



Schizophrenia Spectrum Disorder Triggered by Childhood Trauma: A Case Report

Dewi Gita Maharani¹ and Vita Camellia¹

¹Department of Psychiatry, Faculty of Medicine, Universitas Sumatera Utara
dewigitam@gmail.com

Abstract. Extensive research has established a strong association between adverse childhood experiences, such as abuse and neglect, and the onset of schizophrenia. Childhood trauma significantly impacts psychological development, increasing the risk for various mental health disorders later in life. This case report details E.S., a 17-year-old female with a history of severe childhood abuse, primarily from her father, which manifested in profound emotional and psychological distress. She presented to the emergency department after attempting to set fire to her home, accompanied by severe agitation and aggression. Over the past year, E.S. developed auditory hallucinations commanding violent acts, which exacerbated her mental health deterioration. Her academic performance declined, and social withdrawal intensified, prompting immediate psychiatric intervention. Diagnosed with schizophrenia precipitated by prolonged abuse, E.S. underwent intensive treatment with risperidone, clozapine, and trihexyphenidyl, alongside family therapy to support her recovery and stabilize her condition. Childhood trauma's significant impact on mental health underscores the critical role of early intervention and comprehensive treatment approaches in managing psychosis. Strategies encompassing pharmacological intervention, psychotherapy, and family support are essential for addressing symptoms and promoting long-term recovery. This case highlights the complex interplay between childhood trauma and the development of schizophrenia, emphasizing the importance of tailored treatment approaches to mitigate symptoms and enhance patient outcomes. Further research and holistic strategies are crucial in improving the understanding and management of psychosis linked to early-life adversities.

Keywords: Schizophrenia, Child Abuse, Childhood Trauma.

Introduction

Studies have long supported associations between adverse childhood experiences and schizophrenia. The association between schizophrenia and childhood experiences of abuse and adversities and posited that sum risk associated with adversity accounted for 33% overall population likelihood for schizophrenia. In addition to the association of childhood maltreatment with risk for and diagnosis of schizophrenia, it has also been shown that history of child maltreatment may be associated with overall worse

outcomes after diagnosis.[1] Childhood trauma, also known as childhood adversity, defines stressful life events such as physical, sexual, emotional abuse, and neglect.[2] Exposure to trauma in childhood or adolescence has been shown to be associated with a variety of deleterious mental health outcomes including, psychotic experiences, depression, bipolar disorder, and psychosis.[3] Adverse experiences such as physical, sexual and emotional abuse during childhood can be detrimental to the psychological and physical development of a child. Up to 1 billion children and adolescents across the world are exposed to violent behavior, and violence and maltreatment in childhood account for 45% of all childhood- and 25-32% of adult-onset disorders. Individuals who experience adverse conditions during childhood exhibit greater vulnerability to psychological illnesses including depression, post-traumatic stress disorder (PTSD), bipolar and anxiety disorders, as well as psychosis and schizophrenia in adulthood.[4] Exposure to abuse and neglect during childhood is associated with an increased likelihood of psychosis across the spectrum of symptom severity from sub-clinical psychotic experiences to psychotic disorder. Meta-analyses estimate that the risk of psychosis is increased by 2–3 times in those exposed to childhood trauma.[5] If trauma has been inflicted on a child by their parent(s), their core belief system recognizes that a secure attachment style has not been formed and is deficient in protection, prompting emotional hesitation. A sense of safety and support is paramount in the early years to encourage a child to explore their environment confidently and independently, despite any possibility of failure. In the case where a child becomes familiar with traumatic events, the onset of behavioral issues increases because the victim's neurological structure changes in accordance with the adversities experienced or witnessed. Therefore, resulting in the risk of psychopathology development.[6]

Case Report

E.S. is a 17-year-old female who was brought to the emergency department by her mother after an alarming incident where she attempted to set their house on fire. E.S. exhibited severe agitation, aggression, and was unresponsive to initial attempts to calm her. Upon admission, she was shouting at unseen entities and making aggressive gestures towards the medical staff, indicating a profound level of distress. Within the past 6 months, E.S. began experiencing auditory hallucinations, hearing voices that no one else could hear. These voices were often malevolent, commanding her to commit acts of violence against herself and others. E.S. had always sensed something was wrong, but the relentless auditory hallucinations confirmed her fears. These voices constantly berated her with cruel insults and commanded her to do harmful things, pushing her to the edge of sanity. She also frequently heard the ominous sound of thunder, even on clear days, which added to her distress. Each time she heard people saying bad things or giving her harmful commands, she would become consumed with anger and, despite knowing it was wrong, would obey the voices. The intensity and frequency of these hallucinations increased over time, driving her to the brink of a mental breakdown. Her attempt to set the house on fire was influenced by these voices, which convinced her that she needed to "purge the evil" residing in her home. E.S. has a history marked by

