



## Progressive Muscle Relaxation and Dhikr on Reducing Post-Traumatic Stress Disorder in Earthquake Victims

Heppi Sasmita<sup>1\*)</sup>; Nova Yanti<sup>2</sup>; Karnova Hendri<sup>3</sup>; Tasman<sup>4</sup>; Verra Widhi Astuti<sup>5</sup>; Yessi Fadriyanti<sup>6</sup>

<sup>1\*)2,4,5,6</sup>Poltekkes Kemenkes Padang; Sumatera Barat, Indonesia

<sup>3.</sup> Dinas Kesehatan Kabupaten Solok Selatan; Sumatera Barat Indonesia

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### ABSTRACT

Post-Traumatic Stress Disorder (PTSD) is one of mental health problems caused by disaster. If it is not treated properly, it can lead to the serious mental disorders. The purpose of this study was to determine the changes in signs and symptoms of PTSD in earthquake victims through progressive muscle relaxation (PMR) therapy and dhikr therapy. The study design was a quasi experimental pretest-posttest with a control group with the intervention of PMR and dhikr therapy. The sample size was 40 people consisting of 20 intervention groups and 20 control groups taken by proportional simple random sampling technique. The results of the study were analyzed by dependent T-Test to see differences in PTSD signs and symptoms before and after intervention and paired t-test to see differences in PTSD signs and symptoms in each group. The statistical test results obtained a value of P-value <0.05, it can be concluded that there was a significant decrease between PTSD signs and symptoms of earthquake victims before and after the intervention of PMR and Dhikr Therapy in the control group. Signs and symptoms of PTSD in the earthquake disaster victims in the intervention group decreased significantly from the control group. Nurses in providing services to disaster victims who experience PTSD can apply PMR therapy and dhikr. It is necessary to socialize and optimize the application of PMR and dhikr for health workers.

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## Progressive Muscle Relaxation dan Dzikir Terhadap Penurunan Post-Traumatic Stress Disorder Korban Bencana Gempa

### ABSTRAK

Post-Traumatic Stress Disorder (PTSD) merupakan masalah kesehatan mental yang dapat terjadi akibat bencana. Apabila tidak ditangani dengan serius, PTSD dapat mengakibatkan gangguan jiwa berat. Tujuan dari penelitian ini adalah untuk mengetahui perubahan tanda dan gejala PTSD pada korban bencana gempa melalui terapi progressive muscle relaxation (PMR) dan dzikir pada kelompok intervensi dan kelompok kontrol di Kabupaten Solok Selatan. Penelitian ini menggunakan quasi experimental pretest-posttest with control group dengan intervensi terapi PMR dan dzikir. Sampel penelitian sebanyak 40 dengan 20 kelompok intervensi dan 20 kelompok kontrol yang diambil dengan Teknik proporsional simple random sampling. Hasil penelitian di Analisa dengan uji beda 2 mean yaitu uji dependent T-Test untuk melihat perbedaan tanda dan gejala PTSD sebelum dan sesudah intervensi dan paired t-test untuk melihat perbedaan tanda dan gejala PTSD pada masing-masing kelompok. Hasil analisis menunjukkan adanya penurunan yang bermakna antara tanda dan gejala PTSD korban bencana gempa sebelum dan sesudah intervensi PMR dan

#### Kata kunci:

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#### \*) corresponding author

Prodi D III Keperawatan  
Poltekkes Kemenkes Padang  
Jl. Simpang Pondok Kopi Nanggalo  
Padang 25146, Telp/Fax: (0751) 7058128

Email: heppisasmitta@yahoo.com

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Dzikir pada kelompok control ( $P$  value < 0,05). Tanda dan gejala PTSD korban bencana gempa kelompok intervensi menurun secara bermakna dari kelompok kontrol. Perawat dapat menerapkan terapi PMR dan dzikir untuk korban bencana yang mengalami PTSD. Perlu sosialisasi dan optimalisasi penerapan PMR dan dzikir tersebut bagi petugas kesehatan.

