Body Dysmorphic Disorder Screening Tools for the Dermatologist:

A Systematic Review

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Body Dysmorphic Disorder is a psychiatric condition defined by distressing and/or impairing preoccupation with a non-existent or slight defect in appearance. The most recent diagnostic criteria have added the additional criterion of repetitive behaviors or mental acts in response to preoccupations with perceived defects of flaw in physical appearance.[1] The most common areas of concern are the skin (e.g., minimal acne), hair (e.g., thinning), and the nose.[2-4]

Screening questionnaires for BDD have identified a substantial percentage of patients with BDD who present to dermatology clinics. In a survey of 268 patients seeking dermatological treatment, a total of 11.9 percent (95 percent Confidence Interval [CI], 8.0-15.8 percent) of patients screened positive for BDD. Rates were similar in a community general dermatology setting (14.4 percent) and a university cosmetic surgery setting (10 percent), making dermatologists the physicians most often seen by patients with BDD.[5] Despite its prevalence in the dermatology setting, the disease remains underdiagnosed.[6-10] Hence, physicians may attempt to fix the perceived flaw, but these patients are often dissatisfied and may sue or become violent toward the treating physician.[11-14] Screening for BDD may thus be warranted before patients undergo cosmetic procedures.

The issue is further underscored by the morbidity and mortality associated with BDD: patients often have concomitant depression and anxiety, withdrawal from relationships and social activities, suicide attempts, and completed suicide.[2,11,13,15,16] The morbidity of this disease has been illustrated within the dermatology practice as well after a study showed sixteen dermatology patients who committed suicide, most of whom had either acne or BDD.[16]

A systematic review of screening tools for BDD was recently done, however it broadly discussed screening tools used in a variety of patient populations (cosmetic surgery, dermatology, rhinoplasty, orthognathic surgery, and cosmetic dental) and only provided actual questions from one of many screening tools discussed. The aim of this review is to comprehensively review screening tools for BDD that have been used or validated in the dermatological setting. We will also show some of the actual screening tools and a description on how to use each of them in order to facilitate their utilization in the dermatology clinic.

PRACTICAL POINTER

Currently, many of patients with Body Dysmorphic Disorder (BDD) are being treated suboptimally without psychiatric care. Early screening and diagnosis can aid in the difficult management involved in caring for these patients, and more importantly, may reduce the severe morbidity and mortality associated with BDD.

OUR REVIEW

An electronic PubMed search was conducted to identify all screening tools for BDD in the dermatology patient population. After eliminating duplicate studies and non-English written studies, the search result was evaluated by the first two authors. Irrelevant items were excluded after reviewing the titles or abstracts of the all identified articles. Full text articles were then evaluated to determine if they met eligibility criteria. Inclusion criteria included 1) BDD was defined according to criteria defined in the DSM-IV or DSM-V; 2) The paper utilized a screening tool for diagnosing BDD and 3) The study investigated a population seeking dermatological treatment.

Are you very concerned about the appearance of some part of your body, which you consider especially unattractive?			Y	N
If no, thank you for your time and attention. You are finished with this questionnaire.				
If yes, do these concerns preoccupy you? That is, you think about them a lot and they're hard to stop thinking about?			Y	N
What are these concerns? What specifically bothers you about the appearance of these body parts?				
What effect has your preoccupation with your appearance had on your life?				
Has your defect often caused you a lot of distress, torment or pain? How much? (circle best answer)				
1	2	3	4	5
No distress	Mild, and not too disturbing	Moderate and disturbing but still manageable	Severe, and very disturbing	Extreme, and disabling
Has your defect caused you impairment in social, occupational or other important areas of functioning? How much? (circle best answer)				
1	2	3	4	5
No limitation	Mild interference but overall performance not impaired	Moderate, definite interference, but still manageable	Severe, causes substantial impairment	Extreme, incapacitating
Has your defect often significantly interfered with your social life?			Y	N
If yes, how?				
Has your defect often significantly interfered with your school work, your job, or your ability to function in your role?			Y	N
Are there things you avoid because of your defect?			Y	N

Appendix 1. Body Dysmorphic Disorder Questionnaire-Dermatology Version (BDDQ-DV)

Our electronic search yielded 151 articles, of which 48 full text articles were retrieved. We identified six studies (Table 1) that assessed the presence of BDD according to its definition in the DSM-IV and that were use in the dermatology setting. Within these six studies, we identified three different screening tools.

