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Exploring the interaction between childhood maltreatment and temperamental traits on the severity of borderline personality disorder

Ana Martín-Blanco, Joaquim Soler, Laia Villalta, Albert Feliu-Soler, Matilde Elices, Víctor Pérez, María Jesús Arranz, Liliana Ferraz, Enrique Álvarez, Juan Carlos Pascual*

Department of Psychiatry, Hospital de la Santa Creu i Sant Pau, Universitat Autònoma de Barcelona (UAB), Centro de Investigación Biomédica en Red de Salud Mental, CIBERSAM, Institut d'Investigació Biomèdica-Sant Pau (IIB-SANT PAU), Barcelona, Spain

Abstract

Background: Childhood maltreatment and temperamental traits play a role in the development of Borderline Personality Disorder (BPD). The aim of the present study was to assess the involvement and the interrelationship of both factors in the clinical severity of BPD.
Method: The self-reported history of childhood trauma, psychobiological temperamental traits, and severity of BPD symptoms were evaluated in 130 subjects with BPD.
Results: Approximately 70% of the sample reported some form of abuse or neglect. Childhood maltreatment inversely correlated with sociability, but no correlation was observed with the other temperamental traits. The regression model showed that neuroticism–anxiety and aggression–hostility traits, as well as emotional abuse, were risk factors independently associated with the severity of BPD. Sexual abuse was not associated with the severity of the disorder. Finally, the interaction between high neuroticism–anxiety traits and the presence of severe emotional abuse was associated with BPD severity.
Conclusion: These results suggest that the interaction between temperamental traits and childhood emotional abuse has an influence not only on the development but also on the severity of BPD. Further studies are needed to identify more biological and environmental factors associated with the severity of the disorder.

1. Introduction

Borderline personality disorder (BPD) is a common and serious psychiatric disorder with an estimated prevalence between 0.5% and 5.9% in the general population [1]. Although long-term follow-up studies of subjects with BPD report symptomatic remission rates of about 90%, they also show a permanent impairment in the psychosocial functioning of most of these patients [2–4]. Furthermore, these subjects are major consumers of mental health resources and their rates of suicide vary between 8% and 10% [1,2,5]. Thus, the serious clinical and social consequences of this disorder make essential the study of the factors involved in its development and severity.

While there are several studies about the development of BPD, little attention has been paid to the study of the factors associated with its severity. The few studies on this topic highlight childhood trauma as an important factor, which has been related to, not only the severity of BPD symptoms, but also some indicators of seriousness, like psychosocial impairment [6,7] and suicidal attempts [8,9]. This is a relevant point, since childhood trauma is very common in subjects with BPD. Between 30% and 90% of these subjects report having suffered some kind of traumatic event in childhood [10–13]. Specifically, retrospective studies about childhood abuse in BPD describe rates of sexual abuse between 40% and 71% [10,12], physical abuse between 25% and 73% [10,14], and emotional abuse between 13% and 76% [12,15]. In fact, childhood trauma is considered the main environmental factor involved in BPD development. This assumption is supported by prospective studies [16–19]. For instance, Widom et al. (2009) followed 500 children who had

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* Corresponding author. Department of Psychiatry, Hospital de la Santa Creu i Sant Pau and Centro de Investigación Biomédica en Red de Salud Mental, CIBERSAM, Av. Sant Antoni Mª Claret 167, 08025 Barcelona, Spain. Tel.: +34 93 553 78 40; fax: +34 93 553 78 42.
E-mail address: jpascual@santpau.cat (J.C. Pascual).

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suffered physical and sexual abuse and neglect and 396 matched controls, and observed that significantly more abused/neglected children met criteria for BPD in adulthood in comparison to controls [19].

