Psychiatry Research 210 (2013) 75–81

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

History of trauma and the association with baseline symptoms in an Ultra-High Risk for psychosis cohort

Eva Velthorst [a,*], Barnaby Nelson [b], Karen O'Connor [b,c], Nilufar Mossaheb [b,d], Lieuwe de Haan [a], Annie Bruxner [b], Magenta B. Simmons [b,e], Alison R. Yung [b,f], Andrew Thompson [b,g]

[a] Department of Early Psychosis, Academic Medical Center, Amsterdam, the Netherlands
[b] Orygen Youth Health Research Centre and Centre for Youth Mental Health, University of Melbourne, Australia
[c] Department of Psychiatry, Clondalkin Mental Health Service, Dublin 22, Ireland
[d] Department of Psychiatry and Psychotherapy, Clinical Division of Social Psychiatry, Medical University Vienna, Austria
[e] Headspace Centre of Excellence in Youth Mental Health, Melbourne, Australia
[f] Institute of Brain, Behaviour and Mental Health University of Manchester, UK
[g] East Sussex Early Intervention in Psychosis Service, Sussex Partnership NHS Foundation Trust, East Sussex, UK

ARTICLE INFO

Article history:
Received 12 October 2012
Received in revised form
19 March 2013
Accepted 4 June 2013

Keywords:
Trauma
Ultra High Risk
Psychosis
Attenuated positive symptoms
Clinical symptomatology

ABSTRACT

Few studies have addressed the correlates of trauma in young people at Ultra-High Risk (UHR) of developing a psychotic disorder. We aimed to examine baseline differences in intensity, form and content of attenuated positive psychotic symptoms, other clinical symptomatology and comorbidity between UHR patients with and without a history of trauma. In a sample of 127 UHR individuals (53 male, 74 female; mean age 18.2 years, range 14–26) we assessed trauma history and baseline symptomatology using an audit tool developed to retrieve data from patient medical records. 56% of the subjects had experienced at least one type of trauma. The intensity of perceptual abnormalities was significantly higher in the group with a history of physical abuse and 'other trauma' compared to those without a trauma history. Physical abuse was related to higher levels of visual disturbances, suspiciousness, grandiose beliefs and low mood compared to those without a history of physical abuse. Sexual trauma was related to perceptual disturbances with abusive content and PTSD symptoms. The prevalence of previous trauma in people at UHR of developing psychosis is high. Our findings tentatively suggest that different types of trauma may impact differently on initial presentation to UHR services.

1. Introduction

Childhood trauma is related to a variety of mental health problems in adulthood (Heim et al., 2008; Daruy-Filho et al., 2011; Lang and Sharma-Patel, 2011; Nickerson et al., 2012). While reports on this relationship have often focused on non-psychotic disorders (Schäfer and Fisher, 2011), in recent years a growing body of literature has addressed the role of trauma in the development of psychosis, and more specifically schizophrenia (see for reviews Morgan and Fisher, 2007; Krabbendam, 2008; Bendall et al., 2008; Varese et al., 2012).

Higher prevalence rates of a history of childhood trauma have been found in people diagnosed with psychotic disorders compared to the general population (Schäfer and Fisher, 2011; Bebbington et al., 2011; Aas et al., 2011; Husted et al., 2012). In a recent meta-analysis examining both retrospective and prospective studies, childhood adversity and trauma were found to increase risk of psychotic disorder with an odds ratio of 2.7 (Varese et al., 2012). It has been suggested that the high prevalence of positive psychotic symptoms in traumatised patients could indicate increased stress sensitivity via alterations in the hypothalamic–pituitary–adrenal (HPA) axis regulation (Habets et al., 2012). These alterations have been suggested to contribute to a vulnerability to psychopathology under stressful circumstances (Docherty et al., 2009). High stress sensitivity has been consistently linked to the emergence of positive psychotic symptoms in particular (Read et al., 2001; Lataster et al., 2010; Lardinois et al., 2011), therefore possibly (partly) accounting for the relationship between trauma and psychosis.

