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Predictors of Remission From Body Dysmorphic Disorder: A Prospective Study

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Abstract

In the first naturalistic, prospective study of the course of body dysmorphic disorder (BDD), we examined predictors of remission in 161 subjects over 1 year of follow-up. Data were obtained on clinical characteristics at the intake interview and weekly BDD symptom severity over 1 year using the Longitudinal Interval Follow-Up Evaluation. More severe BDD at intake, longer BDD duration, and the presence of a comorbid personality disorder predicted a lower likelihood of partial or full remission from BDD. BDD remission was not predicted by gender; race/ethnicity; socioeconomic status; being an adult versus an adolescent; age of BDD onset; delusionality of BDD symptoms; or the presence at intake of major depression, a substance use disorder, social phobia, obsessive compulsive disorder, or an eating disorder. Receipt of mental health treatment or nonmental health treatment (e.g., surgery, dermatologic treatment) during the follow-up year also did not predict remission from BDD.

Keywords

body dysmorphic disorder; dysmorphophobia; course; predictors

Body dysmorphic disorder (BDD), a distressing or impairing preoccupation with an imagined or slight defect in appearance (e.g., facial scarring or thinning hair), is associated with very poor functioning, markedly poor quality of life, and high rates of suicidal ideation and attempts (Phillips, 2000; Phillips and Diaz, 1997; Veale et al., 1996). Although BDD is relatively common (Bienvenu et al., 2000), this disorder′s course of illness has received very little investigation. To our knowledge, no prospective studies have been done, and only one previous study has examined predictors of course.

That study, a chart review study of 95 patients treated in a BDD specialty practice over 1.7 ± 1.1 (range = 0.5-6.4) years (Phillips et al., In press), found that baseline BDD severity was significantly positively correlated with BDD severity at the most recent clinic visit (r = .34; p = 0.003). Current major depression (r = .33; p = 0.002) and current social phobia (r = .24; p = 0.03) at baseline were also significantly correlated with BDD severity at the most recent assessment. However, this study had a number of limitations, including use of retrospective chart-review methodology, examination of predictors of clinical status only at one time point

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(the most recent clinic visit), and varying follow-up durations for different subjects. In addition, all patients were treated in a BDD specialty program, which may limit the generalizability of the findings.

In the present study, we examined predictors of BDD remission in a prospective naturalistic study of the course of BDD over 1 year. We hypothesized that more severe BDD and current major depression would predict a lower likelihood of remission from BDD, consistent with the chart review study. Although that study did not find an association between degree of delusionality and outcome of BDD (r = -.11; p = 0.44), we hypothesized that BDD′s delusional variant would be associated with a more chronic course of BDD than its nondelusional variant. This hypothesis was based on previous findings suggesting that delusional BDD may be a more severe form of BDD (Phillips et al., 1994), as well as findings on other disorders suggesting that the presence of psychotic features may denote a more severe course of illness (Coryell et al., 1996). We also hypothesized that the presence of a personality disorder would be associated with a more chronic course of BDD, consistent with much of the literature on other Axis I disorders (Grilo et al., 2005; Reich and Vasile, 1993). Although the presence of a personality disorder was not significantly associated with poorer outcome of BDD in the chart review study (r = .22; p = 0.19), power for this analysis was limited because only a subset of the sample (N = 43) was evaluated with a standard and reliable personality disorder measure.

METHODS

Two hundred subjects were enrolled in this single-site, prospective, observational, longitudinal study of DSM-IV BDD. Inclusion criteria were DSM-IV BDD 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. Forty-eight percent of subjects were referred by professionals, and the remainder were self-referred. The study was approved by the hospital Institutional Review Board, and all subjects signed statements of informed consent (assent plus parental consent for adolescents).

Interviews were done by experienced clinical interviewers and were thoroughly clinically and clerically edited by senior staff. The initial comprehensive evaluation used reliable and valid measures, including the Structured Clinical Interview for DSM-IV—Non-Patient Version (SCID-I/NP; Spitzer et al., 1992) to assess Axis I disorders and the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID—II; First et al., 1997). Current socioeconomic status was assessed with the Hollingshead Index (Hollingshead, 1957). The BDD Form, a semistructured instrument (Phillips, Unpublished data) used in other BDD studies(e.g., Phillips and Diaz, 1997; Phillips et al., 1994), obtained data on demographics, BDD′s clinical features (e.g., age at BDD onset, BDD duration), and past and current treatment. BDD severity was assessed with the Yale-Brown Obsessive Compulsive Scale Modified for Body Dysmorphic Disorder (BDD-YBOCS; Phillips et al., 1997) and the Psychiatric Status Rating Scale for Body Dysmorphic Disorder (BDDPSR). Subjects were also assessed with the Brown Assessment of Beliefs Scale, a reliable and valid scale that assessed the current delusionality of BDD beliefs (e.g., that one looks deformed). This scale provides a continuous measure of delusionality and also categorizes individuals as delusional or nondelusional using an empirically derived cutpoint (Eisen et al., 1998).