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## INTRODUCTION

The data from the National Agency for Disaster Management in 2014 (BNPB, 2014b) recorded 1.999 disaster incidents in Indonesia which had a very large impact. It was recorded that 3.548 people died and were missing, 13.112 people were injured, 3.06 million people were displaced and affected by the disaster, 339.969 houses were heavily damaged, 7.810 houses were moderately damaged, 20.608 houses were lightly damaged, and thousands of public facilities were damaged. In 2009 there were 1.245 disasters recorded, there was a large earthquake in West Java and an earthquake in West Sumatra. In September 30, 2009 earthquake with a magnitude of 7.6 on the Richter Scale, centered off the coast of Sumatra and about 50 km northwest of Padang City, has caused trauma to the people of West Sumatra. Moreover, with the predictions of seismologists that the next big earthquake (giant earthquake) around the Mentawai fault will occur (BNPB, 2014a).

Blanaru et al., (2012) stated that the thing that was most vulnerable to happen to refugees and can even have a long impact is the occurrence of mental health disorders. Mental health that may occur as a result of disasters is such as anxiety, depression to PTSD (Post Traumatic Stress Disorder) (Santoso et al., 2018). PTSD was one of the mental problems that can occur in disaster victims which is characterized by an anxiety disorder that occurs due to traumatic/disaster events that threaten the safety and make individuals feel helpless (Keliat & Thika, 2018).

The prevalence of PTSD reported in the literature varies from 4-60%. Mood disorders, PTSD, and substance use disorders were often diagnosed together with other psychiatric disorders (Math et al., 2015). Severe mental disorders will occur if not treated seriously. Bisson and Andrew, (2007) in (Math et al., 2015) reported that there is evidence that individual and group CBT and stress management are effective in the treatment of PTSD.

There are several stress management techniques that can be done, including progressive muscle relaxation (PMR) and spiritual therapy, namely dhikr therapy. Progressive muscle relaxation (PMR) was relaxation therapy by tightening and relaxing the muscles of the body at one time to provide a physical relaxation effect (Thahir, 2014).

The results of Thahir's research (2014) showed that there is an effect of PMR (Progressive Muscle Relaxation) on insomnia in the elderly at the Social Home of Tresna Werdha for the Elderly in Lampung Province. Furthermore, relaxing music at bedtime can be used as a treatment for insomnia among individuals with PTSD (Blanaru et al., 2012b)

The research results showed that religiosity is able to prevent and protect from mental illness, reduce suffering, improve adaptation and healing processes. Survivors can find spiritual meaning in such events. An important function of religion and spirituality is belief in situations where they matter most (Haynes et al., 2016). According to Yosep (2009),

dhikr made a person's heart calm and relaxed which can affect the work of the nervous and endocrine systems. Yanti's research (2012) showed that dhikr therapy is more effective than Benson relaxation in lowering blood glucose levels.

The earthquake occurred on Thursday, February 28, 2019 at 06.27.05 with a magnitude of 5.6 SR, centered on land at a depth of 10 km, centered 50 km southeast of Solok Selatan, West Sumatra. Information from the person in charge of the disaster sector at the South Solok District Health Office, there were 3 sub-districts affected by the earthquake, which consisted of 6 villages: Lubuk Malako, Bidar Alam, Sungai Kuyit, Sungai Kuyit Barat, Talunan Maju and Ranah Pantai Cermin with a total of 26.211 inhabitants. Condition of damaged houses: 101 units, 96 moderately damaged and 5 houses heavily damaged with 3 fatalities and 48 injured. The highest number of people is in Sungai Kuyit Nagari, which is 8.157 people. The problems felt by the community were stress and anxiety, where they did not think the earthquake epicenter was in their area, they were afraid that the earthquake would repeat.

Initial psychological assistance has been carried out, but the further impact of psychological problems needs to be considered. Many of the disaster victims experienced post-traumatic stress disorder that occurred as a result of the continuation of the acute phase they experienced. The combination of progressive muscle relaxation (PMR) therapy with dhikr therapy aimed at making disaster victims more relaxed and calmer, and able to cope with stress, thereby reducing signs and symptoms of post-traumatic stress disorder (PTSD).