To further investigate the possible processes underlying the association between trauma and psychosis, several studies have focused on the specific illness characteristics which schizophrenia patients with a history of trauma typically present with (e.g. Conus et al., 2010; Aas et al., 2011; Vogel et al., 2011; Bentall et al., 2012; Schäfer et al., 2012), for example the type (i.e. content and form) of the psychotic symptoms. Whereas content refers to the *subject*

* Correspondence to: Academic Medical Center, Department of Early Psychosis, Meibergdreef 5, 1105 AZ Tel: +31 20 8913671; fax: +31 20 8913536.
E-mail address: e.velthorst@amc.uva.nl (E. Velthorst).

0165-1781/$ - see front matter © 2013 Elsevier Ireland Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.psychres.2013.06.007

matter of the psychotic symptom (e.g. the thought of being watched), form refers to the *specifics* of psychotic symptom, such as auditory or visual hallucinations. Hallucinatory experiences and (paranoid) delusional ideation seem particularly prevalent in patients with a history of trauma (Lataster et al., 2006; Janssen et al., 2004; Bentall et al., 2012), although the evidence for the latter is less robust (Morrison and Petersen, 2003).

While the investigation of trauma and psychosis has targeted the clinical and general population, few studies have addressed trauma in young people who are identified as being at Ultra High Risk (UHR) of developing a psychotic disorder (i.e. help seeking individuals who experience either brief or sub-threshold psychotic symptoms or who have a genetic predisposition accompanied by a significant decline in functioning; Yung et al., 2003). Although preliminary results in schizophrenia samples suggest that retrospective reports on childhood adversity are reasonably reliable (Fisher et al., 2011), research in UHR samples allows us to minimise the risk of this potential methodological issue to some extent by examining the emergence of psychotic symptoms before processes such as delusional conviction may impact on recall. To the best of our knowledge, four studies have addressed previous trauma in the UHR population to date (J.L. Thompson et al., 2009; A. Thompson et al., 2010, in press; Bechdolf et al., 2010) of which two different samples were used to examine the relationship between the relation between childhood trauma and transition to psychotic disorder prospectively (Bechdolf et al., 2010; A. Thompson et al., in press). In examining the individual impact of physical, sexual and emotional trauma on transition, both studies found that sexual trauma was specifically predictive of a first psychotic episode.

In a further examination of the 'sexual trauma' group, this group also more frequently presented with attenuated symptoms with possible sexual abuse content (e.g. delusions/overvalued ideas of being watched showering and undressing) (A. Thompson et al., 2010). One other study investigated the relationship between previous trauma and symptom presentation (i.e. attenuated symptoms, anxiety and depression) in a UHR cohort (J.L. Thompson et al., 2009). Among 30 participants meeting the UHR criteria, the authors found that 79% of the UHR patients had experienced at least one type of trauma prior to entry to the clinic. Previous trauma was significantly related to positive symptoms in participants belonging to an ethnic minority group and to affective symptoms among Caucasians. However, these results should be viewed cautiously due to the relatively small sample size.

The current study aims to replicate and extend earlier work (J.L. Thompson et al., 2009; A. Thompson et al. 2010) by examining differences in baseline symptom presentation between UHR patients with and without a history of trauma. Specifically, our aims were to examine: (1) differences in intensity of attenuated positive symptoms at baseline (2) differences in form and content of attenuated positive symptoms at baseline, and (3) differences in comorbidity between these two groups. Based on results from studies with patients diagnosed with schizophrenia, we hypothesised that participants meeting the UHR criteria with a history of trauma would present with more positive symptoms and affective symptoms compared to UHR patients without a history of trauma. Following previous work from our group (A. Thompson et al., 2010), we hypothesised that UHR patients with a history of sexual trauma would present more frequently with positive symptoms with possible abusive content compared to UHR patients without a history of sexual trauma.

2. Method

2.1. Participants

We examined baseline data of a retrospective "case-control" study of UHR patients treated at the PACE clinic in Melbourne between 30/6/2003 and 31/10/2008. The study comprised all individuals who were known to have developed a psychotic disorder during the study period ($n=66$) and a random selection of those who were known to be psychosis free at follow-up ($n=67$). Of the 66 patients who were known to have developed a psychotic disorder, six were identified through the PACE database as having met a diagnosis of psychosis before their initial appointment. They were excluded from the current analyses. The total sample therefore constituted of 127 (53 male, 74 female) UHR patients (mean age of 18.2 years (S.D.=2.7, range 14–26)).

