DOI: 10.4274/jbuch.galenos.2025.88003
J Dr Behcet Uz Child Hosp 2025;15(2):66-75

Original Article

Psychiatric Evaluation of Children and Adolescents Affected by the 2023 Kahramanmaraş Earthquake in Turkey

Türkiye'deki 2023 Kahramanmaraş Depreminden Etkilenen Çocuk ve Ergenlerin Psikiyatrik Değerlendirmesi

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ABSTRACT

Objective: There are a limited number of studies examining the effects of trauma on children and adolescents after the February 6, 2023 Kahramanmaraş earthquake in Turkey. The aim of this study is to investigate hospital records of pediatric patients directly affected by the earthquake among children admitted to child and adolescent psychiatry outpatient clinic.

Method: Between February and July 2023, medical records of 95 patients aged 0-18 years who applied to child and adolescent psychiatry outpatient clinic were examined. Sociodemographic characteristics, current psychiatric diagnoses, and treatment histories of the patients were assessed from their archive files.

Results: The mean age of 95 cases was 9.21±4.44 years (F: 51.6%). The most common indications for admissions were general counseling and sleep problems while 45.3% of the cases showed a grief reaction. The most frequent psychiatric diagnosis was attention-deficit/hyperactivity disorder (23.1%). Cases received the diagnosis of acute stress disorder (16.8%), and post-traumatic stress disorder (13.6%). After the disaster, 25.4% of the affected children were not attending school. Parents of 92.6% of cases were psychologically affected by the trauma. The group of children under 6 years of age most frequently received family counseling.

Conclusion: A high rate of parental impact from the disaster highlights the importance of psychosocial interventions that target both the children and their caregivers, as well as maintaining the child's integration in the school system as a guide for crisis management planning. The high application rates of children and adolescents with neurodevelopmental disorders to health care organizations after a disaster highlight the need to consider carrying out interventions tailored to the needs of earthquake victims.

Keywords: Disaster, earthquakes, trauma, child, adolescent, mental disorders, post-traumatic stress disorders

ÖZ

Amaç: 6 Şubat 2023'te Türkiye'de meydana gelen Kahramanmaraş depreminden sonra çocuklar ve ergenler üzerindeki travma etkilerini inceleyen sınırlı sayıda çalışma bulunmaktadır. Çalışmanın amacı bir üniversite hastanesi çocuk ve ergen psikiyatrisi polikliniğine başvuran çocuklar arasında depremden doğrudan etkilenen hastaların hastane kayıtlarını incelemektir.

Yöntem: Şubat-Temmuz 2023 tarihleri arasında çocuk ve ergen psikiyatrisi polikliniğine başvuran 0-18 yaş arası 95 hastanın tıbbi kayıtları incelenmiştir. Hastaların sosyodemografik özellikleri, mevcut psikiyatrik tanıları ve tedavi geçmişleri arşiv dosyalarından değerlendirilmiştir.

Bulgular: Doksan beş olgunun yaş ortalaması 9,21±4,44 yıl idi (kız: %51,6). Başvuru nedenleri arasında en yaygın olanı genel danışmanlık ve uyku problemleri iken, olguların %45,3'ünde yas tepkisi görüldü. En sık görülen psikiyatrik tanı dikkat eksikliği hiperaktivite bozukluğu (%23,1) idi. Olguların %16,8'i akut stres bozukluğu ve %13,6'sı travma sonrası stres bozukluğu tanısı aldı. Afet sonrasında olguların %25,4'ü okula devam etmiyordu. Tüm olguların %92,6'sının ebeveynleri travmadan psikolojik olarak etkilenmişti. Altı yaş altı gruba en sık aile danışmanlığı verildiği saptandı.

Sonuç: Afetten etkilenen ebeveynlerin yüksek oranı, hem çocuğu hem de bakım vereni içeren psikososyal müdahalelerin önemini ve çocuğun okul sistemine entegrasyonunun kriz yönetimi planlamasında bir rehber olarak korunması gerektiğini vurgulamaktadır. Afet sonrası çocuk ve ergenlerde nörogelişimsel bozuklukları olanların yüksek başvuru oranları bu bireylerin ihtiyaçlarına yönelik yapılacak müdahaleleri göz önünde bulundurmak gerektiğini ortaya koymaktadır.

