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Chapter

Body Dysmorphic Disorder in Oral and Maxillofacial Surgery

Türker Yücesoy

Abstract

Body dysmorphic disorder (BDD) may be related to the appearance of a body part or may sometimes arise from concerns about a body function. Currently, this disorder was included in contemporary classification systems with DSM-5. The majority of BDD patients first consult dermatologists, surgeons, and more often plastic surgeons, rather than psychiatrists. Therefore, it is difficult to determine the prevalence of this disorder in the psychiatric society. The oral and maxillofacial region is highly associated with face deformities, and the patients with BDD are applying to those clinics even without self-awareness of their disorders. It has been reported that most of the orthognathic surgical patients are associated with the facial appearance of surgical motivations and will have similar psychological motivations to cosmetic surgery patients. Moreover, the orthodontics, prosthetic and restorative dentistry are the branches of dentistry that mostly the patients come with esthetic complaints. Studies on BDD have not yet received the value they deserve concerning the prevalence and severity. Researches in dentistry and oral and maxillofacial surgery are much less, and the individuals suffering from BDD are not well-known among dentists/oral and maxillofacial surgeons; therefore, the frequency of BDD patients is not noticed and treated properly.

Keywords: body dysmorphic disorder, maxillofacial surgery, esthetics, dentistry, psychiatry

1. Description

Most people are not completely satisfied with their appearance. But some individuals are very concerned about a slight or imaginary flaw in their appearance. These individuals could have a "problem" not only physically but also psychiatrically.

Body dysmorphic disorder (BDD) is a condition not only in which a person overestimates and exaggerates a body defect but also one may believe in the existence even if there is not a body defect. This engagement can lead to significant unrest or impaired functionality. BDD is a severe illness and relatively common which often presents to both mental health professionals and nonpsychiatric physicians [1].

1.1 History

The disorder was defined as "compulsive neurosis" in the first place. After, it was called "obsession with shame of the body" and "dysmorphophobia," respectively. Dysmorphophobia is preferred to explain the sudden emergence and continuation of the idea of a deformity; it is defined as an individual's fear of the occurrence of this deformity and feeling the anxiety of this awareness considerably [2].

Body dysmorphic disorder was first shown in the DSM-IV in 1980 and described as an atypical somatoform disorder [3]. The American Psychiatric Association (APA) classified this "problem" as a distinct somatoform disorder in 1987, and since then it has gained popularity in the media and in clinical researches [4]. Currently, BDD is included in contemporary classification systems with DSM-5 (the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition*), the classification system of the APA [5].

1.2 Diagnosis

The changes between DSM 4 and DSM 5 criteria for diagnosing BDD are shown in **Figure 1**. On the other hand, many tests have been established to diagnose BDD or measure its severity. However, some tests are performed more frequently for specific reasons, such as easy application and providing more effective results, for example, the Body Image Disturbance Questionnaire (BIDQ), Yale-Brown Obsessive–Compulsive Scale Modified for BDD (BDD-YBOCS) and Body Dysmorphic Disorder Questionnaire (BDDQ) [7], the Cosmetic Procedure Screening (COPS) questionnaire [8], the Appearance Anxiety Inventory (AAI) [9], BDD Dimensional Scale (BDD-D) [10], the Body Image Disturbance Questionnaire (BIQLI) [11], and the Dysmorphic Concern Questionnaire (DCQ) [12].

1.3 Epidemiology

BDD is a relatively common disorder. Despite its prevalence and severity, the diagnosis can be missed in clinical settings [13]. The majority of BDD patients first consult dermatologists, internists, surgeons, and more often plastic surgeons, rather than psychiatrists. Therefore, it is difficult to determine the prevalence of this disorder in the psychiatric society. Although the studies in the general population range from 0.7 to 5.3% [14–18], clinical studies reveal higher rates: 8.8 to 12% [19, 20] among dermatology patients; 7% in cosmetic surgery patients [21]; 14–42% in patients with atypical major depression [22–24]; 11–13% in patients with social anxiety [25, 26]; 8–37% in patients with obsessive–compulsive disorder [26–28]; and 39% in patients with anorexia nervosa [29].

