

Original Research Article

DESCRIPTION OF POST TRAUMATIC STRESS DISORDER (PTSD) POST MOUNTAIN SEMERU ERUPTION

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Abstract

Background: The existence of the eruption of Mount Semeru certainly has a considerable impact on aspects of life, both in physical, social, psychological aspects, and has the potential to experience Post Traumatic Stress Disorder (PTSD). Traumatic experiences can cause various disorders including physical, psychological and social development disorders which will have an impact on mental, emotional, social and personality disorders as well as disturbances in self-esteem.

Objectives: To describe the PTSD in victims of natural disasters after the eruption of Mount Semeru.

Methods: This study used a descriptive research design with a survey approach to respondents, with a total of 65 respondents. The sample used in this study was 65 respondents aged around 17 to > 65 years and over divided into the intervention group and the control group. This research was conducted in the Lumajang Regency Recolation area, using an instrument in the form of PCL-C from May to June 2023.

Results: The results showed that the majority of respondents did not indicate symptoms of Post Traumatic Stress Disorder (PTSD) as many as 12 people (18.5%) and most of them indicated symptoms of Post Traumatic Stress Disorder (PTSD) from mild to severe severity as many as 53 people (81.5%). Most of them were aged between 17-45 years as many as 51 people (78.4%) and a small portion aged 46-65 years &> 65 years as many as 14 people (21.6%).

Conclusion: The results of this study are expected to be used as a reference in the development of nursing interventions as an effort to reduce the symptoms experienced by PTSD sufferers

Keywords: *Age, Education, Post Disaster, PTSD*

INTRODUCTION

Geographically, Indonesia is an archipelagic country which means it has many islands, where Indonesia's position is located at the confluence of four tectonic plates, namely the Asian Continental Plate, the Australian Continental Plate, the Indian Ocean Plate, and the Pacific Ocean (Nugroho, 2018). The meeting of these plates is the main reason why Indonesia has many volcanoes which makes it a disaster-prone country. The collision that occurred between these plates made Indonesia have around 127 active volcanoes (Kading et al., 2021). Volcanoes in Indonesia are spread all over the island, including Java. In East Java itself there are also several volcanoes, including Mount Kelud, Mount Semeru, etc (Setiawan et al., 2017).

Mount Semeru is the highest mountain on the island of Java, precisely located in Lumajang Regency, East Java. Mount Semeru itself has experienced several eruptions (Faturahman, 2019). Mount Semeru on December 4 2021 experienced an eruption. This eruption was accompanied by avalanches of lava and hot clouds which damaged the residents' houses and the surrounding environment. This eruption resulted in 15 people died, 27 people were missing, and 1,707 residents were displaced. It was recorded that 2.97 houses, educational facilities and bridges were damaged. After 3 days of the eruption, the number of displaced residents has increased to 3,697 people, especially in Lumajang district (Rubiono et al., 2022).

The eruption of Mount Semeru certainly has a considerable impact on aspects of life, both in physical, social, psychological aspects, and has the potential to experience Post Traumatic Traumatic Stress Disorder (PTSD) (Krantz et al., 2022). PTSD is the most studied post-disaster psychopathy and also the leading post-disaster psychopathy. PTSD or post-traumatic stress disorder is a psychological disorder that often occurs in

victims of disasters, both natural and man-made (Neria, Nandi dan Galea, 2008). A traumatic experience is caused by directly experiencing or witnessing or knowing about a traumatic event that results in death, serious injury, or threatens the psychological well-being of a person or others. Some traumatic events only happen once while others can happen many times (Fullerton & Ursano, 2005) in (Rizkya et al., 2020).

