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Clinical and subclinical body dysmorphic disorder

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Abstract *Background* The aim of the study was to define the main demographic and clinical characteristics of Body Dysmorphic Disorder (BDD) and subclinical BDD (sBDD) in a sample derived by a screening survey done on a population of individuals referring to aesthetical medicine centers. *Method* 487 subjects referring to hospital centers for aesthetical medicine were administered the SCID-I and the Yale-Brown Obsessive-Compulsive Scale adapted for BDD (BDD-YBOCS). The sample was thus sub-divided in three sub-samples: 1) BDD, 2) sub-clinical BDD, and 3) controls. The main demographic and clinical variables were considered and compared between the BDD and the sBDD samples. *Results* As previously reported, the prevalence of BDD and sBDD was 6.3 % and 18.4 %, respectively. The most frequent comorbid diagnosis in both BDD and sBDD patients and their relatives was Obsessive-Compulsive Disorder (OCD). A higher severity of symptoms was found in male BDD patients, while no gender-related differences were found in the sBDD group. Suicidal ideation was found in 12.1 % of the sBDD and in 49.7 % of the BDD patients. *Conclusions* These results support the hypothesis of BDD and sBDD belonging to the OCD spectrum, and appear to advise long-term follow-up studies on the course and the prognosis of sBDD.

Key words Body dysmorphic disorder · Subclinical body dysmorphic disorder · Comorbidity · Family history · Suicidal ideation

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Introduction

Body Dysmorphic Disorder (BDD) is a psychiatric condition characterized by the presence of preoccupation about an imagined or exaggerated physical anomaly (American Psychiatric Association, 1994). In patients with BDD any aspect of the appearance can be the focus of concern. The preoccupation about the appearance could induce recurrent mirror checking or other repetitive or ritualized behaviors, as well as avoidance of usual activities. As a consequence, BDD induces a significant impairment of social and occupational functioning. The course of the illness could be complicated by the occurrence of secondary depressive symptoms, suicidal ideation and suicide attempts (Phillips et al, 1993; Hollander et al, 1993; Phillips et al, 1994).

The estimation of the exact prevalence of BDD appears to be a difficult task for at least two reasons. First, it is unlikely that patients with BDD primarily refer to psychiatrists. They are more likely to refer to dermatology clinics or aesthetical medicine centers, especially when the insight for BDD symptoms is poor. Second, the rate of subclinical conditions (i. e. conditions in which the "core" symptoms of BDD are present but are not inducing a significant impairment in functioning) has been suggested to be quite high (Zimmerman and Mattia, 1998). The prevalence of BDD in psychiatric populations has been estimated around 3 % (Zimmerman and Mattia, 1998), with a high rate of comorbidity with other psychiatric disorders, mainly anxiety disorders (Brawman-Mintzer et al, 1995; Veale et al, 1996a).

One epidemiological catchment area survey of somatoform disorders (including BDD) in an Italian pop-

ulation has estimated the prevalence of BDD to be about 1 % in the general population (Faravelli et al, 1997).

Several studies have investigated the relationships between BDD and Obsessive-Compulsive Disorder (OCD). Some of them have reported a prevalence of comorbid BDD in OCD patients of 12–14.5 %, as well as clear clinical similarities between the two conditions (Simeon et al, 1995; Phillips et al, 1998a). There are several data supporting the hypothesis of BDD belonging to the "Obsessive-Compulsive spectrum". These data have been primarily derived from the observation of psychopathological similarities, being both BDD and OCD characterized by the presence of intrusive and recurrent thoughts, repetitive behaviors and avoidance behaviors (Phillips and Hollander, 1996). Moreover, recent pharmacological trials have shown that some serotonin reuptake inhibitors (e. g. fluvoxamine and clomipramine) currently used as antiobsessional agents are effective in the treatment of BDD (Phillips et al, 1998b; Hollander et al, 1999).

The primary aim of the current study was to define and compare the main demographic and clinical characteristics of BDD and sBDD patients in a sample derived by a screening survey done on a specific non-psychiatric population (i. e., a population of subjects referring to aesthetical medicine centers).

