Psychotic disorders are some of the most severe, and in some cases chronic, forms of mental disorder. The symptoms of psychosis involve disturbances in perception (hallucinations), disturbances of belief and the interpretation of the environment (delusions), and disorganised speech patterns (thought disorder). Psychotic disorders are a broad category of disorder that include specific diagnoses such as schizophrenia and delusional disorder. People with psychotic disorders commonly also have other mental disorders such as mood and anxiety disorders and severely impaired functioning.

Historically, psychotic illnesses, especially schizophrenia, have been viewed as being degenerative biological diseases, with an inevitably poor prognosis—in terms of both symptoms and social functioning. As a consequence of these views, treatment of psychoses has largely focused on biological interventions, with a focus on management rather than recovery. More recently, however, it has become clear that environmental factors play an important part in the aetiology and maintenance of psychotic disorders (van Os, Krabbendam, Myin-Germeyns, & Delespaul, 2005). Early intervention services have shown that psychosocial interventions are important adjunctive treatments that have been found to improve factors such as hallucinations, delusions and vocational functioning (Killackey, Jackson, & McGorry, 2008). These early intervention services developed the concept of the “first episode” of psychosis, based on the idea that, if comprehensive intervention occurs during the first episode, further episodes can be prevented or better managed. Childhood trauma—such as childhood physical, sexual and emotional abuse—has been found to be a risk factor for psychosis, and interventions are beginning to be developed to treat the effects of childhood trauma in people with psychosis. This article provides an overview of the evidence for a relationship between childhood trauma and psychosis, and then reviews and discusses treatments for people with psychosis who have experienced childhood trauma.
Reviewing the evidence

There is a growing body of empirical evidence indicating that there is a relationship between childhood trauma and psychosis; however, researching this relationship is intrinsically difficult (Bendall, Jackson, Hulbert, & McGorry, 2008). A systematic review of studies of the relationship between childhood trauma and psychosis conducted by our group in 2008 found that, while a large number of studies reported a high prevalence of childhood trauma (between 28% and 73%) in groups with psychosis, methodological problems meant that no firm conclusions could be drawn (Bendall et al., 2008). This was primarily because the use of varying definitions of childhood trauma and the need to use retrospective reports of childhood trauma make determining the prevalence of childhood trauma in any population very difficult. Our review did, however, identify six studies of high quality that tentatively suggested a relationship. Since that review, other studies have overcome some of the methodological problems that have made it difficult in the past to derive any conclusions about whether childhood trauma may confer a risk for psychosis. One in particular met the criteria set out in our review—a study of high quality that provides more substantial evidence of an association between childhood trauma and psychosis (Cutajar et al., 2010). This study and the six studies identified in the 2008 review are summarised in Table 1.

Two of the studies shown in Table 1 compared the childhood trauma histories of groups with psychosis to those of control groups (Nettelbladt, Svensson, & Serin, 1996; Wurr & Partridge, 1996). These studies found a greater prevalence of childhood trauma in the group with psychotic disorders. Nettelbladt et al. (1996) compared 17 married people with psychosis with a matched control group (n = 52) and found a significantly greater prevalence of childhood sexual abuse (CSA) in the psychosis group (47%) than in the control group (6%). Wurr and Partridge (1996) compared the prevalence of CSA in a group of inpatients with psychosis (n = 34) with that reported in a population survey undertaken a decade earlier. Thirty eight per cent of those with schizophrenia reported CSA, compared with 10% in the population sample.

Four studies compared the prevalence of psychotic disorders in people who had experienced childhood trauma with the prevalence of psychotic disorders in people who had not experienced childhood trauma (Famularo, Kinscherff, & Fenton, 1992; Janssen et al., 2004; Spataro, Mullens, Burgess, Wells, & Moss, 2004; Stein, Goldring, Siegel, Burnam, & Sorrenson, 1988). The Stein et al. study (1988) was a retrospective, epidemiological study conducted with 3,132 adults in which respondents were interviewed regarding their experience of childhood sexual abuse and their psychiatric diagnoses. Although there was a 10-fold difference (3% versus 0.3%) in the prevalence of psychosis in the childhood trauma group compared with the controls, the difference was not statistically significant. This may have occurred because of low numbers in the childhood trauma and psychosis group.