Follow-up interviews were conducted 1 year after the intake interview using the Longitudinal Interval Follow-Up Evaluation (LIFE) to collect detailed information on course of illness. The LIFE is a reliable and valid semistructured interview and rating system for assessing the longitudinal course of mental disorders (Keller et al., 1987; Warshaw et al., 1994). It obtains information on symptom severity, diagnostic status, and treatment received. The LIFE evaluates course of illness with Psychiatric Status Ratings (PSRs), which are assigned for each

week of follow-up, providing summaries of course and allowing calculation of time to remission. PSRs are disorder-specific, global ratings of disorder severity with cutpoints for full DSM-IV criteria, partial remission, and full remission (Warshaw et al., 1994). The 7-point BDD-PSR has good interrater and test-retest reliability (Phillips, Unpublished data). Using an approach described in Warshaw et al. (1994), Shrout-Fleiss interrater reliabilities for the maximum and minimum PSR values during 8-week periods yielded a mean reliability of .96. The test-retest reliability for the BDD-PSR over 1 year yielded a correlation for maximum BDD-PSRs of 0.79 ($p < 0.0001$) and for minimum BDD-PSRs of 0.78 ($p < 0.0001$). A BDD-PSR of 1 = no symptoms of BDD; 2 = some appearance concerns but no distress or impairment in functioning due to BDD; 3 = some appearance concerns with either mild distress or mildly impaired functioning; 4 = appearance concerns cause both mild distress and mild impairment in functioning; 5 = appearance preoccupations present for at least one hour per day, and cause either moderate distress or moderate functional impairment; 6 = appearance preoccupations cause significant distress and significant functional impairment; and 7 = appearance preoccupations cause severe or extreme distress and functional impairment. *A priori* definitions pertaining to BDD′s course were the following: continuous BDD symptoms = full DSM-IV BDD criteria (PSR of 5-7) over the entire follow-up period; partial remission = less than full criteria (PSR of 3 or 4) for at least 8 consecutive weeks; and full remission = minimal or no BDD symptoms (PSR of 1 or 2) for at least 8 consecutive weeks.

SAS version 8.0 was used for analyses. This report presents data for the 161 subjects who met full DSM-IV BDD criteria at intake ($N = 176$) and also had 1 year of follow-up data (91.5% of the 176 subjects). Means, *SD*s, and frequencies were calculated for intake data and treatment received during 1 year of prospective assessment. Kaplan-Meier life tables were constructed for time to partial or full remission. Cox proportional hazards regression was used to estimate relative hazards for predictor variables (Cox, 1972). For predictor analyses, full and partial remissions were combined because few subjects experienced full remission. The α level was .05.

RESULTS

Of the 161 subjects, 70.2% ($N = 113$) were female, and the mean age at intake was 32.9 ± 12.4. Of the subjects,16.4% ($N = 26$) were members of a minority race, and 7.6% ($N = 12$) were of Hispanic ethnicity; 64.0% ($N = 103$) were single, the mean education level was some college, and36.6% ($N = 59$) were employed full time. The mean age at onset of BDD was 16.3 ± 7.1, and the mean duration of BDD was 16.1 ± 12.6 years.

Subjects had a .09 probability of fully remitting from BDD over 1 year of follow-up, and a .21 probability of partially remitting. Of the 161 subjects, 83.2% ($N = 134$) reported receiving mental health treatment during the year since intake; 64.0% ($N = 103$) received psychotherapy, and77.0% ($N = 124$) received psychotropic medication, most commonly serotonin reuptake inhibitors (SRIs; 55.9%; $N = 90$), non-SRI antidepressants (28.6%; $N = 46$), and benzodiazepines (23.6%; $N = 38$).