Methods

Sampling

The sample was recruited from consecutive referrals to 8 different hospital centers for aesthetical medicine in Sardinia (Italy) for consultation and/or surgery. Of the subjects contacted 87 % gave their informed consent to participate in the screening procedures and, thus, were included in the study.

Assessment

All subjects underwent a structured interview for DSM-IV (SCID-I) and the version of the Yale-Brown Obsessive-Compulsive Scale adapted for BDD (BDD-Y-BOCS) (Phillips et al, 1997). Both the rating instruments were administered by two psychiatrists specifically trained in the use of the instruments. Interrater reliability sessions were held regularly.

According to the results of this assessment we classified subjects as: 1) affected by BDD (i. e. fulfilling the DSM-IV criteria for the disease, including the one regarding the presence of minimal or nonexistent physical defect), 2) affected by subclinical BDD (sBDD) [without a DSM-IV diagnosis of BDD but with a total score at the BDD-YBOCS ≥ 8 and ≤ 11], and 3) controls (without BDD, sBDD or other DSM-IV diagnoses). Subjects who, during the screening, were found to fulfill the diagnostic criteria for any other DSM-IV Axis I diagnoses were deliberately excluded from the study.

The total sample, including BDD, sBDD, and controls comprised 478 subjects (364 women, 114 men).

The main demographic (gender, age at the time of the assessment) and clinical variables (age at onset of BDD or sBDD, comorbid Axis I diagnoses, severity of symptoms, nature of the most common complaints about the body appearance), together with the family history (FH) for psychiatric disorders according to DSM-IV criteria, were collected in all groups.

Statistics

The means of the main demographic and clinical variables collected were computed in every group and compared among BDD, sBDD, and normal controls. Student's t-test or one-way ANOVA were used for the continuous variables while chi-square test or z-tests were used for dichotomous variables and proportion comparisons.

Results

In the specific population of 478 subjects we studied, the prevalence of BDD was 6.3 % (N=30, 4 men and 26 women) while the prevalence of sBDD was 18.4 % (N=88, 17 men and 71 women). The preliminary results from this screening have been reported elsewhere (Altamura et al, 1999).

In Table 1 the main demographic and clinical variables for the three groups of subjects (BDD, sBDD, and controls) are shown. None of the variables considered were different between sexes; however, the BDD-YBOCS scores were higher in males (32.7 ± 2.2sd) than in females (27.4 ± 3.6sd) ($t=2.838$, $p < .05$) in the BDD group. The age at the time of the assessment was signifcantly lower in BDD and sBDD subjects than in controls, and higher in BDD than in sBDD patients (one-way ANOVA: $F=18.98$, $p < .0001$). The lifetime comorbidity data are shown in Table 2. No differences were found between the BDD and sBDD groups.

Family history (FH) data were significantly different between the BDD and the sBDD groups (Table 3) and between BDD+sBDD and controls. Overall, BDD patients showed higher rates of positive FH for OCD, Somatoform Disorder (SD), Eating Disorders (ED), Social Phobia (SPh), and BDD (Table 3). To determine whether the

Tab. 1 Demographic and clinical characteristics of the two samples

	sBDD (N=30)	BDD (N=88)	CONTROLS (N=360)
Gender	4 M, 26 F	17 M, 71 F	97 M, 273 F
Age at the time of assessment	25.8 (9.0)	28.5 (2.3)	34.2 (12.7)*
Age at onset	17.0 (4.0)	16.9 (3.6)	–
BDD-YBOCS total score	29.5 (3.5)	9.8 (1.2)**	–

Note: SD are shown in parentheses.
* One-way ANOVA: $F=18.98$, $p < .0001$
** Student's t-test: $t= 45.782$, $p < .0001$

Tab. 2 Lifetime comorbid axis I diagnoses in BDD and sBDD patients

	BDD (N=30) N/%	sBDD (N=88) N/%	Chi-square, p
MD	9/30.3	14/15.5	1.187, ns
OCD	13/43.3	20/22.4	1.833, ns
SD	9/30.3	14/15.5	1.187, ns
ED	11/36.6	29/32.9	0.003, ns
SPh	6/20.0	8/9.1	1.139, ns

MD Mood Disorders; *OCD* Obsessive-Compulsive Disorder; *SD* Somatoform Disorder; *ED* Eating Disorders; *SPh* Social Phobia.

