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Co-morbidity of bipolar disorder and borderline personality disorder: Findings from the National Epidemiologic Survey on Alcohol and Related Conditions

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Abstract

Objectives: Clinical studies suggest a high co-morbidity rate of borderline personality disorder (BPD) with bipolar disorder (BD). This study examines the prevalence and correlates of BPD in BD (I and II) in a longitudinal population-based survey.
Methods: Data came from waves 1 and 2 (wave 2: N = 34,653, 70.2% cumulative response rate; age ≥20 years) of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). Lay interviewers conducted in person interviews using the Alcohol Use Disorders and Associated Disabilities Interview (AUDADIS-IV), a reliable diagnostic tool of psychiatric disorders based on DSM-IV criteria. Subjects with BD I (n = 812), BD I/BPD (n = 360), BD II (n = 327) and BD II/BPD (n = 101) were examined in terms of sociodemographics, mood, anxiety, substance use and personality disorder co-morbidities and history of childhood traumatic experiences.
Results: Lifetime prevalence of BPD was 29.0% in BD I and 24.0% in BD II. Significant differences were observed between co-morbid BD I/II and BPD versus BD I/II without BPD in terms of number of depressive episodes and age of onset, co-morbidity, and childhood trauma. BPD was strongly and positively associated with incident BD I (AOR = 16.9; 95% CI: 13.88–20.55) and BD II (AOR = 9.5; 95% CI: 6.44–13.97).
Conclusions: BD with BPD has a more severe presentation of illness than BD alone. The results suggest that BPD is highly predictive of a future diagnosis of BD. Childhood traumatic experiences may have a role in understanding this relationship.

1. Introduction

Bipolar disorder (BD) has frequently been linked in clinical literature with personality disorders [1]. High rates of borderline personality disorder (BPD) in patients with BD have been reported in clinical studies and interestingly, this co-occurrence seems to be bidirectional in nature, regardless of the index population studied (BPD with BD or vice versa) [2,3].

The underlying nature of the relationship between BD and BPD remains unclear and continues to foster debate. While BPD can frequently co-occur with other disorders such as major depressive disorder, the association between BPD and BD seems to be particularly robust [4]. High heritability rates have been reported for personality traits [5–7] and it is possible that certain personality features influence or indicate vulnerability toward the development of a mood disorder such as BD [8–12]. It has been suggested that the development of personality structure may be affected by the early onset of a mood disturbance [13–18] and that environmental determinants, such as early childhood adversity, may have implications in the development and clinical course of psychiatric disorders such as BD and BPD [16,19–21]. Childhood adversity is understood to have a broad and likely non-specific impact on vulnerability to adult

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psychiatric disorders, but the importance of traumatic experience is particularly prominent in studies of BPD [22–26].

Phenomenological overlap between BPD and BD, especially in terms of affective instability and impulsivity, has long been recognized, suggesting that this co-morbidity could represent an artifact of the definition [2,27–31]. Diagnostic challenges can emerge, particularly in the context of BD II and BPD [32]. Specifically, some authors have proposed that BPD may be a misdiagnosis in patients with bipolar spectrum conditions [33–35], while others argue that BPD would be better conceptualized as an atypical variant of a mood disorder [36–41]. Contemporary diagnostic manuals including DSM-5 describe these disorders as distinct entities in separate sections of the manual, with clear differences in terms of prevalence, outcomes and course of illness [2,42–44].

While the existing literature regarding the course of illness of co-occurring BD and BPD is limited, clinical literature highlights the debilitating nature of this co-morbidity, which may be characterized by an earlier onset, more numerous and severe mood episodes, worse inter-episode functioning, reduced treatment adherence and worse outcomes with medication treatment [45–50]. The present study examines this co-morbid condition in regard to its development, presentation and scope by exploring the co-morbidity of BD (type I and II) and BPD using a large, comprehensive, and longitudinal nationally representative sample.

The study addressed four main aims: (1) to determine the prevalence of BPD in BD, (2) to examine the correlates and impact of BPD on the presentation of BD illness, (3) to compare the frequency of childhood traumatic events in BD with and without BPD and (4) to evaluate BPD versus other personality disorders as a predictor of a future diagnosis of BD. We hypothesized that BPD would be highly prevalent among subjects with BD, particularly BD type II. We expected BPD would have pervasive negative effects on the presentation of BD and that subjects with co-morbid BD and BPD would report a higher frequency of childhood adversities than both BD without BPD and non-BD. Finally, we predicted that effect sizes would be the largest for BPD predicting new-onset BD compared to all other personality disorders in longitudinal analyses.

2. Materials and methods

2.1. Sample

Data for the current study came from waves 1 and 2 of the longitudinal National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), which was conducted by the United States Census Bureau under the direction of the National Institute on Alcohol Abuse and Alcoholism. Wave 1 interviews were conducted between 2001 and 2002 and form a nationally representative sample of the non-institutionalized, civilian population of the 50 United States including 43,093 respondents with a response rate of 81.0%. Wave 2 interviews were conducted with 34,653 of the original wave 1 respondents approximately 3 years later (2004–2005). Wave 2 had a response rate of 86.7%, which results in a cumulative response rate for both waves 1 and 2 of 70.2%. Trained lay interviewers conducted in-person interviews using computer-assisted software and informed consent was obtained from all participants prior to the assessments. More detailed explanations of methodology, sampling and weighting procedures can be found in other publications [51,52].

2.2. Measures

2.2.1. Sociodemographic factors

Sociodemographic factors used in the analyses were from the NESARC Wave I and included variables that were dichotomous (sex and urbanicity) and categorical. Urbanicity was divided into rural or urban. Categorical variables were separated so that age was comprised of 3 groups (20–29, 30–44, 45+), ethnicity 3 groups (Caucasian, African American, other), education 3 groups (less than high school, high school, some college or more), marital status 4 groups (married/cohabitating, widowed/separated, divorced, never married), household income 4 groups ($0–19,999, $20,000–34,999, $35,000–59,999, $60,000 or more), and census region 4 groups (northeast, midwest, south, west).

2.2.2. Psychiatric diagnoses

Mood, anxiety, substance use and personality disorder diagnoses were assessed using the Alcohol Use Disorders and Associated Disabilities Interview (AUDADIS-IV) according to the Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM-IV). The AUDADIS-IV is fully structured and was designed for use by trained lay interviewers. At wave 1, mood, anxiety and substance use disorders diagnoses were assessed for past-year and lifetime time frames, although only lifetime diagnoses at wave 1 are utilized in the present study. At wave 2, diagnoses were assessed as occurring in the 3-year period between the two interviews (i.e., since wave 1). Mood, anxiety and substance use disorders assessed at waves 1 and 2 include major depression, dysthymia, mania, hypomania, panic disorder with or without agoraphobia, agoraphobia without panic disorder, social phobia, specific phobia, generalized anxiety disorder, alcohol abuse and dependence, drug abuse and dependence, and nicotine dependence. Wave 2 additionally assessed posttraumatic stress disorder (PTSD) retrospectively. Personality disorder diagnoses were assessed only in the lifetime time frame. Personality disorders assessed at wave 1 include schizoid, paranoid, histrionic, antisocial, avoidant, dependent and obsessive-compulsive personality disorder. The remaining personality disorders (schizotypal, narcissistic and borderline) were assessed at wave 2. We specifically defined incident disorders as those disorders occurring between the two time frames at wave 2 (i.e., since wave 1) that were not met on a lifetime basis at wave 1. The reliability of the survey was examined using re-tests of a random sample