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Psychological Impact of Earthquakes among Children: A Review

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ABSTRACT:

Background Earthquakes is one of the most commonly occurring natural disasters in Indonesia that can have economic, environmental, social and psychological effects. Earthquakes can have psychological impact on mental health of the victims, especially the vulnerable groups like children. Therefore, this study aims to review the psychological impacts arise among the affected children in various countries .Methodology Literature search using keywords like 'psychological trauma', 'earthquake' and 'children' yielded to 15 articles collected from three databases including PubMed, Google Scholar and Scopus from 2017 to 2024. Inclusion criteria is to collect research articles on psychological impact of earthquake only among children, articles in English language, psychological impact not limited to PTSD and collection of the articles on psychological impact of children from earthquake from various contries.Results This study reveals the most commonly occurring psychological issues after earthquake which mostly include post-traumatic stress disorder (PTSD), and depression. This phase is also accompanied by sadness, anxiety and suicidal thoughts among children after the earthquake. It was found that the effects of the psychological impact stays in the children for at least 3 years. When people encounter another traumatic stressor later in life, having experienced trauma as children increases the likelihood that they may develop post-traumatic symptoms. ConclusionIf this psychological impact is not immediately addressed, it can interfere with daily life of the children and their development of mental health.

Keywords: post-traumatic stress disorder, depression, post earthquake, children

1. Introduction

An earthquake is a sudden, mild to strong shaking of the ground caused by a movement in the earth's plates. With a duration ranging from a few seconds to several minutes, earthquakes typically begin with a rumbling sound that can be as soft as a freight train or as loud as one which strike abruptly without any warning (The National Child Traumatic Stress Network, 2022). Indonesian island is located at the intersection of four major earth plates, including the Pacific Plate, Indian Plate, Australian Plate and Asian Plate (Intan, 2021). According to the National Disaster Management Board (BNPB, 2024), this makes Indonesia more vulnerable for natural disasters such as earthquake, tsunami, flood, landslide and forest fire (Muhari, 2024). Indonesia is among the nations with the highest earthquake activity in relation to other nations, owing to its location on a tectonic plate surrounded by active volcanoes, which leaves it open to a variety of natural calamities such as earth quake, volcano eruption and Tsunami (Latif, 2020). Occurrence of an earthquake in an ocean results in Tsunami, formation of tidal waves due to the movement of tectonic plates which affects the coastal lives badly (Lukyani, 2022).

Children in many countries have faced the psychological impact of earthquake including Japan, China, Indonesia, Turkiye and Syria. During one of the recent earthquakes occurred in Syria during the early hours of 6th February 2023, parents in Syria and Turkey instantly dragged their sleeping children out of their beds and ran outside into the chilly, rainy winter night as the buildings began to shake and then collapse. The earthquake in Syria affected about 3.7 million children and estimated over 500,000 individuals to be forced to relocate. More than 11,000 aftershocks were felt in the area following the impact of another powerful earthquake. More than 850,000 children remain in damaged or destroyed shelters (Ferguson, 2023). Hatay, one of the world's oldest and most diversified towns, is also one of the Turkish provinces that was most severely damaged by the earthquake. As the procedures of healing and recovery takes from months to years, many children and their families continue to feel stress and anguish for years to come as they try to rebuild their lives, given the magnitude of the disaster and the significant damage it has caused to buildings and infrastructure. Earthquake does not only left tens of thousands of people homeless and claimed thousands of lives, but it also severely damaged the mental health of young people (Yildiz, 2023).

Indonesia as a country that made up of islands and sits at the meeting point of four tectonic plates of the Pacific, the Indian, the Australian, and the Asian continents had experienced many earthquake incidents (Lukyani, 2022). The earthquake phenomenon that occurred in Kajai region, Talamau District, West Pasaman in West Sumatera, Indonesia was measured at 6.1 Mw and caused severe landslide resulting from unstable soil conditions with heavy rain. The residents build tents in front of their homes (Perdana Putra, 2022). Geographically, Japan is also located at the intersection point of earth 's four tectonic plates, making it a very vulnerable area to occur earthquakes. Japan experiences hundreds of earthquakes every year, up to about 1,500 per year (Sef, 2024). According to the Japan Meteorological Agency, (2024) an earthquake recently occurred in Japan on January, 9. 2024 with a magnitude of 6.0 caused 323 people missing and the death toll of 202 people.