DSM-IV	DSM-5
Disorder Class: Somatoform Disorders	Disorder Class: Obsessive-Compulsive and Related Disorders
A. Preoccupation with an imagined defect in appearance. If a slight physical anomaly is present, the person's concern is markedly excessive.	A. Preoccupation with one or more perceived defects or flaws in physical appearance that are not observable or appear slight to others.
	B. At some point during the course of the disorder, the individual has performed repetitive behaviors (e.g., mirror checking, excessive grooming, skin picking, reassurance seeking) or mental acts (e.g., comparing his or her appearance with that of others) in response to the appearance concerns.
B. The preoccupation causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.	C. The preoccupation causes clinically significant distress or impairment in social, occupational or other areas of functioning.
C. The preoccupation is not better accounted for by another mental disorder (e.g., dissatisfaction with body shape and size in anorexia nervosa).	D. The appearance preoccupation is not better explained by concerns with body fat or weight in an individual whose symptoms meet diagnostic criteria for an eating disorder.
--	*Specify* if: With muscle dysmorphia: The individual is preoccupied with the idea that his or her body build is too small or insufficiently muscular. This specifier is used even if the individual is preoccupied with other body areas, which is often the case. *Specify* if: Indicate degree of insight regarding body dysmorphic disorder beliefs (e.g., "I look ugly" or "I look deformed"). With good or fair insight: The individual recognizes that the body dysmorphic disorder beliefs are definitely or probably not true or that they may or may not be true. With poor insight: The individual thinks that the body dysmorphic beliefs are probably true. With absent insight/delusional beliefs: The individual is completely convinced that the body dysmorphic beliefs are true.

Figure 1.
DSM-IV to DSM-V body dysmorphic disorder comparison.

Despite the presence of BDD cases beginning in adulthood or childhood, symptoms often begin in adolescence or young adulthood [30]. In particular, men and young people do not want to report their complaints because of humiliation and embarrassment or do not see them as a mental problem. Although the age of onset goes down to 6 years, in many studies the age of onset is reported to be between the ages of 15 and 20, with an average age of 16–18 [31].

1.4 Quality of life and functionality

The main cognitive feature of BDD is the belief that extreme anxiety and imagined defect represent a personal disability. One's quality of life can vary considerably. Many people can at least limit their social functions and resort to avoidance in order to prevent their imperfections from appearing fully in the public sphere. These avoidance strategies may include camouflage by wearing makeup or concealed clothing. Some individuals may never leave the house. Phillips et al. reported that men with BDD had a higher rate of single or single living than women, whereas another study found that 30% of BDD patients were individuals who could not leave their homes at least 1 week before the study [32, 33]. Other compulsive behaviors are to examine, heal, or conceal the perceived defects and include excessive mirror control, excessive care, styling hair, camouflaging the defect, comparing oneself with others, picking skin, and trying to convince the ugliness of the defect to others [34]. Therefore, psychosocial functioning of BDD is associated with suicidal tendencies and especially poor quality of life [35].

1.5 Classification

Although BDD was classified as a somatoform disorder in DSM-IV, it is currently accepted as a disorder of the obsessive–compulsive spectrum disorders (OCSD) group because of its overlapping aspects with OCSD in DSM-V. However, it is frequently emphasized that BDD not only is a clinical variant of OCSD but is also associated with mood disorders, social anxiety disorders, and eating disorders [36].

1.6 Clinical symptoms

The main clinical features of BDD are disproportionately dealing with an imaginary or mild physical defect, which leads to significant clinical distress or a significant loss of functionality in work, private, and social life. It is known that most patients with BDD do not consult with psychiatrists and apply to nonpsychiatric physicians, such as esthetic surgeons, to eliminate the perceived physical defects. Sixty eight to ninety-eight percent of BDD patients experience concerns about multiple body regions [32, 37].

