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Short communication

Do affective or dissociative symptoms mediate the association between childhood sexual trauma and transition to psychosis in an ultra-high risk cohort?

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ABSTRACT

We have previously reported an association between childhood sexual trauma and transition to psychosis in an Ultra High Risk (UHR) population. We aimed to investigate if this association was mediated by affective or dissociative symptoms. Data were from a large UHR for psychosis cohort study. None of the potential mediators (depression, anxiety, dissociation, mood swings and mania, assessed by the HAM-D, HAM-A and the CAARMS symptom scales) significantly mediated the total association between sexual abuse scores and transition. At the point of transition, the mechanistic pathway from sexual trauma to psychosis does not appear to operate through affective symptoms.

1. Introduction

There is a well-established association between trauma and psychotic illness (Varese et al., 2012). Individuals with psychotic disorders who have experienced trauma show higher symptom levels and a poorer functional outcome than those who have not (Lysaker et al., 2005; Conus et al., 2010; Stain et al., 2014; Cotter et al., 2015). Trauma, including sexual trauma, appears to be a risk factor for later development of psychosis (Varese et al., 2012). Our own work in the Ultra High Risk (UHR) for psychosis group, in two separate samples, has shown that sexual trauma specifically (but not total trauma or other types of trauma) is associated with the later development of psychosis (Bechdolf et al., 2010; Thompson et al., 2014). This association holds after adjusting for possible confounding variables associated with both trauma and the development of psychosis, including baseline levels of depression and anxiety (Thompson et al., 2014).

Understanding the mechanisms underlying the association between sexual trauma and subsequent development of psychosis in UHR samples is important for developing appropriate interventions. We have suggested a number of possible mechanisms to explain this association, including the possible roles of depression, anxiety and dissociation (Thompson et al., 2014). A prominent cognitive model of psychosis hypothesizes that the relationship between trauma and psychosis is influenced by dysphoric mood (Garety et al., 2001) and this may be true for all types of trauma. Other psychological models have highlighted that exposure to trauma during childhood may sensitize people in their reaction to later exposure to daily life stress (Lardinois et al., 2010), perhaps through altered stress sensitivity (Myin-Germeys and van Os, 2007). Others have highlighted the importance of dissociation in the relationship between trauma and development of psychotic symptoms (Varese et al., 2012). Mediation analysis, which assesses how a variable might be involved in the causal chain of an association as opposed to confounding the association, is a useful approach to investigating these hypotheses further.

This approach has been used to investigate the association between childhood trauma and psychosis (or psychotic symptoms) using data from birth cohorts or population samples. These reports suggest a number of possible mediators of the association, including social defeat (van Nierop et al., 2014), attachment (Sitko et al., 2014), dysphoric mood (Marwaha and Bebbington, 2015),

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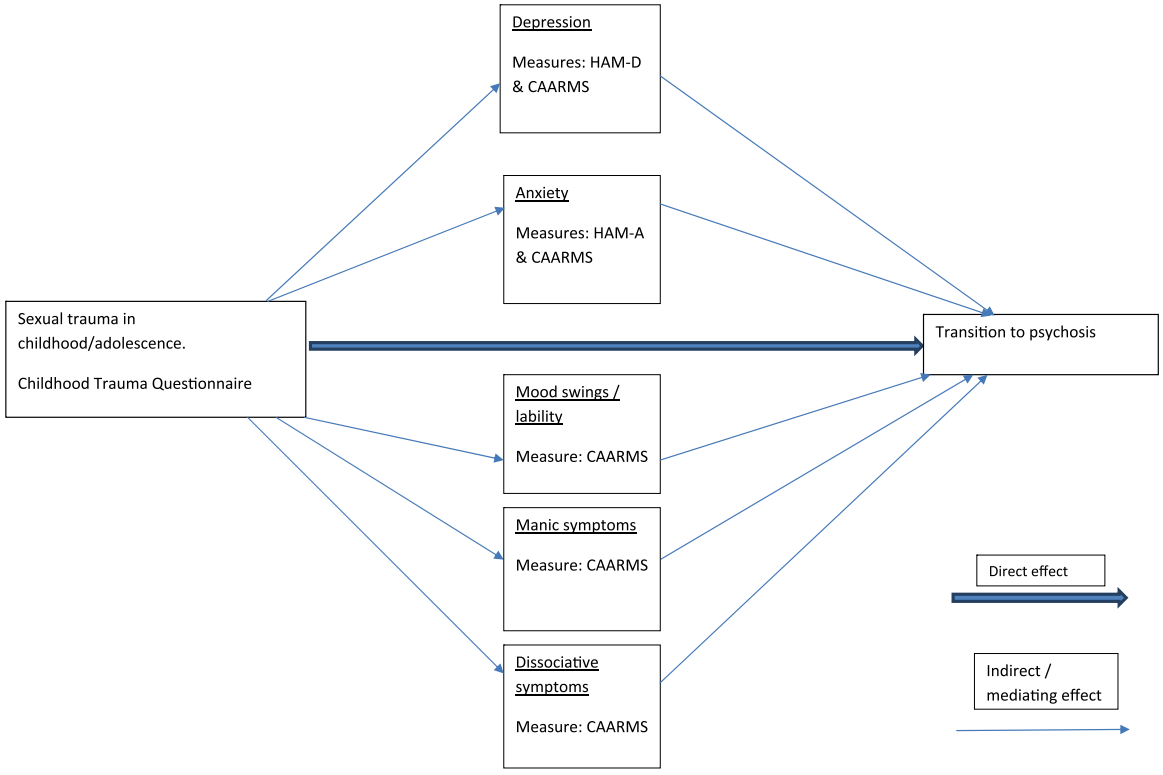