Japan handle earthquakes with technological assistance, including in the housing sector (Sef, 2024). For example, mobile phones in Japan are equipped with an earthquake warning system, which can give users 5 to 10 seconds to find shelter before an earthquake occurs. Earthquake-resistant homes and buildings are designed so that during an earthquake, people inside can move around without falling or getting injured (Setiawati, 2023). Japan also has an integrated disaster management system. The government has issued extensive guidance on building emergency equipment before a disaster strikes. Participation in disaster drills has been in

practice for the kids as early as kindergarten. Local evacuation centers and comprehensive emergency facilities are available to serve residents (Setiawati, 2023).
Despite many precautionary actions being taken by the countries affected by earthquakes, children are very vulnerable to psychological impacts as they can disrupt children's development if not addressed immediately. Therefore, the objective of this review is to discuss the various psychological impacts faced by the children affected by earthquakes in various countrie

2. Methods

This review was conducted based on keywords 'psychological impact', earthquake' and 'children'. A database search conducted using three databases include PubMed, Google Scholar and Scopus and gathered 15 articles. The articles were from 8 years of timespan from (2017 till 2023) using the keywords mentioned (A.Musak, 2021). The inclusion and exclusion criteria used in this study is shown in Figure 1.

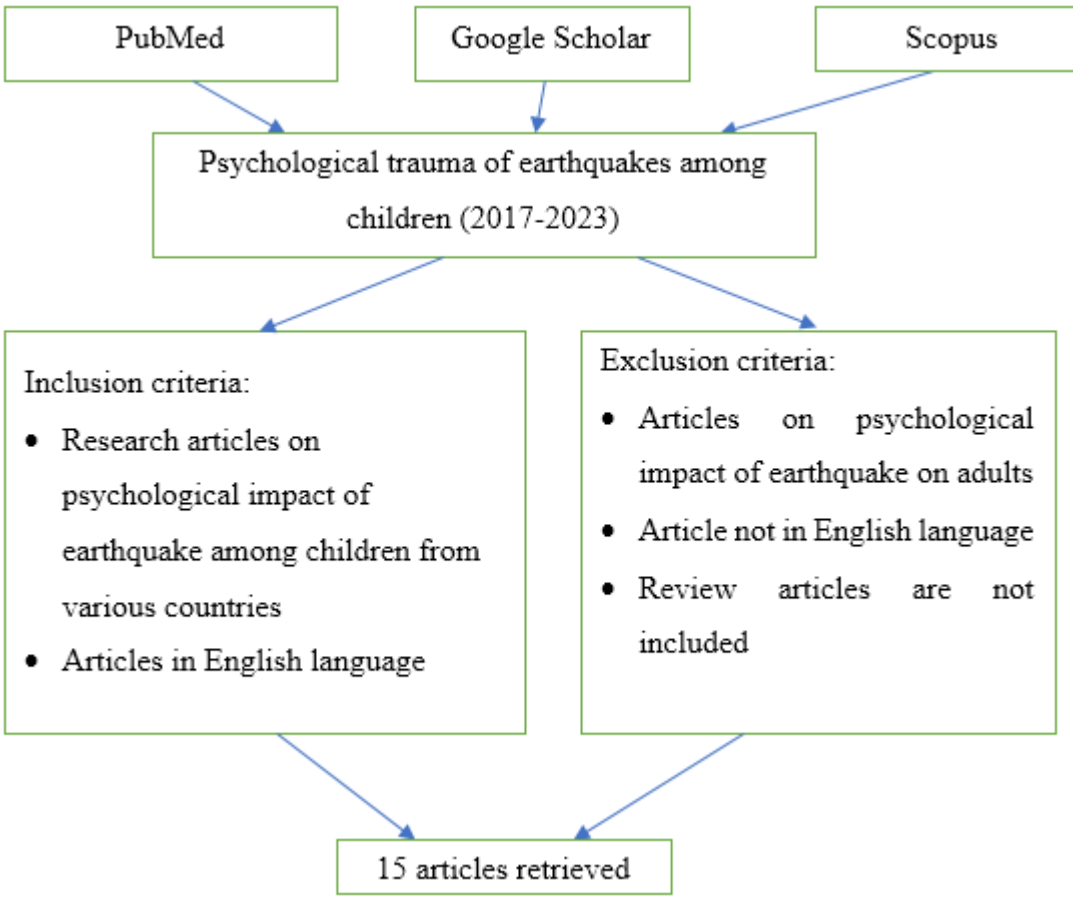

Figure 1. Flowchart showing the inclusion and exclusion criteria used in this review.

Results and discussion

In the study conducted by Racanello, et al (2019), elementary school children's earthquake experiences were analyzed using the Ranking and Scaling (RASC) method through written and online assignments. The Rasch Method is effective in helping children to respond to traumatic events such as earthquakes. The Rasch model calculates the number of possible explanations for the concept of earthquakes, which may be the first step towards developing a distinctive gauge of public perception of natural disasters like earthquakes (Raccanello et al., 2019).

Respondents were requested to write about everything that comes to their mind about what an earthquake is. In the second session, an online recognition task was given to the students. The research revealed that the images that best convey the idea of an earthquake are images containing natural elements rather than buildings. Two pictures presented about explosion in a non-earthquake area, allow children to identify the significance and secondary effects of the earthquake. They were asked to rate the extent to which the picture represented earthquake (Raccanello et al., 2019).

Trauma in children can interfere with their development into adulthood. One of the interventions for children who have experienced trauma is play therapy (Nawangsih, 2016). Article by Sakama et al (2019) has made a comparison of the characteristics of psychological assessment and psychological disorders of children in Japan for two years at the land and coastal waters after the Great East Japan Earthquake (GEJE) using Sensitivity and Anxiety Questionnaire (SDQ) study. Physical symptoms such as sensitivity towards earthquake, shock or sound, hoarseness, emotional