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BODY DYSMORPHIC DISORDER: A COMPREHENSIVE REVIEW

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ABSTRACT

Body dysmorphic disorder is psychiatric morbidity that comes under the spectrum of obsessive-compulsive disorders. Individuals suffering from body dysmorphic disorder are incredibly concerned about their minor or so-called defects to such an extent that their lives may be affected drastically. As a result of continuously thinking about the asserted defect, the individuals end up suffering from major depression, anxiety, and self-harm. Diagnosis of body dysmorphic disorder is based on the Diagnostic and Statistical Manual of Mental Disorders, fifth edition criteria. The management of body dysmorphic disorder consists of psychotherapeutic and pharmacological interventions. Body dysmorphic disorder is a hidden disorder and is often under-reported. It has been linked to muscle dysmorphia, substance abuse, and major depressive disorder. The lack of studies in different countries and populations has made this a topic that requires substantial input from researchers. ***Keywords:*** Body dysmorphic disorder, obsessive-compulsive disorder, somatoform disorders

INTRODUCTION

Negative statements regarding appearance often posses the potential of having an detrimental impact on one's self-confidence. However, when these comments are self-made and focused on a non-existent defect, they constitute a disorder called body dysmorphic disorder (BDD) (1). BDD first appeared in the American Psychiatric Association's (APA) Diagnostic and Statistical Manual of Mental Disorders, third edition, under the name 'dysmorphophobia' in 1987 (1). Diagnostic and Statistical Manual of Mental Disorders, fourth edition, and International Classification of Diseases-10 (ICD-10) placed BDD under "somatoform disorders", while today, BDD is depicted in Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), under the obsessive-compulsive spectrum (2, 3).

According to APA, BDD is a mental disorder characterized by an individual's preoccupation with a slight or non-existent defect to such an extent that it causes significant distress and impairs their functionality (4).

The presence of BDD varies globally from 1% to 2% in different cohorts, and the incidence rate is higher among females (5). The foci of concern vary among the affected individuals. Distressing appearance traits can include weight, head hair, skin, nose, teeth, and height (6, 7). The patients suffering from body dysmorphophobia undergo a daily struggle to achieve the perfect body type. The increasing popularity of taking selfies, coupled with a lack of self-confidence, often drives them to undergo cosmetic modifications in order to achieve a flawless look. This was termed as "Snapchat dysmorphia" (8). Individuals with BDD demonstrate an excessive preoccupation with their defect to a degree where this affects their mental health. This leads them to be depressed and can often contribute to the development of suicidal predilections. Due to a similarity of presentation, BDD can be misdiagnosed as major depressive disorder (MDD) or obsessive-compulsive disorder (OCD) leading to wrong treatment strategies (9). This review aims to provide an overall picture of BDD, its symptoms, diagnostic criteria, its effect on daily life, and management.

SYMPTOMS OF BODY DYSMORPHIC DISORDER

There are four main symptoms of BDD, which manifest in different ways (4). The symptoms are as following: preoccupation with the perceived or concerned; repetitive behaviors such as checking their appearance on a reflective surface, application of various products to hide the defect, skin picking, obsessive dietary habits, and thoughts of getting cosmetic surgery to rectify the defect; delusional beliefs such that people are mocking their appearance based on the defect. Consequential symptoms such as low self-confidence, avoidance of public places due to a fear of being judged, anxiety, and depressive symptoms where suicidal thoughts may be seen as well (4).

DIAGNOSTIC CRITERIA

Body dysmorphic disorder remains an under-diagnosed and inadequately treated disorder, despite being a common mental illness (10, 11). The timely diagnosis of BDD is crucial for the proper management of the disorder. The ICD-10 lists BDD under the category of somatoform disorders (2). The diagnosis of BDD is commonly based on the DSM-5 criteria. It is being used in classifying as well as a diagnostic tool. It is published by the APA and serves as the principal authority for the diagnosis of psychiatric disorders.