Fig. 1. Proposed mediational model of sexual trauma and transition to psychosis in UHR subjects under test (HAM-D, Hamilton Depression Scale; HAM-A, Hamilton Anxiety Scale; CAARMS, Comprehensive Assessment of At Risk Mental States).

affective dysregulation (van Nierop et al., 2014; Marwaha and Bebbington, 2015), anxiety (Fisher et al., 2013) and negative self-schemas (Fisher et al., 2012). Affective symptoms appear to be the most commonly identified mediator.

These previous studies were conducted in birth cohorts (Fisher et al., 2012) and population-based samples and examined trauma more generally, rather than sexual trauma specifically (with the exception of Marwaha and Bebbington (2015)). None have investigated these mediation pathways in a sample of individuals at UHR for psychosis. It is reasonable to assume that the mediation pathways may be different in a clinical UHR sample compared to an unselected sample because the former are already presenting with attenuated psychotic symptoms. Therefore, we aimed to investigate whether previously identified factors also mediate the known association between sexual trauma and psychosis in our UHR sample. We hypothesized that affective symptoms would mediate the relationship in this sample.

2. Methods

2.1. Sample

These data are from the PACE 400 sample ($N=416$), a cohort of individuals aged 15–30 years who participated in research at the PACE clinic in Melbourne between 1993 and 2006, and who were followed up between 2.4 and 14.9 years later (mean time to follow-up 7.5 years). All participants in the cohort initially met the UHR criteria as assessed by the Comprehensive Assessment of At Risk Mental States (CAARMS) (Yung et al., 2005). Follow-up interviews were performed with 311 (74.6%) of the sample and took place between July 2008 and July 2009. These interviews included the brief Childhood Trauma Questionnaire (CTQ) ($N=233$). The sample is described in detail in Nelson et al. (2013).

2.2. Measures

2.2.1. Independent variable

The brief CTQ (Bernstein et al., 2003) was completed at follow-up assessment (as outlined above). This is a 28-item self-report questionnaire that assesses the experience of specific early traumatic events "as a child and as a teenager". The CTQ has five subscales (physical abuse, sexual abuse, emotional abuse, physical neglect and emotional neglect) and provides a total score.

2.2.2. Dependent variable

Transition to psychotic disorder was determined using the CAARMS (Yung et al., 2005) using previously published cut-off points for psychosis threshold (Yung et al., 2003, 2004) for participants recruited after 1999. For early participants in research at PACE ($N=59$), transition was determined by cut-off scores on the Brief Psychiatric Rating Scale (BPRS) (Overall and Gorham, 1962) and Comprehensive Assessment of Symptoms and History (CASH) (Andreasen et al., 1992). The CAARMS threshold for psychosis was based on these thresholds and is therefore equivalent (Nelson et al., 2013). If CAARMS data were not available, the state public mental health records were accessed.

2.2.3. Proposed mediator variables

The Hamilton Anxiety Rating Scale (HAM-A) and the Hamilton Depression Rating Scale (HAM-D) were completed at baseline in the cohort from 1993 to 2006. Post 2000, participants completed the CAARMS subscales for anxiety, depression, dissociation and mood swings, and lability and mania. These scales are rated 0–6 on intensity and 0–6 of frequency. We summed the intensity and frequency ratings to produce an overall rating of these items, as previously used (Yung et al., 2005).