BDD may be related to the appearance of a body part or may sometimes arise from concerns about a body function. Sweating and related thoughts about the secretion of bad odor can be given as an example. Concerns of BDD cases become more apparent in social settings. Avoidance behaviors such as being unable to go out of the house or going out in the dark only, not being able to enter social environments due to concerns, and leaving school or work are common symptoms. Most of the patients believe that their physical defects are seen and noticed by others, and therefore they look at the mirror in excessive levels or try to stay away from the objects that reflect the mirror image as much as possible, make use of makeup material, and make dress changes in order to hide the areas that they believe to be defective.

1.7 Co-diagnosis

The most common comorbid diagnoses in BDD are major depression, social phobia, drug addictions, and OCD [38]. Phillips et al. showed that the frequency of OCD was 37% among 100 cases [39], and similarly the incidence of OCD was found to be 39% of the study of 50 cases by Hollander et al. [37].

1.8 Differential diagnosis

Because BDD and OCD have similar features in many respects, BDD is often accepted as an OCD [40–42]. However, poorer insight than OCD, higher suicide rates, and higher comorbidity of depression differentiate the two disorders [41, 43, 44]. A significant proportion of patients diagnosed with BDD show avoidance behaviors in social settings. This situation evokes the avoidance behaviors of social phobic patients [43]. Social phobia cases are comfortable as long as they stay away from crowded environments that cause anxiety for them.

Social phobia patients also know that their concerns are meaningless, but they cannot resist their anxiety. While individuals with BDD do not think their concerns are meaningless, staying away from social settings does not reduce the anxiety of such patients. Also, in social phobia, the reason for staying away from the social environment is not usually exaggerated physical defects [13, 35].

1.9 Treatment

Many individuals with BDD resort to nonpsychiatric medical and surgical treatments to correct perceived defects in their physical appearance. Dermatological treatment is the most desirable and applied treatment (mostly acne agents). It is followed by surgical treatment, most commonly rhinoplasty. In a study in which 12% of subjects received isotretinoin, treatment rarely increased BDD. Therefore, nonpsychiatric medical treatments do not seem to be effective in the treatment of body dysmorphic disorder. Crerand et al. stated that individuals were also evaluated, and the results reported that individuals who refused psychiatric treatment did not observe any change and their condition worsened [45]. The somatic subtype of delusional disorder needs to be distinguished from BDD. The somatic subtype of delusional disorder provides more benefits than antipsychotic medication; BDD patients benefit from treatment with selective serotonin reuptake inhibitors (SSRIs) [38, 41]. The general opinion is that the use of high-dose SSRIs in BDD will be beneficial [46, 47]. The use of SSRI is considered to be the ideal treatment when the highest dose recommended by the manufacturer for 12 weeks or more is used. Daily fluvoxamine 150 mg, fluoxetine 40 mg, paroxetine 40 mg, sertraline 150 mg, citalopram 40 mg, and escitalopram 20 mg SSRI doses are considered as the minimum and adequate doses [48]. Any treatment of "defect" in patients with BDD is controversial. However, the general idea is that surgical treatments should be performed if only these individuals still need surgery after psychiatric treatment [49].

1.10 Translation of the scales and questionnaires

Due to almost all the scales being prepared in English, the translation of those forms into other languages and validity and reliability studies should be performed, and it must be proven that it is equivalent to the original language. For example, the translation of the YBOCS-BDD scale into Brazilian Portuguese was performed among 93 selected rhinoplasty patients of both sexes. Also, the test–retest method was used for reliability at 1-week intervals, and statistical analysis was performed

using correlation coefficient and intraclass correlation coefficient (ICC) [50]. It has also been translated into Persian, German, French, and Italian, and these studies have shown significant results [51, 52]. In the German reliability and validity study of the BIDQ-S scale, which is a modification of the BIDQ scale for scoliosis patients, 259 patients with idiopathic scoliosis were included in the study [53].