Anahtar kelimeler: Afet, depremler, travma, çocuk, ergen, ruhsal bozukluklar, travma sonrası stres bozukluğu

Received: 20.09.2024
Accepted: 11.04.2025
Epub: 17.07.2025
Publication Date: 07.08.2025

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Cite as: Atabey S, Karagöz Çetiner M, Kaya Çimen A, Canlan Özaydın B, Gürbüz Özgür B, Aksu H. Psychiatric evaluation of children and adolescents affected by the 2023 Kahramanmaraş earthquake in Turkey. J Dr Behcet Uz Child Hosp. 2025;15(2):66-75

INTRODUCTION

Natural disasters may have profound and long-lasting effects on psychological well-being and physical health of the individuals[1]. Sudden and devastating effects of earthquakes cause intense feelings of fear, helplessness, insecurity and loss in individuals which expose victims of earthquake-especially developmentally vulnerable groups such as children and adolescents- to serious psychological risks[2,3]. The 7.7 and 7.6 magnitude earthquakes that occurred in Turkey on February 6, 2023, with the epicenter in the province of Kahramanmaraş, caused great destruction and loss of life in a large region covering 11 provinces in the southeast region of the country. According to official figures, the earthquakes claimed the lives of 50,783 individuals and injured 115,353 others. It was reported that 37,984 buildings collapsed as a result of the earthquakes[4]. In the initial phase, many people left the region to escape the destructive effects of the earthquake. It is estimated that approximately 2.2 million individuals evacuated or left the area on their own within about 10 days after the earthquake. According to the official registry of Turkish Department of Population 24,242 people migrated to Aydın province, although the number of migrants is probably higher than officially declared[5].

Psychiatric effects of disasters may differ according to age groups. The cognitive, emotional and social skills of children and adolescents, which are not yet fully developed, limit their capacity to cope with traumatic events[6]. In addition, the fact that adults experience mental problems such as post-disaster stress, depression or anxiety may make it difficult for them to provide emotional support to their children and adolescents and thus affect their mental health more adversely[7]. Moreover, this process is associated not only with the direct effects of the earthquake but also with secondary stress factors such as forced migration, changes in living conditions, disruptions in education and weakening of social support systems[8]. Children and adolescents who migrate after a disaster try to cope with the psychological effects of the trauma they have been exposed to while trying to adapt themselves to their new living conditions[9]. These unfavorable conditions lead to the development of post-traumatic psychiatric disorders and neurophysiological changes affecting emotional development of the victims. Post-traumatic responses can vary greatly depending on age, developmental stage, and variables inherent in the nature of the event (origin, severity, and duration), personal injury or injury to or loss of a family member, and the degree of life-threatening danger, as well as individual characteristics, family and social support[10]. Additionally, risk factors such as the source, severity, and duration of the traumatic event have been found to be related to the degree of vulnerability to post-traumatic symptoms. In a meta-analysis, the prevalence of post-traumatic stress disorder (PTSD) in children within the first six months after an earthquake was 19.2% and rised to 20.4% by the second year[11].

There is limited research in the literature on the psychological symptoms and psychopathological state of children and adolescents following the Kahramanmaraş earthquake[12,13]. The aim of this study is to contribute to the literature by presenting the descriptive sociodemographic and psychiatric clinical characteristics of children and adolescents who migrated to a city far from the landslide region within the first 6 months after the earthquake.

MATERIALS and METHODS

Between February and July 2023, the medical records of 97 patients aged 0-18 years who visited the child and adolescent psychiatry outpatient earthquake clinic at Aydın Adnan Menderes University Hospital following the disaster were retrospectively analyzed. A consent form was not obtained from the patients due to the retrospective nature of the study. Two cases with missing medical data were excluded from the study. The archive files of a total of 95 patients were included in the analysis.

Sociodemographic and psychiatric characteristics of the patients were retrospectively evaluated. Psychiatric diagnoses were established through psychiatric examinations performed according to the criteria stated in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)[14]. The diagnoses determined at the time of first application were included in the current psychiatric diagnosis data files. Patients were admitted to the earthquake polyclinics without requiring an appointment and the follow-up frequencies varied according to the complaints of the patients and diagnoses they received. Accordingly, patients were called twice a week, weekly or once every 15 days for follow-up visits. Participants received individual psychotherapy or family counseling, and some were additionally provided with pharmacotherapy.

Ethics committee approval was received for this study from the Non-Interventional Local Ethics Committee of Aydın Adnan Menderes University (approval number: 2023/128, dated: 13.07.2023).