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The DSM-5 criteria classify BDD in the chapter of "Obsessive-Compulsive and Related Disorders," along with OCD and several other disorders (12). The DSM-5 diagnostic criterion for BDD is summarized in Table 1 (13).

Body Dysmorphic Disorder Questionnaire and Body Image Disturbance Questionnaires are used for identifying BDD. They consist of a series of questions that assess an individual's perception and concerns about their physical appearance and the negative impact of those concerns on a person's life (14-16). BDD is diagnosed by mental health professionals/psychiatrists through structured interviews based on Structured Clinical Interview for DSM-5, BDD Diagnostic Module, or Body Dysmorphic Disorder Examination (BDDE). The severity of BDD can be assessed using scales such as the Yale-Brown Obsessive-Compulsive Scale Modified for Body Dysmorphic Disorder, the Psychiatric Status Rating Scale for Body Dysmorphic Disorder or BDDE. Scales called the Brown Assessment of Beliefs Scale and Overvalued Ideas Scale can be used by psychiatrists to gain further insight into BDD (14-16).

Body dysmorphic disorder can be misdiagnosed as OCD, social anxiety disorder, trichotillomania (hair-pulling disorder), MDD, excoriation (skin-picking disorder), eating disorder, or generalized anxiety disorder (16). Such misdiagnosis can hamper adequate treatment.

GLOBAL PICTURE OF BODY DYSMORPHIC DISORDER

Table 2 aims to provide a picture of some studies around the globe with varying populations. Researches are carried out globally trying to find out prevalence of BDD in different groups. A systematic review published in 2016 provided a comprehensive analysis of BDD among various study populations (17). It was found that the weighted prevalence of BDD in the adult population was 1.9%, followed closely by adolescents with 2.2%, where the student population reported a higher prevalence with 3.3% (17). The weighted prevalence was found most elevated among the population undergoing rhinoplasty (20.1%) and general cosmetic surgery (13.2%) (17).

EFFECTS OF BODY DYSMORPHIC DISORDER ON LIFE

Living with BDD means living with a distorted image of one's own body, low self-esteem, and thus having difficulty in accepting the way they look. The detrimental impacts of BDD stated down below make it evident that early diagnosis and treatment of this disorder are necessary to prevent future complications and consequences. Further long-term prospective studies are needed to study these side effects more profoundly. Figure 1 provides an overview of the detrimental effects of BDD.

Body dysmorphic disorder influences students' life

Body dysmorphic disorder might affect multiple aspects of an individual's life, including sleep, appetite, academics, occupation, and/or social life. The negative impact of BDD on academic life of students is evident by the fact that around 22.2% of adolescents suffering from BDD reported dropping out of school, either temporarily or permanently (29). This could be attributed to the exhaustion caused by excessive preoccupation with their non-existent defect, leading them to have a reduced and poor quality of sleep. Thus BDD has negative consequences on the overall health and quality of students lives (30, 31).

Table 1: Diagnostic criteria of body dysmorphic disorder according to DSM-5 (13).

Diagnostic Criteria of BDD According to DSM-5	
Appearance preoccupations	The individual must be preoccupied with a defect or flaw in his/her physical appearance that either does not exist or, if present, is not a matter of concern to others, and the affected individual at least spends an hour a day thinking about the perceived defect.
Repetitive behaviors	There should be a history of the individual performing repetitive, compulsive behaviors about the concerned defect, such as excessively checking out oneself in the mirror, asking others about the perceived defect, pinching or touching the concerned flaw, or comparing oneself with others.
Clinical significance	The perceived flaw must have unhealthy severe ramifications on the health of the individual and cause severe distress on the personal, social, and occupational life of the individual.
Differentiation from an eating disorder	If the preoccupations are related to the bodyweight of the individual such that the main focus of concern is being too fat or too thin, any other eating disorder should be ruled out. If the criteria of any eating disorders are met, the correct diagnosis should be made.
Specifiers	Once the diagnosis of BDD has been made, the following two specifiers should be considered to identify the subgroups of BDD: ***1) Muscle dysmorphia:*** This variant of BDD is diagnosed if the individual displays concerns of being too lean or not muscular enough and develops an obsession with bodybuilding and weightlifting to improve his build. Such individuals have been reported to be more suicidal and prone to substance abuse than those with other forms of BDD. ***2) Individual specifier:*** This specifier stipulates the degree of insight an individual has and is classified into three categories: • *With fair insight:* The individual acknowledges that the body dysmorphic beliefs are not true or may or may not be true. • *With poor insight:* The individual considers the dysmorphic beliefs to be true. • *No insight present/ delusions:* The individual has a firm conviction about the presence of the dysmorphic belief.

