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Comorbidity of mood and substance use disorders in patients with binge-eating disorder: Associations with personality disorder and eating disorder pathology☆

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ABSTRACT

Objective: Binge-eating disorder (BED) is associated with elevated rates of mood and substance use disorders, but the significance of such comorbidity is ambiguous. We compared personality disorder and eating disorder psychopathology in four subgroups of BED patients: those with mood disorders, those with substance use disorders, those with both, and those with neither.
Method: Subjects were 347 patients who met DSM-IV research criteria for BED. Semistructured interviews evaluated lifetime DSM-IV axis I disorders, DSM-IV personality disorder features, and eating disorder psychopathology.
Results: Among these patients, 129 had co-occurring mood disorder, 34 had substance use disorder, 60 had both, and 124 had neither. Groups differed on personality disorder features, with those having mood disorder and both mood and substance use disorders showing the highest frequencies. Although groups did not differ in body mass index or binge eating frequency, they did differ on eating disorder psychopathology—with the groups having mood disorder and both comorbidities demonstrating higher eating, weight, and shape concerns. No differences were observed between groups with respect to ages of onset for specific eating behaviors, but some differences were observed for ages of disorder onset.
Conclusion: Mood and substance use disorders co-occur frequently among patients with BED. Compared with a previous work, the additional comparison group (those with both mood and substance use disorders) and the control group (those with neither) afforded better discrimination regarding the significance of these comorbidities. Our findings suggest approaches to subtyping BED based on psychiatric comorbidity, and may also have implications for treatment.

Introduction

Studies of binge-eating disorder (BED) have demonstrated that it is a frequently occurring disorder with prevalence rates exceeding those of anorexia nervosa and bulimia nervosa combined, that it is also distributed more broadly across age, gender, and ethnic groups, and that it is at least as stable and as chronic as these two well-validated eating disorders [1,2]. BED has been shown to aggregate in families, and to be associated with obesity and with elevated rates of medical and psychiatric comorbidities [1,3–5]. These findings suggest the importance of further characterizing BED in order to better understand its pathogenesis and clinical manifestations. One approach to understanding diagnostic categories is through examination of potential subtypes. Initial approaches with BED have included subtyping by negative/depressive affect [6,7]—and, subsequently, subtyping by psychiatric comorbidity [8].

Based on etiologic and maintenance models of BED, Stice and colleagues [7] used cluster analysis to subtype three samples of women along dietary restriction and negative affect dimensions. Their analysis revealed a pure dietary subtype and a mixed dietary-depressive subtype—the latter of which was seen as a more severe variant of BED, characterized by higher rates of mood and anxiety disorders, of personality disorders, and of eating, shape, and weight concerns. This subtype also demonstrated poorer social adjustment and response to treatment.

Grilo and colleagues [6] replicated this cluster analysis in 101 patients with BED, and found that the mixed subtype was characterized by greater eating disorder psychopathology and psychological disturbance. Using the same sample, they also examined subtyping by the presence or absence of major depressive disorder, finding that those with this comorbid condition demonstrated higher depression/

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negative affect scores and lower self-esteem scores, as well as higher levels of concern about weight.

Peterson and colleagues [8] revisited the subtyping of BED based on psychiatric comorbidity—this time utilizing both mood disorders and substance use disorders. Noting that these two disorder groups co-occur frequently with BED, they considered BED patients with and without mood disorders, and with and without substance use disorders. Among their sample of 84 women, patients with a history of mood disorder were found to have higher levels of depression/negative affect, lower self-esteem, higher frequency of binge eating, and lower dietary restraint. Those with a history of substance use disorder were found to binge eat more frequently and to be more impulsive. These investigators concluded that individuals with histories of either mood disorder or substance use disorder have a more severe form of BED—and that subtyping along these lines may have clinical utility.

Peterson and colleagues [8] acknowledged a few study limitations, including their reliance—for personality and eating disorder psychopathology variables—on self-report measures. Also, they noted that sample size had prevented them from looking at the comorbidity patterns more completely; specifically, they had been unable to include in the analyses those patients who had both mood disorder and substance use disorder, and those with neither. Their post hoc analyses, however, indicated that individuals with a lifetime history of both mood disorder and substance use disorder had more frequent binge eating, more impulsivity, and more depression/negative affect than those with neither comorbidity. These authors concluded that this combination of comorbid conditions may represent a BED subtype characterized by higher levels of distress, eating pathology, and impulsivity.

Given the relatively high co-occurrence rates of mood and substance use disorders among patients with BED [1,3,5,9,10], evaluation of these comorbidities may be relevant to understanding the relationships between BED, mood disorders, and substance use disorders. Examining co-occurring personality disorders has proven elsewhere to be helpful in elucidating similarly complex comorbidity relationships, perhaps because personality psychopathology may be reflective of potential vulnerabilities for the development of axis I psychiatric disorders [11,12]. Moreover, patients with BED have been shown to have elevated rates of personality disorders—especially among clusters B and C [9,10,13,14]—and specific personality traits have been suggested as endophenotypes among obese individuals with BED [4].

