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Prevalence of body dysmorphic disorder on a psychiatric inpatient ward and the value of a screening question

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ABSTRACT

The aim of this study was to estimate the prevalence of body dysmorphic disorder (BDD) on an inpatient ward in the UK with a larger sample than previously studied and to investigate the value of a simple screening question during an assessment interview. Four hundred and thirty two consecutive admissions were screened for BDD on an adult psychiatric ward over a period of 13 months. Those who screened positive had a structured diagnostic interview for BDD. The prevalence of BDD was estimated to be 5.8% (C.I. 3.6–8.1%). Our screening question had a slightly low specificity (76.6%) for detecting BDD. The strength of this study was a larger sample size and narrower confidence interval than previous studies. The study adds to previous observations that BDD is poorly identified in psychiatric inpatients. BDD was identified predominantly in those presenting with depression, substance misuse or an anxiety disorder. The screening question could be improved by excluding those with weight or shape concerns. Missing the diagnosis is likely to lead to inappropriate treatment.

1. Introduction

Body dysmorphic disorder (BDD) is characterised by a preoccupation with a perceived defect(s) or flaw(s) in physical appearance that is either not noticeable or appears only slight to others. In addition, to fulfil the diagnostic criteria the preoccupation must be significantly distressing or cause impairment in social, occupational or other important areas of functioning. BDD is now classified within the obsessive compulsive and related disorders (OCRD) section of the Diagnostic and Statistical Manual of mental disorders 5th Edition (DSM5) (American Psychiatric Association, 2013) and it is proposed to include the diagnosis in the same section of the revised version of International Classification of Diseases (ICD-11) (Veale and Matsunaga, 2014). BDD is more common than previously recognised with a prevalence of about 2% in the general population (Koran et al., 2008; Rief et al., 2006). It may be a chronic disorder, which persists for many years if left untreated (Phillips et al., 2005b). There is a high rate of psychiatric hospitalisation, suicidal ideation and completed suicide (Phillips et al., 2005a; Phillips and Menard, 2006; Veale et al., 1996a). In addition, many resources are wasted on those who attend dermatological and cosmetic surgery settings (Phillips et al., 2000; Sarwer et al., 1998; Veale et al., 2003). One setting where there may be a higher prevalence of BDD than there is in the community is psychiatric inpatients. There have been two previous studies in the USA where the prevalence rate on an adult ward was reported as between 11 and 12.9% (Conroy et al., 2008; Grant et al., 2001). However a subsequent study in Germany found a much lower prevalence rate of 1.9% (Kollei et al., 2011). One inpatient study has been conducted on an adolescent psychiatric unit, which found a prevalence of 4.8% (C.I=3.3–10.1%) in 208 patients who had definite BDD (Dyl et al., 2006). What was striking in all these studies is that virtually all the patients identified as having BDD had not disclosed their symptoms to the treating psychiatrist. A self-report BDD screening questionnaire was used in Conroy et al. (2008) and Grant et al. (2001) but screening questionnaires are rarely adopted in routine clinical practise. We therefore decided to evaluate the usefulness of a single screening question that could be incorporated into a standard history taking by a psychiatrist.

The aim of this study was therefore to determine (a) the prevalence rate of BDD in an inpatient setting in the UK, (b) how BDD presents in an in-patient setting and (c) the value of a screening question to detect BDD; and (d) to explore the reasons for non-disclosure of symptoms by patients.

2. Methods

2.1. Subjects and setting

Four hundred and eighty two patients admitted to an adult ward over a period of 13 months. The study took place in the

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inpatient ward of a private psychiatric hospital in the UK. In this setting, most patients are funded privately or by their insurer. Some are funded by the state, National Health Service, usually when there are no acute beds available in the local service.

2.1.1. Inclusion

All consecutive patients admitted to the adult ward to either (i) a general adult psychiatry service ($n=285$) or (ii) an alcohol rehabilitation unit ($n=147$). Patients with anorexia nervosa are not generally admitted, as there is no formal eating disorder program.

2.1.2. Exclusion

(i) Patients admitted to a national specialist service for severe treatment refractory BDD (Drummond et al., 2008),
(ii) repeat admissions, who had already been screened.

2.2. Procedure

After their routine intake diagnostic assessment by the consultant and staff psychiatrist on admission, all patients were asked by a different staff psychiatrist, experienced in the diagnosis and management of BDD with the following screening question for BDD which is modified from Phillips (2005): "*Some people worry a lot about their appearance. Do you worry a lot about the way you look and wish you could think about it less?*" If they answered yes (and there was no obvious deformity or disfigurement), the BDD Diagnostic module was then used from the Structured Clinical Interview for DSM-IV disorders (SCID) (First et al., 1995) and the patient consented to participate in the study. Other diagnoses such as anorexia nervosa or bulimia nervosa, were exclude with the SCID whenever the interviewer had any suspicion of another disorder accounting for the symptoms of BDD. DSM-IV was used as the study began before the publication of DSM-5 (American Psychiatric Association, 2013). The main feature of concern was identified and if a diagnosis of BDD was made, an interview was conducted to determine what prevented the individual from voluntarily reporting the symptoms in their history to their treating psychiatrist. The case was then discussed with the admitting psychiatrist and the case notes were reviewed to determine if any other diagnosis was more appropriate. Ethical permission was granted by East London Research Ethics Committee (reference 10/H0704/71).

