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Demographic Characteristics, Phenomenology, Comorbidity, and Family History in 200 Individuals With Body Dysmorphic Disorder

Katharine A. Phillips, M.D., William Menard, B.A., Christina Fay, B.A., and Risa Weisberg, Ph.D.

From the Body Image Program, Butler Hospital; and the Department of Psychiatry and Human Behavior, Brown University, Providence, R.I.

Abstract

The authors examined characteristics of body dysmorphic disorder in the largest sample for which a wide range of clinical features has been reported. The authors also compared psychiatrically treated and untreated subjects. Body dysmorphic disorder usually began during adolescence, involved numerous body areas and behaviors, and was characterized by poor insight, high comorbidity rates, and high rates of functional impairment, suicidal ideation, and suicide attempts. There were far more similarities than differences between the currently treated and untreated subjects, although the treated subjects displayed better insight and had more comorbidity.

Body dysmorphic disorder, a distressing or impairing preoccupation with an imagined or slight defect in appearance, is a relatively common somatoform disorder that often is seen by psychiatrists and other mental health professionals. Studies indicate that body dysmorphic disorder occurs in 0.7%–1.1% of community samples, 2%–13% of nonclinical student samples, and 13% of psychiatric inpatients.¹ Individuals with body dysmorphic disorder also present frequently to dermatologists and plastic surgeons. Studies have found that 9%–12% of patients seen by dermatologists and 6%–15% of patients seeking cosmetic surgery have body dysmorphic disorder.¹ Because cosmetic procedures are on the rise,² it is likely that individuals with body dysmorphic disorder will increasingly present to dermatologists and surgeons, and therefore they may also increasingly be seen by psychiatrists in consultation-liaison settings. In 1997, plastic surgeons, dermatologists, and otolaryngologists in the United States performed about 2 million cosmetic procedures (surgical and nonsurgical); by 2003, that number had risen to nearly 8.3 million.²

Case reports spanning more than a century have described the disorder's clinical features, including the severe morbidity it can cause.³ However, systematic studies have been done for little more than a decade, and there are still very few reports on a broad range of the clinical features of body dysmorphic disorder. Most studies of a broad range of features have had fairly small samples: 30 subjects in our 1993 study,⁴ 50–60 in studies by Hollander et al.,⁵ Veale et al.,⁶ and Perugi et al.,⁷ and 100 in our 1994 investigation.⁸ The largest investigation to date (N = 188) focused on gender differences.⁹ Nearly all of these studies^{4,5,7–9} were done in clinical populations, which can introduce bias.^{10,11} For example, studies in clinical settings tend to show higher comorbidity rates than those in non-clinical settings (because of Berkson's bias and clinical bias).¹⁰ Some subjects in the largest study⁹ participated in pharmacotherapy trials, which can also introduce bias. For example, individuals who seek treatment might be more symptomatic than those who do not; on the other hand, the pharmacotherapy studies

excluded severely ill individuals who were actively suicidal or needed inpatient care and those with certain comorbid disorders (e.g., bipolar disorder or a current substance use disorder).

In the present study, we examined the clinical features of body dysmorphic disorder in a new sample of 200 subjects, which we believe to be the largest group for which a wide range of clinical features has been reported. To our knowledge, this sample is also more diverse than most samples that have been studied. The inclusion/exclusion criteria (described in the following) were very broad, and unlike the subjects in most previous studies, these people were not currently seeking or receiving treatment in a specialty setting for body dysmorphic disorder; one third were receiving no mental health treatment at all. To address the biases we have noted, we compared individuals with body dysmorphic disorder who were currently receiving mental health treatment to those who were not, which we believe has not previously been done. We also assessed characteristics that have been examined only in relatively small studies of body dysmorphic disorder, e.g., scores on scales for depression and obsessive-compulsive disorder (OCD), or that we have not seen in previous reports—for example, age at onset of subclinical body dysmorphic disorder, rates of certain comorbid disorders, certain behaviors associated with body dysmorphic disorder, and days of work or school missed because of body dysmorphic disorder.

