

Islamic Therapy and Spiritual Emotional Freedom Technique (SEFT) Interventions in Reducing Post-Traumatic Stress Disorder (PTSD) for Survivors of Mount Semeru Eruption

Muhammad Ghufron, Abdul Haris Fitri Anto

Universitas Islam Negeri Sunan Ampel Surabaya, Indonesia

mghufron@uinsby.ac.id, abdul.haris.fitri.anto@uinsby.ac.id (corresponding author)

Abstract

This research aims to determine the effectiveness of Islamic and spiritual emotional freedom technique (SEFT) interventions in reducing the symptoms of post-traumatic stress disorder (PTSD) among the survivors of the Mount Semeru eruption. This research has three phases: 1) Mapping the PTSD levels among survivors (n = 250); 2) Randomly choosing the survivor with PTSD to engage in either intervention: Islamic therapy (n = 10), or SEFT (n = 12); 3) post-intervention interview to describe the PTSD state post-intervention (n = 3). The first phase employed the Impact of Event Scale-Revised (IES-R) to collect PTSD information among 250 survivors and then discovered that the mean of survivors' PTSD levels was moderate. The second phase was executed using a two-group pretest-posttest design and then analysed using a Wilcoxon-signed rank test; it revealed that either group significantly reduced the PTSD level among the survivors. Furthermore, the post-test results of both groups displayed no significant discrepancy. The third phase qualitatively confirmed that the PTSD level among the survivors was reduced after the intervention. Moreover, aside from intervention results, the interview exhibited that internal and external factors also determined PTSD development. The implication of the finding will be discussed further.

Keywords: *Post-traumatic stress disorder, Islamic therapy, Spiritual emotional freedom technique, survivors of Semeru eruption*

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Introduction

Indonesia is in the world's Ring of Fire, where active volcanoes lie from west Sumatra, Java, Bali, Nusa Tenggara, Sulawesi, to northern Maluku. These geographical conditions make Indonesia vulnerable to volcanic disasters. The National Disaster Management Agency (BNPB, 2018) stated that in Indonesia, there were 2,572 disaster events and volcanic eruptions occurred 58 times (2.25%). The impact of the disaster caused a total of 4,814 missing and dead people, 10,293 million people were taking refuge, 320,165 damaged houses (category range: 150,513 heavily damaged, 39,815 moderately damaged and 129,837 slightly damaged), and each year experienced an average economic annual loss—34 trillion rupiah. Disasters caused by volcanic eruptions result in large numbers of dead or injured, and ecosystems are also damaged. Some sources claim that volcanic eruptions can cause climate change and environmental damage. The Center for Volcanology and Geological Hazard Mitigation (PVMBG) recorded volcanoes with an “alert” or level II status spread across the islands of Sumatra, Nusa Tenggara, Sulawesi, Maluku and Java (PVMBG, 2022).

Losing relatives, property, jobs, homes, and settlements due to natural disasters is traumatic. Some cultural groups have cultural mitigation to avoid and prevent disasters, like the Baduy Tribe, who embrace *pikukub* values (A'la et al., 2023). But in many cases, people have to suffer from the natural disaster. In this case, disaster survivors are highly vulnerable to experiencing Post-Traumatic Stress Disorder (PTSD), where the memory of traumatic events haunts thoughts and feelings for a long time (Shalev et al., 2017). PTSD is characterised by a) re-experiencing intrusive traumatic memories and repeated nightmares, b) a Strong tendency to avoid traumatic stimuli, 3) developing negative moods and thoughts, and 4) Excessive emotional and physical reactions toward danger alerts, sleeping disorder, etc. (American Psychiatric Association, 2013). Besides, PTSD symptoms can be prolonged from months to years (Endiyono and Hidayah, 2018).

The prevalence of PTSD due to disasters in Indonesia is incredible. For example, PTSD data on young natural disaster survivors in West Java and West Sumatra in 2016 were measured using the posttraumatic stress scale for 859 respondents. Based on that number, it is known that 171 (19.9%) met the criteria for the diagnosis of PTSD, with the majority

experienced by female adolescents compared to males (Rahmadian et al., 2016). These results align with a national survey by the Indonesia National Adolescent Mental Health Survey (I-NAMHS). The results of their national survey in 2022 found that 0.5% of Indonesian teenagers experience PTSD disorders. The diagnostic standard uses DSM V (Santika, 2023).

PTSD is not only experienced by survivors of natural disasters; survivors of COVID-19 also share it. From a total of 75 respondents at the Andalas Hospital, it was found that 9.3% (7) of the respondents were at risk of PTSD. Women dominate respondents who were at risk for PTSD, and they suffer all PTSD symptoms (intrusion/re-experiencing, avoidance, negative alterations in cognition and mood, and hyperarousal). The most common cause of PTSD in respondents was exposure to traumatic events in the past that were life-threatening (71.43%). Meanwhile, the most clinical symptoms of COVID-19 in the PTSD risk group were severe clinical symptoms (71.43%) (Wahyuni et al., 2023).

Other studies show that PTSD symptoms tend to be prolonged. 78.9% of the 38 residents affected by landslides in Banjarnegara district, Central Java, in 2015 still suffered PTSD despite the three years that have passed (Endiyono et al., 2018). In general, survivors of the 2010 eruption of Mount Merapi remains indicate the remnant of PTSD a decade after the explosion (Ernawati et al., 2020). Two years after the Mount Kelud blast in 2013, it was reported that 66.6% of survivors remain suffered from PTSD (Anam et al., 2016). These data show the typical prevalence of PTSD. Moreover, these data also imply the urgency to address psychological interventions for natural disaster survivors. Based on these data, the residents near Mount Semeru may also be at serious risk of experiencing similar trauma in 2021 and 2022.