Tab. 3 Family history for psychiatric disorders in BDD, sBDD and controls

	BDD (N=30) N[1]/%	SBDD (N=88) N[1]/%	Statistics[2] Z score, p	BDD+SBDD (N=118) N[1]/%	CONTROLS (360) N[1]/%	Statistics[3] Z score, p
MD	3/10.0	16/18.1	0.744, 0.457	19/16.1	50/12.6	0.667, > 0.50
OCD	16/53.3	24/27.3	**2.380, < 0.02**	40/33.9	20/5.5	**7.954, < 0.0001**
SD	15/50.0	23/26.1	**2.205, < 0.03**	38/32.2	15/4.0	**8.340, < 0.0001**
ED	19/63.3	14/15.9	**4.780, < 0.0001**	33/27.9	9/2.5	**8.278, < 0.0001**
BDD	18/60.0	14/15.9	**4.440, < 0.0001**	32/27.1	9/2.5	**8.094, < 0.0001**
SPh	9/30.0	10/11.3	**2.172, < 0.04**	19/16.1	12/3.3	**4.693, < 0.0001**

[1]Number of subjects with a positive FH for the disorders listed (the total exceeds 100 % because of multiple diagnosis); [2]BDD vs sBDD; [3]BDD+sBDD vs controls.
MD Mood Disorders; *OCD* Obsessive-Compulsive Disorder; *SD* Somatoform Disorder; *ED* Eating Disorders; *SPh* Social Phobia

presence of a comorbid diagnosis of OCD affected the probability of also having a positive FH for OCD, we considered the FH data in patients with and without comorbid OCD separately; some differences were identified. In the sBDD group there were 30 patients with comorbid OCD with 18 of them also having a positive FH for OCD, and 58 patients without comorbid OCD, with 6 of them having also a positive FH for OCD (chi-square=22.140, df=1, $p < .0001$). In the BDD group there were 25 patients with comorbid OCD, with 13 of them also having a positive FH for OCD, and 5 patients without comorbid OCD with 3 of them having a positive FH for OCD (chi-square=0.027, df=1, p=ns).

The presence of suicidal ideation (as assessed by the SCID-I) was also considered. This was significantly high in both BDD and sBDD patients, but more frequent in BDD (49.7 %) than in sBDD patients (12.1 %) (chi-square=30.776, df=1, $p < .0001$).

No significant differences were found between BDD and sBDD patients considering the most common complaints about body appearance. They were mainly about face (32.7 % and 34.2 %), nose (15 % and 16.9 %), genitals (14.8 % and 17.7 %), hair (12.5 % and 15.9 %), legs (12 % and 13.2 %), abdomen (7 % and 8 %), breast (6.5 % and 7.1 %), hands (6.5 % and 7 %), feet (6.1 % and 6.3 %), height (4.5 % and 4.6 %), and lips (4 % and 4.5 %). No significant differences were found in comparison to controls, who referred to the aesthetical medicine centers reporting the same body areas of concern.

Discussion

To our knowledge this is the first study investigating similarities and differences between BDD and sBDD. The prevalence of the two conditions has been estimated, in this study, in a non-psychiatric population of patients referring to hospital centers for aesthetic medicine. As a consequence, the prevalence estimates for BDD and sBDD that we report cannot be considered representative of the prevalence in the general population of the two conditions. We have chosen this peculiar sample because of the nature of the disease to be studied. Patients with BDD usually have a poor insight for their illness and, as a consequence, they are more likely to primarily refer to dermatology clinics or aesthetical medicine centers than to psychiatric services.

