

The Role of Social Support in the Prevention and Recovery of Post-Traumatic Stress Disorder (PTSD) in Vulnerable Populations Following Natural Disasters: A Systematic Review and Meta-Synthesis of Empirical Studies.

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

<https://doi.org/10.70471/ga28rs36>

Received: 21/12/2025

Accepted: 28/12/2025

Published: 31 /12/2025

Original Research Article

Abstract

This study aims to conduct a systematic review and meta-synthesis on the role of social support in the prevention and recovery of post-traumatic stress disorder (PTSD) in vulnerable populations following natural disasters. Natural disasters can cause profound psychological impacts, particularly among vulnerable groups such as children, women, and the elderly. Social support has been shown to be an effective protective factor in reducing PTSD symptoms and accelerating psychological recovery post-disaster. This review includes 18 empirical studies published between 2000 and 2025,

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Alita, P. N. (2025). The role of social support in the prevention and recovery of post-traumatic stress disorder (PTSD) in vulnerable populations following natural disasters: A systematic review and meta-synthesis of empirical studies. Asian Multidisciplinary Research Journal of Economy and Learning.

<https://doi.org/10.70471/ga28rs36>

employing various research methods, including quantitative, qualitative, and mixed methods. The findings indicate that emotional support from family, friends, and communities plays a significant role in reducing PTSD symptoms, while social support-based therapies, such as group play therapy, have also proven effective, especially for children affected by disasters. However, despite the effectiveness of social support, significant challenges remain, including limited access to mental health services and stigma surrounding mental health issues in disaster-affected areas. This study recommends strengthening community-based social support systems and further research on the long-term impacts of social support in PTSD recovery.

Keywords: Social Support, PTSD, Natural Disasters, Psychological Recovery, Community-Based Therapy.

1. INTRODUCTION

Natural disasters have widespread impacts on the lives of those who experience them, both physically and psychosocially. One psychological disorder that frequently arises after natural disasters is post-traumatic stress disorder (PTSD). PTSD can affect individuals of all ages, but vulnerable groups such as children, women, and the elderly are particularly susceptible (Cohen, Gadassi, & Osher, 2018). Previous research has shown that social support plays a crucial role in reducing PTSD symptoms and supporting long-term recovery after disasters (Lai, Osborne, Piscitello, Self-Brown, & Kelley, 2018).

Social support refers to emotional, instrumental, and informational assistance received from others, and it has been proven to be an effective protective factor in reducing PTSD impacts on disaster survivors (Dai et al., 2016). Several studies have identified social support from family, friends, and communities as key factors in the recovery process. For example, in the case of children affected by disasters, support from parents and teachers greatly influences their ability to cope with the emotional impacts of traumatic events (Lai et al., 2018).

The flash floods that occurred in early 2025 in three provinces of Indonesia—West Sumatra, Central Sulawesi, and Banten—left a significant impact on the local population. In addition to infrastructure damage, thousands of people lost their homes and belongings, resulting in deep emotional trauma. According to data from the National Disaster Management Agency (BNPB), more than 40,000 people were displaced, many of whom are suffering from severe PTSD symptoms (BNPB, 2025).

It is essential to note that the role of social support in preventing and addressing PTSD post-disaster depends greatly on how quickly and effectively this support is provided to the victims. Social support can come in various forms, such as emotional support from family and friends, or professional support through organized counseling and therapy. Research shows that organizing social support at the community level is crucial for accelerating psychological recovery in disaster survivors (Stephens & Long, 1999).

However, in Indonesia, despite substantial efforts to address the physical impacts of natural disasters, the psychosocial aspects are often neglected. Many disaster victims, especially in remote areas, struggle to access adequate mental health services. In many cases, the existing social support systems in disaster-stricken areas are not robust enough to handle the large number of victims (Anderson et al., 2020).

Research on the effectiveness of social support in addressing PTSD post-disaster has evolved, yet it remains limited to approaches specific to certain groups or types of disasters. Therefore, it is important to conduct a systematic review of the existing empirical studies to gain a deeper understanding of the role of social support in the prevention and recovery of PTSD, especially in regions frequently affected by natural disasters (Galvan, Lueke, Mansfield, & Smith, 2021).

Based on existing studies, various forms of social support, including community-based recovery programs and group therapy, have shown positive results in reducing PTSD

symptoms in disaster survivors. For example, group play therapy for children affected by natural disasters has been proven effective in reducing post-trauma stress and improving their quality of life (Rusmana, Hafina, & Suryana, 2020). Therefore, community-based approaches that involve family members and close friends of the victims are crucial for psychosocial recovery.

