



Prevalence of Body Dysmorphic Disorder among Patients in a Partial Hospital Program

Soffía Magnúsdóttir

**Lokaverkefni til Cand.Psych.-gráðu
Sálfræðideild
Heilbrigðisvísindasvið**



HÁSKÓLI ÍSLANDS

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ABSTRACT

Body dysmorphic disorder (BDD) is a common disorder that is usually associated with impaired functioning, and high levels of suicidality. The current study is the first to assess prevalence of BDD among patients in a partial hospital program, and compare patients with and without BDD on demographic and clinical variables. Participants were 207 patients with a variety of Axis I diagnoses. Apart from gender and number of diagnoses (patients with current BDD were more likely to be female and to have more diagnoses than patients without current BDD), no significant difference was found at baseline between patients with and without current BDD on demographic and clinical variables. The prevalence of current BDD in the present study was 7.2%, and a diagnosis of BDD did not predict worse treatment outcome in the partial hospital program. Our results indicate that BDD is relatively common among patients in partial hospital programs, and that partial hospital programs may be as beneficial to patients with BDD as other patients.

Key words: Body dysmorphic disorder, prevalence, demographic and clinical characteristics, comorbidity, partial hospital program, treatment outcome.

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Introduction

Body dysmorphic disorder (BDD) is characterized by a distressing and impairing preoccupation with one or more perceived flaws in physical appearance that are not observable or appear slight to others, and by repetitive and often compulsive behaviors (e.g., excessive grooming) in response (American Psychiatric Association, 2013). BDD is relatively common, but underdiagnosed in clinical settings (Conroy et al., 2008). The point prevalence of BDD in the general population has been found to be between 0.4 - 2.7 % (Rief et al., 2006; Koran et al., 2008; Otto et al., 2001; Faravelli et al., 1997). Studies of prevalence of BDD among outpatients have reported a wide range of prevalence rates depending on settings and the populations being assessed. A study by Zimmerman and Mattia (1998) showed that 3.2% of psychiatric outpatients were diagnosed with BDD. Other studies of prevalence of BDD in outpatients have found rates in outpatients with atypical major depression of 14 - 42% (Phillips et al., 1996; Nierenberg et al., 2002) and with obsessive-compulsive disorder (OCD) to range from 13 - 27% (Brawman-Mintzer et al., 1995).

The prevalence of BDD among psychiatric inpatients has been found to be 13.1% (Grant et al., 2001) and 16% (Conroy et al., 2008).

Comorbidity with other disorders is common among patients with BDD, and most have at least one comorbid disorder (Gunstad and Phillips, 2003). One study revealed that outpatients with BDD have more Axis I diagnoses, more social impairment and more severe depression than outpatients without BDD (Zimmerman and Mattia, 1998). In some studies, major depressive disorder has been shown to be the most frequent comorbid disorder, followed by social phobia, OCD and substance abuse disorder respectively (Phillips and Diaz, 1997; Gunstad and Phillips, 2003). Another study revealed that the most frequent comorbid

disorders among patients with BDD were (in the following order) MDD, substance-abuse disorders, personality disorders, social phobia and OCD (Phillips et al., 2005a).

The course of BDD is often chronic without intervention (Phillips et al., 2013; Björnsson et al., 2011). Patients with BDD symptoms often report marked impairment in psychosocial functioning compared to patients with depression, dysthymia, chronic or acute medical disease and among individuals from community samples (Phillips, et al., 2005b). Patients with BDD have also been reported to have high rates of impairment in social, academic and work functioning, and high rates of suicidal ideation and attempts (Phillips, et al., 2005a).

Given that BDD patients are often more severely impaired than other patients, and that BDD is characterized by a cycle of appearance-related obsessions and compulsions in response, some authors (e.g. Wilhelm et al., 2011) have argued that treatment for the disorder needs to specifically target the unique nature of BDD symptoms.