METHOD

Subjects

The subjects were 200 people with DSM-IV body dysmorphic disorder who were participating in an ongoing prospective study of the course of the disorder. This report includes only data from the intake (baseline) assessment. The inclusion criteria were as follows: DSM-IV body dysmorphic disorder or its delusional variant (delusional disorder, somatic type), age 12 or older, and ability to be interviewed in person. The only exclusion criterion was the presence of an organic mental disorder. Subjects were obtained from mental health professionals (46.0%), advertisements (38.6%), our program web site and brochures (10.2%), the subject's friends and relatives (3.4%), and nonpsychiatrist physicians (1.7%). Most of them, 89.0% (N = 178), currently met the full DSM-IV criteria for body dysmorphic disorder. The remaining 11.0% had met the full criteria in the past; 7.5% (N = 15) were currently in partial remission, and 3.5% (N = 7) were currently in full remission. Body dysmorphic disorder was considered the most problematic disorder (compared to any comorbid disorder) by 78.0% of the sample. Sixty-seven percent (N = 134) were currently receiving mental health treatment (62.0% outpatient, 2.5% inpatient, 1.5% partial hospital, and 1.0% residential). Fifty-three subjects (26.5% of the sample) were currently receiving psychotropic medication only, 33 (16.5%) were receiving psychotherapy only, and an additional 48 (24.0%) were receiving both medication and psychotherapy. Of the 33.0% (N = 66) of the sample not currently receiving mental health treatment, 86.4% had received such treatment in the past. The study was approved by the Butler Hospital institutional review board, and all subjects signed statements of informed consent (assent plus parental consent for adolescents).

Assessments

The Structured Clinical Interview for DSM-IV Axis I Disorders, Non-Patient Edition (SCID-NP)¹² and the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II)¹³ were used at intake. (The SCID-II was used only in adults.) The psychosis section was modified such that a psychotic disorder, but not individual psychotic disorders, was diagnosed if present. Except for eating disorders, “not otherwise specified” diagnoses were not made because of their subjective nature. Rates of tic disorder, trichotillomania, and olfactory reference syndrome, which are not in the SCID, were assessed by using SCID-like modules based on DSM-IV criteria. The BDD Form, an unpublished semistructured instrument used in

previous studies,^{4,8,9} was used to obtain data on demographic characteristics, clinical features of body dysmorphic disorder (e.g., body areas of concern, associated behaviors, functional impairment), and treatment history. Employment and school status in the past month were assessed with the Range of Impaired Functioning Tool.¹⁴ Current employment (excluding employed subjects who were primarily students) was assessed with the Hollingshead Occupational Index, two-factor version; the scores range from 1 to 9.¹⁵

The current severity of body dysmorphic disorder was assessed with the Yale-Brown Obsessive Compulsive Scale Modified for Body Dysmorphic Disorder,¹⁶ a reliable and valid 12-item semistructured measure; the scores range from 0 to 48. The Body Dysmorphic Disorder Examination¹⁷ was used to assess symptoms of body dysmorphic disorder and severely negative body image in the first 98 subjects, with eating disorder symptoms excluded; the scores ranged from 0 to 168. The current delusional beliefs about appearance (e.g., that the person looks disfigured) was assessed with the Brown Assessment of Beliefs Scale,¹⁸ a reliable and valid 7-item semistructured scale that provides a dimensional score (ranging from 0 to 24) and also categorizes individuals as delusional or nondelusional by using an empirically derived cutoff. We used the Global Assessment of Functioning Scale¹² (GAF) to assess global symptoms and functioning (scores range from 0 to 100), the 24-item Hamilton Rating Scale for Depression¹⁹ to assess depressive symptoms for subjects with current major depression (scores range from 0 to 50), the Yale-Brown Obsessive Compulsive Scale²⁰ to assess the severity of current comorbid OCD (scores range from 0 to 40), and the Brief Social Phobia Scale²¹ to assess severity of current comorbid social phobia (scores range from 0 to 72); social anxiety symptoms secondary to body dysmorphic disorder were not included in this score. The preceding symptom measures are reliable and valid; higher scores indicate greater severity. Family history for first-degree relatives was obtained by using the family history method (yielding probable diagnoses) and SCID-NP. Information on family history of body dysmorphic disorder was obtained for 197 subjects, who had 859 first-degree relatives; data for selected other axis I disorders were obtained for the first 103 subjects, who had 482 first-degree relatives.