Three of the other studies employed a follow-up design. Famularo et al. (1992) assessed 61 children aged between 5 and 10 years with documented experiences of child maltreatment, who were recruited through a court and a paediatric outpatient clinic. They were compared with 35 non-maltreated children recruited from the same paediatric clinic, matched on the basis of age, gender, ethnicity and family income. Nine per cent of the maltreated children had a diagnosis of psychosis compared to none of the non-maltreated children. All but one of the children with psychosis also had a diagnosis of post-traumatic stress disorder (PTSD). The authors noted that the psychotic symptoms described by the children were hallucinations reminiscent of the trauma experienced.

A large follow-up study by Spataro et al. (2004) examined the impact of CSA on various psychiatric disorders in adulthood using data from two statewide databases in Victoria, Australia. The records of 1,612 sexually abused children were matched with the Victorian Psychiatric Case Register (VPCR) in order to determine any subsequent diagnoses of psychiatric disorders as adults. These findings were compared with the prevalence of psychiatric disorders in the general population, calculated from the VPCR. There was no statistically significant difference between the prevalence of psychotic disorders in the sexually abused group (0.8%), compared with the general population (0.7%). However, several factors identified by the authors may have reduced the validity of the results. Participants with a history of CSA had a mean age in the 20s, less than the peak time for the development of psychotic disorders, whereas the control group was, on average, older. The control group was not screened to confirm the absence of CSA so, inevitably, some people with CSA were included in the CSA-negative group. The paper also described other data collection problems inherent in the design. For example, data matching was not possible for people who gave false names, moved out...
of Victoria, or changed their names after marriage, preventing matching to their childhood records. The authors rightly state that there were powerful systematic biases against finding a difference in the study. This suggests that the finding of no association between CSA and psychosis in this study may not have been highly reliable.

A second, larger study by Cutajar et al. (2010) was conducted by the same group of researchers in order to address some of the problems described above. The second study identified a group of 2,759 people with documented evidence of CSA from the Victorian register, and again collected data from the VPCR on the psychotic disorders diagnoses they received as adults (an average of 23 years later). These were compared with an age- and gender-matched control group (n = 2,677) from the Victorian electoral role. Having experienced CSA significantly increased the odds of receiving a diagnosis of psychosis in general (odds ratio = 2.1) and schizophrenia in particular (odds ratio = 2.6). More severe CSA (e.g., penetrative), later age of abuse and abuse

Table 1 Studies investigating the relationship between childhood trauma and psychosis

<table>
<thead>
<tr>
<th>Study</th>
<th>Measures</th>
<th>Total sample (n)</th>
<th>Groups for comparison (V)</th>
<th>Psychosis type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stein et al. (1988)</td>
<td>DIS</td>
<td>Random adult sample (3,132)</td>
<td>CSA (82)</td>
<td>No CSA or adult sexual abuse (2,601)</td>
</tr>
<tr>
<td>Famularo et al. (1992)</td>
<td>DICA-C &amp; DICA-P</td>
<td>Children in court or outpatient paediatric clinic (96)</td>
<td>Documented maltreatment (61)</td>
<td>No maltreatment (35)</td>
</tr>
<tr>
<td>Nettelbladt et al. (1996)</td>
<td>Authors’ interview Authors’ interview</td>
<td>Married people with schizoaffective disorder (17), their partners, married people with diabetes, &amp; healthy married controls (54)</td>
<td>Married people with schizoaffective disorder (17)</td>
<td>Partners of people with schizoaffective disorder, married people with diabetes, &amp; healthy married controls (54)</td>
</tr>
<tr>
<td>Wurr &amp; Partridge (1996)</td>
<td>Patient file audit Authors’ questionnaire or interview</td>
<td>Consecutively admitted inpatients (120) &amp; population sample (2,019)</td>
<td>Schizophrenia and related psychoses (34)</td>
<td>Non-psychotic inpatients (86) &amp; non-clinical controls (2,019)</td>
</tr>
<tr>
<td>Janssen et al. (2004)</td>
<td>CIDI Authors’ interview</td>
<td>Random adult sample screened for lifetime absence of any psychotic symptoms 3 years previously (4,045)</td>
<td>CA (412)</td>
<td>No CA (3,595)</td>
</tr>
<tr>
<td>Spataro et al. (2004)</td>
<td>NA—Data extracted from Victorian Psychiatric Case Register &amp; Victorian Sexual Abuse Register</td>
<td>Adults born between 1950 &amp; 1991 in Victoria, Australia (3,141,357)</td>
<td>Children on Victorian State Sexual Abuse Register (1,612)</td>
<td>Not on Sexual Abuse Register as children (3,139,745)</td>
</tr>
<tr>
<td>Cutajar et al. (2010)</td>
<td>NA—Data extracted from Victorian Psychiatric Case Register &amp; Victorian Sexual Abuse Register</td>
<td>NA</td>
<td>Children on Victorian State Sexual Abuse Register (2,759)</td>
<td>Age and gender-matched controls from Victorian electoral role (2,677)</td>
</tr>
</tbody>
</table>

