LETTER to the EDITOR / EDİTÖRE MEKTUP

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Revisiting the Relationship between Post-traumatic Stress Disorder and Autism Spectrum Disorder Following the Kahramanmaraş Earthquake

Kahramanmaraş Depremi Sonrasında Travma Sonrası Stres Bozukluğu ve Otizm Spektrum Bozukluğu Arasındaki İlişkinin Yeniden Gözden Geçirilmesi

Berhan Akdağ[1], Ender Atabay[2], Yankı Yazgan[3,4]

[1]Silifke State Hospital, Clinic of Child and Adolescent Psychiatry, Mersin, Turkey
[2]Private Practice, Department of Child and Adolescent Psychiatry, Mersin, Turkey
[3]Güzel Günler Clinic, Department of Child and Adolescent Psychiatry, İstanbul, Turkey
[4]Yale University School of Medicine, Child Study Center, Connecticut, USA

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Dear Editor,

On February 6, 2023, the southern and southeastern regions of Turkey and northern Syria were struck by two earthquakes and experienced thousands of aftershocks in the following days. Because the epicenter was in Kahramanmaraş, the two large quakes directly affected 11 cities and more than 14 million people in Turkey. While this paper was being written, more than 50,000 people had died, according to official sources, and many more suffered minor or severe injuries. It is estimated that more than a million people were left homeless as tens of thousands of buildings collapsed or became uninhabitable due to the earthquakes.

Traumatic events have adverse psychological outcomes for survivors. Post-traumatic stress disorder (PTSD) is a condition that occurs after direct or indirect exposure to a traumatic event (e.g., death, serious injury, or sexual violence). Symptoms of PTSD can include the following: intrusive, distressing memories of the traumatic event; avoidance of reminders of the event; negative emotional states (e.g., fear, anger, and shame); diminished interest in activities; irritability; hypervigilance; and sleep disturbances. These symptoms last longer than one month and lead to significant distress or impairment in social, occupational, and other important areas of functioning.[1]

PTSD is common among children after natural disasters like earthquakes. The prevalence of PTSD among children following an earthquake varies depending on the severity and duration of exposure. A meta-analysis, including 39 studies between 1981 and 2019, estimated that the global prevalence of PTSD among children and adolescents was 19.2%, 30.0%, 24.4%, and 20.4% in the first, second, third, and fourth six-month intervals, respectively, after earthquakes and floods.[2] Another study assessed the symptoms of depression, anxiety, and PTSD among 2,250 adolescents six months after the 2008 Wenchuan earthquake in China and found that the prevalence rate of PTSD was 15.8%.[3] Being female, older, the presence of physical injury, and poor psychosocial support are also risk factors for the development of PTSD.

Autism spectrum disorder (ASD) is a complex neurodevelopmental disorder that is increasingly prevalent worldwide and significantly affects children and parents. Although children with ASD differ from one another, ASD is characterized by two core features: a social communication

Address for Correspondence/Yazışma Adresi: Berhan Akdağ, Silifke State Hospital, Clinic of Child and Adolescent Psychiatry, Mersin, Turkey
E-mail: drberhanakdag@gmail.com **ORCID:** orcid.org/0000-0002-5203-403X
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deficit and restricted or repetitive interests/behaviors.[1] There are currently no diagnostic biomarkers for ASD, and diagnosis is based on the presence of core features, such as impaired social interactions and repetitive behaviors/interests.

Children with ASD are more vulnerable to adverse life experiences (e.g., abuse and bullying), which contribute to the development of mental health conditions.[4] They may also be more likely to experience events as traumatic due to sensory hyperreactivity, confusion or ambiguity about social interactions, and distress regarding changes in routines.[5] Moreover, previous studies have revealed neurobiological correlates of both ASD and PTSD, including alterations in the amygdala's functional connectivity and dysregulation of the limbic-hypothalamic-pituitary-adrenal axis.[6] Consequently, frequent exposure to adversity combined with structural and functional abnormalities may make children with ASD more susceptible to adverse mental health consequences after traumatic events.[7]

To our knowledge, studies on PTSD among children with ASD are scarce. Mehtar and Mukaddes[8] found that the prevalence of PTSD among 69 children with ASD (53 boys and 16 girls) following various traumatic events (e.g., accidents, natural disasters, and abuse) was 17.4%. Disturbance in communicative abilities, increased ritualistic behaviors or stereotypes, self-injury, distractibility, insomnia, and hyperactivity were the most common symptoms among children with ASD who experienced traumatic events. Apart from the Mehtar and Mukaddes[8] study, our knowledge of PTSD symptoms in children with ASD is based on case studies and reports.[9]

However, traumatic events can worsen ASD symptoms. Individuals with ASD may experience differences in receptivity to communication and delays in processing information, which affect their ability to respond to adversity. Moreover, ASD may interfere with recovery from traumatic distress by limiting access to social support, therapy, and decreasing coping skills.[10]

In summary, a complex and dynamic relationship exists between ASD and PTSD. However, some factors complicate the diagnostic process in children with ASD. First, psychiatric assessment is often challenging because of limited or no verbal communication.[5] Hence, diagnostic assessment frequently relies on information from parents or caregivers and interpretation of behavioral equivalents of symptoms.[9] Second, no standardized and validated tool has been developed for evaluating symptoms of PTSD in children with ASD. In this context, clinicians should consider the possibility of PTSD when assessing symptoms in children with ASD who have experienced traumatic events like earthquakes.

In conclusion, the relationship between PTSD and ASD is an unresolved topic that deserves more attention from researchers and clinicians. Although children with ASD are at increased risk of repeatedly experiencing traumatic events, these events and their adverse consequences are frequently overlooked in these children. Increasing awareness of this comorbidity can improve the detection of and intervention for PTSD in children with ASD and enhance the well-being of children with ASD. Further research should focus on the development of measures for recognizing PTSD symptoms in children with ASD.

Footnote

Authorship Contributions

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