BDD: *Body Dysmorphic Disorder*

Table 2: A review of some studies from different countries on body dysmorphic disorder (18-28).

Study	Location	Study population	Number of participants			Mean age (years)	Screening tool	BDD prevalence			Comments
			Total	Male	Female			Total (%)	Male (%)	Female (%)	
Cansever A et al. (18)	Turkey	Female nursing students	420	0	420	19.1	DSM IV BDDE	4.8	0	4.8	Diagnosis of BDD was made on an interview using BDDE.
Koran ML et al (19)	USA	Adult population	2048	739	1309	Most participants were ≥55 years*	DSM IV BDD phone interview	2.4	0.8	1.6	Men were most worried about 'hair' and women about 'stomach.'
Liao Y et al. (20)	China	First year medical students	487	181	306	18.5	DSM IV criteria BDDQ, DCQ	6	0	6	Other additional scales used in the study are BSQ, SMAQ, SIAS, and SDS.
Conrado LA et al. (21)	Brazil	Dermatologic patients (300) and controls (50)	350	71	279	42.2	BDDQ-DV	9.1	N/A	N/A	BDD was more common among individuals seeking dermatologic treatment (n=31) as compared to the control group (n=1).
Barahmand U et al. (22)	Iran	Students from final year of high school to first two years of university	843	463	380	18.1	MBSRQ-AS	19.1	6.6	12.5	12.9% of the population had comorbid social anxiety, while 6.4% had comorbid obsessive beliefs. Females reported more social anxiety, while males reported more obsessive beliefs.
Fathololoom MR et al. (23)	Iran	Rhinoplasty patients	130	31	99	26.4	BDDQ	31.5	N/A	N/A	Among BDD patients, 29.3% had coexisting depression, and 26.8% had coexisting anxiety.
Brohede S et al. (24)	Sweden	Adult females	2885	0	2885	Age:18-30 (29.2%); 3-45 (36.4%);46-60 (34.4%)*	DSM IV BDDQ	2.1	0	2.1	Depression and anxiety were measured using HADS. The age group of 18-30 years had higher BDD prevalence.
Schneider SC et al. (25)	Australia	Adolescents	3149	2000	1149	14.6	DSM IV BDDQ-A	1.7	N/A	N/A	The three most commonly disliked body parts are skin, nose, and hair, respectively.
Ahamed SS et al. (26)	Saudi Arabia	Female medical students	365	0	365	20.0	BIDQ	4.4	0	4.4	SIAS scale was used. No significant association between BDD and social anxiety was found. Participants were most concerned about their skin.
Buhlmann U et al. (27)	Germany	General population (18-93 years)	2510	1142	1368	46.9	DSM IV BDD	1.8	7	1.1	BDD affected individuals had a higher frequency of suicide ideation and suicide attempts compared to non-BDD individuals. History of cosmetic surgery was more often reported by body dysmorphic individuals
Jangda AA et al. (28)	Pakistan	University students	280	0	280	22.5	DSM-5 BIDQ	8.1	0	8.1	BDD was prevalent among female university students, and weight was the major focus of concern.