PTSD has not been proven to cause death directly. However, PTSD cases are correlated with morbidity, such as major depression, anxiety, psychosis, drug abuse, and suicide. The Adult Psychiatric Morbidity Survey reports that in England, out of 7,043 people, 2.9% have PTSD. Then, 54% experienced major depression, and psychotic symptoms reached 30%. In another study, PTSD patients demonstrated a 47% mortality risk compared to those without PTSD. Causes of death are primarily related to drug abuse, cardiovascular disease, and malignancy. PTSD has not been found to cause mortality, but it is strongly associated with other comorbid

diseases at risk of death. (Forehand et al., 2019)

The massive Semeru explosion on December 2 2021, occurred without an initial warning. Thus, the people in the high-risk areas were not ready to salvage their possessions (Aminudin, 2021). BASARNAS data as of December 11, 2021, shows the number of victims of the Mount Semeru eruption has reached 46 people. The total number of survivors who fled was 9,118, spread into 115 evacuation points. Meanwhile, nine people are still reported missing, 18 seriously injured, and 11 slightly injured (Rizki, 2021). Various aids such as food, clothing, medicine, and volunteers are reported to have flowed into the refugee camps.

Initial interviews with the survivor (informant 1) stated that residents were not set for the deadly eruption because there was no early warning. He then recalled when a massive explosion occurred in 2021, residents near Semeru were doing daily activities normally. Then the unexpected, devastating eruption in the afternoon caused massive panic among residents. Interviews with local youth leaders (informant 2) detailed that many residents were victims because they were still working in the river when the enormous-sized volcanic lava was flooding beyond the river's capacity. Most were sand miners in the rivers on the Mount Semeru slope. They realised it too late. Thus, they did not make it to salvage.

The unpreparedness of survivors in facing an eruption might potentially exacerbate PTSD. This condition corresponds to the residents' state described by informant 2. Accordingly, the survivors still suffer the trauma of the devastating eruptions in 2021 and 2022. Some still panic whenever they hear loud bangs and avoid seeing their old houses devastated by volcanic material. Moreover, after the survivors were relocated, some were reluctant to occupy the new place because they considered it at risk of being affected by Semeru's activities. These things indicate they are still traumatised. Indeed, disasters that cause property loss and relatives' deaths are tough to accept. PTSD can be prolonged if it is not taken seriously. It will inevitably last in mental issues and decrease psychological well-being (Tentama, 2014). For some, it can determine anxiety that haunts the rest of their life.

Various assistance from the government as well as from community groups have flowed to residents' evacuation locations. Fulfilment of basic needs, medicines, and entertainment was the most widely received

assistance. In addition, psychological help has also arrived. For example, The Indonesian Navy's Psychology Service conducts therapy for children as well as hypnotherapy, relaxation, psychodrama, and ERBT for adults (Poskota, 2021). The results of a field assessment by the UMM psychology team found risky symptoms in vulnerable groups (children and older people). These symptoms include 1) high levels of anxiety, 2) social functioning in the normal category but not that high, and 3) self-confidence to get up, which tends to be low (Izz, 2021). Volunteers from the Human Resources (HR) Bureau of the East Java Regional Police also provided psychosocial support and psychological first aid to the survivors of the Mount Semeru Eruption. Their assistance focuses on vulnerable groups, such as children, older people and women. For children, psychosocial therapy is given through singing activities, games, storytelling, and psychological first aid and children.

Based on observations, interviews with residents, and relevant scientific studies, it appears that various initial psychological assistance has been provided to members of vulnerable groups such as children, older people, and women. However, most of the psychological aid was aimed at children's groups. Vulnerable groups such as older people and women have not received adequate psychological assistance. It is feared that the initial psychological service considered inadequate for survivors is at risk of suffering from long-term PTSD. This assumption has been proven by Ernawati's research on the Merapi slope residents who still possess the remnant of PTSD albeit the mountain's devastating explosion has passed ten years (Ernawati et al., 2020).

Another critical aspect of managing PTSD of natural disaster survivors is strengthening families of survivors based on a religious approach. Most of the victims of the Semeru eruption were Muslims. Thus, it is urgent to treat PTSD based on their beliefs. However, several previous studies reported the urgency of a religious approach in restoring the psychological condition of survivors. Rofiqah's research, for example, mentions the importance of multidimensional handling of disaster survivors. It means that handling disaster survivors is not only socio-psychological but also spiritual and religious due to the proximity between the religion, soul and body dimensions (Rofiqah, 2017). Religious approaches have also been shown to have an essential role in strengthening the spirituality of disaster survivors (Gazali and Andy, 2017). In their findings, various

religious programs such as sermons, annual commemorations, and *wirid yasinan* would heal their souls.

Handayani's study on disaster survivors reports the importance of a religious approach in strengthening survivor groups. At least three routine group activities, such as *Muslimat* groups, gather weekly and quarterly. In addition, there are also *yasinan* groups that are held regularly at the homes of community leaders. These groups not only do *wirid* together but also strengthen each other. According to Handayani, the values practised by the Muslim group include helping each other, preserving the environment, *tauwakal* and *ikhtiar*. In a broader scope, a Muslim group is a participatory form of religious leaders and religious organisations in empowering the survivor groups (Handayani, 2017). Such group empowerment is in line with the Perspective of *Maqásid Al-Sharí'a*, which is the assistance of the survivor groups should consist of worldly and *ukbrowi* aspects to restore their well-being (Syahputri et al., 2023)

Based on this situation analysis, it is crucial and urgent for the survivors of the Semeru eruption to receive multidisciplinary post-disaster treatment to strengthen their religiosity, minimise PTSD symptoms, bounce back from suffering and adversity, and grow enthusiasm to live a new life. Therefore, the objectives of this study were set as follows: 1) Mapping the PTSD condition of survivors of the Semeru eruption; 2) Involving survivors who suffer from PTSD in Islamic and Psychological interventions; and 3) describing the PTSD condition of the survivors after participating in the intervention.