## METHOD

The research type used in this research is quantitative research with a quasi-experimental pretest-posttest research design with the control group by using Progressive Muscle Relaxation (PMR) therapy interventions and dhikr therapy. The research was carried out on earthquake victims who experienced post-traumatic stress disorder (PTSD) in South Solok Regency in February - October 2019. The population in this research were the earthquake victims who experienced PTSD as many as 65 people with a sample of 40 people. (20 respondents for intervention groups and 20 respondents control groups).

The sampling technique used is proportional simple random sampling. The data collection technique began with screening all the earthquake victims to determine who has PTSD, asking for approval to be a research subject by signing informed consent and then conducting research starting from a pretest related to the signs and symptoms of PTSD that are felt, and after the intervention, a posttest is carried out again.

The primary data collection used a questionnaire (as a research instrument) which is an instrument to get a description of respondents characteristics and an instrument to measure the level of PTSD in disaster victims, namely the Post Traumatic Stress Disorder Scale developed by Foa, Riggs, Dancu, Rothbaum (1993). Univariate data analysis used a frequency distribution, while bivariate analysis with 2 mean different tests, namely the dependent T-test to see the differences in PTSD signs and symptoms before and after the intervention and the paired t-test to see the differences in PTSD signs and symptoms in each group. This research has passed the ethical clearance test by the research ethics committee team at the Faculty of Medicine, Andalas University, Padang, on May 3, 2019.

## RESULT AND DISCUSSION

### Characteristics Description of Disaster Victims

The average age of earthquake victims in the intervention group was 44.8 (95%: 37.58–52.02), the median was 44 with a standard deviation of 15.42. The lowest age is 21 and the highest age is 71. It is believed that 95% of the average age of earthquake victims in the intervention group is between 37.58 to 52.02. The average age of the earthquake victims in the control group was 52.02 (95%: 33.93–45.97), the median was 37.5 with a standard deviation of 12.87. The lowest age is 22 and the highest age is 66. It is believed that 95% of the average age of earthquake victims in the control group is between 33.93 to 45.97 (Table 1).

**Table 1**  
**Average Respondents based on Characteristics (Age) In South Solok 2019**

Variable	Group	Mean	SD	Median	Min - Mak	95% CI
Age	Intervention	44,8	15,42	44	21 - 71	37,58-52,02
	Control	52,02	12,87	37,5	22 - 66	33,93-45,97

The largest proportion of the gender victims of the earthquake disaster in the intervention group was female (85%), almost all of the earthquake victims (95%) had low education, more than half (55%) did not work, almost half of the earthquake victims (35%) experienced illness, some people (50%) lost property. Meanwhile, in the control group,

the gender of the earthquake victims showed that the largest proportion was female (75%), more than half (65%) had low education, some of the earthquake victims (50%) did not work, almost half (30%) of the earthquake victims experienced illness, and almost half (40%) lost property (Table 2).

**Table 2**  
**Distribution of Respondents Based on Characteristics (Gender, Education, Occupation, Disease Experiencing, Loss of Property)**

Characteristic	Intervention		Control	
	n	%	n	%
Gender				
Male	3	15	5	25
Female	17	85	15	75
Education				
Low	19	95	13	65
High	1	5	7	35
Occupation				
Unemployed	11	55	10	50
Have a job	9	45	10	50
Disease Experiencing				
Yes	7	35	6	30
No	13	65	14	70
Loss of Properti				
Lose	10	50	8	40
Don't lose	10	50	12	60
<b>Total</b>	<b>20</b>	<b>100</b>	<b>20</b>	<b>100</b>

*Description of PTSD signs and symptoms in earthquake victims Before and After Progressive Muscle Relaxation (PMR) Therapy and Dhikr Therapy in the Intervention and Control groups.*

The description of PTSD signs and symptoms of earthquake victims in the intervention and control groups before and after the intervention was analyzed by using explore analysis. Besides, to see the normality of the data used the Shapiro-Wilk test because the number of samples for each group was less than 50.

The average signs and symptoms of PTSD in earthquake victims in the intervention group before the research intervention was carried out was 39.15 (95% CI: 35.16–43.14) which is believed that the mean of PTSD signs and symptoms of earthquake victims were at ranged from 23 to 60, with a

standard deviation of 8.52. Meanwhile, the mean signs and symptoms of PTSD in the control group before the research intervention was 38.25 (95% CI: 35.62–40.78) which is believed that the mean signs and symptoms of PTSD in earthquake victims were in the range between 28 to 48, with a standard deviation of 5.52. These results indicate that the average signs and symptoms of PTSD before the intervention in the intervention group were higher than the control group. The results of the Shapiro-Wilk test showed a normal distribution of signs and symptoms of PTSD where in the intervention group (p value> 0.05) and the control group (p value> 0.05) (Table 3).