The current study is the first, to our knowledge, that assesses prevalence of BDD in a partial hospital program. Partial hospital programs seek to provide intensive psychiatric treatment, at an intermediate level between inpatient and outpatient care, to patients with severe symptoms (Björgvinsson et al., in press). In this partial hospital program, treatment is usually brief (2 weeks on average), based on a cognitive behavioral approach, with different treatment modalities (although group treatment is primary). Treatment is provided for a variety of disorders, but mainly mood, anxiety, psychotic and personality disorders. A recent treatment outcome study delivered in this particular program, revealed its effectiveness for patients with severe mood disorders, reflected in reduction of self-harm, worry, substance-abuse, emotional lability and depressive symptoms (Björgvinsson et al., in press). Given the frequently-reported severity of BDD symptoms, and association with impaired functioning, suicidality and other variables, we compared patients with current BDD with patients

without BDD diagnosis on a number of demographic and clinical variables. In light of the chronic nature of BDD, and reports that BDD may need treatment specifically targeting BDD symptoms (including a cycle of appearance-related obsessions and compulsions) we examined whether the diagnosis of BDD would predict worse treatment outcome compared to patients without BDD on measures reflecting a broad array of symptoms (including mood and anxiety symptoms), functioning and psychological well-being.

Method

Data were obtained from patients receiving treatment in the Behavioral Health Partial Hospital Program (BHP) at McLean Hospital in New England. Participants were 207 patients (52% female), who were admitted for psychiatric treatment at the BHP. Participants' age ranged from 18 to 70 years; mean age was 33.5 years (SD = 14 years). All participants signed informed consent and the study was approved by the hospital's institutional review board.

The BHP provides cognitive behavior therapy treatment for patients with a wide range of diagnostic categories. The treatment program entails primarily group CBT, provided by a team of psychologists, psychiatrists, occupational therapists, postdoctoral and graduate level psychology trainees and mental health counselors and social workers. Individual treatment plans are also provided, and patients attend five 50 minutes group per day, five days per week. Among group focus topics are behavioral activation, identification and challenging of negative automatic thoughts, mindfulness, self-monitoring, interpersonal skills and psychoeducation, based on empirically supported CBT manuals. Two to three individual CBT sessions were provided for patients in addition to group therapy, by graduate-level psychologists (Björgvinsson et al., in press).

The measures included semi-structured clinical interviews by trained clinicians (at admission) and self-report questionnaires (completed at admission and at discharge). The following measures were used:

The Mini International Neuropsychiatric Interview (MINI) (Sheehan et al., 1998) is a semi-structured diagnostic interview, by which Axis I DSM-IV disorders are assessed. Research has indicated that MINI has good psychometric properties, including good validity and reliability for eliciting symptom criteria for DSM- and ICD-diagnoses, with inter-rater κ (kappas) ranging from .79-1 and test-retest κ s ranging from .35-1 (Sheehan et.al., 1998). In this study, assessors were advanced doctoral students in clinical psychology who received thorough training, including going through administration manuals and completing mock interview with supervision. Assessors received weekly supervision on administering the MINI. Supervision was conducted by a post-doctoral fellow in clinical psychology.

Body Dysmorphic Disorder Diagnostic Module (BDD-DM) (Phillips, 2005c): The BDD-DM, is a brief semi-structured interview, designed to diagnose BDD. The BDD-DM has been found to have good psychometric properties, including high interrater reliability ($\kappa = .96$) (Phillips, 2005). One question, concerning BDD behaviors (such as mirror checking), was added to the BDD-DM for the current study, in collaboration with the author of BDD-DM, Katharine Phillips, in order to diagnose BDD according to the fifth edition of DSM (American Psychiatric Association, 2013). The assessors were all thoroughly trained in the administration of the BDD-DM (modeled on the MINI training) and supervised in the diagnosis of BDD. Assessors determined primary disorder, given diagnoses on the MINI and BDD-DM, which was defined as the disorder (if patients met criteria for more than one) which was most impairing and/or caused the patients the most distress. Patients were also asked to determine which disorder was, in their opinion, primary.