Methods

Participants

The participants in this study were residents of the Huntap-Huntara (abbreviation of *hunian tetap – hunian sementara*) of Sumbermujur village, Candipuro sub-district, Lumajang district. The research was conducted on residents of the Huntap-Huntara because they are survivors of the Semeru eruption. Huntap-Huntara residents lost their homes due to the 2021 or 2022 disasters. Therefore, the government built Huntap-Huntara as a relocation. Currently, there are more than 2,000 units of Huntap-Huntara houses have been established and occupied.

Procedures

The first phase of this research is to map the PTSD condition of survivors of the Semeru eruption. The research team randomly collected data from 271 Huntap-Huntara residents willing to complete the research instrument and later on revealed that only 250 documents are eligible for further processes. The instrument to map PTSD is the Impact of Event Scale-Revised (IES-R) by Weiss and Marmar (1997). In the second phase, after the PTSD conditions were mapped, the researchers randomly selected survivors with PTSD symptoms to become intervention participants. However, the researchers invited ten people to participate in Islamic therapy and 12 as SEFT participants. The IES-R was applied during the intervention for the pretest-posttest tool. In the third phase, the researcher interviewed three respondents to explore their PTSD condition after participating in the intervention. Interviews were conducted one month after the intervention. In achieving the aim, the interview focused on PTSD aspects such as re-experiencing, avoidance, hyperarousal, and other things that determine PTSD.

Design

The first phase of this research is descriptive research to map PTSD symptoms in Huntap-Huntara residents. This phase applied the Impact of Event Scale-Revised (IES-R) by Weiss and Marmar (1997) as a data collection instrument distributed randomly to Huntap-Huntara residents.

The second phase is the implementation of Islamic and psychological interventions using a two-group pretest-posttest design. Islamic therapy is structured because, culturally, the survivors are Muslim citizens. While the psychological intervention employed SEFT, which has been widely practised to reduce PTSD (Aftrinanto et al., 2018; Astuti et al., 2017; Cahyono et al., 2022; Ulfah, 2013). Therefore, in this study, the SEFT intervention also served as a comparison treatment to replace the control group. Islamic Therapy design is briefly explained in Table 1.

Table 1. Islamic Therapy Design

Sections	Goals
<i>Tawakal</i> (Trust to Allah)	Strengthen the values of sincerity, surrender, and gratitude in adapting, accepting, and living a post-eruption life.
<i>Ikhtiar</i> (endeavour)	The aim is to foster enthusiasm and optimism to bounce back from the despair caused by the disaster.
Caring for relationships between people-to-people and people-to-nature	Strengthen the behaviour of mutual help among fellow survivors and raise awareness always to maintain good relations with nature.
Brief encouragement	Strengthening participants' awareness continuously to do <i>tawakal</i> (trust Allah, be sincere, and surrender), <i>ikhtiar</i> , and maintain relationships between humans and nature. Instructing the participants to make more dhikr, <i>istighfar</i> , and <i>shalawat Burdah</i> , <i>Nariyah</i> , and <i>Jibril</i> if they feel symptoms of PTSD.

Besides performing Islamic therapy, the research has also addressed SEFT for 12 survivors. The SEFT design is briefly described in Table 2.

Table 2. SEFT Design

Sections	Goals
Set-up	Instilling confidence, <i>khusyu'</i> , sincerity, and surrender to reduce psychological resistance related to disaster events, such as intermittent negative thoughts and delusions related to disasters.
Tune-in	Instilling confidence, <i>khusyu'</i> , sincerity, and surrender to reduce negative emotions related to the disaster experienced
Tappin	Stimulation and activation of nerves to help receive suggestions from set-up and tune-in.
Nine moves	To stimulate specific brain areas to help receive suggestions from set-up and tune-in.
Brief encouragement	Organise thoughts and set post-intervention self-therapy procedures.

Result

First phase: Mapping PTSD among Huntap-Huntara residents

Based on the tryout of 271 respondents, there were 21 IES-R scales whose contents were damaged or incomplete. Hence, only 250 data could be processed further. Then, the validity of the PTSD data was tested with the Pearson Product moment formula. As a result, the IES-R instrument originally consisted of 22 items. In the end, only 21 items were declared valid. After eliminating invalid items, validity scores ranged from 0.125 to 0.622 (r table: 0.138). Cronbach’s Alpha formula evaluated PTSD reliability, and a score of 0.752 was obtained, which means that the reliability of this instrument is reasonable.

Based on PTSD mapping using the Impact of Event Scale-Revised (IES-R) (Weiss and Marmar, 1997), the following categories of PTSD levels of Huntap-Huntara residents were explained in Figure 1.