The mean of PTSD signs and symptoms in the intervention group after the research intervention was 16.65 (95% CI: 14.96–18.34) which is believed that the mean of PTSD signs and symptoms were in the range between 12 to

23, with a standard deviation 3.62. While the mean of PTSD signs and symptoms in the control group after the research intervention was 33.5 (95% CI: 30.69-36.31), it is believed that the mean of PTSD signs and symptoms were in the

range between 20 to 43, with a standard deviation of 6.01. These results indicate that the mean signs and symptoms of PTSD after the intervention in the intervention group were lower than the control group (Table 3).

**Table 3**  
**Analysis of PTSD Signs and Symptoms Before and After Intervention in the Intervention and Control Groups**

Variable	Group Type	Mean	Median	SD	Min - Max	95% CI	Shapiro- Wilk	
PTSD Signs and Symptoms	Before	Intervention	39,15	39,5	8,52	23-60	35,16-43,14	0,493
		Control	38,2	38,5	5,52	28-48	35,62-40,78	0,875
	After	Intervention	16,65	15	3,62	12-23	14,96-18,34	0,040
		Control	33,5	34	6,01	20-43	30,69-36,31	0,092

*Changes in signs and symptoms of PTSD in Earthquake Victims Before and After Progressive Muscle Relaxation Therapy and Dhikr Therapy in the Intervention and Control Group.*

To see the decrease in signs and symptoms of PTSD in earthquake victims before and after the intervention in the intervention and control groups, it was carried out a dependent sample t-test (Paired t test).

The average signs and symptoms of PTSD for earthquake victims in the intervention group before PMR Therapy and Dhikr Therapy were 39.15 with a standard deviation of 8.52. Measurements after PMR Therapy and Dhikr Therapy showed that the mean signs and symptoms of PTSD for earthquake victims were 16.65 with a standard deviation of 3.62. The average decrease between signs and symptoms of PTSD for earthquake victims before and after intervention in the intervention group was 22.5 with a standard deviation of 3.62. The results of statistical tests obtained a p-value <0.05,

it can be concluded that there is a significant decrease between signs and symptoms of PTSD for earthquake victims before and after the intervention of PMR Therapy and Dhikr Therapy in the intervention group (Table 4).

The average signs and symptoms of PTSD for earthquake victims in the control group before PMR Therapy and Dhikr Therapy were 38.2 with a standard deviation of 5.52. Measurements after PMR Therapy and Dhikr Therapy showed that the mean signs and symptoms of PTSD for earthquake victims was 33.5 with a standard deviation of 6.01. The mean decrease between signs and symptoms of PTSD earthquake victims before and after the intervention in the intervention group was 4.7 with a standard deviation of 5.52. The results of statistical tests obtained p-value <0.05, it can be concluded that there was a significant decrease between signs and symptoms of PTSD earthquake victims before and after the intervention of PMR Therapy and Dhikr Therapy in the control group (Table 4).

**Table 4**  
**Analysis of PTSD Signs and Symptoms Reduction in Earthquake Victims Before - After Intervention in the Intervention Group and Control Group (n=40)**

Variable	N	Mean	SD	t	P value
Signs and symptoms of PTSD in the intervention group					
a. Before	20	39,15	8,52	0,9	0,000
b. After	20	16,65	3,62		
Signs and symptoms of PTSD in the control group					
a. Before	20	38,2	5,52	817	0,001
b. After	20	33,5	6,01		

*The differences in Signs and Symptoms of PTSD in Earthquake Victims Who Receive PMR Therapy and Dhikr Therapy with Those Who Don't Get PMR Therapy and Dhikr Therapy*

For seeing the PTSD signs and symptoms reduction in the intervention and control groups before and after the intervention, it was carried out independent sample t-test (Pooled t test)

