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The psychological impact of the Turkey-Syria earthquake on children: addressing the need for ongoing mental health support and global humanitarian response

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ABSTRACT

This letter aims to explore the potential impact of the Turkey-Syria earthquake on the psychological well-being of the affected children and adolescents. It emphasises the crucial importance of prompt identification and management of emerging mental health disorders in this vulnerable population. The letter draws on existing research evidence to highlight the need for suitable mental health interventions to mitigate the anticipated suffering of many children and adolescents affected by the earthquake. A comprehensive overview of the mediating factors which may play a role in the extent of the impact of an earthquake on the mental health of children is discussed. A range of appropriate strategies and interventions are recommended and the call for continued global support is renewed. We have concluded that major earthquakes can potentially contribute to the development of mental health disorders among children and adolescents. However, by providing timely and effective support, it is possible to prevent long-term psychological consequences and facilitate early recovery. We propose the urgent implementation of effective mental health interventions in the aftermath of the Turkey-Syria earthquake to foster the recovery and resilience of the affected young population.

El impacto psicológico del terremoto de Turquía-Siria en los niños: abordando la necesidad de un apoyo continuo a la salud mental y una respuesta humanitaria mundial

Esta carta tiene como objetivo explorar el impacto potencial del terremoto de Turquía-Siria en el bienestar psicológico de los niños y adolescentes afectados. Ésta enfatiza la importancia crucial de la pronta identificación y manejo de los trastornos de salud mental emergentes en esta población vulnerable. La carta se basa en la evidencia de investigación existente para resaltar la necesidad de intervenciones en salud mental adecuadas para mitigar el sufrimiento anticipado de muchos niños y adolescentes afectados por el terremoto. Se discute una visión general completa de los factores mediadores que pueden desempeñar un papel en la magnitud del impacto de un terremoto en la salud mental de los niños. Se recomienda una gama de estrategias e intervenciones apropiadas y se renueva el llamado a un apoyo global continuo. Hemos concluido que los grandes terremotos pueden contribuir potencialmente al desarrollo de trastornos de salud mental entre niños y adolescentes. Sin embargo, al brindar apoyo oportuno y efectivo, es posible prevenir consecuencias psicológicas a largo plazo y facilitar la recuperación temprana. Proponemos la implementación urgente de intervenciones efectivas de salud mental tras el terremoto de Turquía-Siria para fomentar la recuperación y la resiliencia de la población joven afectada.

土耳其-叙利亚地震对儿童的心理影响：满足持续心理健康支持和全球人道主义应对的需求

这封信旨在探讨土耳其-叙利亚地震对受影响儿童和青少年心理健康的潜在影响。它强调了及时识别和管理这一弱势群体中新出现精神健康障碍的至关重要性。这封信利用现有的研究证据，强调需要采取适当心理健康干预措施，以减轻许多受地震影响的儿童和青少年的预期痛苦。全面概述了可能在地震对儿童心理健康影响程度中发挥作用的中介因素。建议采取一系列适当的战略和干预措施，并再次呼吁全球继续提供支持。我们的结论是，大地震可能会导致儿童和青少年出现心理健康障碍。然而，通过提供及时有效的支持，可以防止长期的心理后果并促进早期康复。我们建议在土耳其-叙利亚地震后紧急实施有效的心理健康干预措施，以促进受影响年轻人恢复和心理韧性。

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PALABRAS CLAVE

Desastre natural; terremoto; salud mental; trauma; niños; afrontamiento

关键词

关键词; 自然灾害; 地震; 心理健康; 创伤; 儿童; 应对

HIGHLIGHTS

- Mental health disorders are more prevalent in children affected by earthquakes.
- Prompt identification of emerging mental health disorders among this population is crucial.
- Management of the psychological impact in this context must be practical and needs-based.
- A focused and continued global support response is needed to manage the long-term challenges.

1. Introduction

Research has demonstrated that while children can be resilient in the aftermath of natural disasters (Acosta et al., 2016), they may still be particularly vulnerable to the psychological impact of natural disasters (Bonanno et al., 2010), mainly due to their reduced coping ability, dependence on adults, and limited emotional maturity. The cognitive and developmental vulnerability in children may also have long-lasting effects on academic, social, emotional, and behavioural achievements in adulthood (Colizzi et al., 2020). It is recognised that children who experience natural disasters, such as earthquakes, are at a higher risk of developing Post-traumatic stress disorder (PTSD), anxiety, depression, and behavioural problems (Pfefferbaum et al., 2014).