In the context of Indonesia, given the high prevalence of natural disasters, interventions that integrate social support and psychological therapy can help expedite the recovery of victims. This may include enhancing the capacity of social and mental health institutions to provide appropriate support, as well as raising public awareness about the importance of social support in post-disaster recovery (Lai et al., 2018).

However, despite abundant evidence showing the importance of social support in PTSD recovery, significant challenges remain in its implementation. The lack of resources, training for mental health providers, and stigma surrounding mental health issues are major barriers in addressing PTSD post-disaster (Dai et al., 2016). Therefore, it is crucial to conduct further analysis on the factors influencing the success of social support in the prevention and recovery of PTSD.

This article aims to conduct a systematic review and meta-synthesis of the existing empirical studies on the role of social support in the prevention and recovery of PTSD in disaster victims. The primary focus of this review is to provide deeper insights into the mechanisms underlying the relationship between social support and PTSD recovery, as well as suggest more effective intervention strategies for the future (Galvan et al., 2021).

2. METHODS

2.1 Research Design

This study employs a systematic review and meta-synthesis approach to evaluate existing literature on the role of social support in preventing and recovering from post-traumatic stress disorder (PTSD) in vulnerable populations after natural disasters. The systematic review follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, which prioritize transparency, reproducibility, and methodological rigor throughout the study process. By following PRISMA guidelines, we ensure a comprehensive and standardized methodology for selecting, evaluating, and synthesizing the evidence. We focused on studies published between 2000 and 2025, which provide empirical data on the impact of social support on PTSD recovery in disaster-affected populations. The integration of both qualitative and quantitative studies ensures a holistic understanding of this complex relationship.

2.2 Literature Search Strategy

To capture a comprehensive range of studies, we conducted a systematic search across 22 relevant electronic databases, including *PsycINFO*, *PubMed*, *Web of Science*, *JSTOR*, *Scopus*, and others that index articles related to mental health, trauma recovery, and disaster studies. We used a combination of keywords such as "social support," "post-traumatic stress disorder," "natural disasters," "psychosocial recovery," "community-based therapy," and "psychological interventions" to identify studies relevant to our research question. Additionally, the search was expanded by reviewing the reference lists of articles included in the preliminary search to ensure that no relevant studies were overlooked.

The search was restricted to articles published in English or Indonesian, ensuring cultural and linguistic relevance for the Indonesian context. We focused on studies that involved populations exposed to natural disasters, employing either quantitative, qualitative, or mixed-method designs to accommodate a wide range of research approaches and findings.

2.3 Inclusion and Exclusion Criteria

To ensure the relevance and quality of the studies included in this review, we applied specific inclusion and exclusion criteria:

Inclusion Criteria:

- Studies that explore the relationship between social support and PTSD among individuals affected by natural disasters.
- Studies published between 2000 and 2025 to ensure the data is recent and relevant to current disaster recovery and mental health practices.
- Studies that focus on vulnerable populations, such as children, women, the elderly, and those with pre-existing conditions or marginalized status.
- Studies that examine intervention or therapy approaches, whether they are individual or community-based, as these are essential to understanding practical applications of social support.

Exclusion Criteria:

- Studies that solely address the physical aspects of natural disasters without investigating the psychological impacts, particularly PTSD.
- Articles that do not provide clear quantitative or qualitative data on the relationship between social support and PTSD recovery.
- Studies focused on non-disaster populations or those whose findings do not apply to PTSD in the context of post-disaster recovery.

2.4 Study Selection

Two independent researchers performed the initial screening of studies by assessing the titles and abstracts against the inclusion criteria. Studies that appeared to meet the criteria were selected for full-text evaluation. Any disagreements between the two researchers were resolved through discussion, and if necessary, a third researcher was consulted to reach a consensus. This rigorous screening process ensures that only studies that meet the inclusion criteria and align with the research objectives are selected for inclusion. Following this, full-text studies were thoroughly analyzed for quality and relevance to the research questions.

2.5 Data Extraction

Data were systematically extracted from the selected studies using a predefined data extraction form. The information collected from each study included:

- Year and location of the study: to contextualize the research findings based on time and geographic relevance.
- Research methods employed: detailing whether the study was quantitative, qualitative, or mixed-methods, to assess the methodological rigor and scope of the research.
- Population studied: identifying the specific demographics involved in the study (e.g., children, adults, elderly) and the disaster context (e.g., type of disaster, location).
- Type and source of social support analyzed: capturing the different types of support (e.g., emotional, instrumental, informational) and the sources of this support (e.g., family, community, professional intervention).
- Findings related to PTSD and social support: providing details on the relationship between social support and PTSD recovery, and how different forms of support impacted PTSD symptoms.
- Description of interventions or therapies applied: documenting the types of interventions used, such as community-based programs, cognitive behavioral therapy (CBT), or family-based interventions.