N/A: *Not Available,* ***BDD:*** *Body Dysmorphic Disorder,* ***BDDE:*** *Body Dysmorphic Disorder Examination,* ***BDDQ:*** *Body Dysmorphic Disorder Questionnaire,* ***BDDQ-A:*** *Body Dysmorphic Disorder Questionnaire– Adolescent Version,* ***BDDQ-DV:*** *Body Dysmorphic Disorder Questionnaire Dermatology Version* ***BIDQ:*** *Body Image Disturbance Questionnaire,* ***BSQ:*** *Body Shape Questionnaire,* ***DCQ:*** *Dysmorphic Concern Questionnaire,* ***DSM-IV:*** *Diagnostic and Statistical Manual of Mental Disorders Fourth Edition,* ***DSM-5:*** *Diagnostic and Statistical Manual of Mental Disorders Fifth Edition* ***HADS:*** *Hospital Anxiety and Depression Scale,* ***MBSRQ-AS:*** *Multidimensional Body–Self Relations Questionnaire Appearance Scales,* ***SDS:*** *Self-Rating Depression Scale,* ***SIAS:*** *Social Interaction Anxiety Scale,* ***SMAQ:*** *Swansea Muscularity Attitudes Questionnaire*
*Mean age was not available and study data has been reported.

Body dysmorphic disorder and weight concerns

Young individuals believe that they are over or underweight, which leads to body dysmorphia and excessive dietary habits or participation in exhaustive exercises (32). Muscle dysmorphia is a variant of BDD, which is characterized by the development of obsessive thoughts related to one's build. The affected individual aims to exercise and develop more muscle and may even use anabolic steroids. This obsessive habit of bodybuilding may lead to functional impairment later in life (33).

Adolescents who have higher body-mass index are excessively concerned about their body image and have low self-esteem as well as identity issues. Years of struggling with obesity, stigmatization, and peer pressure may lead to an increased negative perception, and eventually having bariatric surgery (34).

Substance abuse in individuals with body dysmorphic disorder

History of different forms of abuse has been reported by individuals of various ages suffering from BDD. A study by Didie et al. (35) showed that a large number of BDD patients (78.8%) went through some form of child neglect, emotional neglect, or abuse either emotional, physical, or sexual. Thus a link between the development of BDD and history of abuse was noted. Individuals with a history of abuse and BDD are likely to suffer from mood disor-

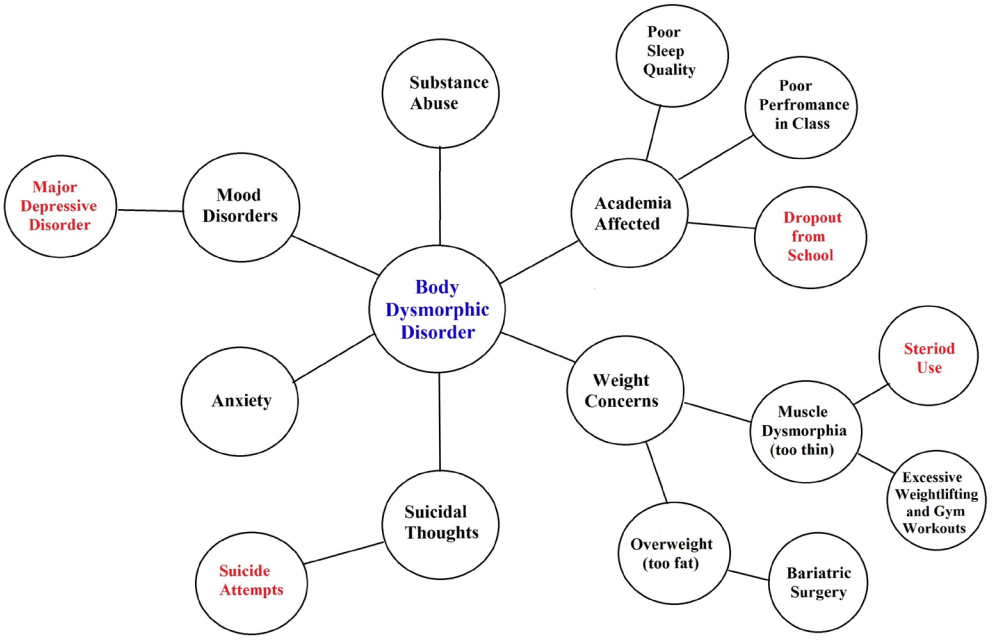

Figure 1: Impacts of body dysmorphic disorder on different aspects of life.

