

The Correlation Between Post Traumatic Stress Disorder (PTSD) With The Behavior Response (BR) Of The School-Age Children After The Eruption of Mount Kelud at Puncu Village Puncu Subdistrict Kediri Regency

Muhammad Riswan Asrori^{*1}, Novita Ana Anggraini², Alfian Fawzi³

^{1,2,3}STIKes Surya Mitra Husada

*Corresponding author: riswanasrori@gmail.com

ARTICLE INFO

Article history:

Received: 17th April 2016

Revised: 29nd May 2016

Accepted: 20th June 2016

Keywords:

PTSD

BR

Kelud Eruption

ABSTRACT

Natural disasters were a matter that was never expected. Coming disaster of humans caused by psychological shock, especially of children. The children who experience a traumatic event could certainly have post-traumatic stress disorder. The purpose of this research was to identify the presence of post-traumatic stress disorder, behavior response and to analyze the correlation between post-traumatic stress disorder with the behavior response of the school-age children after the eruption of Mount Kelud. This research was a descriptive correlational cross sectional design. A sample of 227 school age children were taken by purposive sampling technique in the village Puncu subdistrict district Puncu Kediri. The research instrument used in the form of a questionnaire consisting of 22 questions related to post traumatic stress disorder and 5 questions with regard to response behavior. Results of research showed most respondents with post traumatic stress disorder were as many as 117 children (51.5%), response behavior light as 121 children (53.3%). Based on statistical tests Spearman rho is obtained p value =0.000<(0.05). This means that H₀ is rejected, there is post traumatic stress disorder with response behavior in school aged children after the eruption of mount kelud in rural subdistrict Puncu puncu Kediri district. By looking at the value of r=0.748 which means a close relationship partner. Someone who gets stimulation will exhibit symptoms, so that psychological rewards and bring the response behavior. It is recommended for children who have post traumatic stress disorder and response behavior to be given treatments such as psychotherapy of pharmacotherapy.

I. Introduction

Various natural disasters have occurred in Indonesia, these natural disasters can be in the form of tsunamis, landslides, earthquakes, floods, volcanic eruptions and so on. Indonesia is a country that is prone to natural disasters, this is because Indonesia is geologically located at the meeting point of three tectonic plates in the Pacific and Asian volcanic belts (rings of fire). In addition, Indonesia also has high rainfall, ranging from 1,000 to 4,000 millimeters per year (Juneman, 2010).

Thursday, February 13, 2014 at 22.30 WIB, a natural disaster occurred in the form of an eruption of Mount Kelud in Kediri Regency. The eruption of Mount Kelud had an impact on damage to houses, road access and the agricultural sector, it is estimated

total losses reached more than 1 trillion rupiah (Elik, 2014).

Natural disasters are events that cannot be predicted or forecasted, even something that is never desired, so no matter how prepared someone is in facing a natural disaster, it will also result in something that is never desired, therefore the effects of natural disasters experienced in human life, cause psychological shock to the person. Someone who experiences the loss of either a loved one or



DOI:

Website : <https://jgrph.org/>
Email : journal.grph@gmail.com

something valuable to his life, is not prepared to overcome the loss of psychological balance in his life. As a result of this psychological imbalance, someone who suffers from a natural disaster often shows abnormal attitudes. Disasters can leave various psychological impacts on each individual who is affected, each individual who is affected can experience the traumatic event again through dreams, always remembering the sad event that was experienced, flashbacks or feeling as if the traumatic event is happening again, and they will avoid anything that can remind them of the traumatic event. In fact, they can also experience anxiety, depression or mental stress, difficulty in thinking and impaired concentration. The collection of these symptoms is commonly called Post-Traumatic Stress Disorder (PTSD) is a pathological anxiety that occurs in someone after experiencing or witnessing severe trauma that can threaten their physical and mental health. PTSD is stress caused by a traumatic event or experience that occurs immediately (after 6 months post-traumatic), including one of the anxiety disorders. PTSD is a traumatic experience that is often caused by victims of natural disasters, victims of violence, victims of war, which is influenced by the support system and coping mechanisms of each individual (Yosep I., 2011).

Post-traumatic stress disorder can usually appear and develop some time after the trauma occurs. The delay can be as short as one week to 30 years after the event occurs. So the effects of traumatic events require a very long time to recover. These symptoms can fluctuate over time, if not treated immediately or not properly managed, there are 30% of post-traumatic stress disorder patients who can recover completely, 40% continue to suffer from mild symptoms, 20% continue to feel moderate symptoms, and 10% do not experience changes and can even get worse (Harold, et.al, 2010).

