

Post-earthquake psychiatric manifestations in Gaziantep – Turkey: An evaluation of clinical features within the first month following the Kahramanmaraş twin earthquakes

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Summary

Background: This study aimed to investigate the prevalence of psychiatric disorders among earthquake survivors who sought psychiatric consultation at outpatient clinics in the aftermath of the Kahramanmaraş Twin Earthquakes (Mw 7.8 and Mw 7.5).

Subjects and Methods: This observational study targeted a demographic impacted by seismic events within the first month, specifically all patients who self-presented at our outpatient clinic. The primary outcome variable was the diagnosis at the time of consultation according to the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5). Additional outcome variables explored included the frequency of re-experiencing the traumatic event, avoidance of internal and external reminders, experiencing phantom earthquake syndrome, hyper-vigilance, negative affectivity, hallucinations, and delusions.

Results: The study involved 331 individuals, predominantly female (67.4%), with a mean age of 41.2 years. Most had 10.9 years of education and lived with families. A small proportion (1.8%) reported physical injuries from the earthquake, while 58.7% reported housing problems. The majority experienced no loss or injuries of acquaintances, friends, or relatives (80.4% and 81%, respectively). Co-morbid medical conditions were present in 14% (hypertension) and 7% (diabetes mellitus) of participants. At the consultation, 53% were diagnosed with a psychiatric disorder, primarily trauma and stress related, depressive, and anxiety disorders.

Conclusion: The findings underscore the significant mental health impact of earthquakes and highlight the need for immediate and targeted mental health interventions in the aftermath of such events. The study also emphasises the importance of recognising and addressing the mental health needs of vulnerable groups in post-disaster settings.

Keywords: earthquake-disaster-acute stress disorder

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INTRODUCTION

On February 6, 2023, two seismic events of significant magnitudes, Mw 7.8 and Mw 7.5, respectively, transpired in Pazarcik and Elbistan, both located in Kahramanmaraş, Turkey (USGS Publishing and Communications, 2023). The 7.8 magnitude earthquake that struck southeastern Turkey was the deadliest in the country's modern history, causing over 44,300 deaths and leaving more than 1.5 million people homeless (The International Association of Fire & Rescue Services 2023). These earthquakes induced widespread destruction across 11 provinces, making them unparalleled calamities in the nation's recent history due to their intensity and expansive influence. The disaster's mental toll is compounded by ongoing fear due to the over 10,000 aftershocks that have occurred since the initial earthquake. This constant state of apprehension adds to the mental stress experienced by the survivors (Europe, World Health Organization, 2023).

Cataclysmic events, embodying both natural and anthropogenic origins, manifest through tangible and

intangible repercussions that interrupt the normalcy of existence and exceed the capacity of local resources. Seismic activities, classified under the geophysical natural disasters (Below et al., 2009), possess the propensity to evoke severe repercussions, attributable to their abrupt initiation, widespread geographical influence, extensive devastation, and consequent casualties and injuries. A thorough understanding of these phenomena is crucial for effective disaster management and mitigation strategies. Future work should incorporate insights from recent and relevant studies on this topic.

Post-earthquake psychiatric symptoms and disorders are intricately linked with a range of individual, societal, and earthquake-specific factors, including age, gender, educational attainment, pre-existing psychiatric conditions, fear of death during the earthquake, degree of exposure to the disaster, personal injury, loss of loved ones, economic losses, and social support availability (Salcioglu et al., 2003; Boztas et al., 2019). Although the majority of individuals demonstrate 'normative responses' that dissipate without the need for specialised intervention, a

subset might manifest a diverse range of psychiatric disorders, notably affecting their capacity to function.

Particularly vulnerable to the psychological impacts of disasters are children, adolescents, women, the elderly, disaster volunteers, and individuals with a history of psychological trauma or psychiatric disorders (Peek, 2008). Developing countries, due to socioeconomic limitations, infrastructure inadequacies, and deficits in disaster awareness and preparedness, are at an escalated risk (Makwana, 2019). The psychological aftermath of earthquakes often includes various psychiatric conditions in affected individuals, such as acute stress disorder, post-traumatic stress disorder (PTSD), anxiety disorders, depression, sleep disturbances, increased alcohol consumption, and suicidal ideation (Kane et al., 2018). In the immediate aftermath of a traumatic event, individuals may experience intrusive symptoms such as re-experiencing the event,

recurrent nightmares, or flashbacks, often accompanied by intense anxiety, fear, palpitations, and breathing difficulties. Over time, avoidance symptoms characterised by efforts to eschew trauma reminders may develop. Emotional numbness, difficulty concentrating, heightened startle responses, issues with anger control, and severe depressive mood due to losses may also be observed (Thakur et al., 2022).