a turbulent and abusive upbringing. Her father, a dominant figure in her life, subjected her to relentless physical and emotional abuse as a form of discipline. This abusive environment began by the time she was 6 years old, instilling deep-seated fear and a pervasive sense of worthlessness. Her mother, although not abusive, was largely passive and unable to shield her from her father's violent outbursts, she also experienced the same abusive treatment because she admitted that her husband was an alcoholic and tended to be very temperamental. The chronic exposure to such a hostile environment has profoundly impacted E.S.'s psychological well-being. Academically, E.S. had been an average student, but her performance dropped over the past six months as her mental health deteriorated. She withdrew from social interactions, isolating herself and spending most of her time alone. Upon examination, E.S. appeared disheveled and extremely agitated. Her speech was rapid and pressured, often escalating to shouting. Her mood was a volatile mix of anxiety and fear, with her affect shifting quickly from anger to despair. Her thought process was disorganized and paranoid, filled with delusions of persecution and auditory hallucinations that commanded harmful actions. Her insight and judgment were severely impaired. Given the severity of her symptoms, E.S. was diagnosed with schizophrenia resulting from prolonged abuse. Immediate hospitalization was necessary to ensure her safety and stabilize her acute symptoms. She was injected with diazepam and was also given oral medication to manage her hallucinations and agitation. The oral medication given were risperidone 1mg twice a day, clozapine 25mg once a day, and trihexyphenidyl 2mg twice a day. Psychoeducation related to schizophrenia was given to the family to educate her mother about E.S.'s condition and needs. Supportive psychotherapy may be administered during the acute phase as long as there is no longer any aggression. For long-term care, regular follow-ups with a psychiatrist were scheduled for medication management and monitoring of symptoms. The collaborative efforts of the mental health team and her family aimed to provide E.S. with a comprehensive support system to aid in her recovery and improve her overall quality of life.

Discussion

Traumatic experiences have an important impact on physical and emotional health for people of any age and at any stage of development. The impact of traumatic experiences in childhood and adolescence can be particularly significant because the human brain is still under development.[7] A growing body of literature over the past decades has shown that consequences of childhood trauma include the increasing in risk of psychotic outcomes. The intention to harm, in the form of maltreatment by adults and bullying by peers, was strongly associated with children's reports of psychotic symptoms compared to having experienced an accident. Findings from longitudinal studies controlling for genetic risk for psychotic symptoms or disorders revealed that trauma is related to risk of psychotic symptoms in a dose- response fashion using a cumulative index of trauma, which is consistent with the findings from other studies. Previous findings reported that early traumatic and stressful experiences are related to the

development of psychotic symptoms later in life across the continuum of psychosis, from non-clinical expressions of psychotic symptoms to psychotic disorder. [8]

The diathesis-stress model, an influential conceptualization of psychiatric illness over recent generations, postulates that etiologic factors underlying psychiatric illness can be divided into those that are present from an early age and are temporally stable in their effect (diathesis) and those that are temporally discrete, occurring close in time to disorder onset (stress). [9] The diathesis-stress model of psychopathology is a framework for understanding the development of psychological disorders. According to the general model, each individual possesses some degree of inherent vulnerability (i.e., diathesis) for developing a given disorder. Onset of a disorder can then be triggered by environmental stress; however, the amount or intensity of stress required to trigger a disorder depends on the extent to which the individual is inherently vulnerable. Within the context of schizophrenia, the conceptualization of a diathesis-stress interaction was further developed by Bleuler and Rosenthal. Contrary to the earlier belief that there was a single cause of the disorder, Bleuler proposed that the development of schizophrenia is caused by the interaction between various dispositional factors and environmental stressors. According to this conceptualization, while all individuals possess some degree of inherent vulnerability, development of schizophrenia will occur only if environmental factors cause sufficient stress to trigger the onset of the disorder. Furthermore, Bleuler stated that the onset of schizophrenia may be triggered by “a disharmonic personality which creates disharmonic and dissociated human relations”. [10]

Adverse childhood experiences (ACEs), are potentially traumatic events that occur in childhood (0-17 years). Examples include: Experiencing violence, abuse, or neglect, witnessing violence in the home or community, having a family member attempt or die by suicide, also included are aspects of the child’s environment that can undermine their sense of safety, stability, and bonding. Examples can include growing up in a household with substance use problems, mental health problems, instability due to parental separation, and also instability due to household members being in jail or prison. [11]

Adverse childhood experiences (ACEs) are common globally, with nearly two-thirds of participants in the original ACEs study reporting at least one ACE before adulthood. ACEs include various forms of abuse and victimization. Research shows that ACEs can lead to neural changes affecting the HPA axis, resulting in numerous functional impairments and increased risk of health problems like anxiety, depression, and psychotic disorders. However, the link between ACEs and psychotic-like experiences (PLEs) in school-age children is less studied. PLEs, which are nonclinical schizophrenia spectrum symptoms in childhood, are linked to a higher likelihood of developing psychiatric disorders in adulthood. Exposure to ACEs is associated with an increased risk of psychotic disorders, with some studies indicating specific traumatic experiences like bullying or sexual abuse are strongly linked to PLEs. Both ACEs and PLEs share several common correlates, such as everyday stress, cognitive impairments, depression, anxiety, and suicidality, including family history of mental illness. However, few studies have examined whether the relationship between ACEs and PLEs remains significant when accounting for these shared correlates. [12]