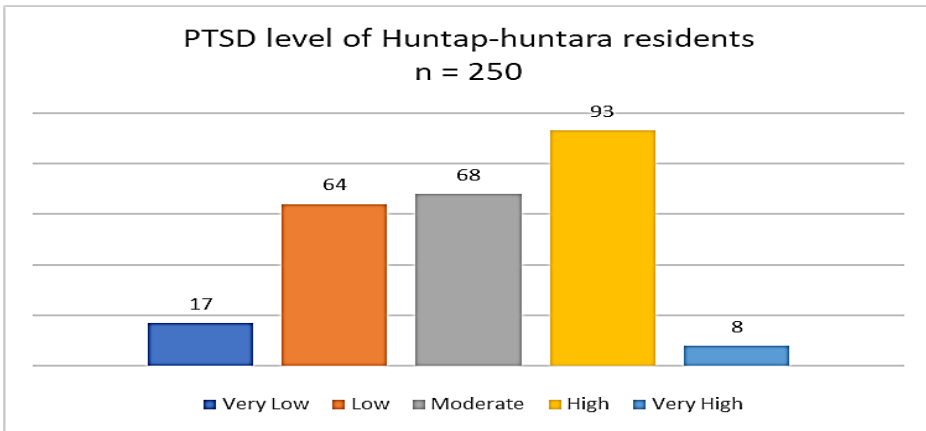


Figure 1. Level of PTSD of Huntap-Huntara Residents, n = 250

Table 3. Categories for PTSD level

Intervals	Categories
$X < 53$	Very Low
$53 < X \leq 63$	Low
$63 < X \leq 73$	Moderate
$73 < X \leq 82$	High
$82 < X$	Very High

Table 4. descriptive statistics of PTSD

VARTotal	
N	Valid Missing
Mean	250 0
Std. Error of Mean	70.84
Median	.612
Mode	73.00
Std. Deviation	61 9.677

The PTSD descriptive data of survivors showed a mean at a moderate level (70.84) (see Table 4). Although it confirmed a reasonable average, it is critical to note that the residents with high PTSD have the most significant number (93/250 residents) among the five categories (see Figure 1). Hence, this data is sufficient evidence for conducting interventions.

Second Phase: Islamic Intervention

The Islamic intervention was held for approximately 1 hour. During the session, the participants did dhikr (performed dua and blessings). In addition, to cope with PTSD, this intervention focused on four aspects: trust, endeavour, mutual help, and environmental preservation. The Wilcoxon signed rank test results are shown in Table 5.

Based on posttest data in Table 6, 10 respondents reached an average decrease of 5.5 compared to the pretest. Meanwhile, the Wilcoxon signed rank test results indicated a p-value of 0.005 (<001), which means that the mean decrease in the pretest to the posttest was significant. Thus, the Islamic intervention was successful in reducing the PTSD rate of the respondents.

Table 5. Mean distinction between pretest & posttest in Islamic therapy

	N	Mean Rank	Sum of Ranks
Posttest - Pretest	Negative Ranks	10 ^a	55.00
	Positive Ranks	0 ^b	.00
	Ties	0 ^c	
	Total	10	

- a. Posttest < Pretest
- b. Posttest > Pretest
- c. Posttest = Pretest

Table 6. Significance between pretest & posttest

	Posttest - Pretest
Z	-2.807 ^a
Asymp. Sig. (2-tailed)	.005
a. Based on positive ranks.	
b. Wilcoxon Signed Ranks Test	

Second Phase: SEFT Intervention

The SEFT intervention was held for approximately 1 hour. In this session, the participants were invited to relax by tapping and making nine moves. In addition, to relieve PTSD that is felt, this intervention focuses on four aspects: confidence, humility, sincerity, and surrender. The Wilcoxon signed rank test result is displayed in Table 7.

Table 7. Mean distinction between pretest & posttest in SEFT

Posttest - Pretest		N	Mean Rank	Sum of Ranks
	Negative Ranks	12 ^a	6.50	78.00
	Positive Ranks	0 ^b	.00	.00
	Ties	0 ^c		
	Total	12		

- a. Posttest < Pretest
- b. Posttest > Pretest
- c. Posttest = Pretest

Table 8. Significance between pretest & posttest

	Posttest - Pretest
Z	-3.061 ^a
Asymp. Sig. (2-tailed)	.002
a. Based on positive ranks.	
b. Wilcoxon Signed Ranks Test	

Based on Table 7, descriptively, all respondents achieved a decreased score with an average reduction of 6.5. Meanwhile, the Wilcoxon signed rank test results showed a p-value of 0.002 (<001). That is, there was a significant decrease in the mean from the pretest to the posttest. In other words, the SEFT intervention fortuitously reduced the respondent's PTSD level.

This comparison is critical considering that the function of SEFT (widely applied to reduce PTSD) methodologically in this study is to compare its significance with Islamic therapy. Based on the Wilcoxon signed rank test formula, each intervention significantly reduced PTSD.

However, was the significance of Islamic treatment at the same level as SEFT? It is described in Tables 9 and 10 below.

Table 9. Posttest comparison between Islamic therapy and SEFT

	Groups	N	Mean Rank	Sum of Ranks
Posttest	Posttest Islamic Therapy	10	10.60	106.00
	Posttest SEFT	12	12.25	147.00
	Total	22		

Table 10. significance between intervention

	Posttest
Mann-Whitney U	51.000
Wilcoxon W	106.000
Z	-.596
Asymp. Sig. (2-tailed)	.551
Exact Sig. [2*(1-tailed Sig.)]	.582 ^a

a. Not corrected for ties.

b. Grouping Variable: Groups

Based on the mean comparison in Table 10 processed with the Mann-Whitney, a significance score (p-value) of 0.551 (> 0.05) was obtained. This score means there is no significant difference between the posttest on the Islamic intervention and the posttest on the SEFT intervention group. Hence, the two interventions have similar levels of significance in reducing PTSD.