Statistical Analysis

Means, standard deviations, and frequencies were calculated (data for several variables were obtained for a subset of the sample). To provide more meaningful results for measures of current symptom severity (e.g., body dysmorphic disorder or depressive symptoms) and current functioning, only the 176 subjects meeting full criteria for current (past week) body dysmorphic disorder were included in those analyses. Between-group differences for the 134 subjects currently receiving mental health treatment versus the 66 not receiving treatment were explored by using chi-square analysis or Fisher's exact test for categorical variables and t tests for continuous variables. The tests were two-tailed; the alpha level was 0.05. Because this study was thought to be the first to compare treated and untreated individuals and was therefore exploratory, we did not correct for multiple comparisons. Thus, there is possible inflation of type I error rates, and some findings, particularly those of only modest significance, may reflect chance associations.

RESULTS

In the overall sample, 68.5% of the subjects were female, and the mean age was in the early 30s; 10.5% were 18 or younger (Table 1). The sample was racially/ethnically diverse. There were no significant demographic differences between the treated and untreated subjects. The most frequently reported lifetime body parts or issues of excessive concern (for the entire sample) were skin (80.0%), hair (57.5%), nose (39.0%), stomach (32.0%), teeth (29.5%), weight (29.0%), breasts (26.0%), buttocks (21.5%), eyes (21.5%), thighs (20.0%), eyebrows

(19.5%), overall appearance of face (19.0%), small body build (18.0%), legs (18.0%), face size or shape (16.0%), chin (14.5%), lips (14.5%), arms (13.5%), hips (12.5%), cheeks (10.5%), and ears (10.5%). The frequencies for all other body areas were less than 10%. The mean number of body areas of excessive concern was 5–7; the treated subjects were preoccupied with more body areas than the untreated subjects (Table 2). All 200 subjects engaged in at least one repetitive or safety behavior, such as excessive mirror checking, grooming, or skin picking. Scores on the Yale-Brown Obsessive Compulsive Scale Modified for Body Dysmorphic Disorder reflected moderately severe body dysmorphic disorder. Mean scores on the Brown Assessment of Beliefs Scale reflected poor insight; the untreated subjects had poorer insight than the treated subjects. The onset of body dysmorphic disorder was typically during adolescence; the mean age at onset was 16.4 (SD = 7.0), and the mode was 13 years. The mean age at onset of subclinical body dysmorphic disorder (dislike of one's appearance) was 12.9 years (SD = 5.8) (Table 2). Most subjects retrospectively reported a continuous course of body dysmorphic disorder.

The subjects had high levels of functional impairment (Table 2), as reflected by very high rates of interference in social and work/academic functioning and high numbers of days missed from work or school due to body dysmorphic disorder. For at least 1 week during the past month, 36.0% (N = 63) of the subjects did not work and 32.0% (N = 56) were not in school because of psychopathology. Eleven percent had dropped out of school permanently because of body dysmorphic disorder. The mean GAF score was very low (in the range of "serious" symptoms or impairment); the mean score was lower in the treated than untreated subjects. The lifetime rates of suicidal ideation and suicide attempts were notably high, with more than a quarter of the sample reporting a history of attempted suicide. The majority of subjects (64.0%, N = 128) had received nonpsychiatric treatment for their perceived defects. There was a trend for more subjects currently receiving mental health treatment to have received any nonpsychiatric treatment, treatment from a dermatologist, or surgery.

Comorbidity rates were generally high (Table 3), with few differences between the treated and untreated subjects, although the treated subjects had higher lifetime rates of any mood disorder, bipolar disorder, OCD, and eating disorders. However, the levels of severity of comorbid current major depression, current OCD, and current social phobia did not significantly differ in the two groups (Table 2). The mean depression score indicated moderate severity, the OCD score was in the moderate range, and the mean social phobia score was within the range reported for social phobia.²¹ Twenty percent of the subjects had at least one first-degree relative with probable body dysmorphic disorder, and 5.8% of all first-degree relatives had probable body dysmorphic disorder (Table 3).