On 6 February 2023, a devastating earthquake hit parts of Turkey and Syria resulting in extensive damage to infrastructure, mass displacement of almost 6 million people, and the loss of more than 50,000 lives (UN Office for the Coordination of Humanitarian Affairs, 2023). The Turkey-Syria earthquake proved a calamity upon a calamity for most Syrian refugees who had migrated to Turkey due to the prevailing civil war, in addition to impacting the lives of millions of the native population. While the physical complications of earthquakes are well-recognised, there is little knowledge of the mental health impact and the interventions that may prove helpful for the affected population.

This letter examines the impact of the earthquake on the mental health of children in Syria and Turkey, drawing on research and empirical evidence, to identify important mediating factors. The authors present strategies and interventions that can be utilised to mitigate and address the possible mental health implications and provides recommendations for policy-makers, health workers, and families on how to support children and their families in the aftermath of the earthquake. The crucial need for a continued and coordinated global response to manage the aftermath of the earthquake and to prevent a potential mental health epidemic is highlighted.

2. Psychological impact of earthquakes on children

It is essential to consider the cumulative effect of trauma on children and adolescents, as many individuals who experience PTSD symptoms following the earthquake might have been exposed to prior traumatic events. Such events may include exposure to war-related trauma, displacement, family violence, or other forms of interpersonal trauma. The acknowledgment of the possibility of pre-existing traumatic experiences provides a more comprehensive understanding of the children's vulnerability and resilience in the aftermath of the earthquake.

A study exploring PTSD among 293 Turkish children and adolescents exposed to the 1999 Marmara Earthquake concluded that 24.2% of participants reported severe symptoms (Bal, 2008). Oppedal and colleagues assessed the extent of trauma among 285 Syrian children living in a refugee camp in Turkey in 2018 during the early stages of the civil war and examined its impact on depressive symptoms and showed the total number of traumatic events correlated significantly with depression (Oppedal et al., 2018). The prevalence of depression was found to be 40.9% in school-going children one year after the earthquake in Haiti (Blanc et al., 2015). Another study performed six weeks after the devastating earthquake in Taiwan in 1999 found that 21.7% of children surveyed reported symptoms of PTSD (Hsu et al., 2002).

A major earthquake can have lasting mental health effects requiring continued support and treatment. A study conducted 18 months after the 2005 Kashmir earthquake in Pakistan found that 64.8% of affected children had significant symptoms of PTSD (Ayub et al., 2012). Children aged 7–14 years residing in camps in Phuket and Krabi provinces after the under-sea earthquake and Tsunami in southern Thailand in 2004 reported high rates of Depressive and PTSD symptoms 2 and 9 months post-calamity (Thienkrua et al., 2006). A cross-sectional study in Kathmandu, Nepal, 15 months after the 2015 earthquake revealed that 51% of the 800 earthquake-affected children aged 7–16 years were having moderate to severe PTSD symptoms (Acharya et al., 2018). Another study of 330 young children who experienced the 2008 Sichuan earthquake in China found that many children continued to experience PTSD symptoms 6 and 12 months after the earthquake (Liu et al., 2011). The prevalence rates at the two time periods were 23.3% and 22.7% for anxiety, 14.5% and 16.1% for depression, and 11.2% and 13.4% for PTSD, respectively. The impact of the earthquake on Syrian children and families fleeing the civil war and taking refuge in Turkey is, therefore, likely to be severe given their complicated situation.

It must be acknowledged that while the heterogeneity of the reported studies may potentially influence the reported prevalence rates and direct comparisons may not be appropriate, the presented prevalence rates still offer valuable insights into the prevalence and potential burden of psychological disorders among earthquake-affected children.

3. Risk and protective factors

Several factors may influence the psychological impact of natural disasters such as earthquakes on children. It is important to recognise the different stages during which these factors may be at play i.e. before, during, and after a disaster. The severity of the disaster, the

level of exposure, the extent of available social support (particularly from caregivers and teachers) among other protective factors, and the age of the child can all affect their mental health outcomes (Wang et al., 2021). Gender and socioeconomic factors also appear to play a role. A systematic review exploring gender differences in child mental health disorders after earthquakes in Iran found that the disorders are higher in girls across different age groups (Seddighi & Salmani, 2019). Another systematic review and meta-analysis assessing mental health symptoms among the 2010 Haiti earthquake survivors reported that lower socioeconomic status (SES) and less access to resources may have an important impact on the development and maintenance of post-earthquake depressive symptoms (Cénat et al., 2020).

The earthquake in Syria and Turkey was among the worst involving children with regard to the level of exposure. They experienced the earthquake firsthand and therefore may be more vulnerable to psychological distress, especially those children who lost family members or friends, witnessed destruction and death, or sustained physical injury. Children with pre-existing mental health issues may be at a higher risk for developing further mental health problems following the disaster (Harada et al., 2015).