Third phase: Post-intervention interview

Interviews were conducted with Huntap-Huntara residents who participated in the intervention until it was finished and filled out the pretest and posttest. Interviews were performed four weeks after the intervention. This interview aims to discover the development of PTSD conditions in respondents a month after the intervention. The research team succeeded in interviewing three respondents IM, TM, and NK.

Based on the interview results, PTSD-related themes emerged, such as re-experiencing, hyperarousal, and avoidance. Other themes indirectly relate to PTSD, such as internal and external reinforcement. The first theme that emerged was re-experiencing. According to DSM-V (American

Psychiatric Association, 2013), re-experiencing is indicated by the repeated emergence of traumatic memories that result in disturbing discomfort, including perceptions, thoughts, and images of the event. In Table 11, some respondents' statements clearly describe the re-experience.

Table 11. **Re-experience theme**

TM	<p><i>"iya masih ingat, cuman ya sudahlah.. belum rejekinya"</i> (Yes, I still remember, but that's okay... I haven't had my luck yet)</p> <p><i>"Iya, ingat cuma saya gak takut lagi.. saya anggap itu cuma masa lalu pak ya tidak takut. Tidak Pak ya alhamdulillah sudah semakin mendingan."</i> (Yes, I remember, but I'm not afraid anymore.. I think it's just the past. I'm not afraid anymore. No, sir.. Alhamdulillah, it's getting better.)</p>
IM	<p><i>"Iya, ingat cuma saya gak takut lagi.. saya anggap itu cuma masa lalu pak ya tidak takut. Tidak Pak ya alhamdulillah sudah semakin mendingan."</i> (...I used to feel traumatised... the problem was that everything went dark when the eruption occurred. Lately, my condition has been getting better. When the fog comes, I'm not afraid anymore... I don't want to take refuge even though other residents invite me. I stay at home.)</p>
NK	<p><i>"Ya waktu itu ya masih ingat, tapi ya gimana lagi, sekarang enggak lari lagi.."</i> (Yes, I still remember that time, but I don't run anymore..)</p>

The statements of the three interview respondents indicate they fear eruptions. They still vividly remember the incident. After participating in the intervention, they admitted that the memories of the Mount Semeru explosion remained, but the fear had decreased compared to before participating in the intervention. Particularly for the TM respondent, her statement indicated sincerity in addressing the situation. This statement is consistent with the Islamic values emphasised in Islamic therapy.

Second, the emerging theme is hyperarousal. According to the DSM V (American Psychiatric Association, 2013), hyperarousal causes an excessive increase in alertness, exaggerated startle response, and impaired concentration. Related to this theme, What the respondents suffer is described in Table 12.

Table 12. Hyperarousal theme

TM	<p><i>"saya masih ke kebun ya Pak.. kalau hujan gitu ya Allah saya cuma pasrah sekarang.. dulu memang takut.. kalau sekarang udah alhamdulillah enggak udah"</i> (I'm still going to the ricefield almost every day.. if it rains, it's like, 'O Allah, I surrender... I leave my life to you..' yes, I used to be scared.. but Alhamduillah... I feel calm now.)</p> <p><i>"Alhamdulillah, banyak ada perubahan. Masih ada takut-takunya.. Tapi kalau gelap itu tidak takut.."</i> (Alhamdulillah, there have been many changes. Yes. I'm still afraid... But when I perceive dark conditions, I'm not afraid anymore..)</p>
IM	<p><i>"Ya Alhamdulillah agak berkurang.. rasa takut itu masih ada sekarang.. biarpun gimana gitu, saya sering bilang gini Ya Allah.. saya ikhlas, saya pasrah, saya ikhlas, saya pasrah, saya sering gitu.. jadi kalau di rumah kadang-kadang ada kabut itu ya, dulu kan takut saya kalau kabut.. saya ngajak ngungsi.. kalau sekarang enggak, ya Allah saya ikhlas, saya pasrah....."</i> (Yes, Alhamdulillah, my fear has been decreasing.. even though the fear is still there... When that fear comes, I remember this: "O Allah... I'm sincere. I surrender, I'm sincere, I surrender" I often do that .. so when I'm at home, sometimes the fog goes down. I used to be afraid of the fog... I insisted my husband for evacuation..., but now I can manage my afraid, I muttered: O Allah, I'm sincere, I surrender..)</p>
NK	<p><i>"kalau khawatirnya itu khawatir, tapi ya itu nggak ndredeg (gemeteran) gitu."</i> (If there is a feeling of fear, there must be... I'm still afraid, but now I'm not trembling anymore like I used to...)</p>

Data from the three interviewees indicated that they had previously experienced hyperarousal. It is characterised by excessive fear of rain, darkness, fog, and rice fields. That excessive fear caused them to tremble and panic to evacuate. In TM and IM respondents, based on interviews, it was shown that they apply a sincere attitude towards Allah when experiencing hyperarousal. This qualitatively indicates the success of the intervention. Meanwhile, NK was still afraid but no longer trembling like she used to.

Avoidance is the third emerging theme from the interview results. According to DSM V (American Psychiatric Association, 2013), avoidance is characterised by attempts to avoid stimuli identical to trauma, not wanting to recall the event, and decreasing interest in various important activities. In Table 13, the avoidance indication is revealed.