The presence of GSP/PTSD in a person will have an impact on the emergence of behavioral responses. A person who experiences GSP/PTSD will show an unusual attitude as is usually done by a normal individual or one who does not experience GSP, usually marked by the emergence of panic, fear, disappointment, hatred, frustration, anger, hostility and comparing themselves to others (Videbeck, 2009).

This study aims to examine how the impact of the eruption of Mount Kelud affects a person's psychology to become post-traumatic stress disorder (PTSD) which is related to behavioral responses in school-age children who experience this natural phenomenon. This is very important, considering that humans are social creatures because if someone experiences a long-term psychological imbalance of anxiety or PTSD, then the person will continue to be depressed and become a heavy burden for the sufferer and will affect their survival.

Considering the many psychological problems caused by the impact of the eruption of Mount Kelud, the main problem of this research is posed in the form of a question, namely "Is there a relationship between post-traumatic stress disorder (PSD) and behavioral responses (RTL) in school-age children after the eruption of Mount Kelud in Puncu Village, Puncu District, Kediri Regency?"

The specific objectives of this study were to identify post-traumatic stress disorder, identify behavioral responses, and analyze the relationship between post-traumatic stress disorder and behavioral responses in school-age children after the eruption of Mount Kelud in Puncu Village, Puncu District, Kediri Regency.

The benefits of this research for nursing science can be as a reference regarding the occurrence of Post-Traumatic Stress Disorder (PSD) related to behavioral responses (RTL), and can be as a reference in providing action or therapy to school-age children to find out and assess the symptoms that are often displayed by PSD. And for further researchers, the results of this study can be developed for information or data for further research on the psychological conditions of school-age children, especially in the form of Post-Traumatic Stress Disorder and behavioral responses.

II. Methods

The design in this study is Descriptive Correlational with Cross Sectional design, namely a type of research that emphasizes the time of measurement / observation of independent and dependent variable data only once at one time⁶. The independent variable in this study is Post Traumatic Stress Disorder (PSD), and the dependent variable is Behavioral Response (RTL).

The population in this study were all school-age children (6-15 years) who experienced or witnessed the eruption of Mount Kelud in Puncu Village, or who were in the disaster-prone area

(KRB) III, the number of school-age children of Mount Kelud eruption was 1104 children, namely 6-15 years old 8.

The samples in this study were taken from two places or areas that experienced the most severe damage, namely in Laharpang hamlet and Puncu hamlet, Puncu Village. The number of samples was determined and taken by purposive sampling in both places, where school-age children who met the inclusion and exclusion criteria were taken as samples. From the results of the study conducted from March 18 to 22, 2014, the number of samples found was 227 school-age children aged 6 to 10 years.

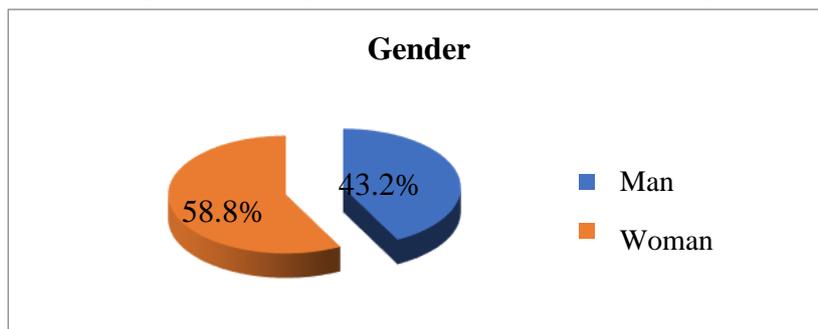
The research instrument used for post-traumatic stress disorder is a questionnaire from the Impact of Evant Scale - Revised (IES-R) consisting of 22 questions designed by Weiss in 2007 and updated in 2013. And for behavioral responses, there are 5 questions using the Likert Scale, namely: never, rarely, sometimes, often, and very often.

The instrument trial was conducted on March 14, 2015 on 30 school-age children affected by the natural disaster of the eruption of Mount Kelud. From the results of the instrument trial, it turned out that the sentences could be understood and could describe the psychological state of the child. Data processing techniques include: Editing, and Coding. Data analysis uses Spearman's bevariate Correlation / Spearman rho by describing each research variable and each question using narrative and frequency distribution.

