

Pharmacotherapy for Body Dysmorphic Disorder: Treatment Received and Illness Severity

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Background. Research on pharmacotherapy received by individuals with body dysmorphic disorder (BDD), a relatively common and impairing disorder, is very limited.

Methods. We examined past and current pharmacotherapy received by 151 individuals with BDD who were recruited from diverse sources.

Results. 72.9% of subjects had received psychotropic medication. The most common type ever received was an SRI (65.6%), followed by non-SRI antidepressants (41.1%) and benzodiazepines (27.2%). Subjects with greater lifetime impairment due to BDD were more likely to have received pharmacotherapy, and subjects with lifetime OCD or greater lifetime impairment due to BDD were more likely to have received an SRI specifically. Subjects revealed their BDD symptoms to only 41.0% of pharmacotherapists. Only 12.9% of SRI trials were considered optimal for BDD, and an additional 21.5% were considered minimally adequate. SRI trials that were considered optimal or at least minimally adequate for BDD were associated with greater improvement in BDD and less severe current BDD symptoms than non-optimal or inadequate SRI trials.

Conclusions. A high proportion of individuals with BDD receive pharmacotherapy, primarily SRIs, although most SRI trials appear inadequate for BDD. SRI treatment that was considered adequate was associated with greater improvement in BDD and less severe BDD symptoms.

Keywords Body dysmorphic disorder, Somatoform disorders, Pharmacotherapy, Somatic treatment, Medications

INTRODUCTION

Body dysmorphic disorder (BDD) is a severe somatoform disorder that consists of a distressing or impairing preoccupation with an imagined or slight defect in appearance (1). BDD is associated with markedly poor quality of life (2), highly impaired functioning in multiple domains (3), and high lifetime rates of suicidal ideation and suicide attempts (3,4). BDD

also appears relatively common, with a prevalence of 0.7%–1.7% in community settings (5–7) and 13% in a study of patients from a general psychiatry inpatient setting (8).

Treatment research on BDD has increased in recent years, with two controlled efficacy studies (9,10) and several open-label trials (11–13) finding that serotonin-reuptake inhibitors (SRIs) are often efficacious for BDD. In addition, SRIs appear more efficacious than other medications, including non-SRI antidepressants (9,14,15). Indeed, pharmacotherapy—and SRIs in particular—are currently widely recommended as treatment for BDD (16–18). However, treatment research on this severe disorder is still limited, including research on medication actually received by individuals with BDD.

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Several studies from the mid-1990s reported on lifetime (19) or current (4) pharmacotherapy received by individuals with BDD; however, these early studies contained relatively small samples of 30 (19) and 50 subjects (4), and they were conducted before it was known whether medication is efficacious for BDD. Thus, their findings may not reflect more recent prescribing practices. Additional reports on receipt of pharmacotherapy came from settings that specialize in BDD treatment, and some or all subjects had been treated in these settings (14,20–22). It is unclear how representative these individuals—or the treatment they received—is of treatment received in the community. A study from a general psychiatry inpatient setting found that all 16 patients diagnosed with BDD had received an SRI, suggesting that a very high proportion of these patients receive medication (8). However, inpatients have greater illness severity and may be more likely than individuals in the community to receive pharmacotherapy. The only study that to our knowledge has assessed treatment received in the community is an epidemiologic study from Florence, Italy, which found that 3 of 5 individuals with BDD had received mental health treatment during the past year (6). However, the number of subjects with BDD was very small, and the type of treatment was not specified. Another clinically important question is whether patients with BDD receive pharmacotherapy that is considered adequate for BDD, which to our knowledge has not previously been examined.

In this study, we describe the characteristics of pharmacotherapy received—including frequency, types, amount, and adequacy—by a large ($n = 151$) and broad sample of individuals with BDD. To our knowledge, this is the first report of lifetime pharmacotherapy received by individuals who were not currently inpatients and who had never received treatment in a BDD specialty setting, which may increase the generalizability of the findings. We also examined predictors of treatment with psychotropic medication or an SRI specifically, which to our knowledge has not previously been examined. Because BDD is underrecognized in clinical settings (8,19,23–25), we also determined whether subjects revealed their appearance concerns to their pharmacotherapist and perceived their pharmacotherapist as focusing treatment on BDD symptoms. In addition, we retrospectively examined response of BDD symptoms to SRIs, which are currently considered first-line medication for BDD (16–18). In particular, we were interested in whether SRI trials that were considered more adequate for BDD would be associated with greater improvement in BDD and less severe BDD symptoms currently.