The mean signs and symptoms of PTSD for earthquake victims between the intervention group and the control group differed as many as 0.95 before progressive muscle relaxation therapy and dhikr therapy. The results of statistical tests showed that there was no significant reduction in PTSD signs and symptoms of earthquake victims between the intervention group and the control group before progressive muscle relaxation therapy and dhikr therapy (p value > 0.05). The mean signs and symptoms of PTSD for earthquake victims in the intervention group were 16.85 lower than the control group after Progressive Muscle

Relaxation Therapy and Dhikr Therapy. The results of the statistical test obtained a p-value <0.05, it means that the signs and symptoms of PTSD earthquake victims in the intervention group decreased significantly from the control group (Table 5).

This study has identified the signs and symptoms of PTSD in disaster victims, both those who follow progressive muscle relaxation therapy and dhikr therapy and those who do not. Signs and symptoms of PTSD in both the intervention group and the control group were higher before the intervention of progressive muscle relaxation therapy and dhikr therapy. According to Lee et al. (2013), PTSD was a long-term anxiety response following a traumatic or catastrophic incidence, experiencing or witnessing a traumatic event such as actual or threatened death, serious injury to self and others or threats to personal integrity to self or others. PTSD often appeared in disaster victims which can ultimately have a negative influence on the physical,

mental, and social conditions of individuals (Sepahvand et al., 2019).

**Table 5**  
**Analysis of Signs and Symptoms of PTSD Reduction in Intervention and Control Group Before and After Intervention (n=40)**

Group	Variable	Mean	SD	t	P value
Intervensi	Signs and symptoms before intervention	39,15	8,52	0,418	0,678
Kontrol		38,2	5,52		
Intervensi	Signs and symptoms after intervention	16,65	3,62	-10,739	0,000
Kontrol		33,5	6,01		

The study result was the same as the results of research conducted by Lee et al. (2013) which stated that the earthquake natural disaster experienced by the people of the Lombok region in West Nusa Tenggara, it not only had an impact on physical and environmental conditions but also had an impact on the psychological condition of earthquake victims such as neurosis, psychotic symptoms and PTSD. More than half (64.7%) of disaster victims experienced PTSD. This study also showed the same result that traumatic exposure can directly predict post-traumatic stress disorder. Traumatic exposure has an indirect predictor of post-traumatic stress disorder in three ways, namely negative self-cognition, fearful feelings of security, and feelings of security to negative self-cognition through fear.

According to the same study (Sepahvand et al., 2019) stated that the high burden of PTSD among the Iranian population is due to exposure to war and disasters. The highest prevalence of PTSD was found in earthquake victims (58%). An earthquake measuring 6.3 on the Richter scale struck the Iranian city of Bam on December 27, 2003, which was one of the worst disasters of this century. The disaster left more than 40.000 dead and about 30.000 injured. In several studies in adult survivors of a disaster, the prevalence of PTSD has been reported to be between 30 and 60%.

The signs and symptoms of PTSD felt by the victims of the South Solok earthquake as a result of feeling anxious and worried due to severe trauma from the experience during the earthquake that occurred in the Kenagarian Sungai Kunyit area of SangirBalaijanggal Sub-District in South Solok Regency. Quan et al., (2020) explained that PTSD in disaster victims is a long-term anxiety response after a traumatic event or disaster, experiencing or witnessing a traumatic event. The results of the study by Quan et al., (2020) showed that the experience of witnessing death and fear were found to be risk factors for PTSD symptoms in 50 months after the earthquake.

The results showed that disaster victims who experienced PTSD were generally in adulthood, more women than men. Cheng, (2014) in (Lee et al., 2013) explained that women have a higher risk of experiencing anxiety due to trauma. The results of other studies also explained that women think more about disasters and have a deep emotional attachment to their families than men, Naem 2011 in (Lee et al., 2013).

This study result was in line with previous research on post-traumatic stress disorder following disasters: a systematic review which showed that most studies assessed PTSD mostly in the adult population (Ni et al., 2013). However, adults exposed to natural disasters adapt better than those exposed to man-made disasters and women adapt to artificial disasters better than men. The elder enough so, the level of maturity and strength of a person increases, both in thinking and in work. This means that the older a person is, the more constructive his attitude will be in dealing with the problems that occur to him or her (Neria et al., 2017).