A crucial aspect of post-disaster response involves evaluating acute stress responses and psychiatric symptomatology, which are essential for implementing assistance efforts and determining long-term outcomes (Schwind et al., 2018). The present study aims to delineate the clinical features, psychiatric symptoms, and diagnoses of patients presenting to a psychiatric outpatient clinic in Gaziantep, one of the provinces affected by the aforementioned Kahramanmaraş earthquakes. The

Table 1. Demographic Characteristics of Study Participants

Variable	Value (n = 331)	NA	
Age, years	41.2 (15.0)	0	
Female, n (%)	223 (67.4%)	0	
Highest education achieved, years	10.9 (4.31)	38	
Number of children	2 [0 – 8]	235	
Partnership status, with partner, n (%)	220 (66.5%)	0	
Place of residence, n (%)	With family	286 (88.5%)	8
	With friends	2 (0.6%)	
	Alone	34 (10.5%)	
	Dormitory	1 (0.3%)	
Work Status, in the workforce, n (%)	128 (40.8%)	17	
Physical injury	6 (1.8%)	4	
Financial loss	No	241 (73.7%)	
	Mild	84 (25.7%)	4
	Moderate	2 (0.6%)	
Housing problems, affirmative, n (%)	192 (58.7%)	4	
Experiences of loss of	First degree relatives	6 (1.8%)	4
	Relatives	11 (3.4%)	
	Friends	8 (2.4%)	
	Acquaintances	39 (11.9%)	
	No	263 (80.4%)	
Injuries sustained by	First degree relatives	6 (1.8%)	4
	Relatives	10 (3.1%)	
	Friends	7 (2.1%)	
	Acquaintances	39 (11.9%)	4
	No	265 (81.0%)	

Note. Data are presented as mean (\pm standard deviation) or median [min. value – max. value] for continuous variables and number (percentage) for categorical variables.

Abbreviations. n: Sample size, NA: Non-available, number of missing or unavailable cases by value

sharing of our findings regarding the early post-disaster psychiatric conditions of earthquake survivors will augment the extant literature and provide valuable insights to enhance psychiatric support services in the aftermath of future disasters.

SUBJECTS AND METHODS

The study was conducted in accordance with the ethical principles of the Declaration of Helsinki and approval for the study was granted by the Clinical Studies Ethics Committee of the SANKO University on May 08, 2023. Our research adhered to the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) checklist to ensure a robust and transparent reporting of results.

The study was observational. As the principal researchers and psychiatric practitioners (H.İ.Ö. and S.D.), our engagement was not simply in the capacity of detached observers. We, crucially, were also among those affected by the seismic disturbances that disrupted aforementioned provinces. This intimate experience afforded us an empathetic understanding, even as it posed challenges due to our emotional proximity to the trauma, with potential implications for our observational abilities. In spite of these hurdles, we remained steadfast in our clinical role. These interactions between the individuals and ourselves were observed and recorded as objectively as feasible under the circumstances, and subsequently integrated into our comprehensive investigation.

Our private hospital, showing support in this endeavour, offered unrestricted, cost-free access to our outpatient clinics. This approach alleviated potential financial barriers and thus broadened the reach of psychiatric care to the population affected by the earthquakes. Our clinics were designed and operated to provide a supportive and efficient environment for the provision of psychiatric care, even in the face of these formidable circumstances. Populated by a proficient interdisciplinary team of mental health professionals, these outpatient clinics employed an integrative approach to managing the complex challenges associated with trauma-induced psychiatric conditions. Despite the difficulties inherent to maintaining meticulous observation due to our own experiences of trauma, we committed ourselves to maintaining a rigorous and concrete documentation process, thereby upholding the integrity of our research and clinical work. It is important to note that in the immediate aftermath of the earthquake, our clinics were unable to provide services during the

first week. Our retrospective analysis, therefore, covers the period from February 13 to March 6, 2023.

