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Research paper

Relationships between self-reported childhood traumatic experiences, attachment style, neuroticism and features of borderline personality disorders in patients with mood disorders

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ABSTRACT

Background: Co-occurring borderline personality disorder (BPD) features have a marked impact on treatment of patients with mood disorders. Overall, high neuroticism, childhood traumatic experiences (TEs) and insecure attachment are plausible aetiological factors for BPD. However, their relationship with BPD features specifically among patients with mood disorders remains unclear. We investigated these relationships among unipolar and bipolar mood disorder patients.

Methods: As part of the Helsinki University Psychiatric Consortium study, the McLean Screening Instrument (MSI), the Experiences in Close Relationships-Revised (ECR-R), the Short Five (S5) and the 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, and multivariate regression (MRA) and mediation analyses were conducted.

Results: Spearman's correlations were strong (rho=0.58; $p < 0.001$) between total scores of MSI and S5 Neuroticism and moderate (rho=0.42; $p < 0.001$) between MSI and TADS as well as between MSI and ECR-R Attachment Anxiety. In MRA, young age, S5 Neuroticism and TADS predicted scores of MSI ($p < 0.001$). ECR-R Attachment Anxiety mediated 33% (CI=17–53%) of the relationships between TADS and MSI.

Limitations: Cross-sectional questionnaire study.

Conclusions: We found moderately strong correlations between self-reported BPD features and concurrent high neuroticism, reported childhood traumatic experiences and Attachment Anxiety also among patients with mood disorders. Independent predictors for BPD features include young age, frequency of childhood traumatic experiences and high neuroticism. Insecure attachment may partially mediate the relationship between childhood traumatic experiences and borderline features among mood disorder patients.

1. Introduction

Borderline personality disorder (BPD) is one of the most clinically significant personality disorders in psychiatric settings. It is associated with substantial mental and physical disability, significant treatment utilization and high risk of mortality by suicide (Grant et al., 2008; McGlashan et al., 2000; Paris, 1993; Zanarini et al., 2000b).

The aetiology and pathogenesis of BPD have been investigated and debated for decades (Gabbard, 2005; Gunderson and Singer, 1975; Gunderson, 2009; Lieb et al., 2004). Current multifactorial aetiological models highlight the interactions of psychosocial, genetic and neurobiological factors in the pathogenesis of BPD (Leichsenring et al., 2011). Among psychosocial factors, childhood traumatic experiences (TEs) and insecure attachment have received the greatest empirical support (Mosquera et al., 2014; Zanarini et al., 2000a, 2000b).

Patients with BPD tend to report considerably more TEs in childhood than patients with other psychiatric disorders (Yen et al., 2002). An association between childhood sexual abuse experiences and BPD

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has been extensively debated (Herman et al., 1989; Paris and Zweig-Frank, 1992). Moreover, previous studies have indicated that the severity and frequency of TEs correlate with the severity of borderline pathology (Silk et al., 1995; Zanarini et al., 2002). However, despite the large body of studies illustrating high prevalence of childhood TEs in BPD patients, the causal role of TEs in BPD symptoms remains controversial (Bornovalova et al., 2013; Paris, 1998).

One of the suggested mechanisms underlying influence of childhood TEs on the manifestation of BPD in adulthood is insecure attachment style (Fonagy et al., 2000; Gunderson and Lyons-Ruth, 2008). Numerous studies have demonstrated a clear association between BPD features and insecure attachment using both categorical and dimensional models of attachment (Aaronson et al., 2006; Agrawal et al., 2004a; Levy et al., 2005). Particularly, patients with BPD often demonstrate unresolved, fearful and preoccupied attachment styles (Agrawal et al., 2004b). Using dimensional self-report measures of attachment, many studies have shown a strong association between BPD and Attachment Anxiety, while associations with Avoidant Attachment remain inconsistent (Choi-Kain et al., 2009; Scott et al., 2009). Attachment Anxiety is characterized by hypersensitivity to rejection and fear of abandonment – both core symptoms in BPD (Campbell and Marshall, 2011). This demonstrates partial overlap between adult Attachment Anxiety and BPD features (Minzenberg et al., 2006). Some studies have also shown the important role of genetic factors in individual differences in attachment styles (Crawford et al., 2007; Picardi et al., 2011). However, while adult attachment anxiety appears to be an important factor for developing BPD, the predictive value or causality of anxious attachment in BPD remains uncertain (Scott et al., 2009, 2013).