III. Results and Discussion

1. Characteristics Of Respondents Based On Gender

Figure 4.1. Frequency Distribution Pie Chart by Gender

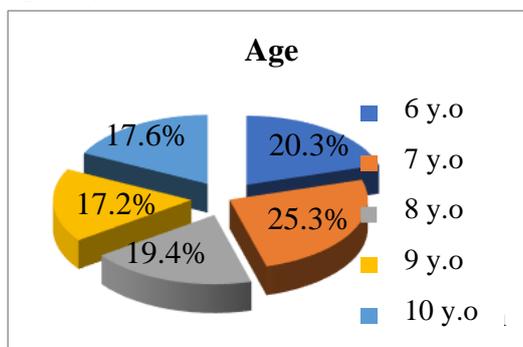


Primary Data Source March 23, 2015.

Most of the respondents were female, namely 129 children (58.8%) and male, namely 98 children (43.2%).

2. Characteristics Of Respondents Based On Age

Figure 4.2. Frequency Distribution Pie Chart based on respondent age



Primary Data Source March 23, 2015.

From the pie chart above, it can be seen that the distribution of respondents based on age shows that the majority of respondents are 7 years old, namely 58 children (25.3%), 6 years old as many as 46 children (20.3%), 8 years old as many as 44 children (19.4%), 9 years old as many as 39 children (17.2%), and 10 years old respondents as many as 40 children (17.6%).

3. Frequency Distribution Of Posttraumatic Stress Disorder

Table 4.1. Frequency Distribution of Post-Traumatic Stress Disorder

No	GSP/PTSD Status	Σ (Child)	%
1.	No GSP/PTSD	0	0
2.	GSP/Mild PTSD	103	45.4
3.	GSP/PTSD Moderate	117	51.5
4.	GSP/PTSD Severe	7	3.1
Amount		227	100

Primary Data Source March 23, 2015.

From table 4.1 above, it can be seen that the majority of respondents experienced moderate post-traumatic stress disorder, as many as 117 children (51.5%), mild GSP as many as 103 children (45.4%), and severe GSP as many as 7 children (3.1%) with a total of 227 respondents.

4. Frequency Distribution Of Behavioral Responses

Table 4.2. Frequency Distribution of Behavioral Responses

No	GSP/PTSD Status	Σ (Child)	%
1.	No RTL	0	0
2.	Light RTL	121	53.3
3.	RTL Medium	105	46.3
4.	RTL Heavy	1	4
Amount		227	100

Primary Data Source March 23, 2015.

From table 4.2 it can be seen that the most respondents experienced mild behavioral responses, as many as 121 children (53.3%), moderate behavioral responses, as many as 105 children (46.3%), and severe behavioral responses, as many as 1 child (1%).

5. Cross Tabulation Of Gsp By Sex

Table 4.3. GSP status by gender in school-age children

	No GSP		GSP Light		GSP Medium		GSP Heavy	
	Σ	%	Σ	%	Σ	%	Σ	%
Man	0	0	46	20.3	47	20.7	5	2.2
Woman	0	0	57	25.1	70	30.8	2	9
Total	0	0	103	45.4	117	51.5	7	3.1

Primary Data Source March 23, 2015.

Based on table 4.3, it is known that some respondents experienced post-traumatic stress disorder in the male gender, namely moderate GSP/PTSD, as many as 47 children (20.7%), and the female gender, namely 70 children (30.8%) moderate GSP.

6. Cross Tabulation Of Gsp By Age

Table 4.4. GSP status by age in school-age children

Post Traumatic Stress Disorder (PTSD)								
	No GSP		GSP Light		GSP Medium		GSP Heavy	
	Σ	%	Σ	%	Σ	%	Σ	%
6 Years	0	0	2	0.9	38	16.7	6	2.6
7 Years	0	0	16	7.0	41	18.1	1	,4
8th	0	0	20	8.8	24	10.6	0	0
9th	0	0	33	14.5	6	2.6	0	0
10 Years	0	0	32	14.1	8	3.5	0	0
total	0	0	103	45.4	117	51.5	7	3.1

Primary Data Source March 23, 2015

Based on table 4.3, it is known that some respondents experienced post-traumatic stress disorder/GSP based on age, 6 years old, mild GSP/PTSD as many as 2 children (9%), moderate GSP/PTSD as many as 38 children (16.7%), severe GSP/PTSD as many as 6 children (2.6%). 7 years old, mild GSP/PTSD as many as 16 children (7.0%), moderate GSP/PTSD as many as 41 children (18.1%), severe GSP/PTSD as many as 1 child (4%). 8 years old, mild GSP/PTSD as many as 20 children (8.8%), moderate GSP/PTSD as many as 24 children (10.4%), severe GSP/PTSD as many as 0 children (0%). 9 years old, mild GSP/PTSD as many as 33 children (14.5%), moderate

GSP/PTSD as many as 6 children (2.6%), severe GSP/PTSD as many as 0 children (0%). Age 10 years, 32 children had mild GSP/PTSD (14.1%), 8 children (3.5%) had moderate GSP/severe GSP/PTSD, 0 children (0%) had severe GSP/PTSD.

