Role of Perfectionism and Body Image in the Prediction of Body Dysmorphic Disorder Symptoms

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Abstract

Background: The prevalence of body dysmorphic disorder (BDD) has been reported to increase in recent decades. Therefore, scientific studies should be performed to specify psychological variables, which may contribute to the etiology of this disorder. In this study, we examined the role of body image and perfectionism in predicting BDD symptoms among students.
Objective: The aim of this survey was to investigate the role of body image and perfectionism in the prediction of BDD symptoms.
Methods: This cross sectional study was performed in 2016 on a sample, including 351 students of Hamadan University of Medical Sciences, who were selected based on the Morgan formula and multistage cluster random sampling. The participants completed the Yale-Brown obsessive compulsive scale modified for BDD (BDD-YBOCS), multidimensional body-self relations questionnaire (MB-SRQ), and Besharat's Tehran multidimensional perfectionism scale (TMPS). The collected data were analyzed by Pearson's correlation test and stepwise regression analysis.
Results and Conclusions: The results of stepwise regression analysis showed that perfectionism and body image could significantly predict BDD symptoms (P < 0.001). Therefore, these variables can be important in the promotion of students' health.

Keywords: Perfectionism, Body Image, Body Dysmorphic Disorder Symptoms

1. Background

Body dysmorphic disorder (BDD) is a relatively common disorder, defined as one's preoccupation with an imagined defect in his/her appearance. In BDD, a slight physical anomaly triggers major concerns, and preoccupations cause significant clinical distress or impairment in social, occupational, or other important functional areas of life. This disorder should not be confused with other mental disorders, such as dissatisfaction with body shape and size in anorexia nervosa (1).

Individuals with BDD may feel that they cannot go out in public places unless they have hidden the problem with clothing, cosmetics, or hair. This can seriously affect a person's quality of life, occupation, and relationships. People with BDD have reversible, disturbing thoughts about their physical appearance, which are difficult to resist and require immediate attention (2). In addition, many individuals with BDD report low self-esteem (3, 4).

The frequency of BDD in the general population is variable and is not well documented in different countries. However, BDD is estimated to affect nearly 2.4% of the general population (1). The prevalence of BDD may range from 2.5% to 28% in adults, particularly students who are markedly troubled with their looks (2). Gender differences regarding the onset of BDD in the general population are conflicting, although some studies are suggestive of female predominance concerning appearance-related concerns (5). Overall, recognition of risk factors, which are specifically related to the development of BDD, has been the focus of recent surveys (5-7). However, factors related to BDD symptoms among students are poorly understood, and further surveys are required to identify a suitable theoretical framework.

Disturbance of body image is recognized as a key factor involved in BDD and is often a common symptom (8). Body image is a complex concept, which illustrates how an individual feels and behaves. It has been described as "the image of our body which we form in our mind, that is to say, the way in which our body appears to us" (9). A risk factor for BDD is poor body image. In fact, BDD is a body image disorder, characterized by one's preoccupation with an imagined defect in his/her appearance. Individuals with BDD are not satisfied with their body and often find defects in their hair, skin, nose, or face.

Body image disturbance predicts a wide range of negative consequences, including depressive symptoms, low self-esteem, negative emotions, weight gain, and BDD (10). One of the issues investigated in the present study is the examination of the relationship between body image and BDD symptoms. In addition, perfectionism is a complex personality trait, characterized by one's high performance

standards and eagerness for flawlessness. It is accompanied by tendencies towards critical evaluation of behaviors and negative cognition, involving a negative sense that things are not complete or correct (11, 12).

Personal and social dimensions are the constructs of perfectionism. In general, perfectionism can be classified as socially-prescribed perfectionism (ie, belief that others hold abundantly high standards for oneself) and self-oriented perfectionism (ie, having abundantly high personal standards and being motivated to attain them) (13). Perfectionism is a widely recognized element in the development and maintenance of BDD (14, 15). However, to the best of our knowledge, few studies have been performed regarding the relationship between perfectionism and BDD among university students. Therefore, further research is very important in this area, as BDD is prevalent in the general population, and preventive/interventional efforts are highly required.

