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Chapter

A Distorted Body Image: Cognitive Behavioral Therapy for Body Dysmorphic Disorder

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Abstract

Body dysmorphic disorder (BDD) is one of the mental disorders that warrant more research due to the current challenges and complexity of human life. A search through Medline, Academic Search Premier, PsycINFO, and PsyArticles, using "body dysmorphic disorder" and "intervention" keywords, showed that a total of 186 articles had been published for the past 25 years. BDD was added to the obsessive-compulsive and related disorder spectrum in the *Diagnostic and Statistical Manual of Mental Disorder-5* (2013). BDD is a preoccupation with an imagined defect in physical appearance by individual who looks normal which causes low self-esteem and co-morbids with other mental health problems. Individuals with BDD often end up with dermatological treatment and cosmetic surgery. However, in most cases, they frequently experience a dissatisfaction with the results and worsen the individual condition. Therefore, psychological intervention is needed to treat individuals with BDD to combat their negative perceptions on physical appearance. Research has shown that one of the effective interventions in treating individuals with BDD is cognitive behavioral therapy (CBT). Some techniques that are recommended are psychoeducation, restructuring cognitive, exposure and ritual prevention, and others. This paper aims to discuss the clinical diagnosis and CBT intervention as a treatment for individual with BDD.

Keywords: body dysmorphic disorder, cognitive behavioral therapy, body image, skin picking, obsessive-compulsive disorder

1. Introduction

Body image is one of the first individual characteristics noticed by others and has an important impact on self-image and social interactions. Research study revealed that there is a relationship between self-esteem and body dissatisfaction. This proves that beauty has a connection with self-esteem and self-image [1].

Body image is not just a cognitive construct but also a reflection of attitude and interaction with others. Being concerned and worried about the appearance and body image is normal and common among many people, mostly in female. However, if the individual is overly worried and concerned and affects a person's functionality, then it is considered a problem and pathological.

Body image encompasses perceptions, thoughts, and feelings about the body that are influenced by development, perception, and sociocultural factors [2]. In some

people, perception has been shaped in such a way that it contradicts with reality. One of the most common forms of this disorder is body dysmorphic disorder (BDD). BDD is a severe disorder defined by a preoccupation with perceived imperfections in appearance and resulting in repetitive behaviors, which also causes a clinically significant distress or functional impairment [3]. BDD also has a high rate of suicidality [4, 5]. BDD typically begins during early adolescence and appears to be common in adults. BDD, previously known as dysmorphobia, represents a psychotic delusional state, whereby the individual was unable to realize, even for a fleeting moment, that their ideas were irrational. Individuals with BDD believe they looked ugly or unattractive when in reality they look normal and attractive. Many people with BDD will seek unnecessary dermatologic, dental, and other cosmetic treatments in hopes of removing their negative perceptions on physical appearance. These procedures have poor outcomes and lead to individuals distress, often worsening the symptoms and leading to the dissatisfaction and loss of self-esteem [6]. Feelings of frustration, hopelessness, or shame resulting from engagement in or disturbance of rituals can also lead to anger outbursts and may involve physical aggression [7].

2. Diagnosis and clinical assessment of body dysmorphic disorder

Previously, BDD was considered a somatoform disorder because its central feature is a psychological preoccupation with somatic issues. However, increasing evidence has indicated it was more closely related to obsessive-compulsive disorder (OCD), accounting for its relocation to the obsessive-compulsive and related disorders section in the *Diagnostic and Statistical Manual of Mental Disorders-5* [3]. The diagnostic criteria of BDD are as follows:

2.1 Appearance preoccupation

Individuals with BDD are constantly preoccupied and persistently complaining about their appearance which they deem horrible and intrusive [8]. Individuals with BDD exhibit perfectionistic thinking and maladaptive attractiveness beliefs [9]. The average number of body areas that is of a concern to these individuals was five to seven, and preoccupation may focus on any areas of the body and commonly involves the face, nose, hair, skin, breast, teeth, and others [3]. However, some can concern only one area. Concerns range from looking unattractive to looking disgusting. These thoughts are very distressing and are associated with a feeling of low self-esteem, rejection sensitivity, embarrassment, and shame [10]. Generally, they spend at least an hour a day of thinking about the supposed appearance flaws. On average, they will spend between 3 and 8 hours a day on this [10]. Some individuals are also concerned about the perceived asymmetry of body areas. A study showed that females with BDD were more likely to be preoccupied with their hips, weight, breasts, legs, pick their skin and disguise with makeup, while males with BDD were more likely to be preoccupied with their body build, genitals, and hair thinning [11, 12]. Muscle dysmorphia, a form of BDD occurring mostly in male individuals, consists of preoccupation with the idea that one's body is too small or insufficiently lean or insufficiently muscular. In reality, these individuals actually have a normal-looking body and are muscular. Some are also very preoccupied with other areas such as their hair and skin. A majority of them also practices diet and exercise extremely that in turn leads to bodily damage [3].

2.2 Ritual

Individuals with BDD also perform ritual behavior by mirror checking or compensating in attempts to alleviate their concerns and anxiety. Excessive grooming, camouflaging, and skin picking are also common in BDD [8, 13]. Some individuals are excessively tan, for example, to darken "pale" skin or diminish perceived acne. In addition, some individuals repeatedly change their clothes such as to camouflage the perceived defects, or some individuals compulsively shop for their beauty products [3]. Many of these behaviors are considered compulsive, in that they are repetitive and difficult to resist or control the rituals.

2.3 Distress or impairment in social, occupational, or other important areas of functioning

People with BDD also have the idea of reference which means they think everything that goes on in their world is related to them. This thinking and perception can cause disruption in their lives. Impairment in functioning can include problems with any aspect of social functioning that is caused by BDD, such as problems with relationships, socializing, intimacy, or difficulty being around other people. It also includes problems with the ability to function in a job, academically, or in one's role in life [14].

Among adults, BDD results in high rates of occupational impairment, unemployment, social dysfunction, and social isolation [15]. Similarly, BDD in youths is associated with major functional impairment, including reduced academic performance, social withdrawal, and dropping out of school [16]. They may even become housebound [8]. Overall, individuals with BDD have a markedly poor quality of life.

2.4 Other features of BDD

2.4.1 Avoidance behaviors

Individuals with BDD also avoid some social situations because they feel ashamed and embarrassed about their appearance. They are also concerned and worried about how people perceive their appearance. They always assume and think that people are laughing and talking about them because of how they look. They avoid social gatherings, interaction with friends, dating, or places where their body can be seen or exposed such as parties, events, schooling environment, or crowded places such as shopping malls [17]. They think that everyone thinks they are unattractive, and because of that, they avoid any social or leisure activities. In one study, 18% had dropped out of school primarily due to BDD [18], and in another study, 22% had dropped out of school due to BDD [15].

2.4.2 Delusional beliefs

Individual with BDD also have delusional beliefs. They do not recognize that the appearance flaws they perceive are nonexistent [19]. They also tend to think that most people share their views of the supposed defects. People with delusional beliefs also realize that their appearance has a psychological cause; they simply think their beliefs are true [17]. Individuals with BDD display delusion beliefs, believing that people around them notice their defect and evaluate them negatively as a consequence of their ugliness.

Individuals with BDD who have delusional beliefs are also difficult to treat. Research done by other researchers has shown that 79% of patients have had ideas or delusions of reference, believing that others take special notice of the perceived defects [15, 18].

2.4.3 Skin picking

Individuals with BDD also compulsively pick their skin to try to remove any imperfections in their body. They may use their fingers or other tools such as needles, knives, razors, pins, and other sharp objects that can harm their skin. This ritualistic behavior can take hours a day and can cause tissue damage. However, they have no intention of damaging their skin, but they have difficulties in trying to control the ritualistic behavior [17].

