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Substance Use Disorders in Individuals With Body Dysmorphic Disorder

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Abstract

Background—Little is known about substance use disorders (SUDs) in individuals with body dysmorphic disorder (BDD). Although studies have examined SUD comorbidity in BDD, no previous studies have examined clinical correlates of SUD comorbidity.

Method—We examined rates and clinical correlates of comorbid SUDs in 176 consecutive subjects with DSM-IV BDD (71% female; mean ± SD age = 32.5 ± 12.3 years). Comorbidity data were obtained with the Structured Clinical Interview for DSM-IV. BDD severity was assessed with the Yale-Brown Obsessive Compulsive Scale Modified for BDD, and delusionality (insight) was assessed with the Brown Assessment of Beliefs Scale. Quality of life and social/occupational functioning were examined using the Social Adjustment Scale, Quality of Life Enjoyment and Satisfaction Questionnaire, Medical Outcomes Study 36-Item Short-Form Health Survey, and Range of Impaired Functioning Tool. All variables were compared in BDD subjects with and without lifetime and current SUDs. Data were collected from January 2001 to June 2003.

Results—48.9% of BDD subjects (N = 86) had a lifetime SUD, 29.5% had lifetime substance abuse, and 35.8% had lifetime substance dependence (most commonly, alcohol dependence [29.0%]). 17% (N = 30) had current substance abuse or dependence (9.1 % reported current substance abuse, and 9.7% reported current dependence). 68% of subjects with a lifetime SUD reported that BDD contributed to their SUD. There were far more similarities than differences between subjects with a comorbid SUD and those without an SUD, although those with a lifetime SUD had a significantly higher rate of suicide attempts (p = .004).

Conclusion—These preliminary results suggest that SUDs are very common in individuals with BDD. Subjects with and without a comorbid SUD were similar in most domains that were examined.

Body dysmorphic disorder (BDD), a distressing and/or impairing preoccupation with an imagined or slight defect in appearance,[1] is characterized by intrusive thoughts about perceived defects in appearance and repetitive, ritualistic behaviors such as mirror checking and reassurance seeking.[2,3] BDD may be both socially and occupationally incapacitating.[2] Although the disorder was once considered rare, recent evidence suggests that the lifetime prevalence of BDD in the general population may be 1% to 2%.[4]

Research on BDD has increased in the past decade, but relatively little attention has been paid to substance use disorders (SUDs) in this population. To our knowledge, only a few studies

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have assessed comorbidity rates, and no studies have assessed clinical correlates of SUDs in individuals with BDD. Previous studies examining substance use disorders in BDD have not provided separate rates for abuse and dependence. However, rates of lifetime SUDs (abuse and/or dependence) have ranged from 2% of 50 BDD patients (diagnosed with the Structured Clinical Interview for DSM-III-R),[3] to 6% of 16 patients (diagnosed with the Structured Clinical Interview for DSM-IV),[5] to 22% of 50 BDD patients (based on a retrospective chart review using DSM-III-R criteria).[6] In the largest study (N = 293), which used the Structured Clinical Interview for DSM-III-R, 30% of the subset of 175 subjects who had participated in a phenomenology study had a lifetime SUD (19% had alcohol abuse or dependence, and 19% had drug abuse or dependence),[7] and 25% of the subset of 118 subjects who had participated in a pharmacotherapy study (which excluded individuals with a current SUD) had a lifetime SUD (22% had lifetime alcohol abuse or dependence, and 14% had drug abuse or dependence).[7] Conversely, in a study of 34 adult psychiatric inpatients with a current SUD, 26.5% (N = 9) had current BDD.[8]