METHODS

Subjects

The study participants were individuals with DSM-IV BDD who participated in a naturalistic study of the clinical course of BDD. Data presented in this report are from the study's intake

(baseline) evaluations only, which were conducted from January 2001, through June 2003; thus, presented data are cross-sectional and retrospective. Potential subjects were told that they were participating in an interview study that was assessing body dysmorphic disorder as well as other symptoms, functioning, and quality of life. Subjects were not seeking treatment by participating in the study, they did not receive treatment as part of study participation, and the study did not control or assign treatment. Thus, all treatment data are observational in nature. Most of the analyses in this report focus on 151 subjects who, to our knowledge, had never received treatment in a setting that specializes in treating BDD. The reason for this was our interest in examining treatment received in the community, outside of a BDD specialty setting. However, for selected analyses (those examining the relationship of SRI adequacy to improvement in BDD and current BDD severity), we included 49 additional subjects who had ever received any treatment from the first author. These additional 49 subjects were included in these analyses in order to increase statistical power.

Study inclusion criteria were lifetime DSM-IV BDD or its delusional variant, age 12 or older, and able to be interviewed in person. The only exclusion criterion was the presence of a mental disorder (e.g., dementia) that would interfere with the collection of valid interview data. We attempted to obtain a broad sample, regardless of treatment status. Subjects were recruited using advertisements, flyers and brochures, letters to local mental health professionals and organizations with information about the study, letters to local dermatologists and surgeons informing them about the study, the Butler Hospital Body Dysmorphic Disorder Program and website, local presentations on BDD, and media reports on BDD. In addition, some study subjects referred their friends and relatives to the study. 53.6% of study subjects were obtained from advertisements, 27.8% from mental health professionals, 12.6% from our program website and brochures, 4.0% from subject friends and relatives, and 2.0% from nonpsychiatrist physicians. All 151 subjects met full DSM-IV criteria for lifetime (current or past) BDD; at the time of the intake evaluation, 94.7% ($n = 143$) currently met full criteria for BDD, 3.3% ($n = 5$) were currently in partial remission, and 2.0% ($n = 3$) were currently in full remission. A hospital Institutional Review Board approved the study, and all subjects signed IRB-approved statements of informed consent (assent plus parental consent in the case of adolescents).

Assessments

Demographic information and data on BDD's clinical features (e.g., duration of BDD) were obtained with the *BDD Form* (Phillips KA, unpublished), a semi-structured instrument used in previous BDD studies (e.g., 3,14,19). BDD and comorbid disorders were diagnosed with the *Structured Clinical Interview for DSM-IV—Non-patient Version* (26). Severity of lifetime

(past or current) BDD was determined using an item from the BDD Form which assessed the greatest social interference and the greatest academic, occupational, or role interference ever experienced due to BDD on a 9-point scale ranging from none to extreme (interference in functioning is a DSM-IV criterion for the diagnosis of BDD). Current BDD severity was assessed with the *BDD-YBOCS* (27), a reliable and valid measure. Scores range from 0–48, with higher scores indicating more severe symptoms. The lifetime delusional nature of BDD appearance beliefs (e.g., “I look deformed”) was assessed with a modified SCID question used in previous BDD studies (e.g., 14). Subjects were considered delusional if they were, or ever had been for at least several weeks in a row, completely (or “100%”) convinced that their view of their supposed defect was accurate and undistorted.

Using the BDD Form, interviewers obtained information on all pharmacotherapy ever received, including medication type, maximum dose, and trial duration. Information was also obtained on the number of medication treatment sessions, number of pharmacotherapists, whether subjects revealed their appearance concerns to their pharmacotherapist, and whether (in the subject’s view) their pharmacotherapist had focused treatment on the subject’s BDD symptoms. We also determined which lifetime disorder the subject considered their most problematic disorder (compared to any comorbid disorder).