At least two other studies on BDD have been conducted on similar selected populations. One of these showed a prevalence of 5 % among women requesting aesthetic surgery procedures (Sarwer et al, 1998). This prevalence is similar to that found in our study (6.3 %). The second study (Phillips et al, 2000) was done employing a self-administered questionnaire in a sample of patients seeking dermatologic treatment. The prevalence of BDD in this specific was estimated as high as 11.9 %, higher than that found in our sample of patients referring to aesthetic medicine centers. This difference may be explained by either the difference in the assessment measures employed or by differences in the populations studied. According to Phillips et al. (2000), dermatologists are the physicians that are most often visited by BDD patients.

The results from our study show that sBDD as well as BDD are frequently accompanied by a lifetime diagnosis of OCD (approximately 22 % and 40 %, respectively). This finding, together with the findings on significantly higher rates of positive FH for OCD in both sBDD and BDD patients in comparison to controls, appears to confirm the strong relationship between BDD and OCD. This relationship has been already suggested by several studies, referring to BDD as to an "OCD-spectrum disorder" (Hollander et al, 1993). In addition, recent results from a family study have pointed out that BDD and eating disorders (also found with high prevalence in relatives of our subjects with BDD and sBDD) can be part of the familial OCD spectrum (Bienvenu et al, 2000). The finding of higher rates of positive FH for eating disorders, somatoform disorder, and BDD, in BDD and sBDD subjects in comparison to controls, is also suggestive of the presence of an "OCD-spectrum", as already pointed out in other studies (Hollander et al, 1993; Hollander & Benzaquen, 1997; Bienvenu et al, 2000).

Another important finding of this study is the one regarding the presence of suicidal ideation. Almost half of the BDD patients and 12 % of the sBDD patients reported lifetime suicidal ideation. Suicidal ideation and suicidal attempts have already been identified as common complications of the course of BDD (Phillips et al,

1993, 1994), but the prevalence of these symptoms in sBDD has never been estimated.

Some limitations of this study should be discussed. First, there are no methods published to define sBDD. We have included in this category subjects with BDD symptoms who do not fulfill the DSM-IV criteria for the diagnosis of BDD, including the functional impairment criterion and the degree of severity of and distress related to the symptoms. To detect symptoms and assess their severity we employed a semi-quantitative measure based on the scores of the BDD-YBOCS (Phillips et al, 1997). The BDD-YBOCS is reliable and valid 12-items semi-structured instrument designed to quantify the severity of BDD symptoms (Phillips et al, 1997). Since on this scale a score ≥ 12 is considered indicative of BDD, we have arbitrarily decided to use a BDD-YBOCS total score ≥ 8 and ≤ 11 as suggestive of sBDD. This procedure, even though not yet validated, allowed us to identify and study a population usually underestimated. Second, our samples of BDD and sBDD patients are affected by a higher prevalence of women. Data about gender-related differences in BDD are not conclusive. According to some authors there are no differences in the prevalence of BDD between men and women (Phillips et al, 1993, 1994), while others have pointed out a higher prevalence in women (Veale et al, 1996b). In any case, in both the samples we studied (BDD and sBDD patients) women were more represented and, thus, the possible bias should have been balanced between the two groups. Furthermore, the finding of higher severity of BDD symptoms in male BDD patients needs further replication.

The third limitation is relative to the assessment of the FH data. FH data were obtained in most cases from the probands, and not via a direct interview of family members, the interviewers were not blind to the diagnoses of the subjects interviewed and a non-structured interview based on DSM-IV criteria was used.

The last limitation to be considered is the relatively small sample sizes, which advise to consider these results as preliminary.

In conclusion, despite all the possible limitations, this study has identified some of the clinical characteristics of a condition that usually is underestimated, as sBDD is. Our findings appear to support the hypothesis that BDD and sBDD belong to the OCD spectrum. The implications of this hypothesis are fundamental for both the pathogenesis and the treatment strategies for this disease.

Follow-up studies on the long-term outcome of BDD and sBDD are strongly suggested. Our study was designed to be a cross-sectional screening for BDD and sBDD in a specific population of subjects referring to aesthetic medicine centers. As a consequence, we do not have outcome ratings available for either BDD or sBDD.

In future follow-up studies sBDD, which has been considered a less severe form of BDD, appears to deserve particular attention, given that, as well as BDD, it could be complicated by complex comorbidity and suicidal ideation.

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