SCREENING INSTRUMENTS

Body Dysmorphic Disorder Questionnaire-Dermatology Version

The Body Dysmorphic Disorder Questionnaire-Dermatology Version (Appendix 1) is a modified version of the Body Dysmorphic Disorder Questionnaire (BDDQ), which has been validated for use in the psychiatric setting (sensitivity 100 percent, specificity 89 percent). The original BDDQ is based on the definition of BDD provided in the Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) and consists of four sets of "yes/no" questions.[17] The Body Dysmorphic Disorder Questionnaire-Dermatology Version (BDDQ-DV; Appendix 1) was developed by Dufresne et al. and Phillips et al., involving the following modifications: substitution of a Likert scale from 1-5 to indicate a range of severity, rather than "yes/no" responses, and the removal of a question on the effects of the patient's concern on family or friends.[5, 14] To screen positive for BDD, patients must report the presence of preoccupation as well as at least moderate (score of 3 or higher) distress or impairment in functioning.

The BDDQ-DV has been used in four studies to assess BDD in a dermatological setting, one in patients seeking treatment for acne vulgaris,[18] and three involving patients who presented to cosmetic or general dermatology practices.[5,14,19] This BDDQ-DV was reported to have comparable sensitivity (100 percent) and slightly improved specificity (94.7 percent) compared to the original questionnaire validated for the psychiatric setting.[14] Additionally, in the study by Bowe et al. the majority of patients who screened positive for BDD provided detailed descriptions of their distress and impairment, providing further validation of this tool. Two of the studies also used the BDDQ-DV to assess for BDD in the general dermatology clinic.[5,19]

Dysmorphic Concern Questionnaire

The Dysmorphic Concern Questionnaire (DCQ; Appendix 2) is a practical, seven-item questionnaire, which was developed and validated by Oosthuizen for the psychiatric setting. (Appendix 2) It is based on the General Health Questionnaire (GHQ), an instrument that was devised to quantify the risk of developing psychiatric disorders, which measures common mental health problems including depression, somatic symptoms, and social withdrawal.[20] The DCQ is focused on BDD, and asks about patient concern with physical appearance and past attempts to deal with the issue. Each item is answered on a four-point scale (answers ranging from 0-3 points). The DCQ was found to have good internal consistency (Chronbach's alpha: .88) and validity as demonstrated by strong correlations with distress, work, and social impairment.[21]

Stangier et al[22] validated the DCQ as a screening instrument in a dermatological sample of 156 female outpatients who presented for both cosmetic and non-cosmetic treatment. The study found an internal consistency of Cronbach's alpha: .85 (slightly decreased from it's use in the psychiatric setting), and set a cut-off value at ≥14 to achieve maximum sensitivity (72 percent) and specificity (90.7 percent).

Dysmorphic Concerns Questionnaire

These questions are designed to screen for people with certain concerns that are: (i) often difficult or embarrassing to talk about with their doctor/family/friends; and (ii) often difficult to find the right help for.