Behavior and Symptom Identification Scale Revised (BASIS-24) (Eisen, Normand, Belanger, Spiro, and Esch, 2004): The BASIS-24 is a self-report questionnaire with 24 items, measuring psychosocial functionality and a broad range of symptoms among mental health service seekers. The BASIS-24 is appropriate for a broad spectrum of problems and symptoms at all care levels. Items are scored on a scale from 0 to 4 with higher scores indicating worse functioning or more severe symptoms (Eisen et al., 2004). The BASIS-24 has been shown to have good psychometric properties. Internal consistency reliability coefficients (Cronbach's alpha) have been found to range from 0.75 - 0.89 for inpatients and from 0.77 – 0.91 for outpatients (Eisen et al., 2004; Idiculla and Eisen, 2012), and the BASIS-24 is correlated with other measures of mental health.

Schwartz Outcome Scale Revised (SOS-R) (Blais et al., 1999) is a 10-item self-report questionnaire which was designed to measure psychological health and well-being and to assess outcome in a broad range of treatments and care levels. Each item is rated on a scale from 0 to 6, total scores ranging from 0-60, with higher scores indicating greater psychological well-being. The SOS-R has been shown to have excellent validity and reliability (Blais, 2012).

Patient Health Questionnaire (PHQ-9) (Kroenke, Spitzer and Williams, 2001) is a self-report questionnaire, which assesses severity of depression on a continuous scale, with nine items. The PHQ covers all DSM-IV criteria for depression, one per item. The items are rated on a scale from 0 to 3 with a total score ranging from 0-27. Higher scores indicate more severe depression. The PHQ-9 has been shown to be a highly reliable and valid measure of depression severity, with Cronbach's alpha ranging from .86-.89 (Kroenke et al., 2001).

Data analysis was conducted by IBM SPSS Statistics, version 21. Frequencies, means, standard deviations and percentages were calculated for demographic and clinical variables.

Chi square analyses and Fisher's exact tests (in instances where number of cells in each crosstable with expected count less than 5, exceeded 20%) were used to assess differences between patients with and without current BDD at intake for categorical variables, and t-tests were used for continuous variables. All significance tests were two-sided, with the alpha level at .05. In order to assess whether the diagnosis of BDD predicted worse treatment outcome, we ran three separate multivariate regression analyses with BDD diagnosis as the independent variable; symptoms or psychological well-being at admission (as measured by PHQ-9, BASIS-24 or SOS-R), gender and number of diagnoses on axis I (as measured by the MINI and BDD-DM) as co-variables, and symptoms or psychological well-being (as measured by PHQ-9, BASIS-24 or SOS-R) at discharge as the dependent variable. Missing data were relatively minor; 10,1% for BASIS-24, 16,4% for SOS-10 and 17,9% for PHQ-9, and formal procedures were deemed unnecessary to address them.

Results

Prevalence of current BDD was 7.2% (15 patients met DSM-5 criteria for current BDD). Prevalence of past BDD was 7.7% (16 patients met criteria for past BDD). Taken together, 19 patients (9.1 %) met criteria for BDD at some point in their lives. One of these patients had BDD as a primary diagnosis.

Of patients with current BDD (n=15), major depressive disorder (MDD) was the most frequent primary diagnosis (46.7%), followed by generalized anxiety disorder (GAD) (20%). Among patients without current BDD (n=191), MDD was also the most frequent primary diagnosis (54.7%), followed by bipolar disorder (9.4%), psychotic disorder (7.8%) and GAD (6.8%).

Demographic and clinical characteristics of patients with and without current BDD are shown in Table 1. The only differences found at admission to the program between patients with and without BDD were for gender and number of diagnoses, with patients with current BDD being more likely to be female (80% compared to 50%; $\chi^2 = 5.02$, $p = 0.03$) and to have a greater number of diagnoses than those without current BDD ($t = 4.02$, $p = 0.00$). The most common comorbid diagnoses for patients with current BDD were MDD current (46.7%), GAD (46.7%) and generalized social phobia (40%). Among patients without current BDD, the most common comorbid diagnoses were MDD current (49%), generalized social phobia (25.5%) and bipolar disorder (24,5%).

The regression analyses revealed that BDD diagnosis was not a predictor of treatment outcome on SOS-R, BASIS-24 and PHQ-9 in the current sample (see Table 2).