The association between adverse childhood experiences (ACEs) and PLEs aligns with previous research linking trauma to psychotic experiences. However, some studies have

not found significant associations between trauma and psychosis, suggesting that childhood and adolescence may be particularly sensitive periods for this connection. It is hypothesized that trauma impairs HPA axis functioning, leading to elevated cortisol levels, increased glucocorticoids, and dopamine release, which could result in cognitive impairments and schizophrenia spectrum symptoms. Specific types of trauma, such as bullying, financial adversity, witnessing domestic violence, and traumatic grief, are notably associated with PLEs. Bullying may lead to distorted cognitions and increased suspiciousness, while social deficits related to PLEs could make children more vulnerable to bullying. Financial adversity is linked to PLEs due to chronic stress from lower socioeconomic status. Witnessing domestic violence, even indirectly, can elevate stress and suspiciousness, contributing to PLEs. These findings underscore the complex interplay between different forms of trauma and the development of psychotic-like symptoms.[12]

The adverse childhood experiences (ACEs) study initially hypothesized that the connection between ACEs and negative adult outcomes was due to increased health-harming behaviors, such as smoking, intravenous drug use, and problematic drinking, used by individuals to cope with trauma-related stress. The study found that individuals with four or more ACEs had significantly higher risks of engaging in these behaviors, which in turn reduced their resistance to life-threatening diseases. Subsequent research has confirmed these findings but also indicated that these behaviors only explain half of the relationship between ACEs and poor physical outcomes, suggesting other processes are involved.[13]

Three main theoretical accounts have been proposed to explain the impact of ACEs on health:[13]

1. Toxic Stress: Chronic exposure to high levels of adversity and trauma can lead to the overproduction of cortisol, damaging physiological systems, including neural networks related to the autoimmune system and brain regions responsible for memory. This can weaken the immune system and impair stress response management.
2. Latent Vulnerability: Childhood maltreatment may alter brain functioning and information processing, increasing vulnerability to mental health issues. Brain-imaging studies suggest that abuse and neglect can lead to adaptations in neurocognitive systems governing threat processing, reward processing, and memory, which, while adaptive in adverse environments, increase susceptibility to anxiety and other mental health problems later in life.
3. Epigenetic Modulation: Environmental experiences can alter the expression of the genetic code. Studies in rats show that pups raised in low-nurturing environments exhibit greater stress reactivity than those in high-nurturing environments. Such genetic changes may reduce disease resilience in adulthood.

Additionally, three social processes linking ACEs to negative adult outcomes include:[13]

1. Coercive family interactions, where aggressive and abusive behaviors are learned and reinforced.
2. Increased vulnerability to polyvictimization, exposing children to multiple forms of abuse from peers and adults outside the family.

3. Lack of positive social interactions with trusted peers and adults, which support resilience by enhancing self-worth and efficacy.

As per the theory mentioned above, the hallucinations experienced by this patient may be related to the diathesis-stress model. E.S., as a vulnerable individual, was raised by a dominant and abusive father and a submissive and weak mother, who admitted to previously experiencing abuse from the father. Living in such an abusive environment likely triggered E.S. to develop schizophrenia. The theories mentioned above also align with this case, where adverse childhood experiences, specifically exposure to abusive behavior from the father from an early age, have contributed to the mental health issues observed in the patient, who suffers from schizophrenia.

In this patient, auditory hallucinations have been identified, characterized by voices instructing her to engage in harmful or malevolent actions towards others. These hallucinations have been persistent over the past six months, continuously affecting the patient. The chronic nature of these symptoms, along with their specific content, strongly suggests a diagnosis of schizophrenia. Additionally, upon admission to the hospital, the patient exhibited significant agitation and aggression. These symptoms, however, have shown improvement following the administration of appropriate medications, indicating a positive response to the initial treatment. Given the severity and persistence of these hallucinations, it is essential to undertake an immediate and thorough evaluation. This should include assessing the patient's insight into her condition, her adherence to treatment, and any potential risks posed by the hallucinations. Management of this case requires a comprehensive approach, involving antipsychotic medication and supportive psychotherapy. Close monitoring and a multidisciplinary treatment plan are crucial to address both the psychological and safety concerns associated with this condition.

Conclusion

This case report discusses schizophrenia in a child raised by abusive parents. The child began experiencing auditory hallucinations that endangered herself and others. Treatment was initiated with risperidone 1 mg twice daily, clozapine 25 mg once daily, and trihexyphenidyl 2 mg twice daily. Psychoeducation was also given to her family especially her mother. A plan was established for regular follow-up visits and consistent medication adherence. Additionally, supportive psychotherapy may also be administered during the acute phase as long as there is no longer any aggression.

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