DISCUSSION

These results indicate that body dysmorphic disorder usually begins during adolescence, typically involves numerous body areas and related behaviors, and is characterized by poor insight, marked functional impairment, and high rates of suicidal ideation and suicide attempts. Comorbidity is common, and a high proportion of individuals receive treatment for body dysmorphic disorder concerns from dermatologists, surgeons, and other non-mental-health professionals and paraprofessionals. These results are generally similar to those of previous studies.^{4–9} Although cross-cultural comparison studies of the clinical features of body dysmorphic disorder apparently have not been done, its features appear similar in different countries (e.g., United States, Italy, United Kingdom),^{3–7} and contemporary research findings from our study and others are remarkably similar to case descriptions of body dysmorphic disorder over the past century.³ One difference between our results and those of previous studies, for reasons that are unclear, is our sample's somewhat lower rate of personality disorders^{6,22,23} and higher lifetime rate of substance use disorders (48.0%).²⁴ Of interest, as

in previous studies,²⁴ the rate of comorbid somatoform disorders was relatively low, even though body dysmorphic disorder is classified as a somatoform disorder in DSM-IV. Our finding that body dysmorphic disorder occurred in 5.8% of first-degree relatives is consistent with our previous results from a different sample of 60 probands with body dysmorphic disorder and their 236 first-degree relatives, of whom 6.4% had probable body dysmorphic disorder (unpublished data). Our 5.8% rate almost certainly underestimates the true rate because we used the family history method²⁵ and because symptoms of body dysmorphic disorder are often concealed.¹ Nonetheless, this rate is higher than that in the general population (0.7–1.1%),¹ suggesting that body dysmorphic disorder is familial.

There were far more similarities than differences between currently treated and untreated subjects. However, the treated subjects had significantly higher lifetime rates of a mood disorder, bipolar disorder, OCD, and eating disorders, which may reflect Berkson's bias and clinical bias (i.e., the co-occurrence of psychiatric disorders increases the likelihood of treatment seeking).¹⁰ It is interesting that the currently treated subjects had better insight than the untreated subjects. It is unclear whether this reflects improvement of insight with treatment or whether more delusional individuals are less likely to seek psychiatric care. The latter possibility is consistent with clinical impressions that more delusional patients tend to be more difficult to engage and retain in treatment.²⁶ It is also interesting that the subjects currently receiving mental health treatment were more likely at a trend level to have received any non-psychiatric treatment, as well as treatment from a dermatologist or surgeon, for their perceived defect. We cannot assume that there is a causal connection between having such treatment and receiving subsequent psychiatric care. Nonetheless, it might be expected that if nonpsychiatric treatment successfully treated body dysmorphic disorder, treated individuals would be less likely to subsequently seek psychiatric care. Indeed, previous studies showed that 81% of individuals with body dysmorphic disorder were dissatisfied or very dissatisfied with the outcome of dermatologic or surgical consultation or treatment⁶ and that 88% of nonpsychiatric treatments for body dysmorphic disorder "defects" led to no change or worsening of the overall disorder.²⁷

Our finding that, on nearly all variables, the untreated subjects were as severely ill and had as much lifetime co-morbidity as the treated subjects suggests that the severe morbidity reported in many studies of body dysmorphic disorder is not limited to individuals seeking consultation or treatment in a specialty setting for body dysmorphic disorder or to treated individuals more generally. However, this conclusion is limited by the fact that most of the currently untreated subjects in our study had received mental health treatment in the past. Therefore, we cannot assume that they are representative of untreated individuals with body dysmorphic disorder in the community. Even though our sample is in many ways one of the most diverse to date, it is nonetheless a sample of convenience and may have unknown biases. Because most subjects had a history of mental health treatment, our study lacked the power to explore differences between those who did and did not have a history of treatment. Nonetheless, focusing our analyses on current treatment status has the advantages of allowing our findings to be more readily compared to those in previous reports^{4–9} and avoiding certain limitations of basing analyses on past treatment seeking.¹⁰

Our study has some other limitations, including a lack of data on whether body dysmorphic disorder was the focus of current treatment, a lack of record review to confirm certain data (e.g., receipt of nonpsychiatric treatment), the gathering of family history data for only selected disorders, and limitations inherent in the family history method, which may underestimate actual rates of psychopathology in family members²⁵ and may explain our relatively low rates of certain axis I disorders.