In one survey of the US population, approximately 7 or 8 out of every 100 people (or 7-8% of the population) will experience PTSD at some point in their lives. About 8 million adults suffer from PTSD at some point in their lives. About 10 out of every 100 women (or 10%) develop PTSD sometime in their life compared to about 4 out of every 100 men (or 4%)(US Department of Veterans Affairs, 2019). In Indonesia, according to data compiled by the Indonesian Disaster Management Agency (DIBI)-BNPB, it can be seen that out of more than 1,800 disaster events in the period 2005 to 2015, more than 78% (11,648) of disaster events were hydro-meteorological disasters and only around 22% (3,810) a geological disaster. Hydrometeorological group disaster events consist of floods, extreme waves, land and forest fires, droughts, and extreme weather. As for the geological disaster groups that often occur are earthquakes, tsunamis, volcanic eruptions, and landslides (BNPB, 2013) (Reza Imaduddin, 2019).

One of them is having a big impact on vulnerable groups, especially children and adolescents. This is because children are still at an immature age psychologically so that they can cause mental health problems, such as anxiety, stress, depression, and trauma (Siregar & Wibowo, 2019). (Scheeringa & Zeanah, 2008) found that 75% of children with PTSD had at least one comorbid disorder such as oppositional oppositional disorder, anxiety disorder, hyperactivity disorder, and major depressive disorder. At the same time, more than 50% of the disorder occurs after a

traumatic life experience that coincides with PTSD (Hanifah & Pratiwi, 2020).

In addition, this is also explained in Law no. 24 of 2007 concerning disaster management, pre-disaster, during a disaster, to post-disaster, it is explained that children are a vulnerable group that is more worrying (Indonesia, 2007). Traumatic experiences in survivors of the disaster if not addressed immediately can lead to post-traumatic stress disorder (easily remembering events even though they don't want to remember them) which have lasted more than six months which is called PTSD/Post Traumatic Stress Disorder. Traumatic experiences can cause various disorders including physical, psychological and social development disorders which will have an impact on mental, emotional, social and personality disorders as well as disturbances in self-esteem (Ernawati et al., 2020).

Objective(s): to describe the PTSD in victims of natural disasters after the eruption of Mount Semeru.

METHODS

Study Design

The research design employed in this study is descriptive research, using a survey approach directed at the respondents.

Setting

This research was conducted in the Lumajang Regency Relocation area from May to June 2023.

Research Subject

The population targeted in this research comprises individuals affected by the eruption of Mount Semeru, specifically those residing in the relocation area of Lumajang Regency. A sample of 65 respondents, aged 17 years and above, participated in the study.

Instruments

The research instrument used is the PCL-C.

Intervention

This study utilizes two main variables: the intervention group and the control group. The research procedures were conducted in compliance with the applicable standards and provisions.

Data Analysis

Data processing involved simple descriptive analysis, in which pre-test and post-test results were analyzed to examine PTSD descriptions in the Lumajang Regency relocation area.

Ethical Consideration

Ethical clearance for the study was obtained, with the protocol number No. 248/UN25.1.14/KEPK/2023, ensuring adherence to ethical guidelines.

RESULTS

Table 1. Age Frequency Distribution Of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Late Adolescence	13	20.0	20.0	20.0
Early Adulthood	22	33.8	33.8	53.8
Late Adult	16	24.6	24.6	78.5
Valid Early Old Age	9	13.8	13.8	92.3
Late Old Age	3	4.6	4.6	96.9
Senior	2	3.1	3.1	100.0
Total	65	100.0	100.0	

Based on table 1 it shows that the majority of respondents aged between 17-45 years were 51 people (78.4%) and a small proportion aged 46-65 years & > 65 years were 14 people (21.6%).

Table 2. Distribution Of Formal Education Of Responden

	Frequency	Percent	Valid Percent	Cumulative Percent
Not Completed Elementary School	4	6.2	6.2	6.2
Low education	58	89.2	89.2	95.4
Higher Education	3	4.6	4.6	100.0
Total	65	100.0	100.0	

Based on table 2 it shows that the majority of respondents did not/had not finished elementary school to lower education as many as 58 people (95.4%) and a small proportion of higher education as many as 3 people (4.6%)