Childhood trauma, however, does not always lead to psychopathology. Some reviews have reported that around 30% of victims of sexual abuse will not exhibit psychiatric problems as adults [20]. There are even more optimistic data. Spataro et al. (2004) showed that only 12.4% of subjects who had suffered childhood sexual abuse looked for future psychiatric treatment [18] and Collishaw et al. (2007) described that 44.5% of abused children do not report psychopathology over a period of 30 years [21]. In the aforementioned study by Widom et al. (2009) only 14.9% of abused/neglected children met criteria for BPD as adults, and the relationship between childhood trauma and BPD was mediated by other factors, such as having a parent with a substance use disorder, the educational level or meeting criteria for substance abuse, major depressive disorder or posttraumatic stress disorder [19]. Another mediating factor which has received much attention in BPD is temperament. In fact, according to the biopsychosocial model of BPD, this disorder results from the interaction between biologically-based temperamental vulnerabilities and adverse experiences in childhood [22–25]. Several studies support this model. For example, Gratz et al. (2011) studied the relationship between two personality traits (affective dysfunction and impulsivity), emotional abuse and borderline personality features in a sample of children, and showed that both vulnerability personality traits and emotional abuse were associated with borderline features and that the relationship between emotional abuse and borderline features in children seemed to be moderated by affective dysfunction [26]. Laporte et al. (2011) assessed personality traits and childhood trauma in a sample of women with BPD and their sisters, and concluded that sensitivity to adverse events might be influenced by personality trait profiles [15].

Whether this interaction between childhood adverse events and temperamental traits influences the severity of this disorder, as happens in its development, is still unknown. In fact, the knowledge about the influence of temperament on BPD severity is scarce. This disorder has been suggested to be a maladaptive version of normative personality characteristics [27,28], an assumption supported by genetic studies [29,30]. According to the most studied normative personality model in BPD, the Five-Factor Model of Personality (FFM) assessed by the NEO Personality Inventory (NEO-PI) [31], BPD is characterized by high neuroticism and low agreeableness and conscientiousness [28]. This disorder has also been related to another model of normative personality, the Zuckerman′s Alternative Five Factor Model (AFFM) [32], according to which subjects with BPD are characterized by high scores in neuroticism–anxiety and impulsivity–sensation seeking, and low scores in activity [33]. To date, few studies about the influence of normative personality traits on BPD severity have been published. For example, Laporte et al. (2011) showed that temperamental traits of neuroticism, problems in intimacy and impulsivity were predictors of BPD severity [15], and Bornovalova et al. (2011) reported a moderating effect of distress tolerance on the relationship between two temperamental-based emotional processes (negative emotionality and negative affect intensity) and levels of BPD [34].

Since both childhood trauma and temperament seem to somehow individually influence BPD severity, we hypothesized that, as it happens in the development of the disorder, the interaction between both factors might be associated with its severity. In order to investigate this, we assessed the involvement of temperamental traits and childhood trauma, as well as their interrelationship, in the severity of BPD.

2. Methods

2.1. Participants and procedure

A total of 130 patients with a diagnosis of BPD were recruited from outpatient facilities of the BPD Unit of the Department of Psychiatry, Hospital de la Santa Creu i Sant Pau. An experienced psychiatrist carried out a clinical interview to collect sociodemographic and clinical variables such as age, sex, previous hospitalizations, history of self-injury, substance use, psychotropic medication as well as lifetime comorbidities with Axis I disorders. Furthermore, an experienced clinical psychologist led a psychiatric evaluation including Spanish validated versions of two semi-structured diagnostic interviews, the *Structured Clinical Interview for Diagnostic and statistical manual of mental disorders-IV (DSM-IV) Axis II Disorders (SCID-II)*[35] and the *Revised Diagnostic Interview for Borderlines (DIB-R)* [36]. Only data from patients who met diagnostic criteria for BPD according to both interviews were analysed (the inter-rater kappa between the two instruments was 0.7). Before enrolling any therapeutic program, these patients filled in three self-administered scales to evaluate the history of childhood trauma, the temperamental traits, and the severity of BPD symptoms. Inclusion criteria consisted of: (a) diagnosis of BPD according to DSM-IV criteria; (b) being between 18 and 45 years old; (c) no current episode of any Axis I disorders according to DSM-IV criteria, including substance dependence; and (d) no severe physical conditions, such as organic brain syndrome, neurological disease or mental deficiency.

In order to be able to generalize the results by improving the external validity, comorbidity with other Axis II diagnosis, psychotropic medication therapy and previous comorbid axis I diagnosis including history of substance misuse, were permitted in the sample. The study was approved by the Clinical Research Ethics Committee of the Hospital de la Santa Creu i Sant Pau and the principles outlined in the Declaration of Helsinki were followed. The participants did not receive any retribution and an informed consent form to participate in the study was acquired.