2.3. Statistical Analysis

Because the focus of this paper was on an adult setting, we removed the data on adolescents ($n=21$) from the study by Grant et al. (2001) in order to compare prevalence across different settings (Table 1).

3. Results

Of the 482 patients admitted to the inpatient ward, seven (1.5%) were excluded as they were a planned admission on the specialist service for severe treatment refractory BDD. Forty-three patients (8.9%) were excluded as a result of being a repeat admission. This left a cohort of 432 patients, in whom the screening question was asked.

3.1. Screening question

Answering "yes" to the screening question was a false positive in 95 out of the 432 (22%). Of these, 67 patients had body weight or shape concerns but did not fulfil criteria for BDD or for anorexia nervosa or bulimia nervosa. The remaining 28 out of the 95 had other concerns such as worries about their face or appearance in general but did not fulfil criteria for BDD. The specificity of the screening question was therefore 76.6% (C.I 72.2–80.7%).

In the cohort of 432 patients, twenty-five (5.8%, CI 3.6–8.1) were identified at a diagnostic interview as having BDD. The demographic details and diagnoses of all the patients admitted on the ward are provided in Table 1 and compared against three previous studies in adult inpatient settings.

Table 1
Characteristics of four inpatient psychiatric samples assessing BDD prevalence. All values unless indicated refer to *N* (%).

	Present study	Kollei et al. (2011)	Conroy et al. (2008)	Grant et al. (2001)
Country	England	Germany	USA	USA
Sample size	432	155	100	101
Current BDD	25 (5.8%)	3 (1.9%)	11 (11%)	13 (12.9%)
95% C.I.	3.6–8.1%	0.4–5.8%	5.2–17.4%	6.3–19.1%
Lifetime BDD	–	4 (2.6)	16 (16.0)	–
95% C.I.	–	0.1–5.1%	8.7–23.3%	–
Age, years, mean (*SD*)	40.4 (14.3)	39.3 (13.6)	39.5 (12.7)	38.4 (10.1)
Age range	17–80			
Female	224 (51.9)	95 (61.3)	67 (67.0)	65 (53.3)
Diagnoses:				
Psychotic disorder	18 (4.2)	12 (7.7)	15 (15.0)	20 (16.4)
Mood disorder	186 (43.0)	69 (44.5)	76 (76.0)	92 (75.4)
Substance use disorder	162 (37.5)	16 (10.3)	2 (2.0)	62 (50.8)
Anxiety disorder	49 (11.3)	25 (16.1)	3 (3.0)	6 (4.9)
Somatoform disorder	0 (0.0)	3 (1.9)	0 (0.0)	1 (0.8)
Eating disorder	2 (0.5)	14 (9.0)	2 (2.0)	9 (7.4)
Adjustment disorder	8 (1.9)	0 (0.0)	1 (1.0)	2 (1.6)
Personality disorder	4 (0.9)	12 (7.7)	1 (1.0)	0 (0.0)
Impulse-control disorder	0 (0.0)	1 (0.6)	0 (0.0)	6 (4.9)
ADHD	0 (0.0)	1 (0.6)	0 (0.0)	2 (1.6)
Other disorder	3 (0.7)	1 (0.6)	0 (0.0)	5 (4.1)

3.2. Demographics of BDD

Of those diagnosed with BDD in this study, sixteen were female and 9 were male. Seven were married, 4 were single in a long-term relationship, 9 single, 1 widowed, and 4 had missing data. The mean age was 37 (SD 12.86). Twenty-two were Caucasian, one was Asian, one was Chinese, one was of mixed race. The main preoccupation was as follows: face in general including the skin (7), hair (4), eyes (2), skin (2), nose (2), teeth (2), height (1), breasts (1), ears (1), muscles (1), eyebrows (1), and genitalia (1).

3.2.1. Admitting diagnoses

The admitting psychiatrist recorded the following ICD10 diagnoses in those with BDD: substance use (9); depressive episode (6); anxiety disorder (6, of whom 2 had generalised anxiety disorder, 1 had panic disorder, 3 had a mixed anxiety and depressive disorder); hypomania (2); bulimia nervosa (2). None had been identified as having BDD by the admitting psychiatrist.

Thirteen out of 21 (62%) patients said their symptoms of BDD were either their main problem or one of their main problems for which they wanted help. Five (24%) stated it was not their main problem but still wanted help for it. Three (14%) did not think it was their main problem and did not want help as they were