2. Body dysmorphic disorder in oral and maxillofacial surgery

The developed scales have been mentioned in many studies in the world, including esthetics such as dermatology, esthetic surgery, maxillofacial surgery, and orthodontics, and have been used to detect individuals with BDD (**Figure 2**). But the maxillofacial region is highly associated with face deformities, and the patients with BDD are applying to those clinics even without self-awareness of their disorders. Particularly, orthognathic surgery, also known as corrective jaw surgery, is considered functional surgery in the treatment of maxillomandibular dysfunction. However, the correction of maxillomandibular deformity creates highly esthetic and satisfactory results. In the studies in the literature, it has been reported that 52–74% of orthognathic surgical patients are associated with the facial appearance of surgical motivations and will have similar psychological motivations to cosmetic surgery patients. After this type of surgery, satisfaction with the outcome is as high as 92%, resulting in improved quality of life [54–56]. In a small number of patients (<10%) who are not satisfied with the surgical outcome, the underlying cause may be a psychological condition experienced by the individual rather than a failed surgical procedure. The underlying psychological condition may be BDD, which is believed to be increased in patients seeking orthognathic surgery [56]. It was found that 10% of orthognathic surgery patients met significantly higher BDD criteria than reported rates (between 0.7 and 4.0%) in the general adult population [15, 57–59]. This rate is similar to the prevalence of cosmetic surgery and dermatology patient population of BDD, which is between 6 and 16% [60].

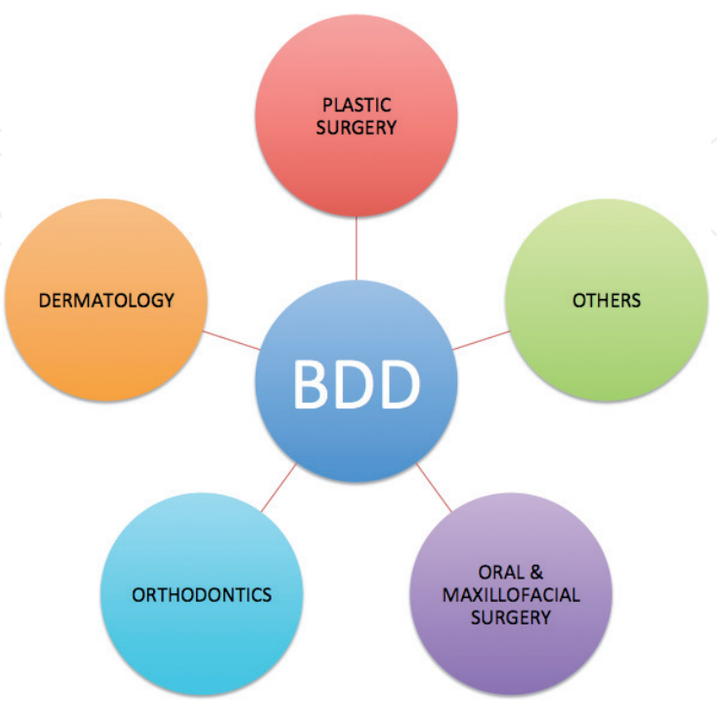

Figure 2.
Nonpsychiatric departments where body dysmorphic disorder patients generally apply to.

Although researches on BDD and dental treatment are relatively rare, published case reports showed the BDD patients involved in general dentistry and maxillofacial surgery. Some authors applied a questionnaire to 40 adult patients who participated in orthodontic treatment and estimated the prevalence of BDD to be 7.5%, suggesting that individuals with BDD had a high demand for orthodontic treatment [34]. De Jongh et al. reported the frequency of occupation of individuals with a defect in their appearance and stated that the rate of whitening and orthodontic treatment of those who reported that they were engaged in such defect was nine times higher [60]. These studies have shown that clinicians working in esthetic dentistry are likely to be visited by BDD patients and therefore need to be aware of the condition of such patients and to know how to evaluate and manage patients suspected of having BDD [49].