Please read the following questions carefully and answer them by circling the answer which you think is most appropriate for your specific situation:

Have you ever:				
1. Been very concerned about some aspect of your physical appearance	Not at all	Same as most people	More than most people	Much more than most people
2. Considered yourself misformed or misshapen in some way (e.g. nose/hair/skin/sexual organs/ overall body build)	Not at all	Same as most people	More than most people	Much more than most people
3. Considered your body to be malfunctional in some way (e.g. excessive body odour, flatulence, sweating)	Not at all	Same as most people	More than most people	Much more than most people
4. Consulted or felt you needed to consult a plastic surgeon/dermatologist/physician about these concerns	Not at all	Same as most people	More than most people	Much more than most people
5. Been told by others/doctor that you are normal in spite of you strongly believing that something is wrong with your appearance or bodily functioning	Not at all	Same as most people	More than most people	Much more than most people
6. Spent a lot of time worrying about a defect in your appearance/bodily functioning	Not at all	Same as most people	More than most people	Much more than most people
7. Spent a lot of time covering up defects in your appearance/bodily functioning	Not at all	Same as most people	More than most people	Much more than most people

Appendix 2. Dysmorphic Concern Questionnaire (DCQ)

Body Dysmorphic Symptom Scale

The Body Dysmorphic Symptoms Scale (BDSS) is a 10-item self-reported questionnaire, which asks about patient concerns with appearance and related behaviors (i.e., looking in the mirror repeatedly), and the impact of these perceived defects on patients' social life and relationships.

A patient's score is obtained by the sum of each positive question. There is no accepted cut-off point for the BDSS in order to screen positive for BDD.

Kaymak et al.[23] used the BDSS in 107 Turkish university students diagnosed with skin disease at an outpatient dermatology clinic. The study used a score of ≥4 as the score highly favoring a diagnosis of BDD. The study did not use any additional tools or a structured clinical inter-

TABLE 1

BDD Screening Tools Applied in a Dermatology Setting

Questionnaire Used	*Population*	*No. of Patients*	*Study*
BDDQ-DV	Outpatient cosmetic and laser surgery clinic	46	Dufresne et all, (REF) 2001
BDDQ-DV	General dermatology and dermatological cosmetic surgery	268	Phillips et al, (REF) 2000
DCQ	Female dermatological outpatients	156	Stangier et al, 2003
BDDQ-DV	Acne Vulgaris	128	Bowe et al, 2007
BDSS	University student dermatological outpatients	107	Kaymak et al, 2009
BDDQ-DV	Cosmetic and general dermatology clinic	400	Dogruk et al, 2014

view to confirm the diagnosis of BDD in patients who screened positive using the BDSS. As such, the study did not attempt to validate the BDSS to screen BDD.

DISCUSSION

Three screening tools have been utilized to diagnose BDD (as defined by DSM-IV or DSM-V) in the dermatological setting: BDDQ-DV, DCQ, and BDDS. The BDDQ-DV and DCQ have also been validated in this setting. All three tools have a limited number of items, making them practical for the outpatient dermatology setting. However, the BDDQ-DV has been used most commonly in dermatology, perhaps making it the most reliable of the three tools.

BDD does not affect any specific "type" of patient, and thus assessing those at risk should include screening tools to create a more standardized method for diagnosis. Despite an onset in adolescence,[24] establishing a diagnosis may take 10-15 years. This may be, at least in part, due to difficulty recognizing high-risk patients based on specific treatments they are seeking or demographic information. For instance, while one may assume patients seeking cosmetic treatments have a significantly higher rate of BDD, recent data[5] has indicated that the rate of BDD does not significantly differ between patients who present to cosmetic (10.0 percent) and general dermatology (14.4 percent) clinics. Additionally, BDD may be as common in men as in women, eliminating gender as a way to identify at risk patients.[12] Hence, the availability of a practical, accurate tool to screen for and diagnose BDD, which has proven effective in the dermatological setting, is important in identifying and diagnosing these patients.

There remains great need for further research to advance our management and reporting of dermatological patients with BDD, given the demonstrated prevalence of these patients in the dermatology setting. Currently, many of these patients are being treated suboptimally without psychiatric care. The early screening and diagnosis can aid in the difficult management involved in caring for these patients, and more importantly, may reduce the severe morbidity and mortality associated with BDD. ■

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There have been no prior presentations of this material.

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