Recognizing comorbidity with SUDs is important, as identifying and treating the SUD may significantly improve the prognosis of the comorbid disorder.[9] This recognition may be particularly important in individuals with BDD, given that case reports on other disorders suggest that certain psychoactive substances, such as cocaine or methamphetamine, may exacerbate obsessional symptoms,[10,11] whereas other substances, such as opiates, may be enticing for patients because they may potentially alleviate obsessional symptoms.[12,13] Conversely, to the extent that BDD may potentially contribute to the development or maintenance of an SUD, it is also important to recognize and diagnose BDD, which is a secretive and often underrecognized disorder.[4,5,8]

Based on reports that comorbid SUDs are associated with more severe psychiatric symptoms and poorer functioning in patients with other disorders,[14-19] we hypothesized that comorbidity with an SUD would be associated with more severe BDD symptoms, greater delusionality, and poorer occupational and social functioning.

METHOD

Subjects

The subjects were 176 male and female adults and adolescents (125 [71%] female; mean ± SD age = 32.5 ± 12.3 [range, 14−64] years) who met current DSM-IV criteria for BDD and agreed to participate in an ongoing prospective study of the course of BDD. Study inclusion criteria were DSM-IV BDD or its delusional variant (delusional disorder, somatic type), age 12 years or older, and ability to be interviewed in person; the only exclusion criterion was the presence of an organic mental disorder. This report includes data only from the intake (baseline) interview. The Institutional Review Board of Butler Hospital (Providence, R.I.) approved the study and the consent statement. All study participants provided voluntary written informed consent (or informed assent in the case of adolescents). Data were collected from January 2001 to June 2003.

Subjects were recruited for the study from a variety of sources, including mental health professionals, advertisements, our program Web site and brochures, subject friends and relatives, and nonpsychiatrist physicians. One hundred subjects (57%) were single, 42 (24%) were married, and 20 (11%) were divorced. Twenty-five subjects (14%) had less than a high school degree, 29 (16%) had a high school diploma, 62 (35%) had some college, 37 (21%) had a college degree, and 23 (13%) had education beyond a college degree. Seventy-nine percent (N = 139) considered BDD their most problematic current disorder (compared to any comorbid disorders). One hundred seventeen subjects (66%) were currently receiving mental health treatment, whereas 59 (34%) were not receiving treatment.

Assessments

All subjects were administered the Structured Clinical Interview for DSM-IV (SCID-P), which was used to obtain comorbidity data.[20] BDD severity was assessed with the Yale-Brown Obsessive Compulsive Scale Modified for BDD (BDD-YBOCS).[21] The BDD-YBOCS is a reliable and valid semistructured rater-administered 12-item scale that assesses the current severity of BDD. Ten items assess thoughts and behaviors associated with BDD, 1 item assesses insight, and 1 assesses avoidance. Items are rated on a scale of 0 (no symptoms) to 4 (extreme symptoms); the total score ranges from 0 to 48.

Delusionality was assessed with the Brown Assessment of Beliefs Scale (BABS),[22] a reliable and valid 7-item semistructured rater-administered scale that assesses delusionality during the past week. In the present study, it assessed the delusionality of appearance-related beliefs (e.g., "I look deformed"). Items are conviction, perception of others' views, explanation of differing views, fixity, attempt to disprove beliefs, insight (recognition that the belief has a psychiatric etiology), and ideas/delusions of reference. The total score ranges from 0 to 24, with higher scores reflecting more delusional beliefs.

Clinical features of BDD (e.g., history of suicide attempts, hospitalization, and days missed from work or school) were assessed with the BDD Form, a semistructured instrument used in previous studies of BDD.[2,7] Depressive symptoms were assessed with the 17-item Hamilton Rating Scale for Depression (HAM-D).[23] The Brief Social Phobia Scale (BSPS) assessed severity of current comorbid social phobia (scores range from 0−72; social anxiety symptoms secondary to BDD were not assessed).[24] BSPS and HAM-D scores are for the entire sample, regardless of whether subjects had a diagnosis of current major depressive disorder or current social phobia.