3. Body dysmorphic disorder and other mental illnesses

Individual who meet the diagnostic criteria for BDD will often also develop other mental illnesses. BDD is also associated with eating disorder, anxiety disorder, major depression disorder (MDD), substance use disorder, social phobia, obsessive-compulsive disorder (OCD), panic disorder, and post-traumatic stress disorder [8, 10, 20, 21]. Among BDD sufferers, 94% reported that they felt depressed at some point due to their illness [10]. In the largest comorbidity study (n = 293), the most common disorders were MDD (lifetime prevalence of 76%), social anxiety disorder (37%), and OCD (32%) [21].

OCD and social phobia have also been found to have a high lifetime prevalence in BDD individual of 32–33% and 37–39%, respectively. About 10–15% of those with BDD have a lifetime history of anorexia nervosa or bulimia nervosa. Moreover, 2–7% of BDD have a history of somatoform disorder [8, 21, 22].

Meanwhile, 60% of subjects in one study reported that their substance use began after symptoms of BDD and 68% reported that their illness contributed to their substance use becoming problematic [23, 24]. Among individual with BDD, 42.6% reported an alcohol use disorder, and 30.1% reported a cannabis use disorder [23, 24]. Muscle dysmorphia, a specific type of BDD, was also found to have the highest rates of substance abuse such as street drugs and alcohol at the rate of 86% [10]. Moreover, 68% of individuals with a lifetime substance use disorder reported that BDD contributed to their substance use disorder [23]. On the other hand, studies suggest that certain psychoactive drugs, such as cocaine or methamphetamine, may worsen obsession symptoms [25].

Besides the comorbidity, BDD is also associated with increased suicidal ideation. The extant literature suggests a particularly strong link between BDD and elevated rates of suicidal thoughts and suicidal behaviors. Up to 75% of individuals with BDD report experiencing lifetime suicidal ideation, and 25% of individual with BDD report a history of making a suicide attempt. The data suggest a rate of completed suicide up to 45 times that of the general population [26]. The delusional variant of BDD is considered more severe and leads to suicide [27, 28]. BDD appears to engender the four psychological constructs thought to predict suicide: perceived burdensomeness, thwarted belongingness, low fear of death, and high physical pain tolerance [29].

The other researcher also stated that physically painful BDD behaviors that involved cosmetic surgery and restrictive eating would be associated with suicide attempts but not suicide-related ideation because these behaviors increase capability for, but not thoughts about, suicide [29].

4. Cognitive behavioral model for understanding body dysmorphic disorder (BDD)

Few researchers have contributed to a cognitive behavioral model for understanding BDD [30, 31]. According to this model, an individual's behavior and emotions are thought to be determined by their interpretation of events. It is not the incidents or events that determine what the individual feels but of how he or she perceives it. However, many people always accept their perceptions of situations or events as true and may even be unaware that they are making these negative interpretations because this happens automatically to them [17].

According to Beck, the foundation of cognitive behavioral is that individuals develop an understanding about themselves, other people, and their personal worlds. Core beliefs are central ideas about the self and others [32]. Individuals with BDD usually have negative core beliefs relating to their personal worthwhile underlying their negative view of appearance [17]. They always overestimate the meaning and importance of perceived imperfections and misinterpret them as major personal flaws. An example of core beliefs about themselves is "If I am ugly, everyone will not love me and I will be isolated" or "I am worthless." They interpret minor imperfections in appearance as a signal of major flaws because they hold predisposed beliefs they learned previously [17].

Besides having personal negative core beliefs about themselves, individual with BDD always has a negative core belief about others around them such as thinking "people only like sexy body." This leads to their core beliefs and assumptions that they are unattractive and worthless. They tend to jump to conclusions without considering any explanations for their negative interpretation of situations [17]. Perceived imperfections of their negative interpretations will lead to negative emotions, such as anxiety, shame, and sadness, which further increase selective attention to perceived flaws.

As a way of reducing their anxiety, shame, or sadness, individuals with BDD will engage in ritual behavior or avoidance of social situations. Avoidance behavior includes avoiding social contact and other situations such as going to school or parties. Meanwhile, ritual behaviors include mirror checking, skin picking, reassurance seeking, repeated plastic surgery, and excessive grooming situations [17]. Since the rituals and avoidance behaviors can temporarily reduce negative emotions, they are negatively reinforced and, in this way, are hypothesized to maintain dysfunctional BDD-related beliefs. Therefore, cognitive behavioral therapy (CBT) for BDD targets cognitive, emotional, and behavioral factors and generally includes psychoeducation, cognitive intervention, exposure to avoided situations, and prevention of rituals and perceptual retraining such as to reduce selective attention to details such as appearance flaws [33].