Our study also has a number of strengths, including the use of reliable and valid measures and the assessment of some previously unstudied aspects of body dysmorphic disorder. It also appears to be the first to explore differences between treated and untreated individuals with body dysmorphic disorder and is, to our knowledge, the largest sample for which a wide range of clinical features has been reported. However, additional research on the clinical features of body dysmorphic disorder is needed in larger samples, especially in community populations, to clarify the features of body dysmorphic disorder in nonclinical settings. Research is also needed in different cultures, especially non-Western cultures, for which the only data to our knowledge consist of case reports and small case series. Such information is important for patients and health care providers, as it may lead to better recognition of body dysmorphic disorder, which usually goes unrecognized and undiagnosed.¹ Family studies in which relatives are directly interviewed would likely yield more accurate data on the prevalence of body dysmorphic disorder and other disorders in family members, which would shed important light on the degree to which body dysmorphic disorder is familial and its relationship to other disorders. Finally, further research that clarifies body dysmorphic disorder's phenotype will provide an essential foundation for future studies of this disorder's etiology and pathophysiology.

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Demographic Characteristics of Treated Versus Untreated Subjects With Body Dysmorphic Disorder

TABLE 1

Variable	Treated Subjects (N = 134)		Untreated Subjects (N = 66)		Analysis		
	Mean	SD	Mean	SD	t	df	p
Age (years)	33.5	12.3	30.8	11.6	-1.48	198	0.14
Hollingshead occupational level ^a	3.7	1.4	4.1	1.7	1.27	102	0.21
Female	86	64.2	51	77.3	χ^2	1	0.07
Race ^b					0.77	1	0.38
White	116	87.9	55	83.3			
Nonwhite ^c	16	12.1	11	16.7			
Hispanic ethnicity ^b	12	9.4	2	3.2			
Marital status							
Single (never married)	81	60.4	46	69.7	2.53	3	0.15 ^d
Married	34	25.4	15	22.7			0.47
Divorced/separated	18	13.4	5	7.6			
Widowed	1	0.7	0	0.0			
Education							
High school/GED or less	37	27.6	21	31.8	0.38	1	0.54
At least some college	97	72.4	45	68.2			
Employment status							
Employed ^e	77	57.5	45	68.2	2.14	1	0.14
Unemployed	57	42.5	21	31.8			
Living situation							
Alone	34	25.4	11	16.7	5.22	3	0.16
Roommate/spouse	60	44.8	40	60.6			
Parent	38	28.4	15	22.7			
Supervised living	2	1.5	0	0.0			

^a Mean score of 3.7 reflects level of clerical/sales worker and mean score of 4.1 reflects level of small business owner.

^b Data were missing for some subjects.

^c For the entire sample, the nonwhite groups were black (7.0%), American Indian (5.5%), Asian (1.0%), Alaskan Native (0.5%), and Native Hawaiian/Pacific Islander (0.5%).

^d Fisher's exact test.

^e Of the subjects who worked, 38.5% worked full-time and 22.5% worked part-time; an additional 3.0% (N = 6) were currently on leave of absence for psychiatric and/or medical reasons.

TABLE 2
Clinical Characteristics of Treated Versus Untreated Subjects With Body Dysmorphic Disorder

