Relationship Between Trauma, PTSD, and Schizophrenia:

Relevance for Outcomes, Screening, and Interventions

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Compared to the general population, patients with schizophrenia have an increased prevalence of psychiatric comorbidities, including anxiety disorders, depression, substance use disorders, and obsessive-compulsive disorder, as well as trauma-related disorders.[1–3]

Posttraumatic stress disorder (PTSD) is a condition of persistent mental and emotional stress as a result of exposure to a traumatic event. PTSD symptoms fall into 4 main domains: intrusion (unwanted re-experiencing of the trauma, like flashbacks or nightmares), avoidance (efforts to evade trauma reminders), negative mood and cognition changes (persistent negative thoughts, emotional numbing, or memory issues), and arousal/reactivity (hypervigilance, irritability, or sleep disturbances).[4] These symptoms must significantly impair daily functioning and persist for over a month to qualify as PTSD, and common comorbid presentations include pain conditions, anxiety, depression, and substance use disorders.

PTSD frequently co-occurs with schizophrenia.[5] However, the prevalence of PTSD in schizophrenia is still somewhat uncertain, ranging from 10% to 30% in most studies.[6–8] These rates are much higher than the prevalence of lifetime PTSD in the general population, which ranges from 7.8% to 9.2%[9]; this prompts questions regarding the relationship between schizophrenia and trauma as well as between PTSD and outcomes in people with schizophrenia.

In this article, we summarize the clinical relevance of the occurrence of trauma and PTSD in patients with schizophrenia and examine the assessment and treatment options of trauma and related conditions that should be considered when treating patients with schizophrenia.

Trauma and Schizophrenia

Trauma is probably the most important known and modifiable environmental risk factor associated with schizophrenia[9] that has also been identified as a transdiagnostic risk factor for poor outcomes for schizophrenia and other main mental disorders.[10] The link between psychosis and trauma is complex, multifactorial, and likely also bidirectional. Different proposed pathways include the following[11–16]: (*a*) psychosis as a result of childhood adversity, (*b*) trauma (accidents, physical altercations, suicide attempts, etc) as a result of behaviors or experiences that are related to psychosis or involuntary treatment, (*c*) psychosis as a dimension of PTSD, or (*d*) PTSD and retraumatization as stressors that can worsen the course of psychotic disorder.

Approximately 70%–98% of patients with schizophrenia have experienced a traumatic event in their life,[17] compared to 39%–56% in the general population.[9] Patients with schizophrenia are also more likely to have suffered adverse childhood experiences,[16] which in turn increase the risk of psychosis and schizophrenia (odds ratio = 2.72).[13,18] There is also evidence that traumatic experiences influence the content of psychotic symptoms, including hallucinations and delusions.[12]

Moreover, the frequency and severity of early traumatic events during both adulthood and childhood correlate positively with the frequency and severity of PTSD.[17,19]

According to a meta-analysis of 13 studies of patients with first-episode psychosis, the pooled prevalence of PTSD symptoms was 42% (95% confidence interval [CI]: 30%–55%), and the pooled prevalence of a syndromal PTSD diagnosis was 30% (95% CI: 21%–40%).[19] The risk of PTSD was increased in inpatients and those with affective psychosis as well as with symptoms of anxiety and depression (although these could also have been a result of PTSD).

Finally, history of childhood trauma, including emotional abuse, sexual abuse, and physical neglect, correlates with higher levels of positive, general, and depressive symptoms and poorer levels of global functioning.[11]

Impact of PTSD in Patients With Schizophrenia

Comorbid PTSD has been associated with poor social outcome, functioning, and quality of life in people with schizophrenia.[20] Additionally, comorbid PTSD is also associated with a greater number of chronic physical health problems, including asthma, diabetes, hypertension, and cancer in people with schizophrenia.[6] When analyzing correlates of this co-occurrence between PTSD and schizophrenia, there were no significant differences between patients with PTSD vs without PTSD regarding number of hospitalizations, age of onset of schizophrenia, age of first hospitalization, and consumption of antipsychotic medications.[7] In contrast, in the PTSD group, a higher proportion of patients received antidepressants,[21] likely indicating greater severity of depression of people with schizophrenia and comorbid PTSD (see below).

Differences Between Patients With Schizophrenia Plus PTSD Versus Without PTSD

Concerning correlates of schizophrenia diagnosis with versus without PTSD, no significant demographic differences were reported across age, ethnicity, nationality, education, employment, marital status, income, socioeconomic status, and living situation.[22–24] Furthermore, there was no significant difference in terms of prevalence of substance and alcohol use disorders[6] or type of substance used.[24]

With regard to clinical symptoms, however, results have been contradictory, possibly due to differences in sample characteristics and assessments, as well as due to overlapping symptomatology, for example between avoidance and emotional numbing and negative mood related to PTSD, negative symptoms of schizophrenia, and depression. For example, while some studies have reported PTSD as being associated with more severe positive symptoms and less severe negative symptoms of schizophrenia, studies exploring both positive and negative symptoms of schizophrenia within the same sample found no differences.[19,23–25]