The results of statistical tests showed a significant decrease in signs and symptoms of PTSD in earthquake victims between before and after the intervention in the intervention group and the control group.

Several studies had shown that progressive muscle relaxation can overcome the stress that occurs. (Math et al., 2015) stated that there is an effect of progressive muscle relaxation on insomnia in the elderly at the Social Home of TresnaWerdha for the Elderly in Lampung Province. Naveed Riaz et al., (2015) in their study provided evidence that relaxing music at bedtime can be used as a treatment for insomnia among individuals with PTSD. (Blanaru et al., 2012b) also stated that progressive muscle relaxation exercise was more effective than other relaxation therapies in reducing the impact of psycho-physiological stress.

According to Mooney et al. (2011), a person with PTSD experienced persistent difficulties in interpersonal relationships, mood, chronic pain, sleep disturbances, somatization, and profound identity problems or psychiatric disorders. Symptoms of PTSD persist for more than 1 month after exposure to trauma that causes significant distress or impairment in social, occupational, or other important areas of functioning. A person who experiences a post-earthquake will experience a phobia which is usually associated with loud noises or rumblings and a fear of further earthquakes that may occur. Disaster victims feel the traumatic event again (re-experiencing symptoms), feel the incidence reoccurring in the form of shadows, and nightmares, as if the event is repeating itself in the real world, so the victim felt very suffering when remembering it and was accompanied by a great heartbeat and sweating et al., 2018). A person who experiences an earthquake disaster will feel as if a similar event will happen again. With good management, it will be able to reduce the signs and symptoms of PTSD such as by restoring perceptions about disaster events, support from people around and also good coping mechanisms. The research of Dewi et al., (2019) showed that disasters often leave significant psychological and spiritual "imprints" on the affected communities. To relax tense muscles due to the stress experienced can be done by progressive muscle relaxation therapy. In addition, to calming the feelings of disaster victims can also do spiritual activities such as do the dhikr activity.

Dhikr teaches clients to clear their minds and neutralize thoughts, then remembrance with full appreciation will bring the individual to a calm and comfortable state. Physiologically the body is in balance. Mooney et al., (2011) mentioned people who always remember Allah SWT in all circumstances will always be free from all evil behavior and sinful acts. This study supports the hypothesis that patience and prayer have a positive effect on reducing psychopathological symptoms. The findings illustrate that prayer and patience interventions are successful in reducing psychopathological symptoms. The results of the study (Syed & Ph, n.d.) proved that the Muslim perspective in an effort to apply spiritual practice as a therapeutic media for better

effectiveness in spiritual healing from mental dysfunction of survivors of severe trauma (PTSD).

There were significant differences in signs and symptoms of PTSD in the intervention group compared to the control group. A person experiencing PTSD will re-experience the traumatic event, including physical symptoms such as a racing heart or sweating, recurring memories or dreams associated with the event, distressing thoughts and signs of physical stress (Hasanovic et al., 2018).

There was a decrease in PTSD signs and symptoms in disaster victims in the intervention group because they were given Progressive Muscle Relaxation and dhikr therapy which aimed to reduce feelings of tension in disaster victims. Muscle relaxation therapy will reduce the work of the autonomic nervous system and the central nervous system and to increase parasympathetic activity, this involves sequential tension and relaxation of the main skeletal muscle groups with the aim of reducing the perceived stress, and to encourage relaxation (Yanti, 2012).

The results showed that by giving progressive muscle relaxation therapy there would be a decrease in the average signs and symptoms of PTSD in individuals. The group that received progressive muscle relaxation therapy performed relaxation therapy by tightening and relaxing the muscles in one part of the body at a time to provide a feeling of physical relaxation. Zalaquet & McCraw (2000) and Conrad & Roth (2007) in (Math et al., 2015) explained that when the body and mind relax, the tension that often makes muscles tighten will be ignored automatically.

