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Original article

Features of borderline personality disorder as a mediator of the relation between childhood traumatic experiences and psychosis-like experiences in patients with mood disorder

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ABSTRACT

Background: Psychosis-like experiences (PEs) are common in patients with non-psychotic disorders. Several factors predict reporting of PEs in mood disorders, including mood-associated cognitive biases, anxiety and features of borderline personality disorder (BPD). Childhood traumatic experiences (CEs), often reported by patients with BPD, are an important risk factor for mental disorders. We hypothesized that features of BPD may mediate the relationship between CEs and PEs. In this study, we investigated the relationships between self-reported PEs, CEs and features of BPD in patients with mood disorders.
Methods: As part of the Helsinki University Psychiatric Consortium study, McLean Screening Instrument (MSI), Community Assessment of Psychic Experiences (CAPE-42) and Trauma and Distress Scale (TADS) were filled in by patients with mood disorders (n = 282) in psychiatric care. Correlation coefficients between total scores of scales and their dimensions were estimated, multiple regression and mediation analyses were conducted.
Results: Total scores of MSI correlated strongly with scores of the CAPE-42 dimension "frequency of positive symptoms" (rho = 0.56; $p \leq 0.001$) and moderately with scores of TADS (rho = 0.4; $p \leq 0.001$). Total score of MSI and its dimension "cognitive symptoms", including identity disturbance, distrustfulness and dissociative symptoms, fully mediated the relation between TADS and CAPE-42. Each cognitive symptom showed a partial mediating role (dissociative symptoms 43% (CI = 25–74%); identity disturbance 40% (CI = 30-73%); distrustfulness 18% (CI = 12-50%)).
Conclusions: Self-reported cognitive-perceptual symptoms of BPD fully mediate, while affective, behavioural and interpersonal symptoms only partially mediate the relationships between CEs and PEs. Recognition of co-morbid features of BPD in patients with mood disorders reporting PEs is essential.

1. Introduction

Psychosis-like experiences (PEs) are common both in the general population [1,2] and in patients with non-psychotic mental disorders [3–8]. Individuals with mood and anxiety disorders tend to report PEs more often than healthy individuals [9]. Numerous studies have indicated that presence of PEs in non-psychotic disorders, such as mood and anxiety disorders, is associated with higher risk of suicidal thoughts and suicidal behaviour [10], psychological distress, higher co-morbidity and worse treatment outcomes [11–13]. Moreover, subthreshold PEs are more prevalent than full-blown psychotic symptoms [14,15].

We recently demonstrated that PEs are highly prevalent in patients with unipolar depression and bipolar disorder treated in psychiatric care [16]. Several factors tend to predict reporting of PEs such as mood symptoms, anxiety symptoms and self-reported features of co-morbid personality disorders, including borderline personality disorder (BPD).

Features of BPD are common in patients with mood disorders [17–19], and they are clinically relevant even if self-reported [20].

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Besides the well-known categorical co-morbidity [21] between BPD and mood disorders, there is also marked dimensional overlap between these conditions [22–25]. Transient, stress-related paranoid ideation or severe dissociative symptoms are among the diagnostic criteria of BPD [26]. These symptoms of BPD in patients with mood disorder are likely associated with higher psychological distress, functional impairments and worse treatment outcome [20,27,28]. Moreover, simultaneous BPD features in patients with ultra-high risk (UHR) for psychosis were associated with a wider range of reported PEs than in UHR patients without BPD features [29]. However, whether concurrent BPD is associated with higher risk for development of psychosis remains uncertain [30]. Partially overlapping neurobiological mechanisms of psychosis and BPD probably underlie phenomenological similarities between BPD and psychosis [31].

Childhood traumatic experiences (CEs) are an aetiological factor contributing to development of several mental disorders, including mood disorders, psychosis and BPD [32–40]. Both patients with BPD and UHR report CEs often, and especially sexual abuse was suggested to contribute to development of psychosis [41] and BPD [42,43]. Our previous study revealed a high prevalence of self-reported CEs in patients with mood disorders [17]. Subjects with a history of CEs, especially sexual abuse, tend to report a higher level of both dissociative [44,45] and psychotic symptoms [46,47]. However, the causality and exact mechanisms linking CEs and various psychiatric disorders remain to be elucidated [38,48,49]. Some authors have even postulated that dissociative symptoms might be a mediator between CEs and psychotic symptoms [50–54]. Other authors have found no mediational role of dissociative or affective symptoms in the relationship between CEs and transition to psychosis in UHS patients [55].

