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Prevalence of body dysmorphic disorder among Swedish women: A population-based study

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Abstract

Background: Body dysmorphic disorder (BDD) is characterized by a highly distressing and impairing preoccupation with nonexistent or slight defects in appearance. Patients with BDD present to both psychiatric and non-psychiatric physicians. A few studies have assessed BDD prevalence in representative samples of the general population and have demonstrated that this disorder is relatively common. Our primary objective was to assess the prevalence of BDD in the Swedish population because no data are currently available.

Methods: In the current cross-sectional study, 2891 randomly selected Swedish women aged 18–60 years participated. The occurrence of BDD was assessed using the Body Dysmorphic Disorder Questionnaire (BDDQ), which is a validated self-report measure derived from the Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV criteria for BDD. In addition, symptoms of depression and anxiety were measured using the Hospital Anxiety and Depression Scale (HADS).

Results: The prevalence of BDD among Swedish women was 2.1%. The women with BDD had significantly more symptoms of depression and anxiety than the women without BDD. Depression (HADS depression score ≥8) and anxiety (HADS anxiety score ≥8) were reported by 42% and 72% of the women with BDD, respectively.

Conclusions: The results of the present study indicate that BDD is relatively common among Swedish women (2.1%) and that it is associated with significant morbidity.

1. Introduction

Body dysmorphic disorder (BDD) is a psychiatric disorder that is defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV as a distressing and impairing preoccupation with a perceived defect in appearance that is not observable to others; if a minor physical anomaly is present, the individual's concern is markedly excessive [1]. In the new version of the DSM (DSM-5), one additional criterion is included, which describes repetitive behaviors (e.g., mirror checking, excessive grooming, skin picking) or mental acts (e.g., comparing his or her appearance with that of others) in response to the appearance concerns [2]. The most frequent areas of concern are the face and head, and the main worries are related to problems such as acne, wrinkles, scars, the size and shape of the nose or ears, asymmetric or disproportional face, or excessive facial hair. However, there may be a concern regarding any part of the body or even more than one part of the body [3,4]. BDD is characterized by a pattern of obsessive thoughts, feelings, and compulsive behaviors. The preoccupations are very time-consuming and occur, on average, 3–8 hours per day; they are typically difficult to resist or control [5]. Thus, the condition often leads to impaired functioning in relationships, socialization, and intimacy and a decreased ability to function in work, school, or other daily activities [4]. BDD is associated with significant distress, disability, unnecessary cosmetic surgery, and suicidality [3,6–8]. According to a review by Phillips, 80% of individuals with BDD have experienced suicidal ideation during their lifetime, and 24–28% of individuals have attempted suicide [8].

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BDD has high comorbidity rates with mood disorders, anxiety disorders (most commonly social anxiety disorder and obsessive-compulsive disorder), substance use disorders, and eating disorders [9–11]. Major depression and anxiety disorders have been identified in 75–76% and 64–70% of BDD patients, respectively (n = 293 [9] and n = 200 [10]). BDD appears to be slightly more common among women, as indicated by a female:male incidence ratio ranging from 1:1–3:2 in previous studies [5].

Although awareness and research regarding this disorder have increased over the previous two decades, BDD remains an understudied and largely unknown disorder. Some epidemiological studies have assessed the prevalence of BDD and suggest that it is a relatively common disorder. Studies that have examined psychiatric samples have reported BDD in 2.6–16.0% of patients [12–15]. Studies of student populations have yielded prevalence rates ranging from 5 to 13% [16]. Using structured clinical interviews that examined smaller community samples in Italy and the United States, prevalence rates of 0.7% in Italy (n = 637) and 0.7% (n = 976) to 3% (n = 73) in the United States have been identified [17–19]. Only three larger population-based studies using representative samples (n > 2000) have been conducted. These studies have identified BDD prevalence rates of 1.7% [20] and 1.8% [21] in Germany and 2.4% in the United States [22]. These statistics represent self-reported symptoms using questionnaires conducted via telephone [22] or face-to-face [20,21]. Questions derived from the DSM-IV criteria for BDD were used in all three larger population-based studies; however, the questionnaires were regrettably not validated. Thus, the BDD prevalence rates vary greatly depending on the population studied and most likely because of different sample sizes and differences and limitations in the assessment methods. Therefore, further epidemiological research using representative samples is needed to study the occurrence of BDD. Currently, there are no data available on BDD prevalence rates in the Scandinavian countries.