Because serotonin-reuptake inhibitors (SRIs) are currently considered the medication of choice for BDD (16–18), we assessed response of BDD symptoms to each current or past SRI trial with the *Clinical Global Impressions (CGI)* scale (28). This widely used 7-point measure of symptom change ranges from very much worse to very much improved. Much or very much improved (score of 1 or 2) was defined as improvement in BDD. We also classified SRI trials as “minimally adequate” versus inadequate. Although it is not clear what constitutes a minimally adequate SRI trial for BDD because data on this issue are very limited, we used criteria used in a previous study (21), which were based on available literature and clinical experience. The following daily SRI doses were considered minimally adequate: fluvoxamine 150 mg, fluoxetine 40 mg, paroxetine 40 mg, sertraline 150 mg, clomipramine 150 mg, citalopram 40 mg, and escitalopram 20 mg. Ten weeks was considered a minimally adequate SRI trial duration. SRI trials considered “optimal” for BDD were 12 weeks in duration and used (or exceeded, for SSRIs) the maximum dose recommended by the manufacturer. In this report, the phrase “at least minimally adequate” refers to trials that were considered either optimal or minimally adequate for BDD. Dose and/or duration information was missing for 30 of 216 SRI trials; these trials were excluded from analyses involving trial adequacy.

Statistical Analysis

Data were analyzed with SPSS Version 11. Means, standard deviations, and frequencies were computed. Between-group

differences were examined using chi-square analysis for categorical variables and analysis of variance for continuous variables. Analyses were two tailed with an alpha level of .05. All analyses are for the 151 subjects who had never been treated in a BDD specialty setting, except for analyses examining the relationship between the adequacy of SRI treatment and BDD improvement or current BDD severity; to increase statistical power, the latter analyses included 49 additional study participants who had ever received any treatment from the first author. Two stepwise multiple logistic regression analyses examined predictors of whether subjects had ever received psychotropic medication and whether they had ever received an SRI specifically.

RESULTS

Of the 151 subjects, 70.2% ($n = 106$) were female, and the mean age was 30.7 ($SD = 11.5$). 91.3% ($n = 136$) were white, 8.7% ($n = 13$) were African American, 7.4% ($n = 11$) were American Indian, 1.3% ($n = 2$) were Asian, and 1.3% ($n = 2$) were Alaskan Native or Native Hawaiian/Pacific Islander (some subjects reported more than one race). 8.5% ($n = 12$) were of Hispanic ethnicity. 66.9% ($n = 101$) of the subjects had never been married, 22.5% ($n = 34$) were married, 9.9% ($n = 15$) were divorced, and 0.7% ($n = 1$) were widowed at the time of the intake assessment. The mean education level was “some college.” The mean age of BDD onset was 16.2 ($SD = 7.1$) years, and the mean duration of BDD was 14.3 ($SD = 11.6$) years. The mean BDD-YBOCS score for the 151 subjects was 29.6 ($SD = 8.4$), indicating that BDD symptoms were, on average, currently moderate to severe. 80.1% ($n = 121$) of subjects were considered to have had delusional BDD beliefs for at least several weeks in a row. The most common comorbid lifetime disorders were major depression (74.2% [$n = 112$]), a substance use disorder (52.3% [$n = 79$]), social phobia (39.1% [$n = 59$]), and obsessive compulsive disorder (OCD) (33.1% [$n = 50$]).

As shown in Table 1, 72.9% ($n = 110$) of the 151 subjects had ever received psychotropic medication. 51.0% ($n = 77$)

Table 1 Pharmacotherapy Received by 151 Individuals with Body Dysmorphic Disorder