7. Cross Tabulation Of Rtl By Gender

Table 4.5. RTL status based on gender in school-age children

	No RTL		Light RTL		RTL Medium		RTL Heavy	
	Σ	%	Σ	%	Σ	%	Σ	%
Man	0	0	52	22.9	46	20.3	0	0
Woman	0	0	69	30.4	59	26	1	,4
Total	0	0	121	53.3	105	46.3	1	,4

Primary Data Source March 23, 2015

Based on table 4.5, it is known that some respondents experienced Behavioral Response Disorders/RTL based on gender, namely male gender, mild RTL as many as 52 children (22.9%), moderate RTL as many as 46 children (20.3%), severe RTL as many as 0 children (0%). While female respondents, namely mild RTL as many as 69 children (30.4%), moderate RTL as many as 59 children (30.4%), severe RTL 1 child (4%), with a total of mild RTL 121 children (53.3%), moderate RTL as many as 105 children (46.3%) and severe RTL as many as 1 child (4%).

8. Cross Tabulation Of RTL By Age

Table 4.6. RTL status based on age in school-age children

	No RTL		Light RTL		RTL Medium		RTL Heavy	
	Σ	%	Σ	%	Σ	%	Σ	%
6 Years	0	0	8	3.5	37	16.3	1	,4
7 Years	0	0	26	11.5	32	14.1	0	0
8th	0	0	23	10.1	21	9.3	0	0
9th	0	0	32	14.1	7	3.1	0	0
10 Years	0	0	32	14.1	8	3.5	0	0
total	0	0	121	53.3	105	46.3	1	,4

Primary Data Source March 23, 2015

Based on table 4.5, it is known that some respondents experienced Behavioral Response Disorders/RTL based on age, namely 6 years old, mild RTL as many as 8 children (3.5%), moderate RTL as many as 37 children (16.3%), severe RTL as many as 1 child (4%). Age 7 years old, mild RTL as many as 26 children (11.5%), moderate RTL as many as 32 children (14.1%), severe RTL as many as 0 children (0%). Age 8 years old, mild RTL as many as 23 children (10.1%), moderate RTL as many as 21 children (9.3%), severe RTL as many as 0 children (0%). Age 9 years old, mild RTL as

many as 32 children (14.1%), moderate RTL as many as 7 children (3.1%), severe RTL as many as 0 children (0%). Age 10 years, mild RTL was 32 children (14.1%), moderate RTL was 8 children (3.5%), severe RTL was 0 children (0%), with a total of mild RTL being 121 children (53.3%), moderate RTL was 105 children (46.3%) and severe RTL was 1 child (4%).

9. Statistical Test Results

Table 4.7. Results of Spearman rho GSP Statistic Test with RTL in school-age children after the eruption of Mount Kelud

The Relationship between Post-Traumatic Stress Disorder and Behavioral Responses in School-Age Children After the Eruption of Mount Kelud	
r (Strength)	.748
Sig. (2-tailed)	.000

Primary Data Source March 23, 2015

Based on table 4.7. Based on the results of the Spearman rho test that has been conducted, a significant value of 0.000 with α (0.05) was obtained. It was concluded that H_0 was rejected and H_1 was accepted, which means that there is a relationship between post-traumatic stress disorder and behavioral responses in school-age children. The Spearman rho correlation sign shows a positive direction, namely (0.748), meaning that the more often someone experiences post-traumatic stress disorder, the higher the incidence of behavioral responses. To determine the closeness of the relationship between the two variables, a high correlation value of $r = (748)$ was obtained, which means that there is a close relationship between post-traumatic stress disorder and behavioral responses.

Post-Traumatic Stress Disorder, as many as 117 children (51.5%) experienced moderate GSP. Some female respondents who experienced post-traumatic stress disorder were 129 children (56.8%) female who experienced post-traumatic stress disorder. Post-traumatic stress disorder based on age can be seen, namely the age of 7 years as many as 41 children (18.1%) experienced post-traumatic stress disorder. The eruption of Mount Kelud by children is considered a severe stressor or a very terrible event that they have experienced, because the traumatic incident can threaten life safety and cause death and cause very severe damage to themselves and their families.

Children who experience Post-Traumatic Stress Disorder can be identified by the symptoms that have emerged, namely a fear response, images and thoughts about Mount Kelud erupting still being strongly remembered, nightmares, trying to avoid stimuli about traumatic events by changing the subject, difficulty starting to sleep at night, difficulty concentrating, to the emergence of excessive vigilance.