Discussion

Prevalence of current BDD was 7.2% in the current sample, which indicates that BDD may be relatively common among patients in partial hospital programs. This rate is higher than in studies of prevalence in the general population (0.4-2.7 %) (Rief et al., 2006; Koran et al., 2008; Otto et al., 2001; Faravelli et al., 1997). The rate is lower than rates in most outpatient samples. Of patients with atypical major depression, 14-42% have been reported to have BDD (Phillips et al., 1996; Nierenberg et al., 2002) and 13-27% of outpatients with OCD have been reported to have BDD (Brawman-Mintzer et al., 1995). The rate is also lower than in inpatient samples, where the rate is 13-16% (Grant et al., 2001; Conroy et al., 2008).

In our sample, major depressive disorder was the most frequent primary diagnosis for both patients with and without current BDD, which is in concordance with earlier findings of

BDD patients (Phillips and Diaz, 1997; Gunstad and Phillips, 2003; Phillips et al., 2005a), and was to be expected given the clinical profile of the partial hospital program population.

BDD patients were more likely to be female and to have a greater number of diagnoses than patients without current BDD. These were the only differences in demographic and clinical characteristics between patients with and without current BDD upon admission. These findings are in part surprising, since previous studies have found that patients with BDD often have more severe impairment on a number of demographic and clinical variables compared to other patients (see e.g. Phillips et al., 2005 b). However, this overall finding could be explained, in part, by the fact that partial hospital programs such as the present one is aimed at patients with severe mood and anxiety disorders, and the overall sample is characterized by severe psychopathology and impairment in functioning (Björgvinsson et al., in press). In addition, it should be noted that most patients with BDD had a different primary diagnosis.

The regression analyses, across different measures of symptoms and psychological well-being, indicate that a diagnosis of BDD does not predict worse treatment outcome for patients in this partial hospital program. This suggests that treatment in this program may be equally beneficial to both patients with and without current BDD, and that this particular treatment program (which emphasizes CBT) may not need to be tailored more specifically to patients with BDD. However, it should be kept in mind that the present study did not measure reduction in BDD symptoms at discharge specifically. More research is needed on the prevalence of BDD, and treatment response for this population in partial hospital programs, and it is premature to make suggestions about clinical implications.

Limitations of our study include a small sample size (n=207). Within the sample, only 15 patients met DSM-5 criteria for current BDD, contributing to lack of power for statistical inference. For example, patients with current BDD in our sample had higher rates of social anxiety disorder (40% vs. 25.5%), OCD (26.7% vs. 11.5%) and generalized anxiety disorder (46.7% vs. 22.4%) than non-BDD patients, which may have been statistically significant in a larger sample.

Conclusions: Our results indicate that BDD may be relatively common among patients in partial hospital programs, but probably not as common as among outpatients and inpatients. Current BDD diagnosis was not found to predict treatment outcome in this partial hospital program. However, BDD symptom reduction was not assessed in this study, and further research is needed on both the prevalence of BDD and treatment response of BDD patients in partial hospital programs before clinical implications are suggested.

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Table 1. Demographic and clinical characteristics of patients at admission with and without current BDD