Current social functioning was assessed with the Social Adjustment Scale (SAS), a reliable, valid, and widely used 54-item self-report scale.[25] The scale assesses 6 areas of social functioning: work, social and leisure, extended family, primary relationship, parental, and family unit. An overall adjustment scale provides a total score, which is based on these 6 domains; higher scores reflect poorer adjustment. The SAS was added after the study began and was completed by 119 subjects.

Quality of life was assessed with the Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q),[26] a reliable and valid self-report measure of current quality of life in 8 domains: general activities, physical health, emotional well-being, household, leisure, social, work, and school. The Q-LES-Q short form consists of the first 14 items of the general activities scale and is often used to yield a total quality-of-life score, with lower scores reflecting less life satisfaction and enjoyment. This scale was added after the study began and was completed by 113 subjects.

The Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36),[27,28] a reliable and valid self-report measure, was used to assess current health status and health-related quality of life in all subjects. Mental health–related quality of life was assessed with 3 SF-36 subscales: mental health (a measure of psychological distress and well-being), role limitations due to emotional problems, and social functioning. Scores for each subscale range from 0 to 100, with lower scores indicating poorer quality of life.

Each subject was interviewed with the Range of Impaired Functioning Tool (LIFE-RIFT),[29] a reliable and valid semistructured rater-administered measure that assesses current psychosocial functioning. The LIFE-RIFT total score reflects functioning in 4 domains: work (the worst score reported in work, student, or household functioning), recreation, satisfaction,

and relationships. Domain scores range from 1 to 5, with higher scores indicating poorer functioning; scores greater than 2 reflect impaired functioning.

Data Analysis

The percentages of subjects who were diagnosed with a lifetime or current SUD were determined. BDD subjects with a lifetime SUD were compared to those without a lifetime SUD on measures of lifetime psychosocial functioning. In addition, we compared BDD subjects with and without a current SUD on measures of current severity of BDD and other symptoms, current quality of life, and current psychosocial functioning. Between-group differences were tested using either the Pearson χ^2 test or an analysis of variance. All missing data were excluded on a pairwise basis for analysis. Because we performed multiple comparisons, we used an adjusted alpha level of $p < .01$; we did not adjust the alpha level to reflect all statistical comparisons because this is the first study of this topic and is therefore exploratory; in addition, the Bonferroni correction tends to be overly conservative.[30] Effect sizes were also calculated. Effect sizes for the equality of sets of mean differences between groups are reported in terms of Cohen effect size index ("d") or based on tests of the equality of 2 or more distributions over a set of 2 of more categories (χ^2 tests) ("w").[31] A d of .2 is considered a small effect size, .5 is medium, and .8 is large; a w of .1 is considered small, .3 is medium, and .5 is large.[31]

RESULTS

As shown in Table 1, 48.9% of the 176 subjects were diagnosed with a lifetime (i.e., current or past) SUD: 29.5% had lifetime substance abuse, and 35.8% had lifetime substance dependence. Seventeen percent (N = 30) of subjects had a current substance use disorder: 9.1% reported current substance abuse, and 9.7% reported current substance dependence. The most commonly abused substances were alcohol and cannabis. Current SUD rates were similar in subjects who were and were not currently receiving mental health treatment (17.0% vs. 17.1%, respectively).

Subjects with a lifetime SUD did not significantly differ from those without an SUD with respect to most demographic features, although males were more likely than females to have an SUD at a trend level (64% males vs. 36% females, $\chi^2 = 4.1$, df= 1, $p = .04$). There was also a trend for those with a current SUD to be younger than those without an SUD ($F = 6.55$, df= 1, $p = .011$).

Among the 86 subjects with a lifetime SUD, BDD began at least 1 year before the SUD in 60% of subjects (N = 52). The mean ± SD age at BDD onset was 15.4 ± 6.4 years compared to 18.1 ± 6.2 years for SUD onset. Twenty-one percent of subjects (N = 18) reported that BDD and the SUD began within the same year, and 19% (N = 16) reported that BDD began at least 1 year after the onset of the SUD. In fact, of those with a lifetime SUD, 59 subjects (69%) reported that their BDD symptoms preceded the onset of substance use.