disturbances, weakness, nail biting, refusal to go to the toilet alone, abdominal pain, nausea and headaches were observed in children (Eva et al., 2022). In the "Parental Psychological Response" category, some showed signs of irritability, anxiety or depression while in the "Parental Counseling" category, parents or guardians provided psychological support to the children who are lonely, anxious or stressed at school (Sakama et al., 2019). According to the findings, it was found that 230 participants (31.9%) were still depressed and experienced psychological distress two years after the catastrophe. It was determined that among the children who did not receive external help, especially those who living in coastal areas had more mental health issues than those living in land area. Previous studies shown that a parent's loss, transition, and mental illness can affect a child's brain. Babies are safe from earthquakes but they were afraid too (Sakama et al., 2019). Among the 230 phone calls made from inadequate rehabilitation support, 154 (67.0%) were classified as searching for their parents (Sakama et al., 2019). There is also discussion on the necessity of early intervention in the wake of a disaster and long-term mental health services. This study suggests that the child may need ongoing support depending on symptoms and trauma due to running away, losing a loved one, or damaged home (Sakama et al., 2019). Trauma healing has been a best solution for the trauma resulting from disasters . Trauma healing is provided during the emergency response period, namely as a step to fulfill personal safety from the stress experienced as a result of the disaster that befell the individual. Recovery from trauma requires time which depends on the trauma healing process undertaken by the individual (Rahmat & Budiarto, 2021).

Table 1 Summary of the articles of psychological trauma of children affected by earthquake.

No	Title	Respondents	Method	Outcome	Reference
1	Children's Psychological Representation of Earthquake: Analysis of Written Definitions and Rasch Scaling	Children	Analysis	The majority of children had never experienced an earthquake (n = 91; 71%), while only a small proportion (n = 30; 23%) had experienced an earthquake. This information was missing in seven children (6%). Among the children who experienced at least one earthquake, 19 (64%) had an earthquake; None of the children who experienced at least one earthquake reported any damage.	Raccanello et al., 2019
2	Psychological Characteristics of Children at Two Years after the Great East Japan Earthquake: Analyses of Telephone Consultation Records	Children	Cross-sectional study	Severe trauma can cause chronic mental health problems in children, who may need long-term mental health support.	Sakama et al., 2019
3	Earthquake-related stressor associated with suicidality, depression, anxiety and post-traumatic stress in adolescents from muisne after the Earthquake 2016 in Ecuador	Children and Adolescents	cross-sectional study	Suicidal thoughts and behaviors, depression, anxiety, and post-traumatic stress disorder (PTSD) are more common than other studies.	Gerstner et al., 2020
4	Changes Over Time in Post-traumatic stress disorder Among Children Who	Children and Adolescents	Analysis	Two years after the Wenchuan earthquake, 80 percent of children still had symptoms of post-traumatic stress disorder (PTSD),	Chen Ying et al., 2021

