Various types of childhood trauma, such as sexual, physical, and emotional abuse, as well as physical and emotional neglect, are known risk factors for the onset of schizophrenia spectrum disorders (SSD), particularly in relation to the increased severity of depressive or negative symptoms. The type and impact of trauma may differ between genders. Female SSD patients report a greater exposure to childhood trauma than male SSD patients. In this study, the authors from the Netherlands investigated the association between depressive symptoms and specific forms of childhood trauma/abuse in patients with recent-onset schizophrenia spectrum disorders (SSD) and possible differences related to gender.

The four main categories of child abuse are neglect, physical abuse, emotional abuse, and sexual abuse. Neglect refers to the failure to provide a child with adequate shelter, safety, supervision, and nutritional requirements. In physical abuse, the child is injured by hitting, punching, kicking, shaking, burning, stabbing, or choking. The emotional abusers ignore, isolate, terrorize, and reject their victims. Child sexual abuse refers to any sexual activity with a child, including intercourse, attempted intercourse, fondling of genitals directly or through clothing, exhibitionism, exposure to adult sexual activity or pornography, and the use of the child for prostitution or pornography.

During childhood, the human brain is still developing through synaptic remodeling processes that affect both gray and white matter organization. Childhood abuse is a serious stressor that has the potential to disrupt these neurodevelopmental processes due to physiological, neurochemical, and hormonal changes. Neuroimaging studies have shown that abuse or maltreatment in early life is connected with structural brain changes. The brain regions most frequently affected by childhood abuse include the prefrontal cortex, anterior cingulate cortex, hippocampus, amygdala, corpus callosum, and cerebellum, suggesting that fronto-limbic circuits may be most affected. A recent magnetic resonance imaging study that investigated the effects of sexual abuse on the limbic and prefrontal cortex structures in adolescent brains has shown that volumes of the amygdala and hippocampus, as well as the cortical thickness of the prefrontal cortex, were altered in sexually abused adolescents compared to non-abused adolescents. The authors suggested that greater volumes of the amygdala and hippocampus, combined with reduced cortical thickness in the inferior frontal gyrus, may represent a maladaptive response to dangerous experiences.
https://discovermednews.com/the-impact-of-childhood-abuse-on-the-structural-brain-changes/

About the study

The data for this cross-sectional study were collected from the baseline measurements of two studies, namely the Simvastatin augmentation for recent-onset psychotic disorder (Simvastatin) study and the ongoing Handling Antipsychotic Medication: Long-term Evaluation of Targeted Treatment (HAMLETT) study.

The patients in the Simvastatin study were 18–50 years old and had a diagnosis of schizophrenia, schizoaffective disorder, schizophreniform disorder or unspecified schizophrenia spectrum, and other psychotic disorders. At the time of the inclusion, all of them were in remission. The patients included in the ongoing HAMLETT study were 16–60 years old, and were in remission for 3–6 months after their first episode of schizophrenia, schizoaffective disorder, schizophreniform disorder, brief psychotic disorder, delusional disorder, substance/medication-induced psychotic disorder, or unspecified schizophrenia spectrum and other psychotic disorders. The dosage of the antipsychotic therapy was recorded and converted to an equivalent dose of chlorpromazine.

Depressive and negative symptoms were assessed using the positive and negative symptom scale (PANSS), and childhood trauma was assessed using the Dutch version of the Childhood Trauma Questionnaire- short form (CTQ-SF). This questionnaire examines five specific forms of trauma: emotional, physical, and sexual abuse, as well as emotional and physical neglect.

Results

This cross-sectional study enrolled a total of 302 patients. From the HAMLETT study, 187 patients were first-episode psychosis patients in remission, and from the Simvastatin study, 115 recent-onset SSD patients. 218 patients were men, and 84 were women.

The prevalence of specific forms of trauma was higher in women than in men. Rates of sexual abuse were three times higher in women than in men, and rates of emotional abuse were twice as high in women as in men.

A higher total trauma score was significantly associated with more severe depressive and negative symptoms across the sample. There was a strong association between emotional abuse and depressive symptoms, and between emotional abuse/emotional neglect and negative symptoms. The results for men were very similar to those for the total sample. The emotional abuse/total trauma score was associated with depressive symptoms. Negative symptoms were associated with a total trauma score and emotional neglect.

In women, sexual abuse was associated with an increase in the severity of depressive symptoms. This finding is consistent with previous studies showing an association between sexual abuse in women and high levels of anxiety, guilt, and a pervasive sense of defeat, leading to a depressed mood. Negative symptoms were not associated with a total trauma score.

Conclusion

According to the authors, these findings demonstrated the association between the severity of depressive symptoms and specific forms of childhood trauma in both genders diagnosed with recent-onset SSD. In women, the severity of depressive symptoms was associated with childhood sexual abuse, which was three times more common in women than in men.

These results underscore the importance of gender-specific analyses in SSD research.

This article was published in Psychological Medicine.

Journal Reference

Enthoven AD et al. The association of childhood trauma with depressive and negative symptoms in recent-onset psychosis: a sex-specific analysis. Psychological Medicine 1–10, 2023. (Open Access) https://doi.org/10.1017/S0033291723001824