A question regarding the subjects' perception of the relationship between their substance use and BDD symptoms was added after the study was in progress and was asked of 71 of the 86 subjects with a lifetime SUD. Sixty-eight percent of subjects (N = 48) with a lifetime SUD reported that BDD contributed to their SUD, and 30% (N = 21) cited BDD as the "main reason" or a "major reason" for substance use. In 31% (N =22), BDD was "somewhat of a reason" for substance use, and in only 7% (N = 5) was BDD reported as a "minor reason" for the substance use.

Table 2 shows lifetime clinical characteristics of subjects with a lifetime (past or current) SUD versus those without a lifetime SUD. On most measures, those with a comorbid lifetime SUD were no more severely ill than those without a lifetime SUD, with only small effect sizes for

most variables (Table 2). Compared to individuals without a lifetime SUD, however, those with a lifetime SUD had a significantly higher rate of suicide attempts (38.4% vs. 18.9%, p= .004; w= .20). In addition, there was a trend for subjects with an SUD to have more severe BDD symptoms as indicated by more psychiatric hospitalizations due to BDD (p = .03; w = .18) and greater lifetime interference in social functioning (p = .05; d = .35) and occupational/academic/role functioning (p = .01; d = .40) due to BDD. There were no significant differences in rates of comorbid disorders between BDD subjects with and without a lifetime SUD.

Table 3 shows scores on measures of current psychopathology in subjects with and without a current comorbid SUD. No statistically significant differences were found on measures of current BDD severity, delusionality, social anxiety, depression, functioning and quality of life, or comorbidity between BDD subjects with and without a current SUD. However, there was a trend for subjects with a comorbid SUD to have more delusional BDD symptoms on the BABS, with a small-to-medium effect size (d= .43).

DISCUSSION

In this study, we determined the rate of current and lifetime SUDs in 176 consecutive individuals with DSM-IV BDD. To our knowledge, this is the first study to report rates of abuse and dependence for specific substances and the first to examine clinical correlates of SUD comorbidity in BDD (e.g., demographic characteristics, BDD severity, psychosocial functioning, and quality of life). To our knowledge, this is also the broadest sample of individuals with BDD that has been studied (our study had very broad inclusion/exclusion criteria, and one third of subjects were not currently receiving psychiatric treatment), which may increase the generalizability of the results.

Nearly half of BDD subjects in this study had a lifetime SUD, with a majority of subjects (68%) reporting that BDD symptoms contributed to their substance use. BDD subjects with a lifetime SUD had poorer scores on variables assessing various aspects of morbidity (Table 2); however, differences were statistically significant only for suicide attempts, but effect sizes were in the medium range for variables assessing social and occupational functioning. These findings do not appear to be accounted for by comorbid disorders other than SUDs, as rates of comorbid disorders did not differ between groups; this finding is consistent with data from other disorders.[32] The high lifetime rate of SUDs and the very high rate of suicide attempts in subjects with an SUD suggests that clinicians should carefully screen BDD patients for an SUD, as the presence of a lifetime SUD may have treatment implications.

Regarding current SUDs, subjects with BDD and a current SUD were not more severely ill or functionally impaired than subjects without a current SUD. Although power was somewhat limited for these analyses, the effect sizes were generally small. Both groups of BDD subjects had such severe current BDD symptoms and poor overall functioning that the presence of a current SUD appears to have had little effect on these measures. For example, on the SAS, the mean ± SD score for all subjects (2.4 ± 0.5) was 2.8 standard deviation units poorer than the published community norm of 1.59 ± 0.33,[25] regardless of the presence of a current SUD. Mean scores on the SF-36 mental health subscales for both groups were 1.8 to 2.0 standard deviation units poorer than norms for the general U.S. population.[27,28] On the Q-LES-Q Short Form, the mean scores for both groups were 2.2 standard deviation units poorer than a nonclinical community sample mean ± SD converted score of 78.1 ± 13.7 (N = 89) (J. Endicott, Ph.D., written communication, Oct. 2004).