The model of BDD from the other researcher focuses on the experience of people with BDD when they are alone [34]. The model begins with the trigger of an external representation of the individual's body image, typically in front of a mirror. The process of selective attention begins by focusing on specific aspects of the external representation, which leads to a heightened awareness and relative exaggeration of certain features. As a result of this process, the person with BDD constructs a distorted mental representation of their body image. Mirror gazing activates idealized values about the importance of appearance and, in some individual with BDD, values about perfectionism or symmetry and thinking of the self as an esthetic object. This leads to a negative esthetic appraisal and comparisons of three different images—the external representation (usually in a mirror), the ideal body image, and the distorted body image. These repeated comparisons leave them uncertain about their appearance,

which encourages for further mirror gazing. The individual with BDD desire to see exactly how he or she looks is only rewarded by looking in the mirror. However, the longer the person looks, the worse they feel and the more the belief of ugliness and unattractiveness is reinforced. When not looking in a mirror, the individual may focus and give more attention to his or her internal body image and ruminate on its ugliness. There is often a marked discrepancy between the actual and the ideal body images, and this inevitably leads to a depressed mood and negative thoughts [34].

5. The development of body dysmorphic disorder

An understanding of how BDD develops is still uncertain, and studies about this are still restricted compared to other disorders. However, there are several key factors that play a role in the development of BDD such as serotonin hypothesis and other neurotransmitters, abnormalities in the brain, culture and mass media roles, parenting styles, environment, and genetic predispositions that contribute to BDD.

5.1 The serotonin hypothesis and other neurotransmitters

Individuals with BDD may have imbalance in the brain's chemical serotonin. In support of this theory, BDD often improves with serotonin reuptake inhibitor medications, which help to boost serotonin in the brain to a healthy level. The brain consists of billions of nerve cells and serotonin. Serotonin, one of the neurotransmitters, is a natural brain chemical that carries information from nerve cell to nerve cell. Serotonin permits cells to communicate with one another and to function [10].

Serotonin is especially abundant in certain parts of the brain that may be especially important in BDD. It is critical to many bodily functions including mood, memory, cognition, appetite, eating behavior, sleep, sexual behavior, and pain. It restrains aggressive and destructive behaviors. Serotonin is involved in a variety of disorders such as OCD and depression. Serotonin is also involved in the visual system and visual processing, and it may help protect animals from overreacting to unimportant sensory input from the environment. This is interesting given that people with BDD appear to overfocus on unimportant details of appearance and "overreact" to nonexistent threats. Serotonin reuptake inhibitor medication helps people become less "overreactive" and less focused on minor appearance flaws. In addition to possible effects on the visual system, serotonin reuptake inhibitors might alleviate BDD symptoms by increasing serotonin release in the striatum and other key brain areas and by inhibiting an overactive amygdala [10]. It is likely that other neurotransmitters are also involved in BDD. For example, dopamine, which may, in combination with serotonin, be particularly important in the development delusional form of BDD [10].

5.2 Abnormalities in the brain

BDD highly likely involves a complex interplay of dysfunction in several neural regions and systems of the brain. Left-sided prefrontal and temporal regions involved in visual processing of faces, and amygdala hyperreactivity, may play a role in development of BDD [10]. Dysfunction in frontal-striatal brain circuits may also be involved. A study conducted by researchers which compared women with BDD to healthy women without BDD using MRI scans to visualize the brain's structure. The researchers found that the BDD group's MRI scans differed in subtle ways from healthy woman. There were differences in the caudate, a C-shaped structure deep in the brain's core (the striatum), which regulates voluntary movements, habits, learning, and cognitions and may be linked to repetitive or ritual behaviors in BDD [10].