Type of Psychotropic Medication	Ever Received % (n)	Currently Received % (n)
Any medication	72.9% (110)	51.0% (77)
Serotonin-reuptake inhibitors	65.6% (99)	30.5% (46)
Non-SRI antidepressant	41.1% (62)	18.5% (28)
Benzodiazepine	27.2% (41)	13.9% (21)
Antipsychotic	17.2% (26)	8.6% (13)
Mood stabilizer	15.2% (23)	8.6% (13)
Bupirone	7.9% (12)	3.3% (5)
Stimulant	5.3% (8)	2.0% (3)
Sedative	3.3% (5)	1.3% (2)
Anti-parkinsonian agent	0.7% (1)	0.0% (0)

were currently receiving psychotropic medication. The most common type of medication ever received was an SRI (65.6% [$n = 99$]), followed by non-SRI antidepressants (41.1% [$n = 62$]) and benzodiazepines (27.2% [$n = 41$]). Among the 110 subjects who had ever taken psychotropic medication, the mean number of medications received was 5.0, $SD = 4.5$ (range = 1–19). Subjects had been treated by an average of 2.9 ($SD = 3.4$) different pharmacotherapists, and the mean number of medication treatment sessions was 37.2, $SD = 54.3$ (range = 1–300). Only 34.4% ($n = 64$) of lifetime SRI trials were considered at least minimally adequate for BDD; 12.9% [$n = 24$] of these trials were considered optimal, and an additional 21.5% [$n = 40$] were considered minimally adequate. Only 12.3% (64 of 521 trials) of *all* lifetime medication trials (SRI and non-SRI medications) were considered at least minimally adequate for BDD; 4.6% [$n = 24$] were considered optimal, and an additional 7.7% [$n = 40$] were considered minimally adequate.

Two logistic regression analyses were conducted to examine predictors of whether subjects received medication or an SRI specifically. Gender, lifetime impairment due to BDD, lifetime delusionality, and comorbid lifetime major depression, OCD, and social phobia were examined. Significantly increased odds of receiving psychotropic medication were associated only with greater lifetime impairment due to BDD (Table 2). Significantly increased odds of receiving an SRI were associated with lifetime OCD and with greater lifetime impairment due to BDD (Table 2).

Subjects reported revealing their BDD symptoms to only 41.0% ($n = 121$) of all pharmacotherapists. Furthermore, according to subject report, only 19.7% ($n = 58$) of all pharmacotherapists focused on BDD symptoms in treatment. This was the case even though 75.3% ($n = 73$) of the subjects who received pharmacotherapy considered BDD their most problematic lifetime disorder (compared to any comorbid disorders).

Past and current SRI trials considered optimal for BDD were associated with greater improvement in BDD symptoms

than non-optimal trials (chi square = 31.3, $df = 1$, $p < .001$). Similarly, past and current SRI trials that were at least minimally adequate for BDD were associated with greater improvement in BDD symptoms than inadequate SRI trials (chi square = 15.8, $df = 1$, $p < .001$). Subjects currently receiving an optimal SRI trial had significantly lower current BDD-YBOCS scores than those currently receiving a non-optimal SRI ($F = 15.4$, $df = 1, 79$, $p < .001$). Similarly, subjects currently receiving at least a minimally adequate SRI trial had significantly lower current BDD-YBOCS scores than those currently receiving an inadequate SRI ($F = 7.9$, $df = 1, 79$, $p = .006$).

DISCUSSION

A relatively high proportion (nearly three quarters) of this broadly ascertained sample had received pharmacotherapy, and the mean number of psychotropic medications received (5.0, $SD = 4.5$) was relatively high. SRIs were most often received, although a majority of SRI trials were considered inadequate for BDD. More adequate SRI trials were associated with greater improvement in BDD, as well as less severe current BDD symptoms. Of note, subjects reported revealing their appearance concerns to fewer than half of all pharmacotherapists.

Previous studies have found that a high proportion of individuals with BDD seek and receive usually ineffective nonpsychiatric treatment—most often, dermatologic and surgical—in an attempt to improve their perceived appearance flaws (4,29). In a study of 250 subjects, 76% had sought such treatment, and 66% had actually received it (29). Findings from the present sample were very similar, with 71% having sought nonpsychiatric medical or surgical treatment, and 64% having received such treatment (30). However, a somewhat higher proportion of this sample (72.9%) received psychotropic medication. This finding is interesting, because most patients with BDD have poor or absent insight, believing that their appearance “defects” are real rather than reflecting body image disturbance or a psychiatric disorder (14,31). Indeed, this may explain why so many patients receive surgery and dermatologic treatment. If most individuals with BDD are convinced or mostly certain that they have actual physical flaws and that their beliefs about their appearance are not attributable to a mental disorder, why do they seek and receive pharmacotherapy? In our clinical experience, some individuals are familiar with the disorder BDD and hope that this diagnosis applies to them (even though they may doubt that it does). Many others seek pharmacotherapy because of BDD’s negative impact on their mood, functioning, and quality of life, from which they are seeking relief. Patients may also seek treatment for comorbid disorders, although 75% of the sample who received pharmacotherapy considered BDD their most problematic lifetime disorder.