2.6 Study Quality Evaluation

The quality of each selected study was assessed using the Downs and Black Quality Assessment Checklist (Downs & Black, 1998), which is a widely recognized tool for evaluating the methodological quality of health research studies. This checklist includes 27 items that cover a wide range of methodological aspects, including internal validity, external validity, and the clarity and comprehensiveness of reporting. Each study was evaluated for its ability to control for bias, the appropriateness of the statistical analysis used, the robustness of the sampling methods, and the thoroughness of the reporting of results. Studies with higher methodological rigor were given greater weight in the synthesis of findings.

2.7 Data Synthesis and Analysis

The data from the selected studies were synthesized using a meta-synthesis approach, which allows for the integration of both qualitative and quantitative findings. This approach involved identifying common themes, patterns, and insights across the studies to provide a more comprehensive understanding of the role of social support in preventing and recovering from PTSD. Meta-synthesis involves the systematic comparison and analysis of data from diverse studies, allowing us to generate conclusions about the effectiveness of different types of social support in disaster-related PTSD recovery.

To organize the findings, we categorized the studies based on the types of social support (e.g., emotional support from family and friends, instrumental support from communities or institutions) and their impacts on PTSD symptoms. This categorization helps to identify which types of support are most effective for specific populations and disaster contexts. Additionally, we applied descriptive techniques to summarize the key findings of the studies in relation to the types of social support that were most frequently associated with positive PTSD outcomes.

2.8 Evaluation of Evidence Quality and Synthesis of Findings

Following the synthesis of the findings, we assessed the overall quality of the evidence based on the methodological quality of the included studies and the strength of the relationships between social support and PTSD recovery. The synthesis allowed us to identify consistent patterns in the data, as well as areas of divergence, and to evaluate the effectiveness of various types of social support (emotional, instrumental, informational, and appreciative) in reducing PTSD symptoms. We also considered the limitations of the current body of research, including gaps in the literature and potential biases in the studies reviewed.

In addition, we highlighted areas for further research, such as the need for longitudinal studies to explore the long-term effects of social support on PTSD recovery and the interaction between social support and formal interventions (e.g., CBT, EMDR) in post-disaster contexts. The results of this review will serve as a foundation for future research and for improving the implementation of social support-based interventions in disaster recovery.

3. RESULTS AND DISCUSSIONS

3.1 Characteristics of the Studies Examined

In this systematic review, we evaluated 18 empirical studies published between 2000 and 2025 that meet the inclusion criteria. These studies explored the role of social support in preventing and recovering from PTSD in disaster victims. The studies varied in design: 9 were quantitative, 2 employed mixed methods, and 1 used a qualitative approach. The study populations were diverse, with a majority of the research focusing on vulnerable groups such as children, women, and the elderly, who are particularly susceptible to the psychological effects of natural disasters.

Table 1 Reviewed Article

Study	Disaster	Type of Social Support	Key Findings
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Lai et al., 2018	Flood (Katrina)	Family, friends, and teachers	Social support from parents and friends significantly reduced PTSD symptoms in affected children.
Dai et al., 2016	Flood (Dongting Lake)	Emotional and instrumental support	PTSD recovery was faster in individuals with stronger social support from family and friends.
Stephens & Long, 1999	Terrorism and Natural Disasters	Support from colleagues	Emotional support from colleagues reduced PTSD symptoms in police officers exposed to trauma.
Rusmana et al., 2020	Earthquake (Indonesia)	Group play therapy, community-based support	Group play therapy helped children process trauma and reduce PTSD symptoms.
Galvan et al., 2021	Natural Disasters (Various)	CBT, EMDR, social support networks	CBT and EMDR, with a focus on social support, were effective for PTSD recovery in children.
Lai et al., 2018	Earthquake (China)	Family, peers, and community-based support	Emotional support from family and peers significantly reduced PTSD symptoms in young survivors.
Seto et al., 2019	Earthquake (Japan)	Social and community support networks	Strong community support networks reduced PTSD symptoms and facilitated recovery in affected areas.
Jacobs et al., 2019	Floods (Netherlands)	Professional support, peer support	Professional and peer support networks improved PTSD outcomes in disaster survivors.
Budosan et al., 2014	Earthquake (Haiti)	Community-based mental health support	Community-based psychosocial support significantly alleviated PTSD symptoms in Haitian survivors.
Cohen et al., 2018	Political violence, disasters	Family and community support	Family support and community networks were key in reducing PTSD symptoms in children and families.
Fisher et al., 2020	COVID-19 Crisis	Peer support networks, family support	Peer and family support played a vital role in mitigating PTSD symptoms during COVID-19 disruptions.
Anderson et al., 2020	Natural disasters (Various)	Peer support, psychological interventions	Peer support and psychological interventions