The aim of this study was to explore further the possibility of subtyping BED by comorbidity with mood and substance use disorders. We evaluated the effect of having a history of one or both of these disorder types in a study group sufficiently large to permit comparison of subgroups with either comorbidity, along with subgroups having both or neither. The utility of this approach to subtyping BED was evaluated by comparing these subgroups with respect to personality pathology, eating disorder psychopathology, and associated psychological factors.

Method

Subjects

Subjects were a consecutive series of 347 treatment-seeking patients who met DSM-IV [15] research criteria for BED. This study group consisted of 259 (75%) women and 88 (25%) men, ranging in age from 18 to 60 years (M = 44.7, SD = 9.2). A majority of subjects (81%) were Caucasian, and most (84%) had either attended college or graduated from college.

Procedures and assessments

Subjects responded to media advertisements soliciting individuals with concerns about binge eating and weight for participation in treatment studies within an urban medical school setting. To be included in the study, subjects had to be between 18 and 60 years of age and had to meet full research diagnostic criteria for BED. Individuals were excluded if they were receiving ongoing professional treatment for eating or weight problems—or if they had certain medical conditions that may influence eating or weight (e.g., diabetes or thyroid disease), or had a severe psychiatric illness that could interfere with the assessment process (e.g., psychosis or bipolar disorder). Assessments were administered by trained doctoral-level research clinicians who were monitored to maintain reliability. Full IRB review and approval were obtained. After complete explanation of the study procedures, written informed consent was obtained from all subjects.

Semistructured diagnostic interviews were administered to all subjects. DSM-IV axis I disorders, including BED, were assessed by administration of the Structured Clinical Interview for DSM-IV Axis I Disorders–Patient Edition (SCID-I/P) [16]. For this study, lifetime axis I diagnoses were utilized—although a current diagnosis of BED was used to help ascertain the study group. Interrater reliability for the axis I diagnoses used in this report, as reflected by kappa coefficients, ranged from 0.68 to 1.0; kappa for current BED diagnosis was 1.0. Where disagreements occurred, final research diagnoses were established by the best-estimate method, following the LEAD (longitudinal, expert, all data) standard [17].

DSM-IV axis II personality disorders were assessed by the Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV) [18]. This semistructured diagnostic interview assesses for all DSM-IV personality disorders and criteria. The DIPD-IV requires that the criteria must be present and pervasive for at least two years, and that they must be characteristic of the person during adulthood. Kappa coefficients for the personality disorder diagnoses ranged from 0.58 to 1.0. For the purposes of this study, individuals were considered to have features of a personality disorder if they either met full diagnostic criteria for the disorder or were one trait shy of meeting full criteria. We elected to utilize this broader concept of personality disorder features, rather than strict diagnostic criteria, because the DIPD-IV is a relatively conservative instrument.

To assess the attitudinal, affective, and behavioral features of eating disorder psychopathology, and to confirm the BED diagnosis, the Eating Disorder Examination (EDE) [19] was administered. The EDE is a semistructured interview that assesses the core and associated psychopathology of eating disorders. This instrument focuses on the preceding 28 days, with the exception of diagnostic items for which DSM-IV stipulates specific time-frames or duration criteria. Included in the EDE interview is a module that assesses the DSM-IV research criteria for BED. The EDE assesses the frequency of different forms of overeating, including "objective bulimic episodes" (OBE)—defined as eating an unusually large quantity of food while experiencing subjective loss of control—which corresponds to the DSM-IV definition of a binge eating episode. In addition to providing a global score, the EDE has four subscales: Restraint, Eating Concern, Shape Concern, and Weight Concern. The Restraint subscale reflects attempts to restrict food intake in order to influence weight or shape; the Eating Concern subscale reflects the degree of concern about eating; and the Weight Concern and Shape Concern subscales measure the degree of concern about weight and shape, respectively, and the extent to which these concerns influence self-evaluation. The items assessing features of the four subscales are rated on 7-point forced-choice scales (0 to 6), with higher scores reflecting greater severity or frequency. The EDE is a well-established method for assessing eating disorder psychopathology [20] and has demonstrated good interrater and test–retest reliability in BED [21]. In the present study, interrater reliability of the EDE was examined in 42 subjects. For binge eating episode frequency, the Spearman rho coefficient was 0.99; for the EDE subscales, Spearman rho ranged from 0.87 to 0.97.

Height and weight were measured during the evaluation process, and body mass index (BMI) was calculated. Structured clinical interviews inquired about weight- and eating-related historical variables, including ages at onset of obesity, dieting, and binge eating. Ages at