It is interesting that lifetime functional impairment due to BDD was the only predictor of whether subjects had ever received pharmacotherapy; in addition, greater lifetime impairment due to BDD and comorbid lifetime OCD predicted whether subjects

Table 2 Predictors of Receiving Pharmacotherapy among 151 Individuals with Body Dysmorphic Disorder

Predictor	Beta	Wald	p	Odds Ratio	95% CI for Odds Ratio
Any Medication					
Lifetime impairment due to BDD ^a	.26	5.3	.02	1.29	1.04–1.61
SRI					
Lifetime impairment due to BDD ^a	.23	4.5	.03	1.25	1.02–1.54
Lifetime OCD ^b	.93	4.6	.03	2.53	1.09–5.88

^aWith each one-point increase on the 9-point BDD impairment scale, the odds of receiving pharmacotherapy increased by 1.29 and the odds of receiving an SRI increased by 1.25.

^bThe odds of receiving an SRI were 2.53 times greater for subjects with OCD than for subjects without OCD.

had ever received an SRI. The OCD finding is consistent with the fact that SRIs are well-established as first-line pharmacotherapy for OCD (16). The finding regarding lifetime impairment due to BDD is consistent with studies of other disorders suggesting that more severely ill individuals are more likely to receive treatment (32,33). In addition, 75% of the sample considered BDD their most problematic lifetime disorder, and pharmacotherapists who were aware of BDD symptoms may have consequently prescribed medication, and an SRI specifically, especially for subjects with more severe BDD, as SRIs are widely recommended as first-line pharmacotherapy for BDD (16–18). However, according to subject report, fewer than half of all pharmacotherapists were even aware of their BDD symptoms, and only 19.7% focused treatment on BDD. From this perspective, it is somewhat puzzling that BDD severity was the only predictor of whether medication was received and also predicted whether subjects received an SRI specifically. However, data on whether pharmacotherapists were aware of BDD or focused on BDD may be affected by recall bias, and it is possible that from the pharmacotherapists' perspective, treatment more often focused on BDD symptoms than subjects perceived (in addition, it was difficult to operationalize the term "focused"). It is also possible that greater BDD severity was associated with receipt of medication, and an SRI specifically, because of the high levels of distress, anxiety, and depressive symptoms that are associated with BDD (34). In this regard, it is worth noting that benzodiazepines were received by a high proportion of the sample (27%), consistent with reports of high anxiety levels in patients with BDD (34,35).

BDD pharmacotherapy efficacy studies, which have focused primarily on SRIs, are still limited (17). Nonetheless, they consistently indicate that SRIs are often efficacious for BDD (17,18). Indeed, SRIs were the most commonly received class of medications in this study. It appears that SRIs are increasingly being prescribed for BDD, although it is difficult to document an increase over time because of notable differences in sample ascertainment methods across studies. Nonetheless, the first systematic report of a broad range of BDD's clinical features (19), published in 1993, found that only 14% of all past medication trials consisted of an SRI (that study did not report the proportion of subjects who had received an SRI). In contrast, in the present study, two thirds of subjects had received an SRI, and a recent psychiatric inpatient study found that all patients with BDD had received an SRI (8). 19.9% ($n = 30$) of subjects in the present study had received venlafaxine, which clinical experience and very preliminary data (36,37) suggest may be efficacious for BDD; the efficacy of serotonin-norepinephrine reuptake inhibitors such as venlafaxine requires investigation.