Statistical Analysis

The data of the cases were analyzed using the SPSS 29.0 for Windows (Armonk, NY: IBM Corp, USA) software package. Continuous variables were expressed as mean (± SD), while categorical variables as frequencies (n) and percentages (%). Chi-square test was used to compare categorical variables. McNemar's test, which is a two-group dependent two-sample comparison test, was used to compare the status of educational attendance before and after the disaster. A p-value less than 0.05 was considered statistically significant.

RESULTS

The mean age of the total 95 cases including 49 (51.6%) female, and 46 (48.4%) male was 9.21±4.44 years. The respective number (%) of the study participants were ≤6 (n=31, 32.6%), 7-11 (n=34, 35.8%), and 12-18 (n=30, 31.6%) years old. The sociodemographic characteristics of the cases are presented in Table 1. The provinces from which the earthquake victims came from are shown in Figure 1. The mean time from the disaster to the referral to our hospital was 6.36±4.01 weeks (4-137 days). While 43.2% (n=41) of the cases applied to our hospital within the first 4 weeks after the earthquake, and 56.8% of them applied at a later date. The indicated mean number of psychiatric follow-up visits occurred immediately (2.17±1.51) or long after the earthquake (2.18±1.68). Before the disaster, 13.7% of cases were not attending school, whereas after the disaster, 25.3% were not attending school. There was a statistically significant difference in school attendance rates (p=0.012). Self-reports of the earthquake victims revealed incidents of self-harm (1.1%), suicide attempt (2.1%), cigarette (2.1%) and alcohol use (1.1%) before the disaster. The clinical characteristics of the cases before and after the earthquake are presented in Table 2.

The mean (± SD) household size was 5.57±1.82 individuals. Except for three cases (mild intellectual disability), all applicants had a normal level of intelligence. Five cases (5.3%) had physical illnesses including epilepsy (n=3), cleft palate (n=1), and neuroblastoma (n=1). Attention-deficit/hyperactivity disorder (ADHD) was the most common psychiatric diagnosis (7.3%) (Figure 2). There was no statistically significant difference among cases in terms of the presence of post-disaster psychiatric diagnosis and rates of social support provided to the victims (p=0.236). Earthquake victims were trapped under debris (5.3%), experienced peer bullying in their new schools (7.4%), and felt excluded (33.7%).

The most common indications for hospital admissions were general mental health assessment and counseling (n=33, 34.7%), sleep problems (n=20, 21.1%), and crying episodes (n=16, 16.8%). The victims most frequently reported their feelings of fear (45.3%), sadness (13.7%), anger (11.6%), unhappiness (7.4%), and guilt (1.1%). A total of 88 (92.6%) cases had parents affected by the trauma who were referred to psychiatry clinics.

Table 1. Sociodemographic characteristics of cases and parents

Characteristics	n	%
Gender		
Female	49	51.6
Age groups		
≤6 years	31	32.6
7-11 years	34	35.8
12-18 years	30	31.6
Education level		
Preschool	17	17.9
Primary school	31	32.6
Middle school	15	15.8
High school	19	20.0
Not attending school	13	13.7
Parental marital status		
Married	82	86.3
Divorced/separated	6	6.3
One parent deceased	5	5.3
Both parents deceased	2	2.1
Mother's education level		
Below high school	40	42.1
High school and above	55	57.9
Mother's employment		
Employed	33	34.7
Father's education level		
Below high school	33	34.7
High school and above	62	65.3
Father's employment		
Employed	93	97.9
Place of residence		
City center	58	61.1
District	35	36.8
Village	2	2.1
Financial status of the family		
Less income than expenditure	49	51.6
Equal income and expenditure	43	45.3
More income than expenditure	3	3.2

Figure 1. Provincial distribution of cases admitted to Aydın province from the earthquake region in Turkey

Upon reviewing psychiatric diagnoses, the most common psychiatric diagnoses were ADHD (23.1%), followed by acute stress disorder (ASD) (16.8%) and PTSD (13.6%) (Figure 3). The children diagnosed with ADHD (n=22), had specific learning disorders (n=9), ASD (n=2), and PTSD (n=1). Only one case among patients diagnosed with autism spectrum disorder (AD) (n=8), had a previous diagnosis of AD. Some earthquake victims had symptoms of grief (n=43, 45.3%), insufficient social support (32.6%) and a history of applying for a medical board report (14.7%). In terms of bereavement due to the disaster, the victims experienced the loss of a first-degree relative (n=3, 1%), friends, teachers, or neighbors (n=59, 62.1%). PTSD, and ASD were detected in 21.7%, and 23.4% of the cases that experienced a loss.