Table 13. Avoidance

TM	<p><i>"..saya sering ke rumah (rumah asal yang terkena bencana) itu kan.. barang-barang saya banyak tidak ketemu di rumah saya sendiri"</i> (..I often go to my old house, damaged by the volcanic materials. Many of my belongings are not found.)</p> <p><i>"Yang ingat, waktu waktu gunung meletus, saya tuh diam di bawahnya kolom lampu gitu lho Pak saya heran.. ada apa ya? Kok gelap? Saya sama anak saya yang kecil itu.. waktu meletus itu saya lihat."</i> (I Remember, when the volcano was exploding, I was standing still under a column of lights, you know... I wonder... what's wrong? Why is everything getting dark? I was with my little child... when it erupted, I saw it myself.)</p>
IM	<p><i>"..karena saya enggak mungkin mau ngungsi terus Jadi kalau memang sudah nasib saya di sini, yaudah gak apa-apa. Gitu saya, ya sering saya ingat. Kalau kemana-mana saya ingat itu.. saya ikhlas, saya pasrah, saya gitu..."</i> (...because Taking refuge for the rest of my life is impossible. So if my destiny is to stay in Huntap-Huntara, I'll accept it. I often remember... Anywhere I go... I remember it... I am sincere, I surrender... that's what I am doing...)</p>
NK	<p><i>"Ya enggak soalnya ya udah di sini mau lari kemana lagi."</i> (I already live here.. no need to move elsewhere..)</p>

The interview excerpts indicate that the three respondents generally have not experienced strong avoidance. For TM, for example, she was able to tell the events of the past eruption smoothly and without significant emotional outbursts. In addition, TM has also returned to his original home many times, which was devastated by the eruption of Mount Semeru. In IM, she seemed to experience avoidance where she was reluctant to live in Huntap-Huntara. However, because she had limited choices, she managed avoidance by adopting a sincere and resigned attitude, as emphasised during the intervention.

Meanwhile, for NK, he seemed to answer as needed with short answers during the interview. Based on observations during interviews, NK seemed reluctant to explain the answers in detail compared to the other two respondents. This attitude can also be interpreted as a form of avoidance by NK. It is interpreted that she was trying not to discuss the disaster she experienced. On the other hand, she tried to respect the interviewer. Thus, the information provided tends to be meaningless/superficial.

Other themes relevant to PTSD that appeared during interviews were the presence of reinforcing factors, both internal and external factors. Table 14 is an excerpt of the verbatim reflecting this theme.

Table 14. Reinforcement factors

TM	<p><i>"Ya insyaallah Pak aman, masih katanya Pak Thariq (bupati Lumajang) insyaallah aman."</i> (Yes, Inshallah, sir, the relocation is safe. According to Mr Thariq (Lumajang regent), Inshallah, the place is safe.)</p> <p><i>"Yang memang kita tidak punya rumah iya. Yang memang paling terasa ya rumah ini Pak"</i> (We don't have a home. So, the most meaningful help is this house, sir.)</p> <p><i>"Sekarang sudah tiga kali ini, Pak. Cuma, yang sekarang saya enggak kemana-mana, cuman ke tempatnya adik, ngumpul saja jadi satu, gitu.. Kalau dulu saya sempat ngungsi ke Candipuro lagi, ke kecamatan. Kalau sekarang enggak, udah."</i> (Now, I have taken refuge three times. But now I won't flee anywhere, only to a nearby sister's place, gathering there. In the past, I had evacuated to the Candipuro sub-district couple of times. But now, it is no more.)</p>
IM	<p><i>"..Suami tak ajak ngungsi nggak mau.. kan ngungsinya itu suruh ngungsi ke Pak Inggi atau ke Blok A.. Kalau Blok A itu lebih tinggi katanya Tapi suami bilang gak apa-apa, disini tuh aman katanya.. Kecuali kalau erupsi, kalo banjir air nggak apa-apa. banjir air. Katanya di sini nggak apa-apa, aman.."</i> (..My husband didn't want to run. He didn't want to.. I told him to evacuate to Pak Inggi or Block-A. Block-A has a higher altitude.. But my husband said it's okay. He said it's safe here.. Unless there's a massive eruption. If there's just a flood, then it's okay... He said it's okay here, safe..)</p> <p><i>"Tapi sebenarnya kata orang-orang yang tua-tua itu bilang kalau bunyi (meletus kecil) itu lebih aman.. kalau tidak bunyi itu kita takut.. nanti sekali bunyi langsung keluar lava kata orang tua-tua"</i> (The elders actually said periodic small eruptions are safer. It's just Mount Semeru nature, and it's safe.. unless there are no small eruptions for a long period, then we are worried because once it erupts, the large amount of lava will immediately flow down, said the elders.)</p>
NK	<p><i>"..iya mas, kalau rumah ini nomor satu mas, bantuan paling manfaat.."</i> (..yes bro, if this house is number one, the assistance is the most beneficial..the most important.)</p>

Another theme that emerged in the interviews was the existence of "reinforcement" both internally and externally. This reinforcement is an aspect that is not included in the intervention but shows an impact on the survivors' PTSD condition. In TM, she tended to internalise external reinforcements, for instance: trust in security guarantees and assistance from the Lumajang regent, Receiving aid in the form of houses in Huntap-Huntara, and choosing to gather with the closest family to strengthen one another when there is a threat of disaster. IM respondents use more internal reinforcement. For example, from the interview excerpt above,

IM uses logic to reason, can calculate risks, and determine actions when he knows there is a threat of disaster. Meanwhile, for NK, external factors such as assistance in the form of houses from the government were considered the most reinforcing.