Other brain regions might also be involved in BDD. A small neuroimaging study that used single photon emission computed tomography (SPECT) showed various areas of hyperactivation in diffused areas of the brain such as the frontal, temporal, occipital, and parietal lobes [10]. Possible that all of these areas may be involved, it makes sense that the fusiform face and extrastriate body areas, in particular, which are located in the temporal/occipital area, are important in the perception of the body image, and facial emotion perception might play a role. Damage to these areas as well as the parietal lobe can impair perception of bodies and faces [10].

Moreover, one study from the Department of Psychiatry and Biobehavioral Sciences, which studied the abnormalities of visual processing and frontostriatal systems in body dysmorphic disorder, found out that individuals with BDD also demonstrated visual processing and frontostriatal abnormalities when viewing their own face. Moreover, brain activity in these systems correlates with symptom severity. The frontostriatal system findings, especially *orbitofrontal cortex* (OFC) and caudate hyperactivity, suggest possible similar neural pathophysiology to obsessive–compulsive disorder. Abnormalities in visual processing systems may contribute distorted perceptual input to frontostriatal systems, which may be associated with the experience of aversion and that may subsequently mediate obsessive thought patterns and urges to perform compulsive behaviors [35].

A study also discovers that orbitofrontal cortex and anterior cingulate cortex volumes of individual with BDD were significantly smaller than healthy individuals. The individual with BDD brain has more white substances than the healthy individuals [10, 36]. There is also a tendency of an increase of thalamic volume in individual with BDD compared with healthy individual. Evidence also found that right amygdala volume has shown a significant correlation with BDD symptom severity, which suggests a different lateral involvement of the brain regions [37].

5.3 Genetic

There have been small studies investigating genetic factors underlying BDD. Nevertheless, heredity and genetic factors do appear to contribute to BDD. Having certain genes will increase the chances of having certain personality traits, where certain brain circuits are hyperreactive and other characteristics may further increase the risk of getting BDD. Research studies also found that about 20% of people with BDD have at least one first-degree relative such as parent, sibling, or child with BDD. About 6% of all first-degree relatives have BDD. This rate is an estimated three to six times higher than in the general population [10]. BDD probably runs in families because family members share genes that increase the risk of getting BDD. In addition, a preliminary genetics study by researchers found that a certain form of a gene called the GABAA-γ2 receptor gene was more common in people with BDD than in those without BDD [10].

Moreover, 8% of individuals with BDD have a family member also diagnosed with BDD, a statistic four to eight times prevalent in the general population [38]. Some studies show that BDD is more common in individual whose blood relatives also have this condition or obsessive-compulsive disorder [39]. The association between body dysmorphic symptoms and obsessive-compulsive symptoms is largely explained by shared genetic factors. Environmental risk factors were largely unique to each phenotype. These results also support current recommendations to group BDD together with OCD in the same *DSM-5*, although comparison with other phenotypes such as somatoform disorders and social phobia is needed [39].

In addition, the results of twin studies indicate that genetic factors account for approximately 42–44% of the variance in BDD-like symptoms, with the remaining variance being account for by non-shared environmental influences [40, 41].

A twin study in females that operate self-report measures of dysmorphic concerns and concerns about body odor and body malfunction from the United Kingdom twin registry found that genetic factors accounted for approximately 44% of the variance of dysmorphic concerns [40].

5.4 Cultural factors

There are studies that have examined the role of culture in the development of BDD. The tendency to link body attractiveness with positive personal qualities has become a cultural stereotype in the world. Because of the stereotype, people start to be concerned and anxious about their looks and appearance although they are normal with no defects. They exaggerated worry about what other people say about their appearance.

BDD is not specific to one country or culture. Furthermore, cases of BDD have been reported in a variety of countries, including the United States, Canada, Europe, China, Japan, and Africa [27, 42–44]. In Japan, for example, it is called shubo kyofu. Shubo kyofu is characterized by excessive fear of having bodily deformity, and it is similar with BDD. According to the traditional Japanese diagnostic system, shubo kyofu is a subtype of taijin kyofusho (social anxiety), a cultural syndrome characterized by fear and avoidance of interpersonal relationship [45].