With this background in mind, considering the high prevalence of BDD in the Iranian population reported in previous studies, the purpose of the current research was to systematically survey the role of body image disturbance and perfectionism in predicting BDD among students.

2. Objectives

The aim of the present research was to investigate the role of body image and perfectionism in the prediction of BDD symptoms.

3. Methods

The study sample consisted of 351 students (81 males, 270 females) of Hamadan University of Medical Sciences, Hamadan, Iran, who were selected using Morgan formula and multistage cluster random sampling. The participants' age ranged from 18 to 40 years. The inclusion criteria were the student's willingness to participate in the study and being a university student. On the other hand, the exclusion criteria were as follows: the student's unwillingness to participate in the research and not being a university student during the study.

Informed consents were obtained from each participant, and the study was approved by the ethics committee of Hamadan University of Medical Sciences. After selecting the participants based on the inclusion and exclusion criteria, they completed the questionnaires.

3.1. Data Collection Tools

The multidimensional body-self relations questionnaire (MBSRQ): it is a 43-item self-report questionnaire with acceptable validity and reliability. This scale was developed and validated by Cash et al. (16). It is rated on a 5-point Likert scale, ranging from 1 (never) to 5 (very often). In Iran, this tool was used by Raigan et al. for the first time (17), was translated into Persian, and was validated in the student population. In their research, the reliability of the scale was reported by Cronbach's alpha (0.94). Also, the results confirmed the high validity of the scale. The overall score of the scale had a good correlation with the "body shape questionnaire" (r, 0.83). In this study, the reliability of MBSRQ, administered in a relevant Iranian population, was 0.83 based on Cronbach's alpha and 0.81 based on the split-half method.

Tehran multidimensional perfectionism scale (TMPS by Besharat) (18): it is a 30-item self-report questionnaire with acceptable validity and reliability for the Iranian population (18). The 3 dimensions of the scale include self-oriented perfectionism, other-oriented perfectionism, and community-oriented perfectionism. Each subscale includes 10 questions, which are rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree); each subscale is graded from 10 to 50. In the study by Besharat (17), the reliability of the scale for perfectionism and its subscales was calculated using Cronbach's alpha (self-oriented perfectionism, 0.89; other-oriented perfectionism, 0.84; and community-oriented perfectionism, 0.81). In the present study, the reliability coefficient was calculated to be 0.75 (Cronbach's alpha).

Yale-Brown obsessive compulsive scale modified for BDD (BDD-YBOCS): it is a 12-item, self-report, standardized scale, widely used to determine the severity of BDD. This scale is divided into 4 subscales: preoccupations, repetitive behaviors, insight, and avoidance (19). In Iran, reliability and validity of the scale were measured by Rabiei et al. (20) in both healthy and clinical samples. The alpha coefficients ranged from 0.78 to 0.93 for the total BDD-YBOCS score. Also, for the subscales (ie, preoccupations and repetitive behaviors), the alpha coefficient was 0.84 (0.81 based on the split-half method) (20).

4. Results

The statistical methods used in this study included Pearson's correlation test and multiple regression analysis. The mean ± standard deviation (SD) and internal correlations among variables are presented in Table 1. The mean (SD) scores for perfectionism, body image, and BDD symptoms were 56.60 (20.347), 39.98 (41.690), and 37.28 (16.279),

respectively. There was a significant relationship between body image, perfectionism, and BDD symptoms (P < 0.01).

Table 1. The Mean, Standard Deviation (SD), and Internal Correlation Among the Variables

Variables	Mean ± SD	Correlation		
		1	2	3
Perfectionism	56.60 ± 20.347	1		
Body image	39.98 ± 41.690	0.598[a]	1	
Body dysmorphic disorder (BDD) symptoms	37.28 ± 16.279	0.217[a]	0.577[a]	1

[a] P < 0.01.