Although we found that SRIs were the most commonly prescribed medication class, only 34.4% of SRI trials were considered at least minimally adequate for BDD. In addition, only 12.3% of all medication trials (considering all medication types) consisted of recommended first-line pharmacotherapy for BDD (i.e., at least a minimally adequate SRI trial), even though 75% of subjects considered BDD their most problem-

atic lifetime disorder. This finding is consistent with the previously noted recent psychiatric inpatient study, which found that BDD patients had received relatively low mean SRI doses and brief trials (8). The reasons for this under-treatment are unclear. One possible explanation is that fixed-dose medication studies have not been done in BDD, so there is a lack of rigorous empirical support for the view that relatively high SRI doses are needed to effectively treat BDD. However, clinical experience suggests that this is the case (17,37), as do the results from the present study showing that higher SRI doses were associated with greater improvement in BDD. Nonetheless, additional research is needed to examine this important question. Another possible explanation for BDD's under-treatment is that subjects reported revealing their BDD symptoms to fewer than half of pharmacotherapists (for the sample as a whole). Previous studies have found that BDD usually goes undiagnosed in clinical settings. Five studies that assessed BDD in outpatients or inpatients found that in all cases in which BDD was present, BDD was not diagnosed in the patient's medical record (8,19,23–25). In a study from a general psychiatric inpatient setting (8), none of 16 inpatients with BDD had been diagnosed with BDD by their inpatient physician, and all 16 patients stated that they would not raise their symptoms with their physician unless specifically asked due to feelings of shame. Thus, BDD may be under-treated largely because patients are too embarrassed and ashamed to reveal their appearance concerns to their treater.

This study has a number of limitations. Information on pharmacotherapy received was obtained by subject report, and much of it was obtained retrospectively and not confirmed by medical record review. This may have compromised the accuracy of some data, especially for treatment received in the distant past. Also, it cannot be assumed that greater improvement in BDD symptoms, or lesser severity of current BDD symptoms, among subjects receiving at least a minimally adequate SRI trial were attributable to SRI treatment per se, because subjects may have concurrently received additional treatment, treatment was not randomly assigned or controlled, and treatment response was not assessed prospectively. Another limitation is that our study lacked a lifetime measure of BDD severity; nonetheless, our use of lifetime functional impairment due specifically to BDD may reasonably approximate lifetime BDD severity, as BDD appears to often be chronic (3) and because functional impairment is one of BDD's diagnostic criteria in DSM-IV (1). In addition, our sample was a non-epidemiologic sample recruited from the Northeastern United States, and it is unclear how representative it is of individuals with BDD in the general U.S. population or in other countries. Also, 94.7% of the study sample currently met full DSM-IV criteria for BDD, and the study results may not be generalizable to individuals with past, but not current, BDD.

In the meantime, it is important for clinicians to be aware that BDD, a relatively common and often-disabling disorder, appears to often be under-treated. Available data consistently indicate that SRIs are often efficacious for BDD, with response

rates of 53% to 73% (9–13,17,18,37). As suggested by the present study, relatively high SRI doses appear more efficacious than lower SRI doses. Furthermore, SRIs appear more efficacious than other medications as monotherapy (9,14,15). Of interest, SRIs as monotherapy appear to effectively treat delusional BDD, whereas antipsychotics—as either monotherapy or SRI augmentors—do not appear to (14,38,39). Cognitive-behavioral therapy (CBT) has been shown in case series and wait-list controlled studies to be efficacious for BDD (40), and clinical experience suggests that combining CBT with an SRI may be helpful for some patients (37). Clinicians also need to be aware that because patients with BDD may not spontaneously reveal their appearance concerns to their pharmacotherapist, it is important to screen for BDD (for example, by asking patients if they are worried about their appearance) (37). Public education about BDD and its treatment may also increase awareness of BDD and improve the treatment that patients receive.

Future studies are needed to examine pharmacotherapy received by individuals with BDD and to address this study's limitations. In particular, studies are needed that prospectively examine pharmacotherapy received by individuals with BDD in different practice settings and in the community. Additional BDD treatment efficacy research is greatly needed, as such research is still very limited. Needed research includes additional studies of SRIs and other medications, studies that compare different SRI doses, more rigorous CBT studies, SRI and CBT augmentation studies, studies that compare the efficacy of SRIs and CBT, and studies of combined treatment with medication and CBT. Research is also needed to investigate the effectiveness of pharmacotherapy in "real world" settings, as efficacy studies have strict inclusion/exclusion criteria which may limit the generalizability of their findings.

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