In addition to areas such as plastic surgery and dermatology, another important part where the patient comes with esthetic complaints is dentistry. Maxillofacial surgery, orthodontics, prosthetic, and restorative dental treatment, which is a branch of dentistry, are among the important parts that patients come with esthetic complaints. The inability to detect individuals with possible BDD in these departments and to try to eliminate the esthetic complaint before the treatment of psychiatric disorder adversely affects the success of the treatment.

Eventually, all of those studies show that the prevalence of BDD among dentist individuals is much more severe than the general population. Moreover, the incidence of BDD patients among individuals who apply to clinics is unknown. To increase the success rate of the treatment by increasing the satisfaction rate obtained as a result of the esthetic treatments, further studies should be planned to identify the individuals with BDD. The importance of informing the patients preoperatively in dentistry/maxillofacial surgery must be well-known. The studies should aim to increase the frequency of application of the tests for BDD in dentistry to determine the real epidemiology of this disease among this field.

3. Conclusion

- The patients with BDD apply to all clinics to relieve their esthetic concerns which are the main complaint despite the lack of self-awareness of the psychological disorder.
- These clinics may be dental, maxillofacial surgery, dermatology, and esthetic surgery that provide esthetic treatment to a large extent.
- Worldwide research on BDD has not yet received the value it deserves concerning the prevalence and severity of the disease.
- Researches in dentistry and oral and maxillofacial surgery are much less than in other departments. Individuals suffering from BDD are not well-known among dentists/oral and maxillofacial surgeons; therefore, the frequency of BDD patients is not noticed.

Conflict of interest

None.

DOI: http://dx.doi.org/10.5772/intechopen.90541

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Author details

Türker Yücesoy
Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Bezmialem Vakif University, Istanbul, Turkey

*Address all correspondence to: dt.yucesoy@hotmail.com

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References

[1] Phillips KA. The presentation of body dysmorphic disorder in medical settings. Primary Psychiatry. 2006;**13**(7):51

[2] Fava GA. Morselli's Legacyi: Dysmorphophobia. Psychotherapy and Psychosomatics. 1992;**58**(3-4):117-118

[3] Crerand CE, Franklin ME, Sarwer DB. Body dysmorphic disorder and cosmetic surgery. Plastic and Reconstructive Surgery. 2006;**118**(7):167e-180e

[4] Hunt TJ, Thienhaus O, Ellwood A. The mirror lies: Body dysmorphic disorder. American Family Physician. 2008;**78**(2):217-224

[5] American Psychiatric Association. Diagnostic and statistical manual of mental disorders (DSM-5®). USA: American Psychiatric Publishing; 2013

[6] Cash TF, Phillips KA, Santos MT, Hrabosky JI. Measuring "negative body image": Validation of the body image disturbance questionnaire in a nonclinical population. Body Image. 2004;**1**(4):363-372

[7] Phillips KA, Hollander E, Rasmussen SA, Aronowitz BR. A severity rating scale for body dysmorphic disorder: Development, reliability, and validity of a modified version of the Yale-Brown obsessive compulsive scale. Psychopharmacology Bulletin. 1997;**33**(1):17

[8] Veale D, Ellison N, Werner TG, Dodhia R, Serfaty M, Clarke A. Development of a cosmetic procedure screening questionnaire (COPS) for body dysmorphic disorder. Journal of Plastic, Reconstructive & Aesthetic Surgery. 2012;**65**(4):530-532

[9] Veale D, Eshkevari E, Kanakam N, Ellison N, Costa A, Werner T. The appearance anxiety inventory: Validation of a process measure in the treatment of body dysmorphic disorder. Behavioural and Cognitive Psychotherapy. 2014;**42**(5):605-616

