ed. Yogyakarta : Pustaka pelajar.

BNPM. (2015). Buku Resiko Bencana Indonesia.

Effendy,O.U. (2008). *Dinamika Komunikasi. Bandung* : PT. Remaja Rosdakarya .

Fitriani S. (2011). *Promosi Kesehatan* . Yogyakarta : Graha ilmu.

Kementerian Kesehatan RI. 2018. *Profil Kesehatan Indonesia Tahun 2017*. Jakarta : Kementerian Kesehatan Republik Indonesia. ISBN : 978-602-426-446-1.

Khambali, (2017). *Manjemen Penanggulangan Bencana* . Yogyakarta: CV. Andi Offset.

Lubis, Lumongga, Namora. 2016. *Psikologi Kespro Wanita & Perkembangan Reproduksinya*. Jakarta : Kencana. ISBN : 978-602-798524-7 cetakan kedua.

Notoadmodjo, 2012. *Metodologi Penelitian Pendidikan.* Jakarta : PT. Rineka Cipta

Notoadmodjo, 2013.*Promosi Kesehatan dan Perilaku Kesehatan.* Jakarta : PT. Rineka Cipta

Notoadmodjo, 2014.*Promosi Kesehatan dan Perilaku Kesehatan.* Jakarta : PT. Rineka Cipta

Notoatmodjo.2013. *Promosi Kesehatan Teori Dan Aplikasi.* Jakarta: Rineka Cipta.

Nurjanah .2013 . *Manajemen Bencana* . Bandung :ALFABETA,cv. ISBN : 978-602-9328-25-7

Prawirohardjo, Sarwono. 2018.*Ilmu Kandungan.* Jakarta : PT Bina Pustaka. ISBN : 978-979-8150-28-9 cetakan ketiga.

Rachmadhi Purwana.2013. *Manajemen Kedaruratan Kesehatan Lingkungan Dalam Kejadian Bencana* . Jakarta :Rajawali pers

Riyanto,A,& Budiman .2014. *Kapitan selekta kuesioner: pengetahuan dan sikap dalam penelitian kesehatan* . Jakarta : salembah medika.

Rosyida, Cahya, Ayu, Desta. 2019. *Kesehatan Reproduksi Remaja dan Wanita*. Yogyakarta : PT. Pustaka Baru. ISBN : 978-602-376-323-8.

World Risk Report. (2018). *Child Ptotection and Childrens Right.*

Sugiyono. 2014*. Metode Penelitian Kuantitafif Dan Kualitatif Dan R & D.* Bandung: Alfabeta, Cv.

janh.candle.or.id

Wawan & dewi. 2019. *Teori Pengukuran pengetahuan, Sikap, Dan Perilaku Manusia*. Yogyakarta : Nuha Madika

Sugiyono. (2019). *Metode Penelitian Kebujakan.* Bandung: Alfabeta.

Suparwati , M., Trimawati, & Wijayanti, F. (2020). Peningkatan pengetahuan kesiapsiagaan bencanaa dengan Video animasi pada anak usia sekolah. *pro Health, 2*(1), 23-28.

Achmad, Viyan Septiyana, and Poltekkes Kemenkes Banten. 2020. "Pengaruh Pendidikan Bencana Gempa Bumi The Effect Of Earthquake Disaster Education On The Improvement Of Knowledge And Attitudes Of Vocational School Students Karya Bangsa." 7(November):297–304.

Fatmasari, Diyah, Agustina Purba, and Salikun Salikun. 2019. "Media Permainan Tebak Gambar Efektif Dalam Peningkatan Pengetahuan Dan Tindakan Menyikat Gigi Dibandingkan Media Booklet." *Jurnal Kesehatan Gigi* 6(1):76. doi: 10.31983/jkg.v6i1.4447.

Isnaveni, Riznatul. 2020. "Jurusan Geografi Fakultas Ilmu Sosial Universitas Negeri Semarang 2020."

Rahmi, Yolla, and Arif Satria. 2013. "Correlation Analysis Beetwen the Level of Vulnerability of Coastal Communities with Efforts of Disaster Risk Reduction." *Penyuluhan* 9(2):185–99.

Silviani, Yulita Elvira, and Nuril Absari. 2020. "Faktor-Faktor Yang Berhubungan Dengan Upaya Mitigasi Bencana Bidang Kesehatan Reproduksi Di Seluruh Puskesmas Kota Bengkulu." 3(2):216–24. doi: 10.30994/jqwh.v3i2.76.

Tahun, Triwulan I. I. 2017. "Pengaruh Media Booklet Terhadap Pengetahuan Dan Sikap Remaja Putri Terkait Kebersihan Dalam Menstruasi Di Pondok Pesantren Al-Ishlah Demak Triwulan Ii Tahun 2017." *Jurnal Kesehatan Masyarakat (e-Journal)* 5(4):274–81.

Wardha, Dkk. 2019. "Efektivitas Media Booklet 'Gercep Kebumi' TerHadap Pengetahuan Dan Sikap Tentang Kesiapsiagaan Tanggap Bencana Gempa Bumi Pada Siswa-Siswi SD Negeri 2 Baruga Di Kota Kendari." *Al-Sihah: Public Health Science Journal* 11:31–39.

Wulandari, Fajar. 2019. "Analisis Kesiapsiagaan Siswa Dalam Menghadapi Bencana Kekeringan Melalui Media." *Jurnal Tarbawi: Jurnal Ilmu Pendidikan* 15(01):65–74.

Statistik, D. K. (2019). *Jumlah Sekolah di Provinsi Bengkulu*. Retrieved April 2, 2021, from Dinas Komunikasi dan Statistik Provinsi Bengkulu: https://statistik.bengkuluprov.go.id/Diknas/sekolah/2019

janh.candle.or.id