In Korea, females typically more prefer slim and skinny bodies. Even though they are normal or underweight, they strive for weight control routinely. Severely losing weight for women has become a social problem due to the appearance-oriented trend in Japan. A study conducted by researchers from the Department of Dental Hygiene, Kangwon University, was performed by 200 health-related and 200 health-unrelated college students, respectively, at K College in Gangwon province. The study showed that as a result of analyzing the relationship between the BMI of the female students and their dissatisfied parts of the body, overweight female students were more dissatisfied with the entire lower parts of their body and whole body, and the female students of normal weight were more dissatisfied with their waist and belly than the other groups. The underweight female students were more dissatisfied with their chests and breasts. But there were no differences in the way they wanted to try and change dissatisfied parts of the body [46].

Meanwhile, a group of researchers from Brazil did a study in Abdominal Plastic Surgery Unit of the São Paulo Hospital, Brazil. A high prevalence of BDD symptoms was found among candidates for abdominoplasty and body weight, and shape concerns were significantly associated with severity of BDD symptoms. It was found that the more severe the symptoms of BDD, the higher the level of concern with body weight and shape. Individuals with BDD having distorted self-perception of body shape or distorted comparative perception of body image were, respectively, 3.67 or 5.93 times more likely to show more severe symptoms of BDD than individual with a more accurate perception [47].

To the best of our knowledge, there has not been any published literature on the prevalence of BDD among patients in an Asian population. However, the results coming from the researchers in Singapore hospitals show that BDD is quite prevalent among patients who have received cosmetic rhinoplasty. BDD patients are likely to have poorer subjective outcomes after surgery although they may experience some improvement in satisfaction when compared to before surgery [48].

One study has conducted the only cross-cultural study published to date and found that BDD prevalence rates in BDD are fairly similar between American (N = 101, 4%) and German students (N = 133, 5.3%) [49]. Cultural factors may play a role in which body parts are of a concern and how other BDD symptoms are

expressed, as different cultures may have variations in esthetic standards of beauty, but this has yet to be studied in relation to BDD [50].

It appears that cultural values and preferences may influence and shape BDD symptoms to some degree. For example, eyelid concerns appear common in Japan but rare in Western countries. Worried about displeasing other people by being unattractive also seems more common in Japan than in the United States. Some people say that their BDD symptoms began when they moved to another culture and felt that they looked different and did not fit in [10].

5.5 Environment and life experiences

Environment and life experiences may contribute to BDD, especially if they involve negative social evaluations about someone's appearance, body or self-image, or even childhood neglect or abuse. Bullying has been shown to be associated with BDD, and most episodes were interpersonal and occurred during grade school or middle school [51]. BDD symptoms were higher when adolescents self-reported more appearance teasing and higher social anxiety. Moreover, it was appearance teasing by cross-sex peers, rather than same-sex peers, that was uniquely associated with elevated BDD symptoms [52]. In longitudinal studies of environmental risk factors in BDD, peer victimization in school students was prospectively associated with the development of BDD in which the symptoms appeared 12 months after incidents and also exacerbated low perceptions of peer acceptance [53]. With that, a conclusion can be made that experiences of bullying may play a causal role in BDD.

Moreover, the current results suggest that individuals who experienced physical and sexual assault in early life might be at a higher risk for developing BDD. Studies have shown that adults with BDD reported high levels of childhood maltreatment, with up to 79% of patients reporting abuse [54].

Furthermore, retrospective reported rates of abuse are elevated in people with BDD compared with healthy control. The BDD group reported more retrospective experiences of sexual and physical abuse in childhood or adolescence than did healthy people. This study provides preliminary evidence of the importance of examining abuse as a potential risk factor in the development of BDD [16].

Consistent with the other authors, emotional neglect was the most common form of perceived maltreatment in both males and females. Severity of self-reported abuse and neglect among females with BDD was higher than normal reported for women in health maintenance organization (HMO) sample. Consistent with previous research, females reported greater severity of perceived sexual abuse than males [55, 56]. Self-reported sexual abuse severity was the only type of maltreatment related to current BDD severity.