[10] LeBeau RT, Mischel ER, Simpson HB, Mataix-Cols D, Phillips KA, Stein DJ, et al. Preliminary assessment of obsessive–compulsive spectrum disorder scales for DSM-5. Journal of Obsessive-Compulsive and Related Disorders. 2013;**2**(2):114-118

[11] Hrabosky JI, Cash TF, Veale D, Neziroglu F, Soll EA, Garner DM, et al. Multidimensional body image comparisons among patients with eating disorders, body dysmorphic disorder, and clinical controls: A multisite study. Body Image. 2009;**6**(3):155-163

[12] Mancuso SG, Knoesen NP, Castle DJ. The Dysmorphic concern questionnaire: A screening measure for body dysmorphic disorder. The Australian and New Zealand Journal of Psychiatry. 2010;**44**(6):535-542

[13] Bjornsson AS, Didie ER, Phillips KA. Body dysmorphic disorder. Dialogues in Clinical Neuroscience. 2010;**12**(2):221

[14] Bienvenu OJ, Samuels JF, Riddle MA, Hoehn-Saric R, Liang K-Y, Cullen BA, et al. The relationship of obsessive–compulsive disorder to possible spectrum disorders: Results from a family study. Biological Psychiatry. 2000;**48**(4):287-293

[15] Bohne A, Keuthen NJ, Wilhelm S, Deckersbach T, Jenike MA. Prevalence of symptoms of body dysmorphic disorder and its correlates: A cross-cultural comparison. Psychosomatics. 2002;**43**(6):486-490

[16] Cansever A, Uzun Ö, Dönmez E, Özşahin A. The prevalence and clinical

features of body dysmorphic disorder in college students: A study in a Turkish sample. Comprehensive Psychiatry. 2003;**44**(1):60-64

[17] Faravelli C, Salvatori S, Galassi F, Aiazzi L, Drei C, Cabras P. Epidemiology of somatoform disorders: A community survey in Florence. Social Psychiatry and Psychiatric Epidemiology. 1997;**32**(1):24-29

[18] Sarwer DB, Cash TF, Magee L, Williams EF, Thompson JK, Roehrig M, et al. Female college students and cosmetic surgery: An investigation of experiences, attitudes, and body image. Plastic and Reconstructive Surgery. 2005;**115**(3):931-938

[19] Phillips KA, Dufresne RG Jr, Wilkel CS, Vittorio CC. Rate of body dysmorphic disorder in dermatology patients. Journal of the American Academy of Dermatology. 2000;**42**(3):436-441

[20] Uzun Ö, Başoğlu C, Akar A, Cansever A, Özşahin A, Çetin M, et al. Body dysmorphic disorder in patients with acne. Comprehensive Psychiatry. 2003;**44**(5):415-419

[21] Sarwer DB, Wadden TA, Pertschuk MJ, Whitaker LA. Body image dissatisfaction and body dysmorphic disorder in 100 cosmetic surgery patients. Plastic and Reconstructive Surgery. 1998;**101**(6):1644-1649

[22] Nierenberg AA, Phillips KA, Petersen TJ, Kelly KE, Alpert JE, Worthington JJ, et al. Body dysmorphic disorder in outpatients with major depression. Journal of Affective Disorders. 2002;**69**(1-3):141-148

[23] Perugi G, Akiskal H, Lattanzi L, Cecconi D, Mastrocinque C, Patronelli A, et al. The high prevalence of "soft" bipolar (II) features in atypical depression. Comprehensive Psychiatry. 1998;**39**(2):63-71

[24] Phillips KA, Nierenberg AA, Brendel G, Fava M. Prevalence and clinical features of body dysmorphic disorder in atypical major depression. The Journal of Nervous and Mental Disease. 1996;**184**(2):125-129