Notes: DICA-R = Diagnostic Interview for Children and Adolescents—Revised; DICA-C = DICA—Child; DICA-P = DICA—Parent; DIS = Diagnostic Interview Schedule; CSA = childhood sexual abuse; CA = childhood abuse; CIDI = Composite International Diagnostic Interview; NA = Not applicable.
involving more than one perpetrator increased the risk of receiving a psychosis diagnosis.

In another large study, Janssen et al. (2004) investigated the relationship between the development of hallucinations and delusions at pathological levels and retrospectively reported childhood trauma. Using epidemiological sampling methods, adult participants ($n = 4,045$) were interviewed by phone regarding their mental health problems, including psychosis and childhood trauma. Those without hallucinations and delusions were assessed three years later for the presence of hallucinations and delusions. After adjusting for socio-demographic and mental health factors, participants who had reported abuse were seven times more likely to have a need for treatment for a pathological level of hallucinations and delusions.

Six of these seven studies found some evidence of a relationship between childhood trauma and psychosis (Bendall et al., 2008), and the seventh (Spataro et al., 2004) had systematic biases that may have prevented finding any differences. Taken together, these studies provide, more conclusively then previously, evidence of an association between childhood trauma and psychosis.

### Treatment approaches for trauma in psychosis

Treating the aftermath of childhood trauma in people with psychosis has received relatively little research attention to date. This is despite the fact that people with childhood trauma and psychosis have worse treatment outcomes than their non-traumatised counterparts. For example, people with psychosis and a history of trauma have more severe depression, anxiety, suicidality (Schenkel, Spaulding, DiLillo, & Silverstein, 2005; Tarrier, Khan, Cater, & Picken, 2007) and substance abuse (Neria, Bromet, & Sievers, 2002). They are less involved in, or adherent to, their treatment (Lecomte et al., 2008) and make less progress in vocational programs (Lysaker, Nees, Lancaster, & Davis, 2004). Childhood trauma also leads to PTSD symptoms in those with psychosis (Calhoun et al., 2007; Kilcommons & Morrison, 2005; Mueser et al., 2004). For example, in a group of 30 people with childhood trauma and psychosis, 16 had a diagnosis of PTSD (Kilcommons & Morrison, 2005). Research evidence to date does not tell us when PTSD has developed in these cases. There is little published evidence that the needs of traumatised people with psychosis are being met by way of specialised treatment for their trauma. In fact, it is possible that the lack of appropriate treatment is contributing to a lack of treatment involvement, which may then, in turn, be affecting symptomatic and functional recovery.