The lifetime SUD rate in subjects with BDD in this study (48.9%) is notably higher than reported rates in the general population (26.6−%29.0%)[33,34] and higher than rates reported for many other psychiatric disorders. For example, the Epidemiologic Catchment Area (ECA)

study[34] found that among persons with any affective disorder, the lifetime prevalence of alcohol use disorders was 21.8%, which is notably lower than the lifetime rate of 42.6% found in our study. In individuals with social phobia, epidemiological studies (the ECA, National Comorbidity Survey, and an epidemiologic study in Edmonton, Alberta, Canada) have reported lifetime rates of 18.8% to 35.0% for alcohol use disorders and 13.0% to 24.0% for nonalcohol substance use disorders,[35-40] which are also lower than the rates we found for BDD. Additionally, the ECA study found that 47.0% of persons with schizophrenia had a lifetime SUD.[34] Only in the case of bipolar I disorder did the ECA study find a lifetime SUD comorbidity rate (60.7%) that was higher than the rate found in this sample of BDD subjects.[34]

The rates of lifetime comorbid SUDs found in our study are also higher than those in previous BDD studies.[2,3,5-7] The reasons for this are unclear, although most previous studies had small samples; our finding is most similar to that of the largest previous study. It is interesting that we found similar lifetime SUD rates in subjects who were currently receiving psychiatric treatment and in those who were not receiving treatment. Studies done in clinical settings tend to be biased toward finding higher comorbidity rates (due to Berkson bias and clinical bias) than studies done in nonclinical settings.[41] Although our study was not epidemiologic in nature and may have various biases, our finding of a high lifetime SUD rate among individuals who were not under psychiatric care suggests that our results may be reasonably generalizable to community settings, although large epidemiologic surveys are needed to confirm this.

The reasons for the elevated rate of lifetime SUDs among BDD subjects are unclear. One possibility is the very high levels of distress reported by patients with BDD. Previous studies have found that BDD patients have unusually high levels of perceived stress.[42] In addition, on average, BDD patients report unusually poor quality of life, which correlates highly with BDD symptom severity.[43] Use of alcohol and drugs may therefore be a means of self-medicating this distress. This self-medication hypothesis has been examined in affective and anxiety disorders as a possible explanation for the increased rates of comorbidity with SUDs.[44-47] Although we cannot ascertain the extent to which this hypothesis may apply to BDD, or the causal relationship between BDD and lifetime SUDs, 68% of subjects in this study reported that their BDD symptoms contributed to substance use. In addition, 69% of subjects reported that BDD symptoms preceded the onset of their SUD. It is interesting that the substances most often abused by the BDD subjects (alcohol and cannabis), while often abused in the general population, may be more likely than other substances to alleviate social anxiety,[48] which appears to be high in individuals with BDD. An alternative hypothesis, that the presence of a lifetime SUD contributes to more severe BDD symptoms, while possible, seems less plausible and is less consistent with our age at onset findings. It is also possible that the relationship between BDD and SUDs is more complex (e.g., that they share the same causal factors) or that there is not a causal relationship between them. Further research is needed to explore the relationship between BDD and SUDs, including the extent to which each disorder may contribute to the other disorder's development and maintenance.

Regardless of the specific causal relationship between BDD and SUDs, the fact that they frequently co-occur raises important clinical issues. Because SUDs appear common in individuals with BDD, it is important to screen for SUDs in these patients. Although our study did not examine the converse—the rate of BDD in patients with SUDs—the only study that to our knowledge has done this found a high rate of BDD in inpatients with an SUD (26.5%).[8] This study found, however, that patients did not reveal their BDD symptoms to their clinician because of embarrassment and shame, underscoring the need for clinicians to specifically inquire about the presence of BDD symptoms.