ders, substance abuse, and suicidal thoughts in their adult life (35). Grant et al. (36) reported that 48.9% of BDD patients had a lifelong history of substance use disorder and 35.8% developed a lifetime substance dependence, mostly alcohol dependence (29%). Another crucial fact was that 68% of the people have remarked that BDD had contributed to their habit of substance abuse. It was also seen that individuals with BDD and a coexisting substance use disorder showed a higher rate of suicide attempts compared to those with just BDD (38.4% vs. 18.9%) (36).

Major depressive disorder and body dysmorphic disorder

Body dysmorphic disorder and OCD have been grouped as Obsessive-Compulsive Related Disorders in the DSM-5. A study investigating the relation of these disorders to anxiety and shame showed that anxiety is an important risk factor for the development of both of these disorders (37). MDD is common in people with BDD, and thus a progressively worsening BDD may hint at a presence of coexisting MDD (38). Individuals with BDD demonstrate an excessive preoccupation with their perceived defect to a degree that affects their mental health. This leads them to be depressed and can often contribute to the development of suicidal predilections (37, 39, 40). A disturbing aspect of this disorder was demonstrated in a review by Phillips et al. (41) showing that 80% of the affected individuals had suicidal thoughts, and 24-28% even attempted suicide.

MANAGEMENT OF BODY DYSMORPHIC DISORDER

The need for a recognition and management of BDD is urged upon due to several reasons. According to a research by Beilharz et al. (42), the suicidal tendency of a person suffering from this disorder was found to be about 45 times more than the average individual. BDD has been also linked with mood swings, anxiety, depression, and various mental disorders (42). Research conducted by Grant et al. (36) associated BDD with substance abuse, where almost half of the patients developed a lifetime habit of drug abuse. These alarming consequences of an untreated BDD stress the importance of its timely diagnosis and proper treatment.

Treatment options for BDD include both psychotherapeutic and pharmacological interventions. Recent studies have deemed cognitive-behavioral therapy (CBT), selective serotonin reuptake inhibitors (SSRIs), or a combination of the two as the treatment for BDD (12). CBT is a type of psychosocial talk therapy that identifies maladaptive thoughts and emotional responses and substitutes them with desirable patterns of thinking and behavior. The objective of CBT is first to recognize the problem, then challenge and reverse the harmful thoughts or habits and finally result in an improved quality of life. The goal is also to familiarize the patient with coping mechanisms and prevent future relapses. A standard CBT consists of 12-22 weekly sessions and 3 to 6 months of follow-up sessions. Ample data is available, concluding CBT is the most successful and accepted management option when treating BDD (43, 44).

Selective serotonin reuptake inhibitors, typically used as antidepressants, are used in the treatment of several psychiatric disorders such as depressive and anxiety disorders, social phobias, eating disorders, and panic disorders as well. More commonly used drugs of the class are fluoxetine, paroxetine, escitalopram, among others. These drugs work by limiting the reabsorption of serotonin, thus increasing its extracellular levels. Numerous studies have highlighted the importance and success of SSRIs in the improvement of symptoms and the treatment of BDD (43, 45).

However, along with the efficacy of the treatment, it is crucial to keep an eye on the adverse effects of long-term antidepressant therapy. More common side effects include nausea, vomiting, insomnia, agitation, weight gain, and sexual problems. In contrast, several serious adverse effects can also occur. These adverse effects can be listed as hostility towards others, suicidal tendencies, psychosis, and seizures (43). These side effects often cause significant challenges with treatment adherence. Since BDD is a chronic disorder and demands long-term therapy, continuous monitoring is crucial to avoid the earlier-mentioned side effects of SSRIs. The management of BDD is summarized in Figure 2.