The earthquake victims received family counseling (n=40, 42.1%), both pharmacotherapy and psychotherapy (n=24, 25.3%), psychotherapy (n=23, 24.2%), and only pharmacotherapy (n=8, 8.3%). The most commonly used psychotherapy method was trauma-focused cognitive-behavioral therapy (TF-CBT), and eye movement desensitization and reprocessing therapy (EMDR) was applied to suitable cases. Family counseling was most commonly applied to children under -6 years of age (29.5%) (Figure 4). When analyzed based on the medications used in pharmacotherapy, selective serotonin reuptake inhibitors were the most commonly prescribed medication (13.6%), followed by methylphenidate (10.5%), antipsychotics (5.2%), atomoxetine (4.2%), propranolol (2.1%) and melatonin (2.1%). Multiple drug use was observed in 5 cases while 19 (20%) cases maintained their treatment.

DISCUSSION

The current study analyzes the sociodemographic and psychiatric clinical characteristics of children and adolescents who admitted to a distant city within the first six months following the earthquake in Kahramanmaraş province on February 6, 2023. The mean-age of the cases in our study was 9.2 years. Similarly, a study investigating the psychiatric clinical features of the Marmara earthquake reported that cases had a mean age of 9.7 years[15]. Additionally, it was observed that approximately half of all cases presenting to our clinic were primary school students and preschool children (48.4%). It is noted that the earthquake may more proundly affect younger children who are not yet fully developed both cognitively and verbally compared to children in other age groups[16]. This situation is anticipated to stem from the expectation of early protective intervention for children of families who have experienced a devastating earthquake.

In our study, when the cases were examined according to their regular attendance to formal education, we observed that 13 children (13.7%) did not attend school before, and 24 of them (25.4%) after the disaster with a statistically significant difference between pre- and post-disaster school attendance rates (p=0.012). The fact that those who attended to their new schools after the disaster experience peer bullying and exclusion, and the

low school attendance rates necessitate arrangements for the rapid orientation of children to school life through cooperation between institutions. In a study on surviving adolescents conducted five years after the 2010 Yushu Earthquake in China, the school attendance rate was comparable to ours (30.7%)[17]. Based on the results of studies demonstrating a strong association between school attendance status, psychopathology and well-being of children and adolescents after disasters, it is considered crucial to make necessary plans addressing devastating factors such as collapse of infrastructure system, destruction of buildings, and migration that disrupt the effective functioning of the education system[18].

Table 2. Clinical characteristics of cases and parents		
Psychiatric illness of the mother	**n**	**%**
Yes	13	13.7
Psychiatric illness of the father		
Yes	6	6.3
Suicide attempts in the family		
Yes	5	5.3
Criminal records in the family		
Yes	2	2.1
Supportive relatives		
Yes	64	67.4
Psychiatric consultation before disaster		
Yes	33	34.7
Continuation of psychiatric follow-up before disaster		
Regular follow-up	8	8.4
Irregular follow-up	6	6.3
Lost to follow-up	19	20
Psychiatric diagnosis before disaster		
Yes	20	21.1
Use of psychiatric medication before disaster		
Yes	14	14.7
History of psychiatric disease before disaster		
Self-harm	1	1.1
Suicide attempts	2	2.1
Cigarette use	2	2.1
Alcohol use	1	1.1
Indications for hospital admission after disaster		
General mental health assessment and counseling	33	34.7
Sleep problems	20	21.1
Crying episodes	16	16.8
Difficulty focusing	11	11.6
Requirement for health board report	5	5.3
Other*	10	10.7
Treatments received after disaster		
Family counseling	40	42.1
Pharmacotherapy and psychotherapy	24	25.3
Individual psychotherapy	23	24.2
Pharmacotherapy alone	8	8.3
*Withdrawal: 4.2%, inability to study: 3.2%, bereavement/loss: 1.1%, self-harming behavior: 1.1%, behavioral problem: 1.1%		