Our results also have treatment implications. Treatment of either BDD or an SUD could be complicated or even compromised by the presence of the other untreated condition.[49] Treating one disorder alone may not be effective if a comorbid disorder is exerting a causal or maintaining influence on the treated condition.[18,50-52] Furthermore, subjects with both BDD and an SUD may require more intensive treatment services, not only because of the comorbidity but also because they may be at higher risk for attempting suicide or requiring hospitalization. To our knowledge, however, no research has been done on the treatment of comorbid SUDs in patients with BDD or on the treatment of BDD in patients with an SUD. Systematic BDD efficacy studies to date, which have found that serotonin reuptake inhibitors and cognitive-behavioral therapy are often efficacious,[53,54] have excluded individuals with a current SUD. Research on effective treatments for individuals with BDD and an SUD is greatly needed.

This study has several limitations. Most notably, we based SUD diagnoses on subject report only and did not obtain urine toxicology screens to confirm current rates. Because substance abuse and dependence are often denied, the rates found in this study probably underestimate the actual rate of SUDs in patients with BDD.[55,56] In addition, the number of subjects with certain substance use disorders (e.g., sedatives, steroids, opiates) was too small for a more detailed examination of clinical correlates of these specific SUDs. Another limitation is that it is unclear how generalizable our results are to individuals with BDD in the community. Nonetheless, our sample is broader than are those in previous BDD studies, in that the study inclusion/exclusion criteria were very broad and a substantial proportion of participants were not currently receiving psychiatric treatment. The study also used both self-report and interviewer-administered measures with strong psychometric properties and established norms.

In conclusion, these results suggest that SUDs may be common in subjects with BDD. Additional research on this topic is needed, including larger prevalence studies, studies of clinical correlates of SUDs in BDD, and studies that may shed light on the relationship between BDD and SUDs (e.g., prospective studies and studies of etiology and pathophysiology). Also greatly needed are treatment studies to identify efficacious treatments for patients with both BDD and an SUD.

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Table 1

Lifetime and Current Substance Use Disorders in Subjects with Body Dysmorphic Disorder (N = 176)

Substance Use Disorder	Lifetime N (%)			Current N (%)		
	Total	Abuse	Dependence	Total	Abuse	Dependence
Alcohol	75 (42.6)	24 (13.6)	51 (29.0)	15 (8.5)	8 (4.5)	7 (4.0)
Cannabis	53 (30.1)	21 (11.9)	32 (18.2)	15 (8.5)	6 (3.4)	9 (5.1)
Cocaine	16 (9.1)	6 (3.4)	10 (5.7)	1 (0.6)	0 (0)	1 (0.6)
Hallucinogens	15 (8.5)	12 (6.8)	3 (1.7)	1 (0.6)	1 (0.6)	0 (0)
Sedative/hypnotics	14 (8.0)	6 (3.4)	8 (4.5)	2 (1.1)	1 (0.6)	1 (0.6)
Opiates	11 (6.3)	5 (2.8)	6 (3.4)	1 (0.6)	0 (0)	1 (0.6)
Stimulants	11 (6.3)	6 (3.4)	5 (2.8)	0 (0)	0 (0)	0 (0)
Steroids	3 (1.7)	1 (0.6)	2 (1.1)	2 (1.1)	1 (0.6)	1 (0.6)
Any substance[a]	86 (48.9)	52 (29.5)	63 (35.8)	30 (17.0)	16 (9.1)	17 (9.7)

[a]The total Ns do not equal the Ns for abuse and dependence, given that any subject may have multiple substance abuse disorders and dependence disorders.