Several clinical researchers have highlighted issues of confidence and competence of mental health clinicians in the assessment and treatment of trauma in specialist psychosis treatment teams (Frueh, Cusack, Grubaugh, Sauvageot, & Wells, 2006; Mueser et al., 1998). Frueh and colleagues (2006) suggested that “trauma has acquired a mystique that leaves clinicians fearful of addressing it” (p. 1029). This complexity and lack of empirical knowledge of the relationship between traumatic experiences and psychosis is reflected in the difficulties that clinicians face when treating people with trauma and psychosis. Clinicians working with people with first-episode psychosis have complained of a lack of knowledge and institutional support in adequately treating people with trauma, which could affect their work satisfaction and may drive highly competent clinicians out of the area. Increasingly, clinicians have been calling for the development of specialised intervention to specifically address the needs of this complex and vulnerable group (Conus, Berk, & Schafer, 2009).

Only two trials to our knowledge have tested interventions for PTSD in groups with psychosis. One study investigated the effect of a cognitive behaviour therapy intervention targeted at processing the traumatic nature of the psychosis and treating appraisals of the psychotic illness in a group of 66 people with first-episode psychosis (Jackson et al., 2009). Results showed that, while the intervention was not targeted directly at trauma symptoms, it was PTSD symptoms rather than depression...
or self-esteem symptoms that had improved at 12-month follow-up, and people with a diagnosis of PTSD benefited most from the intervention. A second small study in a group with first-episode psychosis (n = 22) compared three sessions of writing about the distressing aspects of their acute psychosis with writing about emotionally neutral topics. Five weeks later, those who had written about their psychosis had less severe post-traumatic symptoms (Bernard, Jackson, & Jones, 2006). These two studies suggest that relatively simple interventions can improve trauma symptoms, and provide support for specific targeted cognitive behavioural therapy (CBT) for trauma symptoms in first-episode psychosis. However, for both of these studies, only some of the people with psychosis would have had post-traumatic symptoms; therefore, neither study used specific evidence-based therapeutic techniques for PTSD symptoms such as flashbacks and nightmares. Both of these studies targeted the trauma of the acute psychosis rather than childhood trauma.

To date, while highly specific CBT interventions have been found to be effective with people with PTSD from various traumas (Ehlers & Clark, 2000), no trials have been conducted using these interventions with people with psychosis.

Two randomised controlled trials have found CBT to be beneficial for PTSD symptoms in those with PTSD and co-occurring serious mental illnesses, including psychosis (Mueser, 2007; Mueser et al., 2008); however, only a small subset of both groups had a psychosis diagnosis. The CBT program in these trials included crisis planning, psycho-education tailored to the client’s own experience of PTSD and other symptoms, breathing retraining, and cognitive restructuring, including focusing on the role of life experiences and trauma in the development of thoughts and beliefs.

Thus far, the focus of randomised controlled trials has been on either the generally traumatic nature of psychosis or on PTSD in the context of more general serious mental illness. However, optimal trauma-related treatment for people with childhood trauma and psychosis should be targeted to both psychosis and childhood trauma-related PTSD symptoms. Interventions for this group are in the development phase and have not yet been the focus of randomised controlled trials. Models are being developed and, to date, data are derived only from published case studies and case series (Bendall, Jackson, & Hulbert, 2010; Calcott & Turkington, 2006; Larkin & Morrison, 2006; Smith et al., 2006). The following discussion of treatment for trauma and psychosis is based on these published models and cases. Emphasis is placed on assessment and case formulation, as there is agreement that this is where CBT treatment differs most from CBT treatment for either PTSD or psychosis alone (Bendall et al. 2010; Calcott & Turkington, 2006; Larkin & Morrison, 2006; Smith et al., 2006).