Table 3. Distribution of Post Traumatic Syndrome Disorder Responden

	Frequency	Percent	Valid Percent	Cumulative Percent
Few Symptoms or No PTSD Severity	12	18.5	18.5	18.5
Symptoms of Mild PSTD	2	3.1	3.1	21.5
Symptoms of PTSD Moderate To Moderate High Severity	27	41.5	41.5	63.1
PTSD Symptoms of Severe Severity	24	36.9	36.9	100.0
Total	65	100.0	100.0	

Based on table 3 it shows that the majority of respondents did not indicate symptoms of Post Traumatic Stress Disorder (PTSD) as many as 12 people (18.5%) and most of them indicated symptoms of Post Traumatic Stress Disorder (PTSD) from mild to severe severity as many as 53 people (81.5%).

DISCUSSION

Individuals who experience PTSD symptoms are influenced by several factors, namely age, gender, education, religion, and occupation. Based on these factors, individuals also have the ability to recover and maintain a level of physical and emotional health after experiencing a trauma (Erlin & Sari, 2020). Based on the results of the research we conducted, it was found that the majority of respondents aged between 17-45 years were

51 people (78.4%) and a small proportion aged 46-65 years &> 65 years were 14 people (21.6%). In accordance with the results of research conducted by Fitry Erlin and Icu Yuanda Sari (2020), the majority of post-flood victims in the Meranti Rumbai coastal village of Pekanbaru were adults aged between 36-45 years with 45 respondents. That the older the victim is, the more vulnerable the victim will be to the possibility of psychosocial disorders. So the results of the study were also strengthened by Oyama's research (2014) after 3 years of the earthquake in Japan. This study found that 24% experienced psychological stress (Parwanto & Oyama, 2014). Wijayaningsih (2014) also shows that those over 30 years and over are more at risk of experiencing Post Traumatic Stress Disorder (PTSD) than those under 30 years old (Wijayaningsih, 2014). PTSD can occur in all age groups, but children, adults and the elderly are more susceptible to experiencing PTSD. Generally, psychological traumatic responses that occur in school-age children are in the form of disturbed thoughts about the incident, difficulty sleeping, having nightmares, waking up easily, being too surprised, unstable emotions, and difficulty concentrating. If the student has difficulty concentrating, it can interfere with teaching and learning activities which results in decreased student achievement. In addition, PTSD symptoms that are not treated from the start can threaten mental health and the process of forming students' personalities (Rachma & Febrianti, 2021).

Based on the results of the study, it was shown that the majority of respondents did not/had not graduated from elementary school to lower education as many as 58 people (95.4%) and a small proportion of higher education as many as 3 people (4.6%). The results of this study are in line with the research of Sugeng et al, (2015) in (Arrahim et al., 2021) the older a person is, the more mature his soul is and the more capable he is of carrying out his duties and responsibilities.

Along with increasing age, the ability to make decisions, think rationally, be wiser, be able to control emotions, be more tolerant, and be open to the views or opinions of others so that one's resistance to stress will increase. The results of the study according to (Damayanti & Sofyan, 2022) show that there is a relationship between the level of education and the level of knowledge with a sig value of 0.000 (<0.05) where the higher the level of education, the higher the level of knowledge possessed, and vice versa. Meanwhile, according to the opinion of Notoatmodjo (2014) which states that the factor that has the greatest influence on knowledge is education, because people with higher education can respond more rationally to the information received and will think about the extent to which one's advantage is given to the development of others in achieving certain goals.

Thus, a person's education is below average, poverty, bad parental attitudes are factors in the development of PTSD. The level of education also influences the strategy for dealing with each individual's problems. According to researchers, lower education is less likely to receive information in dealing with disasters. From our data, 58 respondents have low education, most of them panic and worry when a disaster occurs. So that it is vulnerable to experiencing PTSD, the presence of a disaster in human life, causing psychological shock to the human being. Thus, as a result of this psychological imbalance, a person affected by a disaster often exhibits unexpected attitudes.