4. Mental health interventions and support strategies

Several interventions may be considered to address the psychological consequences of an earthquake on children. Such interventions must be practical, accessible, and culturally appropriate. One intervention is psychological first aid (PFA), an evidence-informed intervention approach to reduce initial distress and encourage adaptive short and long-term functioning among sufferers in the immediate aftermath of a disaster (Gilbert et al., 2021). PFA can help reduce the severity of PTSD and depression symptoms (Ramirez et al., 2013).

Children understand and process traumatic experiences through their play. Play therapy can therefore be very useful in helping the affected children express their emotions through multiple means e.g. toys, writing, and games (Parker et al., 2021). Group therapy is also likely to be beneficial in a disaster (Rigamer, 1986). It allows children to interact with a trained therapist as well as other children in a safe environment in which they can share their experiences, learn coping strategies and receive emotional support from one another. Art therapy can also be used as a means of expression for children in the immediate aftermath of a disaster (Kuriansky, 2019), particularly in a country with poor resources. Trauma-focused Cognitive Behavioural Therapy (TF-CBT) and Eye Movement Desensitization and Reprocessing (EMDR) are two evidence-based therapies that can

be effective in managing earthquake-related trauma in children (Burkhart et al., 2023). However, in countries with few resources, it may not be possible due to the need for more specialised clinicians to provide such interventions. Both these therapies can be considered in the longer term provided the child starts to display prolonged symptoms.

It is important to note that not all children will experience mental health effects after an earthquake. However, it is crucial for parents and caregivers to be aware of the potential risks and to take steps to support their children's emotional and psychological well-being. World health organisation (WHO) guidelines published on 10 February 2023, based on four systematic reviews in low-resource countries, found conclusive evidence that supporting caregivers during a crisis is an essential protective factor against emotional and behavioural problems in the children under their care and reduces the risk of child maltreatment (WHO, 2023). Parents and caregivers can support children after an earthquake by providing them with a safe and stable environment and creating a predictable routine, if possible (Lazarus et al., 2003). Children must be encouraged to express their feelings in a non-judgmental way and their feelings must be validated.

5. The need for a continued global response

An immediate global response was launched following the Turkey-Syria earthquake; however, many challenges still lie ahead in the coming months and years to manage the wide-ranging implications of this major human disaster. It is essential that trained mental health professionals continue to reach out to the affected regions to provide immediate mental health support to the affected children and also facilitate training of local community leaders, teachers, and caregivers to achieve a broader population response. In order to facilitate such a continued response effectively, international organisations should collaborate with local authorities and other aid agencies to identify and prioritise the most vulnerable children and provide them with the necessary mental health support. The care provided should be tailored to the individual needs of the affected child. Initiatives like Pfeiffer et al.'s work on TF-CBT in Ukraine can help address the scarcity of evidence-based treatments and mental health care professionals and contribute significantly to improving the well-being of earthquake-affected children in Syria and Turkey (Pfeiffer et al., 2023).

In addition to immediate mental health support, there is a need for long-term mental health services for affected children. Mental health issues can persist for many years after a traumatic event, and it is essential to ensure that affected children receive ongoing support. Participation of the affected communities in

designing and implementing support programmes will ensure their success. This can help to ensure that the services provided are culturally appropriate and meet the specific needs of the communities involved. In resource-constrained settings, the utilisation of lay counsellors, particularly locals, becomes invaluable for implementing low-level interventions like PFA, offering a promising approach. In light of the considerable barriers to accessing care, including stigma, financial constraints, and practical difficulties, it is imperative to develop culturally sensitive screening strategies to motivate children and their caregivers impacted by the earthquake to seek and receive essential trauma-related interventions. There is also a need to focus more on disaster preparedness and to involve communities, including children, in these efforts.

6. Conclusion

Children who experience major earthquakes are at risk of significant psychological trauma. It is, therefore, crucial to identify the short, medium, and long-term needs of children affected by earthquakes such as the one in Turkish-Syria to ensure that those at risk of developing major mental health disorders receive prompt and ongoing interventions tailored to their needs. The global effort of supporting the children affected by the earthquake must be renewed by agencies and organisations to ensure continued support.

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Author contributions

YSK wrote the first draft of the manuscript. AWK provided significant input with the revision of the initial draft. MA helped with conceptualisation and supervision. All authors reviewed and approved the final draft of the manuscript.

Data availability statement

Data sharing is not applicable to this article as no new data were created or analysed in this study.

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