The majority of studies investigating relationships between CEs and PEs have been conducted in non-clinical populations, UHR patients or patients with psychosis. However, clinically relevant PEs are present also in patients with mood disorders. Some authors propose that PEs reflect the continuum of psychosis [56] or may be associated with concurrent personality pathology [16]. Given that BPD and PEs probably share similar aetiological factors in the form of CEs, we hypothesized that features of BPD in patients with mood disorders may mediate the relationship between CEs and self-reported PEs. Thus, we aimed to a) examine whether features of co-morbid BPD mediate the relation between CEs and PEs; b) define specific symptoms of BPD correlated with PEs; and c) examine the mediational role of specific symptom clusters of BPD in relationships between CEs and PEs in patients with mood disorders.

2. Methods

The methodology of the HUPC study has been reported in detail elsewhere [57,58].

2.1. Helsinki university psychiatric consortium (HUPC)

This investigation is part of the HUPC study. The study protocol was approved by the Ethics Committee of Helsinki University Central Hospital on 28 August 2010.

2.2. Setting

The study was conducted between 12.1.2011 and 20.12.2012 in 10 community mental health centres, three psychiatric inpatient units and one day-hospital, all offering specialized secondary public mental health services in the metropolitan area of Helsinki.

2.3. Sampling

Inclusion criteria were patients' age $\geq$18 years and provision of informed consent. Patients with mental retardation, neurodegenerative disorders and insufficient Finnish language skills were excluded. Stratified patient sampling selection was performed [58]. Of the 902 eligible patients with mood, neurotic or personality disorders, 372 refused to participate and 216 were lost for other reasons. In addition, 31 patients with other lifetime diagnoses were excluded.

2.4. Clinical diagnoses

The validity of the clinical diagnoses assigned by the attending physicians was critically evaluated by the authors by re-examining all available information from patient records. The validated clinical diagnoses were based on the ICD-10-DCR [59]. Lifetime principal diagnosis was assigned.

2.5. Description of patients

Altogether 282 patients participated in the study. Their mean age was 42.2 $\pm$ 13.1 years, and 209 (74.1%) were female. There were 183 patients with unipolar depression (UD, F32-F33) (mean age 41.4 $\pm$ 13.3 years) and 99 with bipolar disorder (BD, F31) (mean age 43.7 $\pm$ 12.7 years). Seventeen patients with BP had co-morbid BPD; among patients with UD, 39 had co-morbid BPD. In terms of age and gender, sample distribution did not differ from patients with the same diagnoses treated in 2011 and 2012 in psychiatric care organizations.

2.6. Trauma and distress scale (TADS)

TADS is a self-report questionnaire that measures childhood trauma and distress experiences through 43 items [60]. The TADS items measure symptoms in five main domains: emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect. Each item is rated on a four-point Likert scale from 1 to 4. TADS has been validated in Finland [61].

2.7. McLean screening instrument (MSI)

The MSI is a ten-item questionnaire designed according to DSM-IV diagnostic criteria to screen for BPD [62]. It has been translated into Finnish and validated in Finland [63]. Each item requires a "yes/no" response. Each positive item indicates the presence of BPD symptoms. We have allocated the items of MSI into four groups: "cognitive symptoms" (including items "identity disturbance", "distrustfulness" and "dissociative symptoms"), "behavioural symptoms" (i.e. "impulsivity" and "suicidal behaviour"), "affective symptoms" (i.e. "mood instability", "increased anger" and "feeling of emptiness") and "interpersonal symptoms" (i.e. "troubled relationships" and "fear of abandonment") [64].

2.8. Community assessment of psychic experiences (CAPE-42)

The CAPE-42 is a self-reported questionnaire that measures lifetime psychotic experiences by using 42 items. The items measure symptoms in three main domains: positive symptoms (20 items), negative symptoms (14 items) and depression symptoms (8 items). Each item is rated on a four-point Likert scale from 1 to 4 for both symptom frequency and the degree of distress experienced due to the symptom.