	Survived the 2008 Wenchuan Earthquake and Predictive Variable			and three years later, 66 percent of children still had symptoms.	
5	Long-Term Impact of Parental Post-Traumatic Stress Disorder Symptoms on Mental Health of their offspring after the Great East Japan Earthquake	Children	cross-sectional study	The Great East Japan Earthquake (GEJE) has long-term effects on behavioral problems in children and symptoms of post-traumatic stress disorder in parents of three-year-olds.	Honda et al., 2019
6	Post-traumatic Stress Symptoms in Adolescents Exposed to the Earthquake in Lombok, Indonesia: Prevalence and Association With Maladaptive Trauma-Related Cognition and Resilience	Children and Adolescent	cross-sectional study	The prevalence of PTS (Post Traumatic Stress) Symptoms was 69.9%. 61.37% of the respondents are women and 56.48% of the mothers are low educated.	Wahab et al., 2021
7	Mental health problems among children and adolescents experiencing two major earthquakes in remote mountainous regions: A longitudinal study	Children	Longitudinal study	After 12 months, the incident of post-traumatic stress disorder (PTSD) was 43.9%, depression (20.9%) or PTSD and depression (18.2%), and other conditions (0.9%). The 30-month evaluation found that 15.7% of subjects met criteria for post-traumatic stress disorder and 21.6% met criteria for depression. No points will be awarded for other comments or concerns. The main determinants of PTSD and depression are the death of a family member, previous earthquakes, relationships between parents and children, and financial or stressful situations.	Wanjie et al., 2017

8	Assessing the Mental Health Impact of the 2011 Great Japan Earthquake, Tsunami, and Radiation Disaster on Elementary and Middle School Children in the Fukushima Prefecture of Japan	Children	Qualitative	These results show that children affected by natural disasters, especially those experiencing depression-related stress and parents experiencing stress-related stress, may affect children's mental development.	Lieber, 2017
9	Earthquake exposure, adverse childhood experiences, and psychosocial functioning in Chilean Children: A longitudinal study	Children	Randomized controlled trial	Research shows that both external and family-related stressors can affect children's brain activity, as well as changes in classroom and medication management. Regular monitoring can help identify how students are affected by chronic and acute stress.	Dutta et al., 2022
10	Post-traumatic positive and negative psychological changes experienced by child and adolescent earthquake survivors in remote rural western China: a cross-sectional study six years after the Yushu earthquake	Children	Cross Sectional Study	For poor health, the mean scores were 19.28 and 13.08, respectively. Three characteristics linked to psychological adaptability are not having suffered an earthquake, being male, and having completed higher education. Factors associated with poor health include living in the savanna instead of the city, earthquake damage, and lack of mental stimulation.	Liu et al., 2021
11	Associations between media exposure and mental health among children and parents after the Great East Japan Earthquake	Children and Parents	Survey	To reduce the potential for psychological harm, therapists may advise victims to limit their exposure to television images.	Ohnuma et al., 2023
12	Adults' expectations on	Children	Generalized	Thoughts and solutions to help reduce fear, grief and anger about	Raccanello et al.,