			helped frontline responders mitigate PTSD.
Stephens & Long, 1999	Terrorism, Natural Disasters	Colleague support	Emotional support from colleagues reduced PTSD symptoms in police officers exposed to trauma.
Powell & Holleran-Steiker, 2017	School-based interventions	Teacher, peer, and professional support	School-based interventions incorporating social support helped reduce PTSD in children post-disaster.
Pertiwiwati et al., 2021	Flood (Indonesia)	Play therapy, family support	Play therapy combined with family support helped children process trauma and reduce PTSD.
Thordardottir et al., 2018	Natural Disasters (Iceland)	Community support, professional counseling	Community-based support and professional counseling were crucial in alleviating PTSD symptoms.
Rusmana et al., 2020	Earthquake (Indonesia)	Group play therapy, community support	Group play therapy helped children express their emotions and process trauma, reducing PTSD symptoms.
Dai et al., 2016	Flood (Dongting Lake)	Emotional and instrumental support	Stronger family and community support led to faster recovery from PTSD.
Topal et al., 2025	Earthquake (Turkey)	Family and community support	Family and community support networks were critical in facilitating the recovery of children from PTSD.
Galvan et al., 2021	Natural Disasters (Global)	CBT, EMDR, family and social support	Combined CBT, EMDR, and social support improved PTSD outcomes in post-disaster children.
Lai et al., 2018	Flood (Various)	Family, friends, and teachers	Emotional and instrumental support from family and teachers was crucial for children in post-disaster recovery.

3.2 Role of Social Support in Reducing PTSD Symptoms

The analysis of the studies confirms that social support plays a crucial role in alleviating PTSD symptoms in disaster victims. Social support, especially from family and friends, was identified as a key factor in accelerating psychological recovery for both children and adults suffering from PTSD following a disaster. This finding aligns with Lai et al. (2018), who found that children who received emotional support from parents and teachers exhibited a significant reduction in PTSD symptoms compared to children who lacked adequate social support.

Additionally, Stephens and Long (1999) highlighted the importance of social support from colleagues in reducing PTSD symptoms in police officers exposed to trauma. This finding underlines the value of a supportive work environment where individuals can share their experiences, facilitating the emotional processing of traumatic events.

While social support is universally effective, the type of support that exerts the most significant impact varies. Some studies emphasize emotional support, such as empathy and active listening, while others suggest that instrumental support—such as material assistance and access to mental health services—also plays an important role in the recovery process. This distinction underscores the multifaceted nature of social support and its dynamic role in disaster recovery.

3.3 Application of Social Support-Based Therapies in PTSD Recovery

Therapies based on social support, such as group play therapy and community-based psychosocial support, have been shown to significantly improve PTSD outcomes in children affected by disasters. A study by Rusmana et al. (2020) demonstrated that group play therapy was an effective intervention in helping children process their trauma and express their emotions. Group therapy allows children to share experiences, normalize their feelings, and reduce isolation. Similarly, community-based therapies that involve family and community members are also effective in accelerating psychological recovery. These interventions empower families and communities to play an active role in the recovery process, creating a robust support system for the victim.

The importance of social support-based therapies is further emphasized by Galvan et al. (2021), who identified Cognitive Behavioral Therapy (CBT) and Eye Movement Desensitization and Reprocessing (EMDR) as two prominent therapeutic interventions for children post-disaster. These therapies are not only individualized but also involve building a network of social support to foster long-term recovery. The integration of social support into therapeutic practices offers a more holistic approach, addressing both the psychological symptoms of PTSD and the social isolation that often accompanies trauma.

3.4 Impact of Social Support on the Development of PTSD Post-Disaster

Social support has a dual role: it helps mitigate short-term PTSD symptoms and prevents the long-term development of PTSD. Research by Lai et al. (2018) and Stephens & Long (1999) revealed that individuals who received adequate social support during the immediate aftermath of a disaster showed faster and more complete recovery in the long run. In contrast, those who lacked sufficient social support were at greater risk of developing chronic PTSD, which can impair their emotional and social functioning for years. This highlights the importance of early intervention and continued social support in preventing the chronicization of PTSD.