Based on the results of the study, 12 people (18.5%) had no indication of Post Traumatic Stress Disorder (PTSD) symptoms and 53 people (81.5%) had mild to severe symptoms of Post Traumatic Stress Disorder (PTSD). PTSD is highly comorbid with other mental disorders, and apart from exposure to trauma, what distinguishes PTSD from other disorders is the re-experiencing of symptoms (eg, nightmares and flashbacks). Many other PTSD symptoms, such as hyperarousal,

avoidance, and numbness, overlap with those of other mental disorders, such as generalized anxiety disorder, panic disorder, and depression. It is therefore important to describe whether the person experiences a return of symptoms in connection with the traumatic event (Reza Imaduddin, 2019). Individuals who show symptoms of Traumatic Stress Disorder (PTSD) will experience an increase in the body's physiological mechanisms that will arise when the body is resting. This occurs as a result of an overreaction to the stressor, either directly or indirectly, which is a continuation or remnant of the trauma that is felt (Orui et al., 2015). The signs and symptoms experienced by the respondents of our study were the emergence of frightening memories of past events that would greatly disturb the respondents. Frequent nightmares related to the traumatic event that occurred. According to Kousky's research (2016) he also conducted other studies on disaster survivors, such as research conducted on 387 children aged 9-18 years survivors of Hurricane Katrina that occurred in the US, this research was carried out after two years of the disaster and the results show that survivors are still experiencing symptoms of posttraumatic stress disorder (PTSD). Kousky (2016) also conducted a survey in 2004 of 264 children aged 8-14 years who were survivors of the tsunami that occurred in Sri Lanka, as many as 14-39% of the survivors experienced symptoms of post-traumatic stress disorder (PTSD). From the findings above, disaster survivors with different types of disasters show that survivors experience PTSD symptoms (Kousky, 2016). As a result of PTSD experienced by sufferers, one of them is difficulty relating to other people because controlling emotional feelings takes time to stabilize again, besides that feelings of distrust and betrayal after bitter, sad, irritable experiences are common responses.

CONCLUSION

The results showed that the majority of respondents did not indicate symptoms of Post Traumatic Stress Disorder (PTSD) as many as 12 people (18.5%) and most of them indicated symptoms of Post Traumatic Stress Disorder (PTSD) from mild to severe severity as many as 53 people (81.5%). Patients with indications of PTSD experience an increase in the body's physiology that occurs when the body is at rest. This occurs as a result of overreaction to stressors, both directly and indirectly. Sufferers have the ability to recover and maintain a state of self-health and stabilize emotions after experiencing trauma with various efforts. Therefore, it is necessary to treat Post Traumatic Stress Disorder (PTSD) as an effort to reduce the symptoms experienced by PTSD sufferers.

SUGGESTIONS

Based on the findings, it is suggested that efforts be prioritized to address and reduce symptoms of Post-Traumatic Stress Disorder (PTSD) among affected individuals, given that a significant majority (81.5%) of respondents exhibit varying levels of PTSD symptoms. Since individuals with PTSD often experience physiological responses even at rest, largely due to heightened reactions to stressors, targeted interventions can help manage these responses. Additionally, support to aid recovery and emotional stabilization following trauma is essential. Implementing regular PTSD treatment and mental health support within the community may help mitigate the severity of symptoms and promote long-term resilience.

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DECLARATION OF CONFLICTING INTEREST

The authors declared no competing interests in the production of this manuscript.

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AUTHOR CONTRIBUTION

Primasari Mahardhika Rahmawati: Preparing research proposals, leading research, conducting research permits, cross-sectoral approach, collecting research data, presenting results reports, and compiling articles.

Suhari: was responsible for data analysis, interpretation, and discussion of the results, and contributed to writing and editing the manuscript.

Rondhianto: Collecting data, assisting in the preparation of proposals, conducting data processing, assisting in compiling research reports, and helping to prepare published articles.

Dwi Ohta Pebriyanti: Collecting data, assisting in the preparation of proposals, conducting data processing, assisting in compiling research reports, and helping to prepare published articles.

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