	children's earthquake-related emotions and coping strategies.		Linear Mixed Models	what happened during and after the earthquake. Earthquakes have very little impact. The study provides a deeper understanding of the emotional dynamics of earthquakes.	2021
13	Trajectories of posttraumatic stress disorders among children after the wenchuan earthquake: a four-year longitudinal study	Children	cross-sectional study	Three possible types of PTSD were identified in children: resilient (74.9%), relapsing (17.7%) and recovery (7.5%). Trauma exposure was more likely to be related to a more severe trajectory of PTSD, having experienced prequake trauma was more likely to be related to the recovery trajectory and school 2 was more likely to be related to the relapsing trajectory.	Liang et al., 2019
14	Post-disaster mental health and psychosocial support: experience from the 2015 nepal erthquake	Children and adult	Qualitative	Responses to the Mental Health and Psychosocial Support (MHPS) revealed many advantages and disadvantages of mental health in Nepal. Given opportunity to "get back to a better state" through rehabilitation.	Sherchan et al., 2017
15	Posttraumatic stress and depressive symtoms in children after the Wenchuan earthquake	Children	Correlations	Over time, the stability of depression symptoms increases, while the stability of PTSD symptoms decreases. Post-traumatic stress disorder (PTSD) rates dropped dramatically after earthquake (from 9.3% to 5.5%). Therefore, the social changes we examine occur in two stages. PTSD and depressive symptoms are interrelated.	Cheng et al., 2018

Article by Gersner, et al (2020) studied the psychological impact and the relationship of mental health and earthquake related stressors among adolescents in Ecuador. This study used the Okasha scale to measure prevalence for several types of psychological impacts which showed prevalence for PTSD (33.2%), anxiety (15.2%), depression (29%) and suicide attempt (18.2%). This study revealed that several factors include social culture and understanding of suicidal behavior and stressful situations (natural disasters) lead to suicide attempts. One-third of the young people in Ecuador experience PTSD, anxiety, depression and suicide attempts after the earthquake, followed by serious injuries, family loss and major financial losses (Gerstner et al., 2020). Due to frequent disasters, people are exposed to long-term mental health issues trauma such as depression, anxiety, fear, dizziness and nausea (Suhartiwi et al., 2019).

Study by Chen Ying, et al. (2021) which studied on the changes in PTSD observed by children who survived the 2008 Wenchuan earthquake depicted that during stressful situations, anxious individuals can recognize negative emotions, tend to change their thoughts to be more positive, and lower their self-esteem in order to respond effectively to stress. Strong people can use positive thinking to cope with PSTD (Chen et al., 2021). Another study suggest that 50 percent or more of the victims develop chronic depression, generalized anxiety disorder, and post-traumatic stress disorder (PTSD), resulting in long-term illness, disability, and loss of income (Adhikari Baral & Bhagawati, 2019). Some of the physical and psychological impacts of trauma reported include sleep disorders, anxiety, paralysis, decreased memory, mental disorders, low self-confidence, headaches and even digestive disorders (Ardian, 2023).

Honda et al (2019) in his long-term study on impact of parental post-traumatic stress disorder of their offspring after the Great East Japan Earthquake (GEJE) on March 2011 implies that the GEJE has long-term effects on behavioral problems in children and symptoms of post-traumatic stress disorder in parents of three-year-olds. The children's behavioral problems were divided into three categories which include, internalizing behavior problems (withdrawal, physical discomfort and anxiety), acting problems (delinquent or inappropriate behavior), and behavior problems (social problems, emotional problems). Conversations with psychiatrists or psychologists and questionnaires found that children suffer from traumatic events such as separation from their parents, loss of a family member, death of relatives or friends, or witness a tsunami or tsunami, damage to the home (complete or partial), separation from home, temporary housing, or separation of family members (Honda et al., 2019). In this study, the prevalence rate of behavioral problems was 18.9% at baseline and 20.1% at follow-up. More than 80 percent of children sustain one or more injuries. It was observed that after GEJE, children who consulted a doctor, psychologist or counselor regarding their mental or behavioral problems were 19.5% and those who received home treatment or hospital treatment for these problems were 10.1% (Honda et al., 2019). In this study, important but least powerful factors can also directly or indirectly cause behavioral problems in children. Therefore, the uncertainty of the relationship between parenting problems, psychological problems and behavioral problems seen in children in the early post-traumatic period arises. There appear to be many reports about the direct impact of second-order parental problems on the child's behavior. Other factors such as the separation of children and the words of close friends can influence the child's behavior (Honda et al., 2019). They report that the relationship between parents and children can affect children's health. Parental PTSD symptoms can be considered as an obstacle to the development of the relationship between parents and children, and their effects will appear after 2 to 3 years. On the other hand, behavioral problems seen in children are not only with parents' PTSD symptom, externalizing symptoms are a way of understanding parents' current stress (Honda et al., 2019). Psychological trauma is experienced when an individual feels emotionally, cognitively, and physically overwhelmed that the ability to cope with a condition is impaired, leading to long-term effects of the trauma on the health of parents and children