The first step in trauma treatment for psychosis involves the clinician comprehensively assessing the client, which allows them to build a formulation that links current symptoms with past trauma. This typically involves careful assessment over several sessions of the trauma experience, alongside a comprehensive CBT assessment for psychosis (Bendall, Killackey, Marois, & Jackson, 2005). Pacing and containing the retelling of the experience of trauma is an important aspect of safe and therapeutic assessment in trauma therapy (Briere, 1992). At this early stage of the therapy, this involves eliciting minimal information about the experience, with the major focus being on its ongoing effects. Key clinical tasks here include checking on the symptoms of post-traumatic stress disorder. These include intrusions, which are symptoms where the traumatic memory intrudes into consciousness (e.g., flashbacks, nightmares); avoidance, which are symptoms where the trauma memory is avoided (e.g., emotional numbing, avoidance of situations where trauma memories might be triggered) and hyper-arousal, which are a group of symptoms associated with physiological anxiety (e.g., irritability, difficulty falling asleep). Another important clinical task is to assess the impact of trauma on underlying beliefs about the self, others, and the world.

In parallel with an assessment of the client, engagement is of particular importance with people with psychosis who have experienced trauma. Engagement is considered an essential ingredient of CBT for psychosis (Bendall et al., 2005), as many people with psychosis have symptoms (such as paranoia, hypervigilance, and voices telling them to distrust the therapist) that make trusting mental health professionals difficult. The experience of childhood trauma often involves a violation of trust by significant attachment figures, adding to the client’s difficulty in developing trusting relationships with mental health professionals. The engagement/assessment/formulation stage may take several sessions.

CBT therapists emphasise that the formulation built collaboratively between client and therapist should be based on a thorough assessment of the subjective experience of their symptoms and a shared understanding.
of the meanings ascribed by the client to their traumatic and psychotic symptoms (Callcott & Turkington, 2006; Gumley & MacBeth, 2006; Smith et al., 2006). This can be challenging because the symptoms to be formulated may include hallucinations and delusions, which may be seemingly unconnected with the trauma experienced, and the idea that trauma and psychotic symptoms are connected may be new to the client and not discussed by mental health professionals during any past treatment.

The formulation should include an integrative account of the post-traumatic, depressive or anxiety symptoms typically seen in PTSD, if they are assessed as being present, as well as any psychotic symptoms (see case example in Box 1).

The therapist has the responsibility of integrating into the developing case formulation the most useful and relevant theorised cognitive factors understood to mediate the relationship between trauma

---

**Box 1: Case example**

Note: Details have been changed to protect confidentiality

Catherine, a 21-year-old woman, reported a 6-month history of persistent auditory hallucinations that had a sudden onset after she was informed by her sister that her sister had been physically assaulted by her own husband. Catherine reported no mental health problems prior to being told of the assault on her sister; however, after the onset, she resided with her mother and received a sickness benefit due to her psychotic illness.

At the assessment, Catherine reported that the auditory hallucinations were of her mother screaming in fear. Catherine believed that her mother, who was travelling overseas at the time, was being tortured and her screams were being telepathically communicated to her. Catherine was extremely distressed for her mother, believing that her mother was being coerced by her torturers into acting normally when Catherine spoke to her mother by phone. Her mother’s return from overseas reduced her distress regarding her mother’s safety, but despite her compliance with anti-psychotic medication and her gaining good insight into her psychosis, her auditory hallucinations continued to occur for periods of several hours per day. Catherine denied any childhood trauma when asked as part of routine clinical assessment; however, her mother subsequently reported that Catherine had been physically abused by her father and had witnessed her mother being severely physically abused by him on many occasions until her mother separated from him.

On being questioned regarding this, Catherine stated that she recalled the abuse, but had hardly remembered it until reminded by the therapist. Later in the assessment she described a few occasions of her father assaulting her in the context of disciplining her, and witnessing her father severely abusing her mother many times. Catherine indicated that her mother separated from her father when Catherine was 8 years old. Catherine noted that she had had regular contact with her father after the separation, and she described a warm, loving relationship with her father throughout her childhood.

The collaborative building of the formulation began with a gentle challenge of Catherine’s psychological avoidance of the memories of the violence by her father, by discussing her feelings regarding the assault of her sister and comparing these feelings to how she felt as a child. Catherine and her therapist eventually arrived at a formulation that the hallucinations were a variation of post-traumatic intrusions of the physical abuse of her mother that she had witnessed. These were formulated to have been triggered by finding out that her sister had been assaulted. In particular, Catherine described feelings of powerlessness in her lack of ability to help her family members and, also, anger towards the perpetrators. Catherine’s limited recall of the abuse was formulated as being an adaptive response to her experience as a child, when she loved her father but had to witness him assaulting her mother. The assessment and formulation phase of her therapy was five sessions.