Variable	Treated Subjects (N = 134)				Untreated Subjects (N = 66)				Analysis			
	Mean	SD	N	%	Mean	SD	N	%	t	χ^2	df	p
Number of body areas of concern (lifetime)	6.9	5.3			5.4	3.4			-2.40		198	0.02
Behaviors (lifetime)												
Comparing with others			134	100.0			66	100.0				
Camouflaging ^b			126	94.0			64	97.0				0.50 ^a
Mirror checking			123	91.8			61	92.4		0.02	1	0.88
Grooming			120	89.6			59	89.4		0.00	1	0.97
Touching body areas			94	70.1			43	65.2		0.51	1	0.47
Reassurance seeking			87	64.9			31	47.0		5.89	1	0.02
Clothes changing			81	60.4			35	53.0		1.00	1	0.32
Skin picking			61	45.5			31	47.0		0.04	1	0.85
Dieting			57	42.5			31	47.0		0.35	1	0.55
Tanning			54	40.3			21	31.8		1.36	1	0.24
Excessive exercise			36	26.9			14	21.2		0.75	1	0.39
Weight lifting			26	19.4			17	25.8		1.06	1	0.30
Distraction techniques ^{c,d}			27	20.1			4	6.1		6.70	1	0.01
Severity of body dysmorphic disorder			22	44.9			11	55.0		0.58	1	0.45
Score on Yale-Brown Obsessive Compulsive Scale Modified for Body Dysmorphic Disorder	30.3	7.2			30.7	5.4			0.47		198	0.65
Score on Body Dysmorphic Disorder Examination ^d	97.7	22.3			91.0	19.7			-1.38		82	0.18
Score on Brown Assessment of Beliefs Scale ^d	15.6	5.9			18.1	4.4			3.18		149.9	0.002
Currently delusional ^d			37	33.3			28	47.5		3.25	1	0.08
Delusional during lifetime			101	75.4			53	80.3		0.61	1	0.44
Ideas/delusions of reference			64	47.8			26	39.4		1.25	1	0.27
Course												
Age at onset of body dysmorphic disorder (years)	16.2	6.9			16.8	7.4			0.57		198	0.58
Age at onset of subclinical body dysmorphic disorder (years)	12.6	5.1			13.5	7.1			1.08		198	0.29
Duration of illness (years)	16.9	12.6			13.4	11.3			-1.92		198	0.06
Acute onset ^e			21	15.7			9	13.6		0.14	1	0.71
Continuous course of illness ^{d,f}			112	83.6			50	76.9		1.28	1	0.26
Impairment (lifetime)												
Limitations imposed primarily by body dysmorphic disorder, in both subject's and interviewer's judgment			134	100.0			66	100.0		—	—	—
Social interference			134	100.0			63	95.5		—	—	0.04 ^g
Job/academic interference												
Days missed from work or school	113.8	305.3			71.4	158.4			-1.04		193	0.31
Housebound >1 week ^d			40	30.1			14	21.2		1.75	1	0.19
Receiving disability (current)			27	20.1			7	10.6		2.85	1	0.10
Score on GAF (current)	43.2	11.0			49.7	9.4			3.91		174	<0.001
Suicidal ideation			109	81.3			47	71.2		2.65	1	0.11
Attempted suicide			38	28.4			17	25.8		0.15	1	0.70
Ratings of comorbid illness ^g												
24-Item Hamilton Depression Rating Scale ¹⁹	26.3	7.9			22.9	5.5			-2.03		47.8	0.05

Variable	Treated Subjects (N = 134)			Untreated Subjects (N = 66)			Analysis				
	Mean	SD	%	Mean	SD	N	%	t	χ^2	df	p
Yale-Brown Obsessive Compulsive Scale ²⁰	24.0	7.1		20.3	3.5			-1.44		43	0.16
Brief Social Phobia Scale ²¹	31.4	12.7		28.4	11.1			-0.91		59	0.37
Nonpsychiatric treatment received			67.9			37	56.1		2.70	1	0.10
Dermatologist			51.5			26	39.4		2.60	1	0.11
Surgeon			23.1			8	12.1		3.42	1	0.07
Other ^d			30.6			18	27.3		0.24	1	0.63

^aFisher's exact test.

^bMost common camouflaging techniques (for entire sample): body posture/position (69.8%), clothes (63.2%), makeup (62.1%), hands (56.0%), hair (48.3%), hat (35.3%), and other (28.4%).

^cMethods used to decrease perceived attention by others to the body areas of concern. Most common were makeup (27.5%), clothes (24.6%), hairstyle (13.0%), and jewelry (11.6%).

^dData were missing for some subjects.

^eSymptoms went from nonsignificant to clearly significant within 1 week; precipitants of acute onset were comments about appearance (50.0%), surgery/dermatologic procedures (13.3%), relationship problems or rejection (10.0%), and physical injury (6.7%).

^fSymptoms had not remitted for at least 1 month since onset; assessed retrospectively.

^gFor subjects with current body dysmorphic disorder plus current comorbid major depression (N = 67), obsessive-compulsive disorder (N = 45), and social phobia (N = 61), respectively.