The view of the fundamentally dimensional nature of personality disorders has received substantial empirical support (Clark, 2007; Gotzsche-Astrup and Moskowitz, 2016). The five-factor model (FFM) (Costa, 1991) defines five broad personality dimensions that show moderate heritability (Distel et al., 2009). In the context of FFM, patients with BPD tend to score low on Agreeableness and Conscientiousness and high on Neuroticism (Morey and Zanarini, 2000; Samuel and Widiger, 2008; Saulsman and Page, 2004). Neuroticism, in turn, is associated with mood, anxiety and substance use disorders and is probably related to high comorbidity of BPD and these disorders (Ormel et al., 2013). Moreover, neuroticism has been shown to correlate with psychological distress and suicidal behaviour – both prevalent in BPD (Ormel et al., 2013).

BPD is often comorbid with mood disorders (Links and Eynan, 2013; Mantere et al., 2006; McGlashan et al., 2000; Melartin et al., 2002a; Riihimaki et al., 2014) and according to self-report, symptoms of BPD are abundantly present in patients with mood disorders (Baryshnikov et al., 2015, 2016a). However, the validity of personality assessment in patients with mood disorders is debatable (Morey et al., 2010; Zimmerman, 1994). Some studies have shown notable effects of mood states on personality traits (Griens et al., 2002; Hirschfeld et al., 1983), while others suggest that personality disorder diagnoses established during depressive episode are a valid reflection of personality pathology (Morey et al., 2010). One Finnish study described relatively poor categorical stability of concurrent personality disorder assigned during unipolar depression when dimensional stability was moderate (Melartin et al., 2010).

The origins of self-reported features of BPD, as well as their risk factors in patients seeking treatment for mood disorders are incompletely understood. Our previous study indicated that self-reported features mood instability and impulsivity are shared between BPD and bipolar disorders (Baryshnikov et al., 2015). Overall, mood instability among mood disorder patients may be also related to inherited vulnerability to emotional dysregulation (Koenigsberg, 2010; Peng et al., 2015; Stein et al., 2009). Thus, there is uncertainty whether self-reported features of BPD in patients with mood disorder are intrinsically related to underlying concurrent borderline pathology.

Nevertheless, mood disorder patients with both clinical and subclinical features of BPD have been reported to demonstrate greater impairment in several functional domains than patients without BPD features (Zimmerman et al., 2012). Consequently, recognition and treatment of subclinical BPD features in mood disorder patients are clinically relevant.

Psychosocial interventions are recommended as the primary treatment for BPD (Bateman, et al., 2015). Several evidence-based psychotherapies, mentalization-based treatment and schema therapy are based on the attachment theory (Fonagy et al., 2000; Kellogg and Young, 2006). In the framework of attachment theory, the insecure attachment is suggested as an explanatory link between childhood TEs and BPD (Fonagy et al., 2000; Johnston et al., 2009; Kellogg and Young, 2006). The majority of studies demonstrating the beneficial effect of these psychotherapies have been conducted in patients with clinical diagnoses of BPD (Bateman et al., 2015; Stoffers et al., 2012). As mentioned previously, treatment of self-reported BPD features at both clinical and subclinical levels is clinically relevant. On the other hand, despite increasing use of mentalization-based treatment and schema therapy in clinical practice, little is known about the relationships between self-reported BPD features, dimensions of attachment and childhood TEs.

In this study, we aimed to investigate relationships between self-reported features of BPD, childhood TEs, adulthood attachment styles and neuroticism in patients with mood disorders. We hypothesized that a) childhood TEs, high attachment anxiety and high neuroticism are associated with the self-reported features of BPD in mood disorder patients and b) anxious and avoidant dimensions of attachment may mediate the effect of childhood TEs on the self-reported features of BPD. Therefore, we investigated associations between self-reported BPD, TEs and attachment style, examined factors predicting the prevalence of self-reported BDP features in patients with mood disorders and examined the mediating effect of self-reported attachment styles on the relationships between self-reported BPD features and TEs in patients with mood disorders.

2. Methods

The background and methodology of HUPC have been reported in detail elsewhere (Aaltonen et al., 2016; Baryshnikov et al., 2016b).

2.1. The Helsinki University Psychiatric Consortium (HUPC)

This investigation is part of the HUPC study, a collaborative research project between the Faculty of Medicine of the University of Helsinki; the Department of Mental Health and Substance Abuse Services of the National Institute for Health and Welfare; the Department of Social Services and Health Care, City of Helsinki; and the Department of Psychiatry, University of Helsinki and Helsinki University Hospital. The study protocol was approved by the Ethics Committee of Helsinki University Central Hospital.

2.2. Setting

The study was conducted 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 between 12.1.2011 and 20.12.2012.

2.3. Sampling

Inclusion criteria were patients' age≥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 by identifying all patients within a certain day or week in a unit or by randomly drawing