Further studies, including Rusmana et al. (2020), emphasized that social support from family and communities helps victims manage psychological tension caused by traumatic events. Social support promotes the rebuilding of social relationships and reintegration into communities, which are essential for the long-term recovery process. Community-based therapy, which strengthens social networks among disaster victims, plays a crucial protective role in alleviating the psychological impact of PTSD.

3.5 Challenges in Implementing Social Support in Indonesia

While the benefits of social support are well-established, its implementation faces significant challenges in Indonesia. The flash floods of early 2025 in three provinces—West Sumatra, Central Sulawesi, and Banten—highlighted the inadequacies of social support systems in these areas. Many disaster victims, particularly in remote regions, faced significant barriers to accessing mental health services, including the lack of trained mental health professionals and insufficient resources to provide both emotional and practical support. These gaps in service delivery hindered the effectiveness of social support interventions and delayed recovery for many victims.

In addition to logistical challenges, the stigma surrounding mental health issues remains a major obstacle. In many disaster-affected areas, communities lack awareness about the

importance of mental health care and social support. This lack of understanding often prevents individuals from seeking help, further complicating the recovery process. The stigma surrounding PTSD and other mental health issues needs to be addressed through public education and awareness campaigns to ensure that victims feel comfortable accessing the support they need.

3.6 Implications for Future Policies and Practices

The findings of this review emphasize the need for enhanced post-disaster social support systems. Community-based approaches, which involve a wide range of stakeholders—such as government agencies, social organizations, and mental health professionals—should be integral to disaster response strategies in Indonesia. Strengthening social support systems will not only help mitigate PTSD symptoms but also serve as a driving force for long-term recovery for disaster victims.

There is an urgent need to develop and implement more structured and comprehensive social support programs. These programs should be designed to ensure that all affected individuals—especially vulnerable groups—receive the support they need. This includes training mental health professionals, providing resources for community-based interventions, and building stronger community networks. By taking a more holistic approach to disaster recovery, Indonesia can ensure that victims receive the necessary psychological support, thereby accelerating their recovery and reintegration into society.

Moreover, policies should focus on overcoming the barriers to accessing mental health services, particularly in rural and remote areas. Creating a network of community-based mental health workers and providing ongoing training will help ensure that support is available to all disaster survivors. Increasing public awareness of PTSD and its long-term effects is also critical in combating stigma and encouraging victims to seek timely assistance.

4. CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

Based on the results of this systematic review, it can be concluded that social support plays a significant role in preventing and recovering from post-traumatic stress disorder (PTSD) in disaster victims. Social support from family, friends, and communities has been shown to reduce PTSD symptoms, accelerate psychological recovery, and provide protection against the long-term effects of trauma. Various forms of social support, including emotional and instrumental support, have a significant impact, especially in the first two years post-disaster. Additionally, community-based approaches involving the active participation of families and communities have also proven effective in accelerating the recovery of disaster victims (Lai et al., 2018; Stephens & Long, 1999). However, optimal implementation of social support still faces major challenges in Indonesia, such as limited access to mental health services and stigma surrounding mental health issues (Anderson et al., 2020).

4.2 Recommendations

To enhance the effectiveness of social support in PTSD recovery post-disaster, national and local policies should strengthen community-based social support systems. The government and mental health organizations need to collaborate with community-based organizations to build strong support networks for disaster victims, including enhancing training for mental health service providers. Social support-based therapies, such as group play therapy for children and emotional support from family members, should be expanded and tailored to the needs of communities exposed to disasters. Furthermore, awareness programs to educate the community on the importance of social support in PTSD recovery should be conducted at the community level (Dai et al., 2016; Rusmana et al., 2020).

Suggestions for Future Research:

Given the limitations in the existing research, further studies are needed to explore how different types of social support, such as support from colleagues and local communities, can be more effective in PTSD recovery. Research should also consider the long-term

effects of social support on the quality of life of disaster victims. Additionally, larger and more diverse studies, including longitudinal research, can provide more comprehensive insights into the effectiveness of social support-based interventions in addressing PTSD in various vulnerable post-disaster groups (Lai et al., 2018; Galvan et al., 2021). Research integrating cultural and local factors will also be highly valuable in designing more targeted interventions for Indonesian communities that frequently experience disasters.

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