^hIncludes paraprofessionals (e.g., electrolysis technicians) (15.0%), dentists (9.5%), and other physicians (9.5%).

TABLE 3
 Lifetime Comorbid Disorders in Treated Versus Untreated Subjects With Body Dysmorphic Disorder and Their First-Degree Relatives

Lifetime DSM-IV Diagnosis	Treated Subjects (N = 134)		Untreated Subjects (N = 66)		Chi-Square Analysis (df = 1)		First-Degree Relatives ^a	
	N	%	N	%	χ^2	p	N	%
Body dysmorphic disorder								
Mood disorders ^b	118	88.1	50	75.8	4.98	0.03	50	5.8
Major depression	101	75.4	48	72.7	0.16	0.69	101	21.0
Bipolar disorder	14	10.4	1	1.5		0.03 ^c	14	2.9
Dysthymia (current)	12	9.0	3	4.5		0.40 ^c		
Psychotic disorder ^d	3	2.2	2	3.0		0.67 ^c		
Anxiety disorders ^b	98	73.1	41	62.1	2.53	0.12		
Panic disorder	31	23.1	9	13.6	2.49	0.12	20	4.1
Agoraphobia	3	2.2	0	0.0		0.56 ^c		
Social phobia	54	40.3	23	34.8	0.56	0.46	24	5.0
Specific phobia	30	22.4	9	13.6	2.16	0.15		
Obsessive-compulsive disorder	52	38.8	14	21.2	6.19	0.02	22	4.6
Posttraumatic stress disorder	12	9.0	6	9.1	0.00	0.98		
Generalized anxiety disorder (current)	3	2.2	4	6.1		0.23 ^c		
Substance use disorders ^b	67	50.0	29	43.9	0.65	0.42	87	18.0
Alcohol	59	44.0	26	39.4	0.39	0.54	79	16.4
Other drug	46	34.3	21	31.8	0.13	0.73	32	6.6
Eating disorders ^{be}	33	24.6	8	12.1	4.24	0.04		
Anorexia nervosa	14	10.4	4	6.1	1.04	0.31	7	1.5
Bulimia nervosa	12	9.0	4	1.5		0.07 ^c	4	0.8
Binge eating disorder	8	6.0	3	4.5		1.00 ^c		
Somatoform disorders (current)	3	2.2	0	0.0	1.50	0.56		
Somatization disorder	0	0.0	0	0.0				
Pain disorder	0	0.0	0	0.0				
Hypochondriasis	3	2.2	0	0.0		0.56 ^c		
Other axis I disorders								
Tic disorder	5	3.7	0	0.0		0.18 ^c	1	0.2
Trichotillomania	3	2.2	2	3.0		0.67 ^c		
Olfactory reference syndrome	8	6.0	0	0.0		0.06 ^c		
Adjustment disorder	0	0.0	0	0.0				
Personality disorders ^{bf}	57	47.9	23	39.0	1.27	0.26		
Paranoid	13	10.9	3	5.1	1.64	0.20		
Schizotypal	2	1.7	2	3.4		0.60 ^c		
Schizoid	2	1.7	2	3.4		0.60 ^c		
Borderline	14	11.8	5	8.5	0.45	0.51		
Antisocial	8	6.7	3	5.1		1.00 ^c		
Narcissistic	2	1.7	3	5.1		0.34 ^c		
Histrionic	1	0.8	0	0.0		1.00 ^c		
Avoidant	32	26.9	13	22.0	0.49	0.48		
Obsessive-compulsive	20	16.8	4	6.8	3.40	0.07		
Dependent	7	5.9	0	0.0		0.10 ^c		
Depressive	8	6.7	4	6.8		1.00 ^c		

^a For body dysmorphic disorder, N = 859. For other diagnoses, N = 482.

^b The total is less than the sum of the numbers for the individual disorders because some subjects had more than one disorder in a given category.

^cFisher's exact test.

^dNot including delusional body dysmorphic disorder.

^eThirty subjects (15.0%) had anorexia nervosa and/or bulimia nervosa (but not eating disorder not otherwise specified).

^fData were missing for some subjects.