The study encompassed a demographic subset; individuals who had been impacted by the earthquakes and sought psychiatric consultation in our outpatient clinics in their aftermath. The study's sample size was not predetermined through *a priori* power calculations; instead, it was determined by the total number of individuals who sought consultation at our outpatient clinics within the specified period. To ensure the uniqueness of participant data and avoid duplication, we excluded follow-up examinations from the study. The strategy of including all distinct individuals who engaged with the clinics during this period, rather than a predetermined sample, was chosen to provide the most comprehensive reflection of the population affected by the seismic events and their subsequent psychiatric consultations.

The study considered a comprehensive array of variables, categorised into sociodemographic, clinical, and outcome variables.

Sociodemographic Variables: The primary variables in this category encompassed participant's age, sex, highest level of education attained (years), number of children, partnership status, employment status, and place of residence. Additional considerations included the individual's living conditions, experiences of loss of relatives and/or close acquaintances, and injuries sustained by relatives and/or close acquaintances.

Clinical Variables: Pertinent clinical characteristics included smoking and alcohol consumption, the presence of comorbidities, and the individual's psychiatric history.

Outcome Variables: The primary outcome variable was the diagnosis at the time of consultation according to the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5). Additional outcome variables explored included the frequency of re-experiencing the traumatic event, eschewal of internal and external reminders, experiencing phantom earthquake syndrome (Bajs Janović et al., 2021), hyper-vigilance, negative affectivity, hallucinations, and delusions. Distressing memories: Recurrent, involuntary, and intrusive distressing memories of the earthquake(s), distressing dreams: recurrent and, in which the content and/or affect of the dream are related to the earthquake(s).

These examinations were carried out by two psychiatry specialists (H.İ.Ö. and S.D.) using a semi-structured form that queried the total 14 clinical symptoms and findings given for the diagnostic criteria of acute stress

disorder in the DSM-5. Data on these variables were extracted from the medical records by the aforementioned researchers.

Statistical Analyses

In this study, we employed descriptive statistical analysis, given the observational nature of the research and the objective to understand and illustrate the characteristics of our sample in the aftermath of the seismic disturbances. Categorical variables were analysed through frequency distributions. Continuous variables were analysed using measures of central tendency (mean, median, and mode) and measures of dispersion or variability (range, variance, standard deviation, and interquartile range). A key feature of our methodology was the decision to maintain an inclusive dataset. Instead of excluding participants with incomplete data, we accounted for these instances by recording the number of missing values for each pertinent variable. This strategy aimed to provide a comprehensive understanding of our dataset, ensuring the inclusion of all participants and their experiences. All statistical tests performed were two-tailed, with a 5% level of significance ($\alpha=0.05$) considered acceptable for declaring statistical significance. The analyses were carried out using R software, version 3.6.0 (R Core Team, 2019; R Foundation for Statistical Computing, Vienna, Austria).

RESULTS

The Table 1 describes demographic and earthquake-related data for a group of 331 individuals. The average age was 41.2 years, with about 67.4% being female. Most participants had an average of 10.9 years of education and lived with their families. Roughly two-thirds were in a partnership and 40.8% were part of the workforce. A small proportion (1.8%) reported physical injuries from the earthquake. Housing problems were reported by 58.7% of respondents, while 73.7% reported no financial loss due to the earthquake. A majority (80.4%) experienced no loss of acquaintances, friends, or relatives, and 81% reported no injuries sustained by acquaintances, friends, or relatives.

The data shows the presence of co-morbid medical conditions among the study participants. Specifically, 14% of the participants were diagnosed with hypertension and 7% with diabetes mellitus. Furthermore, at the time of consultation, 177 participants, constituting 53% of the total, were diagnosed with a psychiatric disorder,

with depressive disorders and anxiety disorders being the most prevalent. (Table 2)

In this sample of 331 participants, symptoms ranged widely, from psychological and physical reactions related to the earthquake to sleep symptoms, internal and external avoidance behaviours, and issues with focus. Notably, a substantial percentage of participants reported negative affectivity, being on guard, and symptoms associated with sleep disturbances. Phantom earthquake experiences were also reported by a significant proportion of participants. (Table 3)

A diverse range of primary and secondary psychiatric diagnoses was observed. Depressive and anxiety disorders were most common as primary diagnoses. For secondary diagnoses, trauma and stressor-related disorders were most frequently identified, while many participants did not have a secondary psychiatric diagnosis. (Table 4)