(Honda et al., 2019) after an unpleasant, sad, painful, frightening, worrying and annoying event (Widyastuti et al., 2019).

According to Wahab's study in 2021, the prevalence of PTSD among young people after the earthquake occurrence is 69.9% (Wahad et al., 2021). It was also found that the female adolescents had more symptoms of PTSD than males. While the negative effects of PTSD was found to be more prominent when the father became more irritable and detached (Ray, 2015).

Tang et al. (2017) in his 12-month assessment study of post-disaster related disorder among children in China after the Ya'an and Wenchuan earthquake has identified the risk of developing PTSD to be 43.9% among children and adolescents. The prevalence for depression is 20.9% and other conditions is 0.9%. At the 30-month evaluation, 15.7% of subjects met criteria for PTSD and 21.6% met criteria for depression. Post-traumatic stress disorder (PTSD) and depression occurs in this study due to death in the family, previous experience of earthquake, economic crisis, poverty and weak parent-child relationship. Family therapy may be needed to support traumatized children and youth to prevent mental illness (Wanjie Tang, 2017).

Lieber (2017) conducted a study to assess the mental health of elementary and middle school children in Fukushima, Japan who were affected by earthquake occurred at magnitude 9.0. Routine school evaluations can determine how children are affected by stress and serious illnesses that help to determine individualized treatment for them. This study found that children at younger age and those with parents who have suffered trauma due to earthquake are vulnerable to pediatric mental health conditions (Lieber, 2017).

Dutta et al (2022) showed in his study the impact of a 8.8 magnitude earthquake in Chile on the elementary school students' psychosocial exposure and adverse childhood experiences (ACEs). Students were screened before and after the 2010 earthquake with the parent-and-teacher report and ACEs comprising family pathophysiology, child chronic illness, family social isolation and father absence. The study showed that earthquake exposure was significantly associated with worsened psychosocial functioning and classroom adaptation. As hypothesized, students living in the most affected areas had greater declines in psychological functioning and post Pediatric Symptom Checklist–Chilean Version (PSC-CL) scores than students living in the less affected area (Dutta et al., 2022).

Liu (2021) studied on post-traumatic positive and negative psychological changes of children and adolescent earthquake survivors in remote rural western China. Factors associated with positive psychological adjustment include higher education, being male, and not being injured in an earthquake. Factors associated with poor mental health outcomes include living in rural areas, being injured in an earthquake, and not seeking mental health counseling (Liu, 2021).

In a study by Ohnuma et al (2023), the relationship between social media and children and parents' health after the Great East Japan Earthquake suggests that viewing images of victims on television after the earthquake is associated with mental illness in children and their parents. A longitudinal study of psychological findings related to posttraumatic stress disorder interventions focusing on media literacy among parents of young children found that improving media literacy can eliminate the relationship between warning effects and natural disasters in news perception (Ohnuma et al., 2023).

Raccanello et al. (2021) show that natural disasters like earthquakes have significant effects on mental health. Fear occurs more often than sadness during an earthquake than after an earthquake (Raccanello D, 2021). Disappointment, rejection and chronic drug reactions leads to mood swings, withdrawal, social problems, and physical symptoms such as headache or nausea (Campbell, Mary, 2024). These findings can help professionals design programs that improve children's needs.