In general, the interview resulted in two critical points. First, the interviews' results successfully investigated changes in the quality of re-experience and hyperarousal in the three respondents: They still remember the traumatic incident. Respondents also still feel afraid when it's dark, rain, fog, or the sound of eruptions. However, their fear has been dramatically reduced since completing the Islamic intervention. TM and IM show substantial avoidance reduction. They no longer avoid objects that are associated with the traumatic event. Meanwhile, NK tends to normalise his fear by minimising conversations about her traumatic events.

Reinforcement from internal and external factors, in addition to the results of the intervention, helped improve the PTSD condition of the respondents. External reinforcement factors include security guarantees provided by the local government, national government aid such as relocation houses (Huntap-Huntara) for the survivors, and gathering with fellow survivors, all of which help decrease PTSD. The internal factor in this context is using the mind to understand circumstances and make decisions. It will be different if survivors let their emotions drive their actions.

Second, the results of the interviews show that the values conveyed in the intervention have been internalised and applied by the respondents. These values are explicitly spoken in the interviews with TM and IM. They internalise the quality of tawakal to manage the adverse effects of re-experience, hyperarousal, and avoidance. Whereas for NK respondents, this value has not yet been well internalised.

Discussion

The first objective of this research is to map the PTSD condition of survivors of the Mount Semeru explosion in Huntap-Huntara. The research team successfully distributed the IES-R scale to 250 residents. The PTSD descriptive data of survivors showed a mean at a moderate level (70.84). Although it confirmed that the PTSD level is moderate, it is essential to note that the residents with high PTSD have the largest number (93/250

residents) among the five categories. This result is sufficient to perform the interventions and invite the survivor to engage in the agenda.

The second aim of this study was to determine the effectiveness of Islamic therapy interventions and SEFT. Based on the SPSS properties, pretest and posttest results using the IES-R scale in Islamic therapy are proven effective in reducing PTSD. This effectivity was marked by a p-value of 0.005 (<001), while the trend of decreasing PTSD scores before and after the pretest was 5.5. However, the results of psychological interventions using the SEFT method show a pattern that aligns with Islamic interventions. Based on the pretest and posttest scores using the IES-R scale, the average pretest and posttest scores showed a decreasing trend of 6.5. Based on the Wilcoxon signed rank test, the decline was confirmed to be significant with evidence of a p-value of 0.002 (<001). Moreover, The posttest results of the two interventions indicated a similar trend of decreasing scores. The difference test between the posttest on the Islamic intervention versus the posttest on the SEFT intervention using the Mann-Whitney test formula displayed insignificant results because (p-value) was 0.551 (> 0.05). This result means that Islamic interventions and SEFT have relatively the same level of effectiveness in reducing PTSD symptoms.

The third aim of this research is to describe PTSD that survivors feel after Islamic intervention qualitatively. Based on the interview results, the respondents admitted that they still think of psychological discomfort whenever they remember the massive eruption of Semeru last time. Meaning they still have symptoms of re-experience. However, they also admitted that they felt that they were getting better after participating in the intervention session. In the hyperarousal aspect, residents still feel fear, stress, and trauma from the eruption experience. However, these symptoms decreased after carrying out various series of activities in the intervention. In the past, respondents were excessively afraid, trembling, and wanted to immediately evacuate if the weather was foggy, raining, or Mount Semeru experienced small eruptions. Even the dark atmosphere of the night was sufficient to frighten them. The exaggerated fear is now nearly faded. They are still afraid and worried but remain at a low degree.

On the avoidance aspect, two out of three respondents indicated progress after participating in the intervention. They were willing to share

their experience when the eruption occurred calmly without excessive emotional expression. More than that, they have also visited their old houses many times which the volcanic material from the mountain had destroyed. TM have even routinely planted gardens in the Semeru disaster's red zone. Even though worried, she now dares to return to normal activities. On the other side, NK still indirectly shows avoidance symptoms. Her reluctance to discuss themes and objects identical to the trauma of the previous eruption indicates this symptom.

Based on the interview results, the research team noticed that the intervention significantly impacted the respondents. This impact was evident from the respondents' explicit acknowledgement that they felt better after participating in the intervention session. Based on the interview results, the most prominent aspect of the intervention is the *tawakal* attitude they apply whenever experiencing re-experience, hyperarousal, or avoidance. This attitude is reasonable because the survivors are Muslims, so it is easier to internalise and practice Islamic values. Thus, the concordance factor between the intervention materials and participants' beliefs also increases the prevalence of successful interventions.

Other factors that also determine the condition of PTSD survivors of the Semeru Eruption in Huntap-Huntara are the presence of internal and external reinforcements. In this case, internal reinforcement uses common sense or thoughts and manages emotions during a disaster. In situations of panic or fear, people will usually be more controlled by their emotions than their common sense. This condition is no longer the case for their respondents. They still feel fear and trauma but can manage it well and be happy. Furthermore, they keep a clear mind when making decisions, even in living-thread situations. External factors that reinforce them are social support. Social support in this context consists of security guarantees from the Lumajang government, distributed aids -especially the relocation house (Huntap-Huntara) for survivors, and gathering with other survivors to strengthen one another and reduce psychological stress.