DISCUSSION

This study reveals the intertwined influence of socio-demographic characteristics, lifestyle habits, and psychiatric health post-disaster. The diversity in education levels, and primarily family-based living arrangements highlight varied socioeconomic backgrounds and the potential importance of support networks in post-traumatic recovery. Meanwhile, the 40.8% workforce participation rate potentially reflects the disaster's disruption on occupational status. These findings emphasise the need for comprehensive, individualised approaches in post-disaster mental health care. Our study, conducted in the immediate aftermath of these seismic events, provides a comprehensive overview of the psychiatric manifestations observed in the affected population. The findings underscore the significant psychological toll of such disasters, highlighting the urgent need for effective mental health interventions in post-disaster settings.

Our study found a high prevalence of psychiatric disorders among the earthquake survivors who admitted to the outpatient psychiatry clinics, with depressive and anxiety disorders being the most common. These findings align with previous research indicating a surge in mental health conditions following natural disasters, particularly earthquakes (Farooqui et al., 2017; Gerstner et al., 2020; Wang et al., 2021). The psychological aftermath of earthquakes often includes various psychiatric conditions in affected individuals, such as acute stress disorder, PTSD, anxiety disorders, depression, sleep disturbances, increased alcohol consumption, and suicidal ideation (Kane et al., 2018). Therefore, it is crucial to implement

Table 2. Clinical Characteristics of the Participants of the Study

Variable	Value (n = 331)	NA	
Smoking, n (%)	133 (41.3%)	9	
Alcohol consumption, n (%)	46 (14.1%)	5	
Comorbidity, n(%)	Hypertension	47 (14%)	0
	Coronary artery disease	15 (4%)	
	CVA or TIA	2 (0.6%)	
	Hypothyroidy	9 (2%)	
	Dyslipidemia	15 (4%)	
	Malignancies/haemopathies	10 (3%)	
	Diabetes Mellitus	23 (7%)	
Psychiatric Consultation History, affirmative, n (%)	236 (71.9%)	2	
History of Psychiatric Disorders	Neurodevelopmental Disorders	11 (3.3%)	2
	Schizophrenia Spectrum and Other Psychotic Disorders	7 (2.1%)	
	Bipolar and Related Disorders	18 (5.4%)	
	Depressive Disorders	95 (28.7%)	
	Anxiety Disorders	93 (28%)	
	Obsessive-Compulsive and Related Disorders	28 (8.4%)	
	Dissociative Disorders	6 (1.8%)	
	Trauma and Stressor Related Disorders	3 (0.9%)	
	Sleep-Wake Disorders	2 (0.6%)	
	Substance-Related and Addictive Disorders	6 (1.8%)	
Existing Psychiatric Disorder Diagnosis at the Time of Consultation, affirmative, n (%)	177 (53%)	0	
Existing Psychiatric Disorder Diagnosis at the Time of Consultation	Neurodevelopmental Disorders	14 (4.2%)	1
	Schizophrenia Spectrum and Other Psychotic Disorders	9 (2.7%)	
	Bipolar and Related Disorders	19 (5.7%)	
	Depressive Disorders	75 (22.6%)	
	Anxiety Disorders	67 (20.2%)	
	Obsessive-Compulsive and Related Disorders	22 (6.6%)	
	Dissociative Disorders	2 (0.6%)	
	Trauma and Stressor Related Disorders	1 (0.3%)	
	Sleep-Wake Disorders	2 (0.6%)	
	Substance-Related and Addictive Disorders	6 (1.8%)	

Note. Data are presented as mean (\pm standard deviation) or median [min. value – max. value] for continuous variables and number (percentage) for categorical variables.

Abbreviations. n: Sample size, NA: Non-available, number of missing or unavailable cases by value, CVA or TIA:

Table 3. Outcomes of the Participants of the Study

Variable	Value (n = 331)	NA
Distressing memories, n(%)	130 (39.6%)	3
Recurrent distressing dreams	93 (28.4%)	4
Flashbacks	69 (21.1%)	4
Psychological distress and physiological reactions	194 (59.1%)	3
Negative affectivity	234 (70.9%)	1
Persistent or recurrent experiences of unreality of surroundings	64 (19.4%)	1
Dissociative amnesia	63 (19.1%)	1
Avoidance of distressing memories, thoughts, or feelings	143 (43.3%)	1
Avoidance of or efforts to avoid external reminders	165 (50.0%)	1
Sleep disturbance	259 (78.5%)	1
Irritable behavior and angry outbursts	130 (39.4%)	1
Hypervigilance	219 (66.4%)	1
Problems with concentration	211 (63.9%)	1
Exaggerated startle response	169 (51.2%)	1
Mania	7 (2.1%)	1
Delusions	6 (1.8%)	1
Hallucinations	6 (1.8%)	1
Obsessions and/or compulsions	26 (8.8%)	1
Dizziness	44 (13.3%)	1
Phantom earthquake	140 (42.4%)	1
Conversive seizures	8 (2.4%)	1

Note. Data are presented as mean (\pm standard deviation) or median [min. value – max. value] for continuous variables and number (percentage) for categorical variables. Abbreviations. n: Sample size, NA: Non-available, number of missing or unavailable cases by value

Table 4. Participant Diagnoses at the Time of Consultation

Variable	Value (n = 331)	NA
Diagnosis-1	Neurodevelopmental Disorders	9 (2.7%)
	Schizophrenia Spectrum and Other Psychotic Disorders	8 (2.4%)
	Bipolar and Related Disorders	18 (5.4%)
	Depressive Disorders	92 (27%)
	Anxiety Disorders	83 (25%)
	Obsessive-Compulsive and Related Disorders	15 (4.5%)
	Dissociative Disorders	2 (0.6%)
	Trauma and Stressor Related Disorders	5 (1.5%)
	<i>Acute Stress Disorder</i>	32 (9.6%)
	Sleep-Wake Disorders	2 (0.6%)
	Substance-Related and Addictive Disorders	2 (0.6%)
No	49 (14.8%)	0
Diagnosis-2	Neurodevelopmental Disorders	4 (1.2%)
	Schizophrenia Spectrum and Other Psychotic Disorders	1 (0.3%)
	Bipolar and Related Disorders	1 (0.3%)
	Depressive Disorders	7 (2.1%)
	Anxiety Disorders	8 (2.4%)
	Obsessive-Compulsive and Related Disorders	6 (1.8%)
	Dissociative Disorders	2 (0.6%)
	Trauma and Stressor Related Disorders	91 (27.4%)
	<i>Acute Stress Disorder</i>	3 (0.9%)
	Sleep-Wake Disorders	0 (0%)
Substance-Related and Addictive Disorders	3 (0.9%)	
No	200 (60%)	0

Note. Data are presented as mean (\pm standard deviation) or median [min. value – max. value] for continuous variables and number (percentage) for categorical variables. Abbreviations. n: Sample size, NA: Non-available, number of missing or unavailable cases by value

immediate psychiatric support in the aftermath of natural disasters.

Recent meta-analyses and studies highlight the significant mental health impact of traumatic events such as pandemics, earthquakes, hurricanes, and political conflicts on vulnerable populations, including pregnant or birthing individuals. For instance, Futterman et al. (2023) reported a substantial prevalence of anxiety, depression, and PTSD among these groups. Similarly, Beaglehole et al. (2018) found significant increases in psychological distress and psychiatric disorders following natural disasters, with marked rises in PTSD and depression, although increases in anxiety and alcohol misuse/dependence were not significant. These findings corroborate the results of our study, which emphasizes the necessity of targeted interventions for groups particularly susceptible to post-disaster psychiatric conditions.

Supporting this, Cénat et al. (2020) observed in their systematic review and meta-analysis that following the 2010 earthquake in Haiti, approximately 28% of survivors experienced severe PTSD symptoms, while 32% reported depression, and 20% anxiety. Fergusson et al. (2014) also noted a small to moderate increase in the risk of prevalent mental health conditions such as major depression, PTSD, anxiety disorders, and nicotine dependence after the Canterbury earthquakes.

Further, research conducted on earthquake survivors in Turkey echoes these patterns. Baçoğlu et al. (2002) identified high rates of PTSD and depression among survivors of the Erzincan, Marmara, and Van earthquakes. Studies by Karanci et al. (1995), Bal (2008), and Küçüköğlü et al. (2014) documented significant acute and long-term psychiatric impacts, particularly PTSD and depression, affecting children, women, and those with prior trauma exposure or significant losses. These rates align closely with the prevalence of psychiatric disorders observed in our study, underscoring the profound mental health consequences of earthquakes and the critical need for specialized mental health support in affected communities.