A longitudinal study conducted by Liang et al., (2019) found that four years after the Wenchuan earthquake, 74.9% of the affected children showed improvement, 17.7% has recovery, and

7.5% had disappearance of PTSD symptoms. Recovering children reported more PTSD symptoms in the first two years and it was reported that they had fewer symptoms three years after the earthquake. Overall, these results suggest that intensive interventions are needed in the post-disaster period and psychological assessments should be performed to identify people at high risk to provide appropriate mental health services for those who are in need. Additionally, trauma, pre-earthquake trauma, and schooling are factors that can predict the development of PTSD. Through this longitudinal study, detailed and comprehensive new insights provides into patterns of chronic PTSD symptoms and post-traumatic stress disorder in children (Liang et al., 2019). Trauma is a very dangerous psychological disorder and it is capable of destroying the balance of human life. Trauma sufferers may experience anxiety and other symptoms, extreme worry and depression which can cause mental disorders (Clissold, 2021).

Study by Sherchan et al., (2017) shows that The Mental Health and Psychological Support's (MHPSS) response to the 2015 Nepal earthquake was largely ad hoc as health emergency plans as they did not anticipate and prepare for interventions (Sherchan et al., 2017). However, The Mental Health and Depression Psychosocial Support (MHPSS) subset has the potential to add value to the health and prevention response by identifying the importance of the need for MHPSS and facilitates the coordination of collaborative activities. As with other disasters, the need for emergency services and safety is a major concern. Strong community and family ties in Nepalese society are the greatest source of moral and emotional values and make the society very resilient to these conditions. This understanding of the disempowerment of vulnerable populations is also a misunderstanding of policymakers when assessing, planning, investing in, and implementing long-term MHPSS (health and mental health) strategies and interventions. Social support from family, friends, and support groups can help individuals who have experienced trauma to feel less alone and better able to overcome the trauma experienced (Baylin & Winnette, 2016).

Cheng, et al (2018) showed the relationship between PTSD and depressive symptoms, stability, and posttraumatic stress symptoms among children after the Wenchuan earthquake. Results of the study suggests that the persistence of depressive symptoms may increase over time, whereas the persistence of PTSD symptoms may decrease. PTSD rates dropped dramatically after earthquake from 9.3% to 5.5% (Cheng et al., 2018). The social variables we examined are two-level: PTSD and depressive symptoms are interrelated, and depressive symptoms predict PTSD symptoms. Results showed that symptom severity predicted PTSD and depressive symptoms at 2 weeks, but depressive symptoms at 2 weeks were not associated with PTSD symptoms at 1.5 months. (Cheng et al., 2018). PTSD symptoms can also cause depressive symptoms in children, but the likelihood of PTSD is low. While the effects of PTSD symptoms tend to be more severe in the early stages of trauma than in the later stages. Post-traumatic stress symptoms may not be as strong. This is because most participants with PTSD symptoms had not yet reached at baseline, but participants still had symptoms of PTSD (Cheng et al., 2018). Several people were injured at the China Science Park Youth Beichuan Xiwang School during the earthquake in Wenchuan. However, the school did not collapse even though it was at the site of the earthquake, it was called the "miracle school" (Cheng et al., 2018). Moreover, all students receive mental health treatment at school. After the Wenchuan earthquake, the Institute of Psychology of the Chinese Academy of Sciences temporarily held psychology courses in schools and other places.

Natural disasters have many negative effects on human life, such as loss of life, destruction of the environment, and psychological damage to victims (Utomo et al., 2016). The most important finding is that this study shows two-level changes of the relationship between Post-traumatic stress disorder (PTSD) and depression in children after earthquake. PTSD and

depressive symptoms were influenced by each other in stage 1, while depressive symptoms predicted PTSD symptoms in stage 2. However, preliminary tests showed that depressive symptoms were not associated with PTSD and that anxiety symptoms predicted depressive symptoms. Research shows that symptoms of PTSD can lead symptoms associated with depression and PTSD early-onset depression symptoms (Cheng et al., 2018).

3. Conclusion

The studies conducted in this review showed that children affected by the earthquake developed psychological problems such as suicidal ideation, depression, anxiety and Post-Traumatic Stress Disorder (PTSD). If these mental conditions are not treated immediately, the children's daily life and development may be affected. It is hoped that the results from this research will benefit the authorities who monitors the mental health of victims, especially those in vulnerable situations such as children. Future research on this topic should consider family related or other cultural practices to better understand children's posttraumatic stress behaviors and the support needed to address these issues.

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