To assess the predictive power of body image and perfectionism for BDD symptoms, stepwise regression analysis was used. The results of the model are presented in Table 2. The regression analysis for explaining BDD symptoms based on body image and perfectionism indicated that F-statistic is significant for both models (P < 0.001); therefore, BDD symptoms could be predicted by both variables.

Table 2. Summary of the Regression Analysis Model

Variables	R	R^2	$\triangle R^2$	F	P Value
Step 1: body image	0.577a	0.333	0.333	174.080	0.000
Step 2: body image and perfectionism	0.598b	0.358	0.025	97.073	0.000

Table 3 presents the coefficients of stepwise regression analysis. Based on the findings, step 1 was significant (DR2, 0.33; F, 174.08; P < 0.001) and involved body image (β, 0.577; P < 0.001). Step 2 was also significant (DR2, 0.025; F, 97.07; P < 0.001) and involved perfectionism (β, 0.696; P < 0.001). According to the findings, body image (β, 0.577) could predict nearly 33% of the variance in BDD symptoms. In addition, perfectionism, as an additional variable to body image (ΔR^2, 0.025; β, 0.696), could predict nearly 36% of the variance in BDD symptoms.

Table 3. Summary of Stepwise Regression Analysis for the Prediction of Body Dysmorphic Disorder (BDD) Symptoms Based on Body Image and Perfectionism

Variables	B	SEB	β	t	P Value
Step 1: body image	0.225	0.017	0.577	13.194	0.000
Step2: body image and perfectionism	0.272	0.021	0.696	13.194	0.000

4. Discussion

The aim of this survey was to examine the role of body image and perfectionism in predicting BDD symptoms. The results showed a significant positive relationship between body image and BDD symptoms (58), and body image disturbance could predict significant variances in BDD symptoms. The reported findings are consistent with previous studies (21, 22) and can be explained on the basis of the following possibilities.

Previous studies have revealed the current societal standards of attractiveness for women. According to socio-cultural standards, the ideal body shape is thin for women and muscular for men. Based on the tripartite influence model, which integrates a number of theoretical perspectives into body image disturbance and BDD symptoms, family members, peers, and media are important predictors of body image disturbance. They are influenced by the mechanisms of social comparison and thin-ideal internalization (22).

Previous studies have shown that body image disturbance remains considerably stable among adult women, is common among younger females, and is associated with BDD symptoms (6, 23-25). The findings also showed a significant positive relationship between perfectionism and BDD symptoms (0.22). Moreover, perfectionism could predict significant variances in BDD symptoms. This finding is in line with the results of previous studies (3, 12, 15, 26) and can be explained on the basis of the following possibilities.

Perfectionists may have more intense tendencies to show extreme or even unhealthy behaviors for achieving their goals (27); accordingly, they prefer to have an ideal body shape. Perfectionist thinking includes distorted beliefs regarding physical attractiveness (3, 15, 28). For instance, perfectionists tend to view themselves as significantly less attractive than others (3). Besides, these individuals often attribute great importance to aesthetics (15, 29).

The present results suggest that all dimensions of perfectionism are related to BDD symptoms, including those generally seen as positive achievement striving (eg, self-oriented perfectionism) (30). According to the cognitive-behavioral perspective of the development and persistence of BDD symptoms, overevaluation of weight and body shape is associated with perfectionist standards for achievement and self-control and leads to the development and maintenance of the symptoms (31).

The results of the present study showed that body image disturbance and perfectionism could significantly predict BDD symptoms. Similar to any other investigation, this study also had some limitations. One of the limitations was the applied questionnaires. Another shortcoming was the impossibility of evaluating the causal relation-

ships, as we studied the correlations in a descriptive model. Although there was a correlation between the predictors and BDD symptoms, it was not a cause-and-effect relationship. Overall, the present study needs to be replicated in different populations and requires more empirical support. Future studies should explore the role of body image disturbance and perfectionism in clinical populations.

Acknowledgments

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