Data from Islamic therapy, psychology (SEFT), and interview results reveal an identical pattern. The data show -quantitatively and qualitatively- that the PTSD experienced by survivors significantly reduced after participating in the intervention. This data means that these interventions play an important role in reducing PTSD. Indeed, they still experience PTSD

symptoms, but the progress is significant. However, these results can be dialogued with previous studies. For example, research by Cahyono et al. (2022), who conducted SEFT on Semeru survivors qualitatively, also found results that SEFT was effective in reducing levels of anxiety, depression and PTSD among evacuees of the Mount Semeru eruption. These results are consistent with the SEFT intervention for landslide survivors in Purworejo. According to Afrinanto et al. (2018), quantitatively and qualitatively, SEFT plays a vital role in improving the quality of life of landslide survivors. The results of the intervention by Astuti et al. (2017), in 34 survivors of the 2010 Merapi eruption who have lived with PTSD for seven years, this prolonged PTSD can also be significantly minimised using SEFT. These findings also confirm the SEFT intervention in 11 adolescent survivors of the Merapi eruption. The SEFT intervention by Ulfah (2013) three years after the 2010 Merapi eruption effectively reduced PTSD experienced by young survivors. Based on these data, it can be said that SEFT functions effectively to reduce PTSD in natural disaster survivors and improve their life quality.

Islamic intervention, on the other hand, exhibits mixed dynamics. This varied dynamic is because Islamic intervention's concepts, modules and materials are broad and different. However, based on previous studies, some patterns can be interpreted. On the one hand, several researchers report that the practice of dhikr is the primary material in Islamic therapy. For example, in the religion-based psychosocial treatment carried out by Amrullah et al. (2022), implementing dhikr is the main material. It has qualitatively reduced survivors' anxiety and increased their well-being. Dhikr therapy for Muslim survivors of the Palu-Sulawesi Tsunami found that the intervention reduced PTSD (Muslaini, 2020). PTSD in the survivors of the Palu tsunami was measured using the IES-R. In line with this theme, dhikr therapy is also used to relieve people with PTSD from domestic violence. As a result, dhikr therapy significantly reduces PTSD, and qualitatively the therapy brings peace of mind to the survivors (Kartikasari and Nashori, 2022). Although both therapies carry dhikr therapy, they do not yet have a standardised and validated dhikr intervention design (Ruidahasi et al., 2022).

Islamic therapy is not only limited to dhikr. Islamic therapies also use *taubat* (repentance) and *istighfar* materials. Based on the pretest and posttest results, *taubat* and *istighfar* are proven to be significant in

reducing PTSD (Uyun et al., 2020). For earthquake survivors in Padang Pariaman, *yasinan wirid* therapy and *tabligh akbar* activities are the main materials (Gazzaly & Andy, 2017). However, the level of effectiveness of the latter intervention is not explained.

Based on these findings, understand that although the intervention design and validation have not been standardised, Islamic interventions and therapies have proven to be potent in improving the quality of life of disaster survivors. This potency was also confirmed by Fidinillah's research (2018), where religious coping such as prayer, dhikr, and being active in recitation positively correlate with resilience (bounce back from adversity). The various research results on Islamic intervention/therapy themes ultimately helped open space for developing different Islamic intervention designs. For example, this research emphasises *tawakal* and *ikhtiar*, maintaining social and natural relations as well as exposure to reading istighfar and *sholawat*. The comparison of posttest results between the Islamic therapy and the SEFT intervention was insignificant, which means that this Islamic therapy design has an effectiveness level similar to SEFT.

Another critical point to discuss from this study's results is the internal and external factors that also determine the condition of PTSD survivors of the Semeru eruption. These factors were not the focus of Islamic and SEFT interventions, but based on interviews, it was identified as necessary in reducing survivors' PTSD. The results of previous studies exploring the condition of PTSD mention the diversity of these factors. For example, Rohmah et al. (2023) cited social support and the availability of facilities. These external factors are considered essential because disaster survivors are internally in a downturn, so they need external factors to help strengthen their condition. Meanwhile, according to Endiyono and Hidayah (2018), external factors such as the relocation of survivors close to the disaster site were allegedly the cause of the persistence of PTSD symptoms. Regarding the dominance of external factors, this was also confirmed by the investigation by Ernawati et al. (2020), who found that handling disaster victims should also focus on internal factors such as the psychological condition of the survivors. Clothing, food and shelter are vital aids. Nonetheless, Other aids that are as important as physical aids are assistance to relieve the psychological tension of survivors so they don't suffer from stress, fear and trauma due to PTSD.

Conclusion

Based on the results and discussion above, it can be concluded that Huntap-Huntara residents generally experience PTSD at a moderate level. They are involved in Islamic therapy and SEFT. Data from Islamic therapy, SEFT, and interview results show a continuous pattern. Based on the pretest and posttest data using the IES-R scale, it is known that the PTSD experienced by survivors is significantly reduced after participating in the intervention. Based on the interview results, it is known that they still experience psychological discomfort when they remember the eruption. They also still feel afraid if the weather is foggy, dark, raining heavily, or they hear explosions. However, as emphasised in the intervention, they have managed this fear well by improving *takwa* and *ikhtiar*. Besides that, based on the interviews, other factors than interventions also determine the survivors' PTSD condition, namely the internal factor (using the mind) and external factor (social support).

These findings imply that it is essential for the government and society to pay attention to the psychological well-being of the survivors of the Mount Semeru eruption so that they do not live with PTSD for the rest of their lives. Apart from medical and psychological approaches, Islamic traditions that live in society, such as recitation and *tahlilan*, which contain Islamic values, have been proven to reduce PTSD in survivors. In addition, conclusions also open up opportunities for future research. Even though therapeutic interventions and empowerment have been addressed in several locations of eruption survivors, interdisciplinary intervention themes to relieve residents' PTSD are still needed. In addition, up until now, there is no description of PTSD survivors of the Semeru eruption with massive data. It is also essential to survey to evaluate the development of PTSD conditions for survivors of the Semeru eruption because PTSD conditions can last for an extended period.

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