Relaxation aims to reduce the activity of the sympathetic nervous system, increase parasympathetic activity, decrease metabolism, lower blood pressure and pulse, reduce oxygen consumption. Relaxation exercises will produce a response that can combat the stress response. When the goal has been achieved, the action of the hypothalamus will adjust and there will be a decrease in the activity of the sympathetic and parasympathetic nervous systems (Black, Joyce, & Hawks, 2009). Research (Blanaru et al., 2012b) proved that progressive muscle relaxation with music and aromatherapy was one of the interventions that can be done to reduce stress levels.

In dhikr therapy, it has the same effect as relaxation. According to (Yanti, 2012) dhikr made a person's heart calm and relaxed which can affect the work of the nervous and endocrine systems. WHO has perfected the boundaries of healthy by adding a spiritual element (religion) so, currently what is meant by healthy is not only healthy in a physical, psychological and social sense, but also healthy in a spiritual sense (religion) so, the healthy dimension be biopsychosociospiritual. The study result according to (Blanaru et al., 2012a) showed that religiosity was able to prevent and protect from mental illness, reduce suffering, improve the process of adaptation and healing. According to a multinational survey (Saefulloh, 2012) it was clear that many workers in these countries were aware of the importance of religion and spirituality for practice, including in the incidence of a disaster.

Overcoming this PTSD problem, apart from implementing relaxation techniques, it can also be done with deep breathing, yoga and meditation. The study result (Uyun&Witruk, 2017) explained that there are various models of psycho-spiritual support systems used in handling disaster victims. This is also explained by (Rochdiat et al., 2013) in his research which stated that mindfulness, deep breathing, yoga and meditation can help reduce the physiological manifestations of PTSD. The way of meditation in Islam can be done with meditation, where we reflect on

sins and self-correction then getting closer to Allah and asking for forgiveness. How to meditate with dhikr and prayer must be done properly so, the goal of peace of mind can be achieved.

According to Hasanovic et al. (2018) Dhikr functioned as a beta-blocker drug (beta-receptor blocker) in the work of the sympathetic nerves. On the other hand, Dhikr can make the brain wave flow into alpha waves when a person becomes very creative and highly reclusive. These brain wave changes occurred when a person contemplates. The results of Saidon et al. (2018) concluded that Dhikr therapy can be part of an independent nursing intervention: Spiritual Support for health science students in Indonesia, who are predominantly Muslim.

Progressive muscle relaxation therapy and dhikr therapy which done together will help a person relax tense muscles, relax the whole body and will make the mind and feel calmer so, the signs and symptoms of PTSD can be reduced. The more often and routinely someone who is traumatized carries out dhikr therapy and is carried out correctly, it will be easier to get positive energy that will help the individual in dealing with various life problems and will be able to achieve peace of mind. Dhikr can provide emotional control to individuals in responding to thinking deviations and feelings of anxiety that are felt excessively. With dhikr, people will also get peace of mind and inner relief because they will remember themselves and feel reminded by Allah SWT.

The results also showed a decrease in signs and symptoms of PTSD in the control group, but not too high compared to the decrease in signs and symptoms of PTSD in the intervention group. This could be due to the fact that the control group also intervened by providing general health education about disasters and strategies for dealing with stress when a disaster occurred.

By learning about disasters and strategies for dealing with stress due to disasters, it will be easier for individuals to manage PTSD. Learning was a process of change, where there was a change in behavior as a result of interaction with the environment in fulfilling the needs of life (Nurjan, 2015). Learning to overcome post-earthquake stress through the information provided will change one's mindset, and with practice and experience, one will guide behavior in a better direction.

## CONCLUSION AND SUGGESTION

There is an effect of progressive muscle relaxation therapy and dhikr therapy on the reduction of PTSD signs and symptoms in earthquake victims in the intervention group with a difference between before and after is 22.5. The control group also had changes in PTSD signs and symptoms before and after with a difference of 4.7. There were significant differences in signs and symptoms of PTSD for earthquake victims between the intervention group and the control group after progressive muscle relaxation therapy and dhikr therapy. Qualitative research is needed to complete information about the extent to which progressive muscle relaxation therapy and dhikr therapy can solve PTSD problems for earthquake victims. Besides, it also needs media by using android applications in the implementation of progressive muscle relaxation therapy and dhikr therapy simultaneously.

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## Conflict of Interest statement

The author declares that there is no potential conflict of interest in relation to the authorship and publication of this article.

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