Eligibility for treatment at the PACE clinic included those who lived in north-western Melbourne, were aged between 14 and 30 and met at least one of the following criteria for an at-risk mental state (ARMS) as assessed by the Comprehensive Assessment of At Risk Mental State (CAARMS) (Yung et al., 2005): the Attenuated Psychotic Symptoms (APS) group with sub-threshold psychotic symptoms with respect to intensity or frequency of symptoms; the Brief Limited Intermittent Psychotic Symptoms (BLIPS) group with symptoms of psychotic intensity, which spontaneously remit without (antipsychotic) treatment within 7 days and the Trait Group (Schizotypal personality disorder in the individual being assessed or family history of a psychotic disorder in a first-degree relative AND non-specific symptoms for at least 1 month associated with a significant decrease in functioning). For full operationalized criteria see Yung et al. (2003). All participants included from June 2006 ($n=52$) also met the additional criterion 'Having experienced a drop in functioning of at least 1 month over the last year or sustained low functioning' which was added at that time to all three inclusion criteria (Yung et al., 2006).

2.2. Symptom measures

The CAARMS (Yung et al., 2005) including Global Assessment of Functioning (GAF) scale (until June 2006) or the CAARMS including Social and Occupational Functioning Assessment Scale (SOFAS; Goldman et al., 1992) from June 2006, was employed to determine the presence, severity, frequency and type of UHR symptoms. The CAARMS consists of a semi-structured interview designed to determine UHR status and has proven good-excellent validity and reliability (Yung et al., 2005).

An auditing tool was developed in order to gather detailed information from time of referral to 4 weeks following initial contact with a PACE clinician from the clinical file (for a detailed assessment of symptoms audit form, available on request). For the assessment of attenuated psychotic symptoms we included all symptoms assessed in the Operational Criteria Checklist (OPCRIT) tool (McGuffin et al., 1991), a widely used method of extracting a diagnosis from symptoms recorded in clinical notes. We supplemented this with additional symptom items related to symptom content that were not adequately covered by the OPCRIT tool, for example specific delusional and hallucinatory symptom content. This provided a comprehensive assessment of attenuated psychotic symptoms. We also included items for post-traumatic stress disorder, obsessive-compulsive disorder and dissociative symptoms. A comprehensive assessment of depressive symptoms was also made with the items reflecting the DSM structure of mood disorder diagnosis.

The item 'Childhood trauma' was broken down into the following subcategories: Physical abuse, Emotional abuse, Sexual abuse, Other (e.g. verbal abuse, domestic violence, witness of shooting, or watching someone suicide), None or None stated. Childhood trauma was considered present if it had been recorded in the medical file that the patient had experienced one or more traumatic events (yes/no) up until the age of 18.

2.3. Procedure

For each participant, the auditing tool was completed by a trained research assistant using information from the patients' clinical files. In order to accurately assess baseline symptomatology, we used data from the clinical notes from date of first contact with a PACE clinician until 4 weeks after this date. All patients accepted into the PACE clinic received a thorough initial assessment which included the CAARMS and a full clinical assessment of psychiatric symptoms. However, in some cases, given engagement problems, the assessment process could continue over several sessions. Most symptoms were recorded in the audit tool from the initial assessment. On occasions where further symptoms were elicited in the first few ± 4 weeks of engagement with the clinician, these were also recorded in the auditing tool. When the clinical files did not include records of trauma or certain symptom types, these were considered to be absent.

2.4. Statistical analysis

Differences in socio-demographic characteristics were examined with Chi-square analyses (gender, intake group, substance use and co morbidity) and independent samples *t*-tests. Hierarchical multiple regression was used to examine the relationship between trauma (independent variable) and attenuated psychotic symptoms (dependent variable). We performed logistic regression analysis to assess whether a particular form or content of attenuated symptoms, baseline symptom, or comorbid diagnoses were more prevalent in individuals with a history of trauma compared to those without a history of trauma. For all tests, *p* values of