Table 2

Lifetime Clinical Characteristics of Subjects With Body Dysmorphic Disorder (BDD) With and Without a Lifetime Substance Use Disorder (SUD)

Characteristic	BDD With SUD (N = 86)	BDD Without SUD (N = 90)	Statistic[a]	p Value	Effect Size[b]
Previous suicide attempt, N (%)	33 (38.4)	17 (18.9)	$\chi^2 = 8.21$	.004	w = .20
Previous suicide attempt due to BDD, N (%)	15 (17.4)	8 (8.9)	$\chi^2 = 2.83$	.09	w = .18
Psychiatric treatment (individual), N (%)	76 (88.4)	76 (84.4)	$\chi^2 = 0.56$	.45	w = .05
Psychiatric hospitalizations due to BDD, N (%)	15 (17.4)	6 (6.7)	$\chi^2 = 4.86$	.03	w = .18
Days missed from school, mean (± SD)	65.3 (125.8)	40.9 (116.6)	F = 1.79	.18	d = .20
Days missed from work, mean (± SD)	58.6 (120.7)	53.6 (268.8)	F = 0.02	.88	d = .02
Dropped out of school permanently due to BDD, N (%)	12 (14.0)	8 (8.9)	$\chi^2 = 1.12$	.29	w = .09
Dropped out of school temporarily due to BDD, N (%)	13 (15.1)	11 (12.2)	$\chi^2 = 0.31$	.58	w = .05
Interference in social functioning due to BDD, mean (± SD)[c]	3.3 (0.8)	3.0 (0.9)	F = 4.06	.05	d = .35
Interference in occupational/academic/role function due to BDD, mean (± SD)[c]	3.2 (0.9)	2.8 (1.1)	F = 6.24	.01	d = .40
Lifetime comorbid disorders, N (%)					
Major depressive disorder	65 (75.6)	65 (72.2)	$\chi^2 = 0.26$	.61	w = .03
Bipolar disorder	8 (9.3)	6 (6.7)	$\chi^2 = 0.42$	.52	w = .08
Any mood disorder	73 (84.9)	71 (78.9)	$\chi^2 = 1.06$	.38	w = .09
Obsessive-compulsive disorder	25 (29.1)	33 (36.7)	$\chi^2 = 1.15$	.28	w = .09
Social phobia	33 (38.4)	37 (41.1)	$\chi^2 = 0.14$	.71	w = .02
Specific phobia	15 (17.4)	20 (22.2)	$\chi^2 = 0.64$	.43	w = .05
Panic disorder	23 (26.7)	16 (17.8)	$\chi^2 = 2.05$	.15	w = .11
Agoraphobia	1 (1.2)	2 (2.2)	$\chi^2 = 0.29$	.59	w = .04
Posttraumatic stress disorder	10 (11.6)	8 (8.9)	$\chi^2 = 0.36$	.55	w = .06
Any anxiety disorder	59 (68.6)	64 (71.1)	$\chi^2 = 0.13$	.72	w = .01
Any eating disorder[d]	35 (40.7)	26 (28.9)	$\chi^2 = 2.71$	.10	w = .12

[a] χ^2 (df = 3) or analysis of variance (df = 1).

[b] For tests of the equality of 2 or more distributions over a set of 2 or more categories, Cohen uses the effect size w, where w = .10 is small, w = .30 is medium, and w = .50 is large. For tests of the equality of sets of mean differences between groups, Cohen uses the effect size d, where d = .20 is small, d = .50 is medium, and d = .80 is large.

[c] 0 = none; 1 = mild, slight interference; 2 = moderate, definite interference; 3 = severe, substantial interference; and 4 = extreme, incapacitating interference.

[d] Includes eating disorder not otherwise specified.