Intriguingly, our investigation also identified a substantial proportion of participants reporting phantom earthquake experiences. This phenomenon, where individuals perceive an earthquake that is not actually occurring, has been documented in prior research (Bajs Janović et al., 2021). It is postulated to be a manifestation of heightened anxiety and hyper-vigilance, which are common responses to traumatic events. However, it is important to note that the current literature on phantom earthquake experiences is limited, and further research is needed to better understand this phenomenon and its implications for mental health in the aftermath of natural disasters.

Earthquakes can also trigger a cascade of public health crises beyond immediate physical injuries. Disruption of sanitation systems and displacement can increase the risk of infectious diseases, while the interruption of healthcare services can exacerbate chronic conditions. Food supply chain disruptions can lead to food shortages and malnutrition. Damage to healthcare facilities can impact immediate care for the injured and ongoing care for individuals with chronic conditions. Therefore, comprehensive disaster preparedness plans, including immediate rescue and relief efforts and long-term public health strategies, are crucial (Al Mandhari, 2023). Turkey is located on the Alpine-Himalayan earthquake belt, one of the world's most active fault lines, and 92% of Turkey's territory is at risk of earthquakes, with 95% of the population living in these areas (Dedeoğlu, 2023). Although earthquakes are classified as natural disasters in the trauma literature, it is not possible to attribute the great destruction we have experienced solely to natural event. Considering the human impact that turns an earthquake into a disaster (such as non-earthquake resistant buildings, deficiencies in building control, and settlements built on fault lines) and the anticipated earthquakes, it is imperative that national governments plan their earthquake policies meticulously. It should not be forgotten that earthquakes are natural phenomena, but it is only in the absence of sound preemptive strategies, such as adequate housing and infrastructure, that they become disasters.

Our investigation carries several implications for mental health interventions following disasters. Primarily, it underscores the necessity for immediate psychiatric support in the aftermath of natural disasters. Given the high prevalence of psychiatric disorders observed in our cohort, it becomes unequivocal that mental health services constitute a critical component of post-disaster relief efforts. Secondly, our findings emphasise the importance of comprehensive screening for an array of psychiatric conditions, encompassing depressive disorders, anxiety disorders, and PTSD, among survivors of disasters. This comprehensive approach ensures that no affected individual is overlooked and that appropriate care can be provided promptly. Lastly, our study indicates the need for targeted interventions for groups that may be particularly susceptible to post-disaster psychiatric conditions. This includes women and individuals with pre-existing mental health conditions. These groups may require additional support or specialised interventions to effectively manage their mental health in the wake of a disaster.

The study has several limitations. As an observational study, it is inherently subject to potential confounding variables and biases that may not be fully controlled for, and the findings are associative rather than causal. The

deeply personal context of the research introduces the potential for subjectivity in the observations, as the researchers' emotional proximity to the trauma could have influenced their observational abilities and interpretations of the data. The sample was not randomly selected but was determined by those who sought psychiatric consultation at the outpatient clinics, potentially introducing selection bias and limiting the generalisability of the findings. The presence of missing values for certain variables, despite the inclusive dataset approach, could potentially bias the results. The absence of a control group of individuals not affected by the earthquakes makes it difficult to determine whether the observed psychiatric conditions were directly attributable to the earthquakes or were influenced by other factors. Additionally, the study was conducted in Gaziantep, where the destruction was less compared to Hatay, Kahramanmaraş, and Adıyaman, which could potentially influence the generalisability of the findings to regions with more severe destruction. The study primarily employed descriptive statistical analysis, which does not allow for inferential statistical analysis to determine the significance of relationships between variables. Lastly, the study evaluated clinical features within the first month following the earthquakes, and a longer-term follow-up would provide a more comprehensive understanding of the psychiatric impact of the earthquakes over time. Despite these limitations, the study underscores the

need for mental health support in post-disaster settings. Future research should aim to address these limitations to provide a more robust understanding of post-disaster psychiatric conditions.

CONCLUSIONS

Overall, the findings highlight the multi-faceted nature of trauma following natural disasters, pointing to the necessity for integrated and holistic approaches to mental health care in such contexts. They emphasise the need for comprehensive assessments that account for an individual's sociodemographic background, physical health, lifestyle habits, and psychiatric history when tailoring appropriate therapeutic interventions.

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