Variables ^a	With current BDD (n=15) ^b	Without current BDD (n=192) ^b	Chi square or t- value	p	Effect size ^d
Demographic variables					
Age (M +/- SD)	26.73 (+/-7.55)	34.06(+/- 14.26)	1.96	.05	.64
Gender (% female)	12 (80%)	96 (50%)	5.02	.03	.16
Race (non-hispanic white %)	13 (86.7%)	175 (91.1%)	* ^c	.63	.04
Living alone (%)	1 (6.7%)	32 (16.7%)	* ^c	.12	.17
Living in an apartment or house (past 30 days %)	15 (100%)	179 (93.2%)	* ^c	1	.07
Disability (% with)	0 (0%)	30 (30.9%)	* ^c	.32	.15
Physical health (% rated poor)	2 (13.3%)	23 (12%)	* ^c	.17	.15
Homeless (ever) (%)	0 (0.0%)	9 (4.7%)	* ^c	1	.06
Education (% college graduate or more)	8 (53.3%)	99 (51.6%)	* ^c	1	.02
Employment (% in past 30 days)	10 (66.7%)	95 (49.5%)	1.64	.20	.09
Married or living with partner (%)	1 (6.7%)	50 (26%)	* ^c	.13	.17
Hospitalized in a psychiatric program (last 6 months)(%)	5 (33.3%)	93 (48.4%)	1.27	.26	.08
Comorbidity (MINI)					
MDD current	7 (46,7%)	94 (49%)	* ^c	.75	.04
Bipolar disorder	3 (20%)	47 (24,5%)	* ^c	1	.03
Psychotic disorder current	0 (0.0%)	14 (7.3%)	* ^c	.60	.08
Panic disorder current	5 (33.3%)	43 (22.4%)	* ^c	.35	.07
Agoraphobia current	5 (33.3%)	36 (18.8%)	* ^c	.18	.1
Gen.social phobia current	6 (40%)	49 (25.5%)	* ^c	.23	.09
Nongen.social phobia current	0 (0.0%)	10 (5.2%)	* ^c	1	.06
OCD current	4 (26.7%)	22 (11.5%)	* ^c	.10	.12
GAD current	7 (46.7%)	43 (22.4%)	* ^c	.06	.15
PTSD current	3 (20%)	28 (14.6%)	* ^c	.48	.04
Anorexia nervosa restr. current	0 (0.0%)	0 (0.0%)	-	-	-
Anorexia nervosa binge/purge type	0 (0.0%)	1 (0.5%)	* ^c	1	.02
Bulimia nervosa current	2 (13.3%)	5 (2.6%)	* ^c	.08	.15
Alcohol dependence (current)	1 (6.7%)	22 (11.5%)	* ^c	1	.04
Number of MINI diagnoses (M +/- SD)	3.87 (2.2)	2.2 (1.45)	4.07	.00	.89
Other clinical characteristics					
MINI high suicidality (%)	5 (33%)	66 (34.4%)	.01	.91	.01
PHQ-9 (M +/- SD)	15.33 (+/- 5.83)	14.83 (+/-6.44)	.29	.77	.08
SOS-10 (M +/- SD)	19.6 (+/- 10.67)	22.37 (+/-11.94)	.87	.39	.24
BASIS - 24 (M +/- SD)	1.83 (+/-0.57)	1.66 (+/-0.64)	.98	.33	.28

^a Results in the table are presented as n(%) or mean +/- standard deviation

^b n varies in some of the variables

^c Fisher's exact test

^d Effect sizes are presented as Cramer's V for chi square analyses and as Cohen's d for t tests.

Table 2. Regressions with predictors for outcome variables SOS-R, BASIS-24 and PHQ-9.

	Slope (B)	Standard error	Beta	t	p
Regression 1 (SOS-R)					
Constant	18.35	2.53		7.26	0.00
SOS-R (baseline)*	0.61	0.07	0.58	8.36	0.00
Number of diagnoses*	0.93	0.55	0.12	1.68	0.09
BDD current (diagnosis)	3.05	3.12	0.07	0.98	0.33
Gender*	-4.64	1.57	-0.2	-2.95	0.00
Regression 2 (BASIS-24)					
Constant	0.29	0.12		2.34	0.02
BASIS-24 (baseline)*	0.44	0.06	0.49	6.86	0.00
Number of diagnoses*	0.05	0.03	0.15	2.03	0.04
BDD current (diagnosis)	-0.12	0.14	-0.06	-0.84	0.41
Gender*	0.12	0.08	0.11	1.62	0.11
Regression 3 (PHQ-9)					
Constant	0.98	1.15		0.85	0.39
PHQ-9 (baseline)*	0.56	0.06	0.59	8.59	0.00
Number of diagnoses*	0.28	0.27	0.07	1.05	0.3
BDD current (diagnosis)	-2.11	1.48	-0.09	-1.43	0.16
Gender*	0.39	0.75	0.03	0.52	0.6

*=Covariates in the model.