Treatment of her hallucinations was integrated with a PTSD perspective. Cognitive restructuring was used to assist her to change her view of her hallucinations from being signs of “madness”, to being a normal response to trauma and as a physical manifestation of care and worry for her mother and sister. This was done via psycho-education about the intrusive symptoms of PTSD; in particular regarding the nature of flashbacks and delayed PTSD responses. Treatment using techniques developed in the psychosis field included experimenting with eliciting hallucinations using white noise, and silencing hallucinations by turning off white noise. Significantly, these interventions enabled the client to discover she had some control of the hallucinations. Using both of these approaches resulted in a marked reduction in frequency and intensity of the hallucinations, and by the end of the treatment the distress caused by hallucinations was reported to be minimal, and Catherine was making plans to begin a vocational training course.
and psychosis (Smith et al., 2006). Cognitive models of trauma and psychosis emphasise the interpretation of experiences and symptoms in the development and maintenance of both post-traumatic and psychotic symptoms. Once a formulation is developed, treatment approaches are adapted from CBT techniques for PTSD (Ehlers & Clark, 2000) and psychosis (e.g., Chadwick, Birchwood, & Trower, 1996; Kingdon & Turkington, 1994). It is important to note that with some people with psychosis and a history of childhood trauma, a formulation linking childhood trauma to psychosis may not be appropriate and more general CBT for psychosis may be undertaken.

Generally, CBT intervention strategies for PTSD have been utilised as the main basis for treatment, with interventions such as re scripting (Smucker, Dancu, & Foa, 1999), addressing avoidance (Ehlers & Clark, 2000), cognitive restructuring, mastery and pleasure activities, behavioural experiments (Larkin & Morrison, 2006), and identifying and working with belief systems (Gumley & MacBeth, 2006) being suggested as important elements of a trauma-focused therapy for people with psychosis.

Mueser and colleagues (2008) suggested that, while the carefully managed exposure of clients to traumatic memories is helpful in the treatment of people with PTSD, it should be used cautiously in this population, as the stress associated with such exposure therapy may cause a relapse in some people with psychosis. The authors of published case studies indicated that similar concerns informed the decision not to include exposure therapy in the treatment plan (Callcott & Turkington, 2006; Smith et al., 2006). While this recommendation is appropriate, for cases where other therapeutic methods have not proved helpful in alleviating symptoms, cautious trialling of exposure therapy might be considered. Inclusion of exposure therapy in such cases would be contingent on the establishment of a sound therapeutic relationship and the consolidation by the client of a repertoire of coping strategies to assist with management of, for example, heightened arousal and anxiety following the intervention.

In summary, the work of developing evidence-based therapies for people with psychosis who have experienced childhood trauma is in its infancy. Our group is in agreement with all of the authors of the published case studies and case series (Callcott & Turkington, 2006; Gumley & MacBeth, 2006; Larkin & Morrison, 2006; Smith et al., 2006) that the following elements form the basis of good quality, safe, clinical interventions with this complex group:

- systematic enquiry about trauma in childhood for all people with psychosis;
- formulation of the current symptoms (including hallucinations and delusions) in relation to childhood trauma, if applicable;
- development of an individualised treatment plan adapted from CBT approaches to the treatment of psychosis and PTSD; and
- gentle, careful pacing of assessment, formulation and treatment.

Further research must test and refine these therapies as well as continue to investigate the psychological mechanisms that underpin the relationship between childhood trauma and psychosis.

References


Dr Sarah Bendall and Professor Patrick D. McGorry are at Orygen Youth Health Research Centre and Centre for Youth Mental Health, and Professor Henry J. Jackson and Associate Professor Carol A. Bulbert are at Psychological Sciences, all at The University of Melbourne.