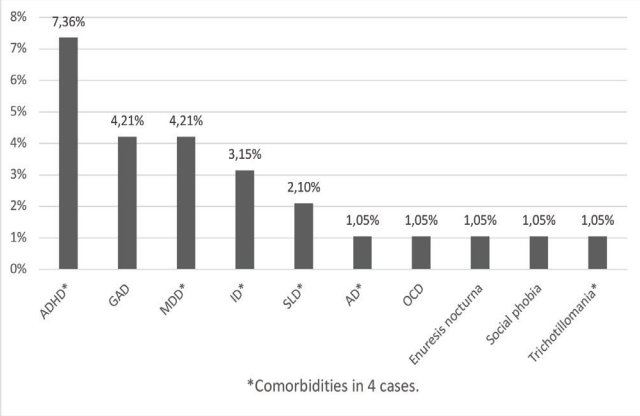

Figure 2. Distribution of pre-disaster psychiatric diagnoses

ADHD: Attention-deficit/hyperactivity disorder, PTSD: Post-traumatic stress disorder, SLD: Specific learning disability, AD: Autism spectrum disorder, MDD: Major depressive disorder, ASD: Acute stress disorder, OCD: Obsessive-compulsive disorder, GAD: Generalized anxiety disorder, ID: Intellectual disability

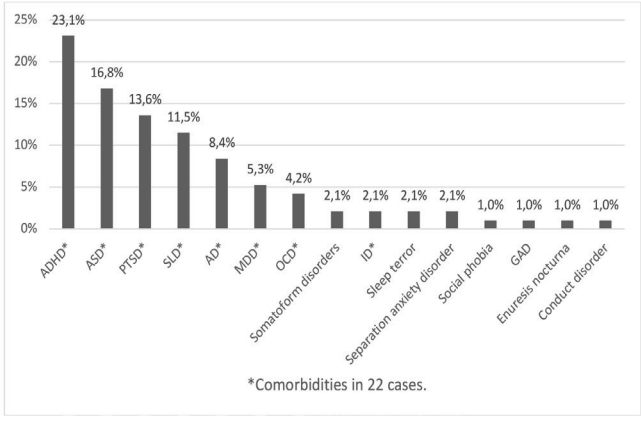

Figure 3. Post-disaster psychiatric diagnosis distribution

ADHD: Attention-deficit/hyperactivity disorder, PTSD: Post-traumatic stress disorder, SLD: Specific learning disability, AD: Autism spectrum disorder, MDD: Major depressive disorder, ASD: Acute stress disorder, OCD: Obsessive-compulsive disorder, GAD: Generalized anxiety disorder, ID: Intellectual disability

We have observed that assessment of general mental health state and counseling consisted 34.7% of the indications for hospital referrals. In our study, sleep disorders were the most common complaints following seeking general counseling. A cohort study conducted on 1573 adolescents who survived the Wenchuan earthquake in China revealed a prevalence of poor

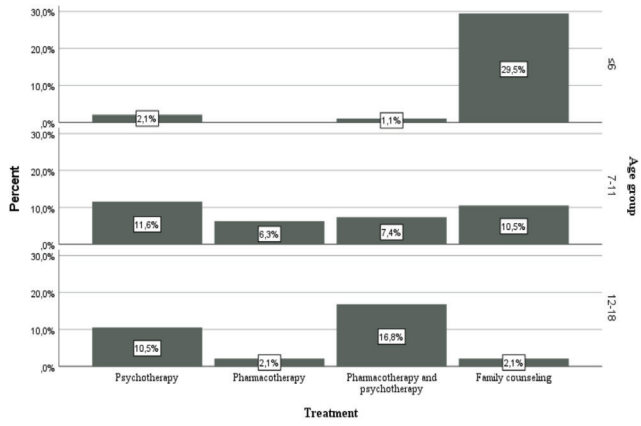

Figure 4. Treatments applied for different age groups

sleep quality of 22.6%[18]. A subsequent study conducted in Türkiye on children and adolescents following the Kahramanmaraş earthquake revealed that sleep disturbances were the most prevalent complaints[13]. In our study, sleep problems were evaluated under a single category; however, there is a need for conduction of more detailed studies examining sleep disorders, which are considered a core component of PTSD, in the literature[19,20].