[25] Brawman-Mintzer O, Lydiard RB, Phillips KA, Morton A, Czepowicz V, Emmanuel N, et al. Body dysmorphic disorder in patients with anxiety disorders and major depression: A comorbidity study. The American Journal of Psychiatry. 1995;**152**(11):1665-1667. Available from: https://doi.org/10.1176/ajp.152.11.1665

[26] Wilhelm S, Otto MW, Zucker BG, Pollack MH. Prevalence of body dysmorphic disorder in patients with anxiety disorders. Journal of Anxiety Disorders. 1997;**11**(5):499-502

[27] Pigott TA, L'Heureux F, Dubbert B, Bernstein S, Murphy DL. Obsessive compulsive disorder: comorbid conditions. The Journal of Clinical Psychiatry. 1994;**55**:15-27. discussion 28-32

[28] Simeon D, Hollander E, Stein DJ, Cohen L, Aronowitz B. Body dysmorphic disorder in the DSM-IV field trial for obsessive-compulsive disorder. The American Journal of Psychiatry. 1995;**152**(8):1207-1209

[29] Grant JE, Kim SW, Eckert ED. Body dysmorphic disorder in patients with anorexia nervosa: Prevalence, clinical features, and delusionality of body image. International Journal of Eating Disorders. 2002;**32**(3):291-300

[30] Hollander E, Aronowitz BR. Comorbid social anxiety and body dysmorphic disorder: Managing the complicated patient. The Journal of Clinical Psychiatry. 1999;**60**:27-31

[31] Veale D, Boocock A, Gournay K, Dryden W, Shah F, Willson R, et al. Body dysmorphic disorder: A survey

of fifty cases. The British Journal of Psychiatry. 1996;**169**(2):196-201

[32] Phillips KA, McElroy SL, Keck PE, Pope HG, Hudson JI. Body dysmorphic disorder: 30 cases of imagined ugliness. American Journal of Psychiatry. 1993;**150**:302-302

[33] Phillips KA, Menard W, Fay C. Gender similarities and differences in 200 individuals with body dysmorphic disorder. Comprehensive Psychiatry. 2006;**47**(2):77-87

[34] Hepburn S, Cunningham S. Body dysmorphic disorder in adult orthodontic patients. American Journal of Orthodontics and Dentofacial Orthopedics. 2006;**130**(5):569-574

[35] Phillips K. In: Phillips KA, editor. Body Dysmorphic Disorder, in Somatoform and Factitious Disorders. Washington, DC: American Psychiatric Press; 2001

[36] Castle DJ, Rossell SL. An update on body dysmorphic disorder. Current Opinion in Psychiatry. 2006;**19**(1):74-78

[37] Hollander E, Cohen LJ, Simeon D. Body dysmorphic disorder. Psychiatric Annals. 1993;**23**(7):359-364

[38] Gunstad J, Phillips KA. Axis I comorbidity in body dysmorphic disorder. Comprehensive Psychiatry. 2003;**44**(4):270-276

[39] Phillips KA, McElroy SL, Keck PE, Hudson JI, Pope H. A comparison of delusional and nondelusional body dysmorphic disorder in 100 cases. Psychopharmacology Bulletin. 1994;**30**(2):179-186

[40] Cohen LJ, Stein DJ, Simeon D. Obsessive-compulsive spectrum disorders. In: Hollander E, Stein DJ, editors. *Obsessive-Compulsive Disorders*. New York: Marcel Dekker Inc; 1997. pp. 47-74

[41] Phillips KA, Gunderson CG, Mallya G, McElroy SL, Carter W. A comparison study of body dysmorphic disorder and obsessive-compulsive disorder. The Journal of Clinical Psychiatry. 1998;**59**(11):568-575

[42] Frare F, Perugi G, Ruffolo G, Toni C. Obsessive–compulsive disorder and body dysmorphic disorder: A comparison of clinical features. European Psychiatry. 2004;**19**(5):292-298