Post-Traumatic Stress Disorder occurs most often in female children, this is indicated by feelings of anxiety and fear when given stimuli about the traumatic event of the eruption of Mount Kelud, and changing the subject when hearing about Mount Kelud erupting.

Post-traumatic stress disorder is a pattern of behavioral disorders shown by individuals who experience or witness traumatic events, such as natural disasters, wars or major traumatic events that can be life-threatening, death, or serious injury, by showing feelings of extreme fear, re-experiencing traumatic events through dreams, memories, and avoiding an event that can remind them of the traumatic event. Childhood will experience very big changes because it covers all areas of growth and development. At this time will be very influenced by the environment, and very vulnerable in things that can affect their psychological state (Videbeck, 2012).

New stressful life changes (Stressors) When someone experiences a traumatic event, a reaction will appear that is shown by the individual and this can persist, usually indicated by fatigue, feeling panic, pessimism, sadness that continues. then some or even all of them. In natural disaster

victims who survive, some or even all of them will experience trauma from the event. Which can eventually lead to acute mental disorders that arise for several weeks, months or even years until they become chronic mental disorders (Harold, 2010).

Girls tend to be easily influenced by an event that can eventually be recorded in their memory. Boys feel more capable of dealing with problems than girls, so the problems they have are rarely told to others (Freud, 2007).

The behavioral responses caused by post-traumatic stress disorder are as follows. A total of 121 children (53.3%) experienced mild RTL. It is known that some female respondents, namely, 69 children (30.4%) experienced mild RTL. The behavioral responses that appear in school-age children are manifestations or responses to the Post-Traumatic Stress Disorder they experience. Some of the responses that appear are feeling panic and fear when remembering the eruption of Mount Kelud, feeling weak and giving up easily, not controlling their emotions or getting angry easily, and being aggressive towards their friends.

School-age children who experience behavioral responses are dominated by the mild category and only one child is in the severe category, because over time in the process of adapting to the environment, and with guidance from parents and teachers in their educational facilities, children will be more easily controlled in their behavior. Girls tend to experience behavioral responses more easily, because they are more easily influenced by the circumstances and events that occur, they show anxiety, fear, and disappointment towards the eruption of Mount Kelud that they experienced and the impacts it caused.

When someone is given stimulation (Stressor) about a traumatic event, then the individual will show symptomatic attitudes or behavioral responses to a stimulus. A person's inability to process or rationalize a traumatic event will cause severe mental stress for the individual, which causes uncontrolled behavior (Yosep, 2011).

School-age children, namely 6 to 18 years old, will experience very broad changes that cover all areas of growth and development. Children will begin to live a life full of demands and challenges (Potter, 2011).

IV. Conclusion

Based on the results of the research that has been conducted, the following conclusions can be drawn: A total of 117 (51.5%) school-age children experienced moderate post-traumatic stress disorder. A total of 121 (53.3%) school-age children experienced mild behavioral response disorders. There is a relationship between children experiencing post-traumatic stress disorder and behavioral responses in school-age children after the eruption of Mount Kelud in Puncu Village, Puncu District, Kediri Regency, with the results of statistical tests obtained a significant value of 0.000 with α (0.05) and an accuracy value of $r = (0.748)$ which means that the more often someone experiences post-traumatic stress disorder, the higher the incidence of behavioral responses.

V. References

- Elik, 2014. Why Kelud is More Dangerous than Merapi. <http://www.tempo.co/read/news/2014/02/12/058553344/Why-Kelud-More-Berbahaya-Ketimbang-Merapi>. BAKOSURTANAL. accessed January 23, 2015.
- Freud, 2007. Mental Health Nursing Care Plan. Jakarta: EGC
- Juneman, 2010. Psychology of Disaster Survivor Services. Merpsy. March 2010 Vol 2 pp 5-7
- Harold I. Kaplan, MD., Benjamin J. Saddock, MD. Jack A. Grebb, MD. 2010. Synopsis of Psychiatry. Tangerang: Bina Rupa Aksara Publisher
- Keliat AB, Akemat, Novy H., Nurhaeni H.. 2011. Community Mental Health Nursing. Jakarta: EGC
- Nursalam, 2013. Research Methodology of Nursing Science, Jakarta: Salemba Medika
- Potter. Perry. 2010. Fundamental Of Nursing. Jakarta: EGC
- Puncu, 2014. Supporting Data for ADD 2014. Kediri: Puncu Village
- Videbeck Sheila L., 2012. Textbook of Mental Health Nursing. Jakarta: EGC
- Yosep I., 2011. Mental Health Nursing. Bandung: PT.Refika Aditama