In the current study, the most common psychiatric diagnoses received by the cases were ADHD, ASD, and PTSD. Additionally, neurodevelopmental disorders constituted 33.6% of all diagnoses established. Upon reviewing the literature, a strong association between ADHD and PTSD has been noted, indicating that the clinical presentation is more severe when ADHD accompanies PTSD, functionality is more severely impaired, and accompanying behavioral problems are more frequently seen[21]. In our study, 22 cases of ADHD were accompanied by 2 cases of ASD and 1 case of PTSD. The lower rate of this comorbidity compared to the rates reported in the literature may be due to the cases presenting to us in the early period after the disaster (within an average of 6.3 weeks), during which some symptoms may not have become clinically significant. However, considering that these cases may be at serious risk in the subsequent periods, we strongly emphasize that appropriate treatment and psychosocial interventions in the early period are of utmost importance.

Among referrals to our clinic, 8 cases were diagnosed with AD, and three of these cases had additional psychiatric disorders. A study conducted in Italy following the 2009 L'Aquila earthquake examined the adaptive behaviors of children and adolescents with

AD who had, and had not experienced the earthquake. The results indicated a significant decrease in adaptive behaviors among the former group during the initial months following the earthquake[22]. Parents of children and adolescents diagnosed with neurodevelopmental disorders may have referred more frequently to child psychiatry clinics for counseling or treatment adjustments due to changes in their routines, disruptions in their formal and special education, and difficulties in maintaining their current psychiatric treatments during the earthquake and thereafter. In times of disaster, it is important to promptly arrange the treatment of children with special needs and individuals under psychiatric follow-up. Evaluating the effects of trauma and PTSD in children diagnosed with AD is also an important consideration[23]. There is a need for further research examining adaptive processes in children and adolescents diagnosed with AD in the post-earthquake period.

The prevalence of PTSD and depression following major earthquakes varies across studies, with PTSD ranging from 15.7% to 58.3% and depression ranging from 16.8% to 64.5%[24-28]. The prevalence of PTSD in children and adolescents after an earthquake varies depending on assessment methods, the time elapsed since the event, and the distance from the epicenter of the earthquake[25,29,30]. In a study examining the psychiatric characteristics of children and adolescents after the Marmara earthquake in Turkey, it was found that 25.5% of the cases met the diagnostic criteria for PTSD, 16.5% for ASD and 38% for adjustment disorder[15]. After the Van earthquake, 40.6% of adolescents reported severe PTSD symptoms, while 37.7% met criteria for clinical depression[31]. Researches conducted following the Turkish earthquake indicates prevalence rates of PTSD, and ASD among children and adolescents ranging from 28% to 75% and 31% to 42%, respectively[32-35]. The rates of PTSD and depression observed in our study were lower than those reported in the literature. This could be attributed to several factors including the diagnoses being determined by child psychiatrists based on clinical interviews according to DSM-5 criteria, the absence of scale-based diagnoses, the inclusion of cases referred to the outpatient clinic, the lower mean-age of the cases, the timing of the initial six-month referrals, and the results being from a single center. These factors may have contributed to the lower rates of PTSD observed in our study compared to those reported in the literature.

Common risk factors for developing these disorders include female gender, direct exposure to earthquake, injury or death of family members, and adverse life events[27,28,36]. Some studies have found that symptoms persist over time, while others have observed a decrease in their prevalence[28,37]. Protective factors identified include social support and mental resilience[28,36].

These findings highlight the need for early interventions and long-term mental health support for adolescent earthquake victims. In our study, it was observed that social support was inadequate in 31 (32.6%) cases, and furthermore, 32 (33.7%) cases reported feeling socially excluded. Perceived social support is defined as the interaction process in relationships that fosters coping, respect, belongingness, and competence through the real or perceived exchange of physical or psychological resources[38]. Likewise, individuals with weak social and family support systems are more likely to develop ASD or PTSD following a traumatic event[39,40]. Consequently, research indicates that social support may protect children from developing psychiatric symptoms following a disaster, while inadequate social support may be a significant risk factor for PTSD[41,42].

In the literature, disruption in family functioning is considered an important risk factor for emotional disturbances in children, and post-earthquake parental psychopathology has been associated with the development of PTSD in children. Moreover, strong family support is highlighted as a protective factor[15,43-45]. Our study found that 92.6% of the parents of the cases were affected by trauma, and parents who were also significantly affected by trauma were insufficient in providing the necessary social support to their children. Therefore, all parents were provided with necessary psychoeducation, and referrals to psychiatry were made. It has been noted that the death of a family member or the person the victim cares about and parental injury during an earthquake are significantly associated with adverse emotional outcomes among children and adolescents[35,43,46-48]. In many studies in the literature, it has been observed that witnessing injury or death, as well as the loss or injury of family members and/or relatives, play a significant role in the development of PTSD among adolescents[35,49,50]. In our study, nearly half of the cases who experienced a loss were diagnosed with ASD or PTSD. It is considered essential to closely monitor individuals who have experienced loss of a relative or a close friend for the development of PTSD and to implement protective measures.