Table 3

Current Clinical Characteristics of Subjects With Body Dysmorphic Disorder (BDD) With and Without a Current Substance Use Disorder (SUD)

Characteristic	BDD With SUD (N = 30)	BDD Without SUD (N = 146)	Statistic[a]	p Value	Effect Size[b]
Measure scored, mean (± SD)					
BDD-YBOCS total	30.9 (5.7)	30.4 (6.7)	F = 0.13	.72	d = .08
BABS[c]	18.4 (4.1)	16.0 (5.7)	F = 4.43	.04	d = .43
Brief Social Phobia Scale[d]	15.8 (14.5)	17.5 (13.9)	F = 0.37	.54	d = .12
17-Item HAM-D[d]	9.9 (6.6)	10.2 (6.9)	F = 0.04	.83	d = .04
Social Adjustment Scale	2.4 (0.5)	2.4 (0.5)	F = 0.01	.95	d = .01
Global Assessment of Functioning	42.3 (11.5)	46.0 (10.7)	F = 2.92	.09	d = .34
LIFE-RIFT	14.3 (3.1)	13.7 (3.5)	F = 0.73	.39	d = .17
Q-LES-Q short form	56.4 (14.3)	49.2 (17.1)	F = 2.53	.11	d = .43
SF-36 subscales					
Mental health	38.2 (19.1)	41.3 (19.0)	F = 0.57	.45	d = .16
Social functioning	43.1 (24.1)	44.7 (26.3)	F = 0.09	.77	d = .06
Role limitations due to emotional problems	16.0 (28.3)	27.9 (37.1)	F = 2.45	.12	d = .33
Current comorbid disorders, N (%)					
Major depressive disorder	12 (40.0)	56 (38.4)	χ^2 = 0.03	.87	w = .02
Dysthymia	5 (16.7)	9 (6.2)	χ^2 = 3.75	.05	w = .22
Bipolar disorder	2 (6.7)	9 (6.2)	χ^2 = 0.01	.92	w = .00
Any mood disorder	18 (60.0)	71 (48.6)	χ^2 = 1.29	.26	w = .08
Obsessive-compulsive disorder	6 (20.0)	39 (26.7)	χ^2 = 0.59	.44	w = .08
Social phobia	9 (30.0)	52 (35.6)	χ^2 = 0.35	.56	w = .05
Generalized anxiety disorder	0 (0)	6 (4.1)	χ^2 = 1.28	.26	w = .08
Specific phobia	5 (16.7)	23 (15.8)	χ^2 = 0.02	.90	w = .02
Panic disorder	4 (13.0)	16 (11.0)	χ^2 = 0.50	.48	w = .06
Agoraphobia	0 (0)	2 (1.4)	χ^2 = .42	.52	w = .05
Posttraumatic stress disorder	3 (10.0)	4 (2.7)	χ^2 = 3.43	.06	w = .18
Any anxiety disorder	16 (53.3)	86 (58.9)	χ^2 = 0.32	.57	w = .05
Any eating disorder[e]	4 (13.3)	14 (9.6)	χ^2 = 0.38	.54	w = .03

Abbreviations: BABS = Brown Assessment of Beliefs Scale, BDD-YBOCS = Yale-Brown Obsessive Compulsive Scale Modified for BDD, HAM-D = Hamilton Rating Scale for Depression, LIFE-RIFT = Range of Impaired Functioning Tool, Q-LES-Q = Quality of Life Enjoyment and Satisfaction Questionnaire, SF-36 = Medical Outcomes Study 36-Item Short-Form Health Survey.

[a] χ^2 (df = 3) or analysis of variance (df = 1).

[b] For tests of the equality of 2 or more distributions over a set of 2 or more categories, Cohen uses the effect size w, where w = .10 is small, w = .30 is medium, and w = .50 is large. For tests of the equality of sets of mean differences between groups, Cohen uses the effect size d, where d = .20 is small, d = .50 is medium, and d = .80 is large.

[c] Mean scores for both groups were in the poor insight/delusional range (a score of 18 or higher plus a score of 4 on item 1 [conviction] indicates that beliefs are delusional).

[d] Of note, these scores are for the entire sample, regardless of whether subjects had a diagnosis of current major depressive disorder or current social phobia.

[e] Includes eating disorder not otherwise specified.