The primary objective of this study was to use a validated instrument to assess the prevalence of BDD in a large population-based sample of Swedish women. Furthermore, we examined the occurrence of depression and anxiety symptoms in individuals with BDD.

2. Materials and methods

2.1. Study design

The study was conducted using a cross-sectional design with a randomly selected population-based sample of Swedish women. Self-screening questionnaires were used to assess the prevalence of BDD and symptoms of depression and anxiety.

2.2. Measurements

2.2.1. The Body Dysmorphic Disorder Questionnaire (BDDQ)

The BDDQ is a brief, self-report measure that is derived from the DSM-IV diagnostic criteria for BDD. Using close-ended questions, it assesses whether an individual's appearance concerns are sources of preoccupation and, if so, the degree to which they cause distress or interfere with the individual's social or occupational functioning. The questionnaire was developed as a screening instrument for BDD in psychiatric settings and has been validated in a psychiatric outpatient sample (n = 66) with high sensitivity (100%) and specificity (89%) [23]. In a psychiatric inpatient sample (n = 122), the sensitivity was 100% and the specificity was 93% [13]. A slightly modified version of the questionnaire was validated in a dermatology patient sample (n = 46) and exhibited high sensitivity and specificity (100 and 92%, respectively) [24]. The Swedish translation of the BDDQ has been validated in a subsample (n = 88) of the present community sample of Swedish women and exhibited a sensitivity of 94%, a specificity of 90%, and a likelihood ratio of 9.4 [25]. The questions of the BDDQ are presented in Fig. 1. To continue the questionnaire, positive answers to the first two questions are required. The third question is used to exclude individuals primarily concerned with not being thin enough to ensure BDD is not over-diagnosed when an eating disorder may be a more accurate diagnosis [26]. A positive answer to at least one section of the fourth question, which assesses distress and impairment caused by the preoccupation, is further required for a positive BDD screening. In the interpretation of the BDDQ, it is suggested that the time spent thinking about the perceived defect should be at least one hour per day to fulfill the BDD diagnostic criteria [26]. Thinking about the appearance flaw for at least an hour per day is also a (optional) time criterion in the diagnosis of BDD according to the Structured Clinical Interview for the DSM-IV (SCID) [27]. Therefore, positive answers to questions one, two, and four in combination with answers b) or c) to question five are required to fulfill the BDD criteria, i.e., to screen positive for BDD if a negative answer to question three is provided [25].

2.2.2. The Hospital Anxiety and Depression Scale (HADS)

The HADS is a 14-item self-report screening scale that was originally developed to indicate the potential presence of anxiety and depression in the setting of a medical, non-psychiatric outpatient clinic [28]. The scale assesses symptoms of depression and anxiety during the previous week. A review from 2002 indicated that the HADS performs well in screening for anxiety disorders and depression in patients from non-psychiatric hospital clinics, as well as in individuals in the general population, general practice patients, and psychiatric patients [29]. The HADS consists of a seven-item anxiety subscale and a seven-item depression subscale; each item is scored from 0 to 3. The HADS depression subscale is assessed by summing the scores of the depression items, and the HADS anxiety subscale is assessed by summing the scores of the anxiety items. Receiver operating characteristic (ROC) curves identify a score ≥8 as an optimal cut-off score for both anxiety disorders and depression based on the ICD-9 [29]. The severity of symptoms is assessed on a four-grade scale