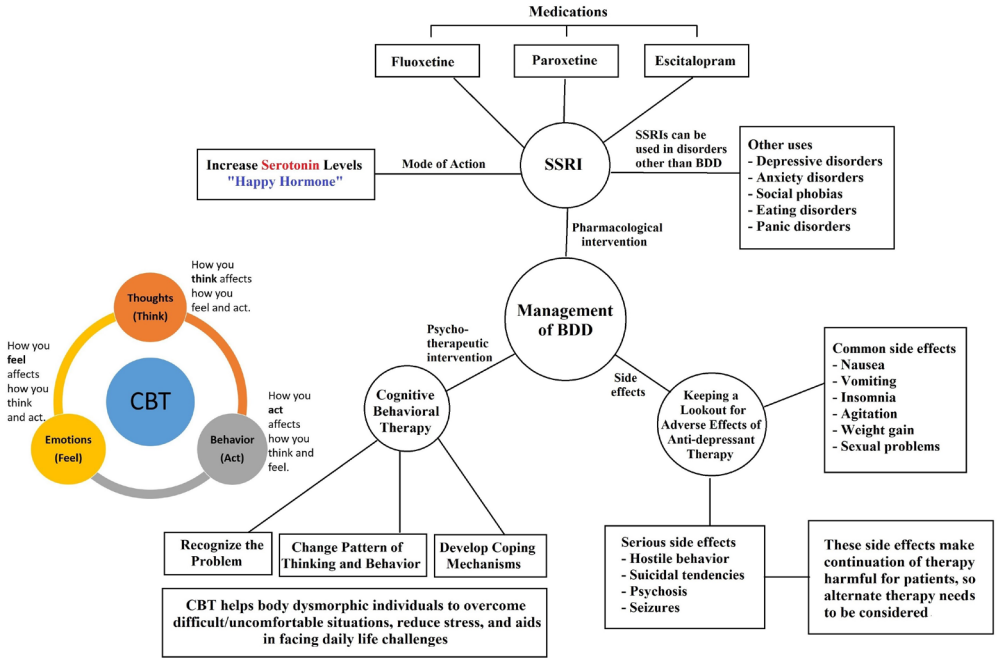

Figure 2: Management of body dysmorphic disorder.
BDD: *Body Dysmorphic Disorder,* ***CBT:*** *Cognitive Behavioral Therapy,* ***SSRI:*** *Selective Serotonin Reuptake Inhibitors*

FUTURE PROSPECTS AND SUGGESTIONS

The fact that BDD is not only prevalent but also a seriously damaging condition makes it essential to develop a thorough understanding of the disease. Since most people share just the best parts of their life via social media, it is tough to avoid making comparisons.

On our path to understanding BDD, our first step should be destigmatizing and creating awareness among the general population as well as the health care professionals. Countrywide awareness campaigns and more research should be held on this disorder. Encouraging body positivity and conducting sessions with various psychotherapists may be beneficial for the patients. Avoiding misdiagnosis could accelerate the treatment progress. Many patients are often misdiagnosed with MDD or OCD and that results in wrong treatment strategies (9). After the prompt diagnosis, the treatment should be planned according to the patients' needs; pharmacological treatment and/or cognitive behavioral therapy. Encouraging students with symptoms of BDD to schedule appointments with mental health professionals may avoid serious consequences as well.

The development of self-confidence concerned with one's appearance is a great contributor to an individual's personal and professional growth. Thus, the development of a negative self-image not only harms a person in his/her current life but also hinders his/her future growth. Still, further studies are needed to prove if this disease becomes an obstacle in the path of academic success.

CONCLUSION

In conclusion, BDD is a complicated disorder that harms an individual's life in many ways. It can lead to very low self-esteem, extreme anxiety, depression, and suicidal ideation in an individual. It can affect students emotionally as well as academically and can even lead to dropouts from school. It is crucial to identify this disorder and educate people about body-positivity. Correct diagnosis and adequate management can help the affected individual to have a healthy life again.

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