[43] Buhlmann U, Wilhelm S, McNally RJ, Tuschen-Caffier B, Baer L, Jenike MA. Interpretive biases for ambiguous information in body dysmorphic disorder. CNS Spectrums. 2002;**7**(6):435-443

[44] Eisen JL, Phillips KA, Coles ME, Rasmussen SA. Insight in obsessive compulsive disorder and body dysmorphic disorder. Comprehensive Psychiatry. 2004;**45**(1):10-15

[45] Crerand CE, Phillips KA, Menard W, Fay C. Nonpsychiatric medical treatment of body dysmorphic disorder. Psychosomatics. 2005;**46**(6):549-555

[46] Phillips KA. The Broken Mirror: Understanding and Treating Body Dysmorphic Disorder. USA: Oxford University Press; 2005

[47] Phillips KA. Understanding Body Dysmorphic Disorder. USA: Oxford University Press; 2009

[48] Ray PÇ, Demirkol ME, Tamam L. Beden dismorfik bozukluğu. Psikiyatride Güncel Yaklaşımlar. 2012;**4**(4):547-565

[49] Cunningham S, Bryant C, Manisali M, Hunt N, Feinmann C. Dysmorphophobia: Recent developments of interest to the maxillofacial surgeon. British Journal of Oral and Maxillofacial Surgery. 1996;**34**(5):368-374

[50] MJd B, Sabino Neto M, de Oliveira MF, Cordás TA, Duarte LS, Rosella MF, et al. Yale-Brown obsessive compulsive scale modified for body dysmorphic disorder (BDD-YBOCS): Brazilian Portuguese translation, cultural adaptation and validation. Brazilian Journal of Psychiatry. 2015;**37**(4):310-316

[51] Rabiee M, Khorramdel K, Kalantari M, Molavi H. Factor structure, validity and reliability of the modified Yale-brown obsessive compulsive scale for body dysmorphic disorder in students. Iranian Journal of Psychiatry and Clinical Psychology. 2010;**15**(4):343-350

[52] Rush AJ Jr, First MB, Blacker D. Handbook of Psychiatric Measures. USA: American Psychiatric Publishing; 2009

[53] Wetterkamp M, Thielsch MT, Gosheger G, Boertz P, Terheyden JH, Schulte TL. German validation of the BIDQ-S questionnaire on body image disturbance in idiopathic scoliosis. European Spine Journal. 2017;**26**(2):309-315

[54] Cheng L, Roles D, Telfer M. Orthognathic surgery: The patients' perspective. British Journal of Oral and Maxillofacial Surgery. 1998;**36**(4):261-263

[55] Espeland L, Høgevold HE, Stenvik A. A 3-year patient-centred follow-up of 516 consecutively treated orthognathic surgery patients. The European Journal of Orthodontics. 2007;**30**(1):24-30

[56] Olson R, Laskin D. Expectations of patients from orthognathic surgery. Journal of Oral Surgery. 1980;**38**(4):283-285

[57] Buhlmann U, Glaesmer H, Mewes R, Fama JM, Wilhelm S, Brähler E, et al. Updates on the prevalence of body dysmorphic disorder: A population-based survey. Psychiatry Research. 2010;**178**(1):171-175

[58] Koran LM, Abujaoude E, Large MD, Serpe RT. The prevalence of body dysmorphic disorder in the United States adult population. CNS Spectrums. 2008;**13**(4):316-322

[59] Otto MW, Wilhelm S, Cohen LS, Harlow BL. Prevalence of body dysmorphic disorder in a community sample of women. American Journal of Psychiatry. 2001;**158**(12):2061-2063

[60] De Jongh A, Oosterink F, Van Rood Y, Aartman I. Preoccupation with one's appearance: A motivating factor for cosmetic dental treatment? British Dental Journal. 2008;**204**(12):691