More severe BDD symptoms at intake strongly predicted a lower likelihood of partial or full remission from BDD. For every 1-point increase in intake BDD-PSR score (a 7-point scale), the hazard ratio (HR) for remission was reduced substantially (HR = .522; $p = 0.006$), and for every 10-point increase in BDD-YBOCS score (a 48-point scale), the HR was reduced by a factor of .544 ($p = 0.006$). Longer duration of BDD also significantly predicted a lower likelihood of remission; for every additional 10 years that subjects had BDD, the HR declined by a factor of .679 ($p = 0.008$). As predicted, the presence of a comorbid personality disorder also significantly predicted a lower likelihood of BDD remission (HR = .418; $p = 0.009$).

The following variables did not significantly predict a lower likelihood of remission: gender, race/ethnicity, socioeconomic status, being an adult versus an adolescent, age of BDD onset, or delusionality of BDD symptoms. Similarly, the presence of major depression, a substance use disorder, social phobia, obsessive compulsive disorder, or an eating disorder at intake (the most common comorbid disorders) did not significantly predict BDD remission. BDD remission was also not significantly predicted by receiving mental health treatment during the follow-up period, or by receiving non-mental health treatment (e.g., surgery or dermatologic treatment) that was aimed at improving the perceived appearance defects.

DISCUSSION

This study, the first prospective longitudinal study of BDD′s course, found that BDD was unusually chronic. BDD was more chronic than similar studies have found for mood disorders, panic disorder, panic disorder with agoraphobia, generalized anxiety disorder, and even personality disorders (Grilo et al., 2004; Keller et al., 1992, 1993; Shea and Yen, 2003; Yonkers et al., 2003). Greater BDD severity at intake and a longer BDD duration predicted a lower likelihood of remission. It is striking that for every 1-point increase on our 7-point BDD severity measure, which mirrors DSM-IV BDD criteria, the hazard rate for remission dropped by nearly 50%. This finding concurs with results from the only previous study of BDD′s course (a chart review study), which found that baseline BDD severity was significantly correlated with BDD severity at the most recent clinic visit (r = .34; p = 0.003; Phillips et al., In press).

The five most commonly comorbid Axis I disorders did not predict BDD remission, including major depression, contrary to our prediction. However, having a personality disorder significantly predicted a lower likelihood of remitting from BDD, with a large effect size. This finding is inconsistent with results from the previously noted chart review study, although the chart review study had limited power for that particular analysis (Phillips et al., In press), and it did find a small to medium effect size (r = .22). The present study′s finding is consistent with many studies of other Axis I disorders, which have found that the presence of a personality disorder is associated with a lower likelihood of remitting from the Axis I disorder (e.g., Black et al., 1988; Grilo et al., 2005; Massion et al., 2002; Nagy et al., 1989).

It is interesting that the course of delusional subjects did not significantly differ from that of nondelusional subjects. Cross-sectional studies have suggested that these forms of BDD have many more similarities than differences, although delusional patients appear to have poorer functioning and quality of life (Phillips, 2000; Phillips et al., 1994). However, the present study did not find that they had a more malignant course of illness. Subjects who received mental health treatment during the follow-up period were not more likely to remit from BDD than those who did not, although it is unclear to what extent treatment actually targeted BDD symptoms per se. It is interesting that subjects who received nonmental health treatment (e.g., surgery, dermatologic treatment) specifically to improve their perceived appearance defects were not more likely to remit from BDD. This suggests that such treatments may not be efficacious for BDD, although a causal relationship between treatment received and course of illness cannot be established in a naturalistic study such as this. Nonetheless, several studies (including the present study) that have retrospectively examined lifetime receipt of such treatments have similarly suggested that they do not improve BDD (Crerand et al., In press; Phillips et al., 2001; Veale et al., 1996).

This study has several limitations. A majority of subjects received mental health treatment during the follow-up period, making it unclear how generalizable the results are to individuals in the community. In addition, course data were obtained for only 1 year; studies over longer follow-up periods are needed. As the present study continues to accrue data, it will have higher power in the future to detect smaller effects than is presently available. Also, power was not

sufficient to examine a multivariate model to determine which combination of variables best predicts BDD remission. Despite these limitations, these findings suggest that individuals who have more severe BDD, a longer duration of BDD, and a personality disorder may be at risk for more chronic BDD. Such individuals may warrant more intensive treatment. Additional studies are needed to examine further the predictors of the course of BDD, which appears to be an unusually chronic disorder.

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