Approximately half of the cases (49.5%) received psychotherapy in our study. International treatment

guidelines for the treatment of PTSD recommend TF-CBT as the first-line treatment for children. Additionally, various studies have demonstrated the effectiveness of EMDR in the treatment of children and adolescents[51-53]. In our study 19 cases (20%) continued with treatment, and the mean number of psychiatric consultations was found to be 2.17±1.6 times. Unfortunately, the limited number of follow-ups did not allow for an evaluation of the effects of the treatments. Scarce number of follow-up consultations attended by the earthquake victims could be attributed to financial issues, access to healthcare services, distance of accommodation centers from healthcare facilities, changes in accommodation, prioritizing basic personal needs over seeking psychiatric help, or the spontaneous reduction of some symptoms.

Strengths of the Study

There is a paucity of studies investigating psychiatric evaluation in children and adolescents affected by the 2023 Kahramanmaraş earthquake in Turkey. This study offers valuable insights by addressing a significant research gap and providing a comprehensive epidemiological perspective on the post-earthquake period in Türkiye through a detailed psychiatric evaluation. The study was conducted on 95 cases from diverse age groups. A comprehensive evaluation was conducted for a number of factors, including sociodemographic characteristics, pre-existing psychiatric diagnoses, and treatment history. Furthermore, a comprehensive analysis was performed using a variety of scales to assess different psychiatric conditions, including depression, anxiety, and PTSD. An alternative perspective is provided by the incorporation of gender-specific analyses. Furthermore, the identification of psychiatric conditions both prior to and following the earthquake will inform the implementation of appropriate psychosocial interventions in the post-earthquake period.

Study Limitations

Single-center setting of the study may limit the generalizability of its findings. Additionally, its retrospective design may result in retrieval of incomplete data and limitations in case follow-up. A six-month post-earthquake timeframe may not fully capture psychiatric condition which might develop in the long-term. Although we applied certain assessment scales to eligible patients during initial assessments and follow-ups within the scope of the study, the fact that these scales were not applicable across different age groups (e.g., adolescents, school-age, and preschool children), the inability to conduct follow-up assessments for patients who lost to follow-up, and insufficient number of follow-up visits (n=2) attended by the earthquake victims, prevented comparisons at specific time points (e.g., acute phase, 3 and 6 months later) and limited the generalizability of the results to the entire study sample. The fact that assessment scale scores were not estimated before and after the therapeutic interventions may also be a limitation regarding the evaluation of the effectiveness of the medical intervention. Therefore, data of the assessment scales have not been presented in this study.

CONCLUSION

Life-saving interventions following disasters such as earthquakes are important for both preserving the mental health of children and organizing psychiatric treatment promptly due to the significant risk factors that childhood traumatic events pose for psychopathology that might develop later in life. Our study observed high rates of neurodevelopmental disorders (AD and ADHD diagnoses), correlating with the high impact of the disaster on parents. Integrating post-disaster psychosocial interventions for both children and caregivers, identifying factors that impede children's continued participation in the school system after addressing their basic needs, will be instructive in crisis management planning. Furthermore, this study, conducted in a western province of Turkey, provides insights into disaster-related psychosocial interventions and planning of the provision of geographical needs by comparing earthquake-affected and unaffected distant centers in terms of psychiatric referrals.

Ethics

Ethics Committee Approval: Ethics committee approval was received for this study from The Non-Interventional Ethics Committee of Aydın Adnan Menderes University (approval number: 2023/128, dated: 13.07.2023).

Informed Consent: Retrospective study.

Footnotes

Author Contributions

Concept: B.G.Ö., H.A., Design: B.G.Ö., H.A., Data Collection or Processing: S.A., M.K.Ç., A.K.Ç., B.C.Ö., Analysis or Interpretation: S.A., M.K.Ç., A.K.Ç., B.C.Ö., B.G.Ö., Literature Search: S.A., M.K.Ç., A.K.Ç., B.C.Ö., Writing: S.A., M.K.Ç., B.C.Ö.

Conflict of Interest: The authors have no conflict of interest to declare.

Financial Disclosure: No potential conflict of interest was reported by the authors.

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