Despite these conflicting results regarding negative symptoms of schizophrenia that may overlap syndromally with depression, comorbid PTSD has, nevertheless, been linked relatively consistently to depression. For example, significant correlations were found between PTSD and Calgary Depression Scale for Schizophrenia ratings, with higher prevalence of depression as well as more severe forms of depression.[22,26] Notably, suicidality was also significantly associated and elevated within the comorbid PTSD group, while suicidal behavior was directly correlated with the number of traumatic events in people with schizophrenia.[24] These data establish patients with schizophrenia and comorbid PTSD as a particular high-risk group for suicide attempts, which is crucial, given the high suicide-related mortality in people with schizophrenia, especially in their first episode.[27]

Assessment of Traumatic Experiences and of PTSD

Trauma and PTSD are highly prevalent in patients with schizophrenia, yet are also frequently overlooked. While assessing trauma history and the presence of PTSD should be included in the routine evaluation of all patients with schizophrenia, there is clear evidence of underreporting and insufficient screening for PTSD.[28]

Although most instruments for assessing traumatic event exposure and PTSD symptoms were not initially developed for patients with schizophrenia, studies generally support their reliability and validity for trauma and PTSD assessments in this population.[29]

One of the most frequently used instruments to assess trauma is the Childhood Trauma Questionnaire (CTQ), a self-report instrument consisting of 28 items that also includes a minimization/denial scale to assess potential underreporting. The Traumatic Life Events Questionnaire (TLEQ), on the other hand, measures not only childhood but also lifetime exposure to traumatic events in a 23-item questionnaire. The Early Trauma Inventory Self Report (ETI-SR) is an instrument appropriate for research settings and has been validated in several languages. Of instruments used to assess trauma, the self-rated Life Events Checklist for *DSM-5* (LEC-5), including 17 items and taking 5–10 minutes to administer, is sufficiently brief to be implemented in clinical care.[4,30]

The gold standard to diagnose PTSD is the Clinician-Administered PTSD Scale (CAPS), a 30-item structured interview that should ideally be administered by clinicians and clinical researchers with experience in PTSD.[4] The Structured Clinical Interview for *DSM* (SCID) and the Composite International Diagnostic Interview (CIDI) cover the spectrum of mental disorders and have a specific section on PTSD. These structured interviews can be applied by both trained professionals and trained lay interviewers.[18]

In addition to these structured diagnostic interviews, the PTSD Checklist for *DSM-5* (PCL-5) is a 20-item self-report questionnaire, which uses a Likert scale rating from 0 to 5 to indicate symptom presence and severity. It takes approximately 10 minutes to complete, is useful to monitor symptom change and response to treatment, and can be used in clinical care.[31]

Pragmatically, clinicians should at least routinely ask about the past or present experience of relevant trauma

and, if present, inquire about the clinical presence of any of the 4 PTSD symptom domains (intrusion, avoidance, negative mood and cognition changes, arousal/reactivity). In case such symptoms are present and impairing or distressing, clinicians might use a structured instrument to diagnose PTSD or simply do so applying *DSM-5* criteria.

Treatment of PTSD

Recommendations for core PTSD symptoms do not differ greatly between guidelines, which generally consider both psychological and pharmacologic therapies as first-line treatments.[32]

Psychosocial interventions. The routine and guideline-consistent treatment for PTSD is nonpharmacologic. However, interventions targeted for PTSD in patients with psychotic disorders are not as well established as interventions for psychosis or PTSD alone.

In a systematic review[33] investigating the effect of psychological treatments used to target PTSD symptoms in a population with a primary diagnosis of psychotic disorder, the following interventions were identified: cognitive behavioral therapy, eye-movement desensitization and reprocessing, prolonged exposure, and written emotional disclosure. Overall, the interventions were effective in reducing PTSD symptoms with small to medium effect sizes. Results were mixed regarding effects on additional domains, like psychotic symptoms, affective symptoms, and functioning.

Pharmacologic treatments. Although the co-occurrence of schizophrenia and PTSD is frequent, pharmacologic trials tend to exclude subjects with comorbid conditions, so that no controlled data exist for PTSD treatments in people with schizophrenia. Therefore, on-label treatment for PTSD, such as sertraline and paroxetine, or other off-label antidepressants may be used.[34,35]

Other off-label, second-line medications include prazosin (for nightmares), imipramine, and phenelzine, and propranolol and clonidine (for hyperarousal).[36,37] Additionally, adjunctive second-generation antipsychotic medications (for depression, anxiety, and hyperarousal) are also used,[36,37] with a currently ongoing FDA review of positive randomized controlled trial data for brexpiprazole in combination with sertraline for patients with a primary diagnosis of PTSD.[38]

Conclusions

There is clear evidence of underreporting and insufficient screening for PTSD in people living with schizophrenia. The findings concerning the impact of comorbid PTSD on functioning, quality of life, and, especially, suicidality underscore the importance of assessing trauma history as well as PTSD in the routine evaluation of patients with schizophrenia. Given that psychological interventions have been shown to be both safe and effective in reducing PTSD symptoms, it is imperative to ensure that this comorbidity is properly assessed and treated. Further research is needed to evaluate the efficacy of pharmacologic treatments in this population.

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