5.6 Parental styles

Parental communication styles with children also play a role in development of BDD. Individuals with BDD also report that their parents directly or indirectly gave more importance to attractiveness. Their parents are always commenting on various body parts of certain actors or actresses or characteristics of their friends as compared to themselves. It may also be that people with BDD are more prone to recall such information. Mothers' attitude toward their children's body shape will put their children at risk of BDD and eating disorders such as anorexia and bulimia when they communicate their preferred or ideal body shapes to their children through verbal remarks and the control of their child's food intake. Incidentally, this will shape a negative self-esteem and a sense of low self-worth to the child.

Although there is no current study to evaluate perceived family criticism of appearance, the researchers have conducted a pilot survey of BDD clients which indicates that familiar modeling and values are significant [57].

5.7 Society and media

Society and media also play an important role in the development of BDD. The media constantly reinforces the importance of appearance, while at the same time, creating unrealistic expectations about beauty. Although a correlation between the media and BDD seems reasonable, reports of BDD date back as far as the 1800s, prior to current media trends and the ideals it helps enforce. Furthermore, many standards of beauty and attractiveness are established before individuals are influenced by the media [58, 59].

Nowadays, media plays an important role in showing beautiful skinny female models and handsome male models with muscles. Children also are exposed to unrealistic body ideals, such as Barbie's impossibly thin, tall, curvy look with big busted shape or Ken's gigantic muscles. Barbie or Ken will be modeled after by children to look beautiful and charming. In extreme cases, this obsession to the models can lead to "Barbie doll syndrome", which individuals strive to shape a body like a Barbie doll. Constantly, watching perfect bodies can feed youth insecurities over attractiveness and weight. This is proven by a study where male and female adults show that being exposed to idealized bodies such as those in the media, increases dissatisfaction with one's own appearance. Research studies stated that our society's focus on appearance is a major cause of their BDD symptoms [10].

6. Cognitive behavioral therapy intervention of body dysmorphic disorder (BDD)

BDD can become increasingly worse with time if left untreated. Cognitive behavioral therapy (CBT) is the most practiced form of psychotherapy and has been integrated into highly structured package for the intervention of people suffering BDD.

Research has shown that CBT is an effective intervention in treating individuals with BDD [17, 34, 57, 60]. CBT can be conducted by individual session or group therapy session. Findings from the other researcher indicated that individual and group cognitive behavioral therapies are superior to waiting list for the treatment of BDD [61].

However, it is not yet clear how many sessions and at what frequency are most useful for the intervention. Psychosocial intervention studies for BDD have primarily focused on short term (7–30 sessions) of CBT [62]. Other researchers suggest 6 weeks of intervention with 30 sessions [63] and 12 sessions of 1 hour each [30]. The aim of the intervention is in improving the function and quality of life, in addition to alleviating symptoms of preoccupation with an imagined or slight defect in appearances and compulsive behavior [10, 17, 57].

CBT usually begins with psychoeducation explaining about BDD, followed by both cognitive and behavioral techniques. Cognitive strategies focus on identifying maladaptive beliefs, evaluating the accuracy of these beliefs, and helping the individual develop more realistic beliefs [31, 64]. The behavioral interventions typically consists of exposure and response prevention, which involve gradually confronting the individual with anxiety-provoking situations and asking him or her to stay in that situation without engaging in any rituals or avoidance behaviors until the anxiety decreases on its own. Often, the final session focuses on relapse prevention [63, 65].

6.1 Psychoeducation

Intervention for BDD typically begins with giving psychoeducation about the disorder. Psychoeducation refers to the process of providing education and information to those seeking for mental health services, and it is also provided to their family members. Therapists work collaboratively with the clients. The goal of psychoeducation is to help people with BDD to better understand with their mental health conditions.

Based on the assessment, the therapist focuses on educating the individual about BDD; features of BDD; body areas of concern; the CBT model of BDD; the differences between body image and appearance; BDD and cosmetic surgery; possible causes of BDD, including biological, sociocultural, and psychological factors; and also what treatments will be involved. This is important for their knowledge and view about BDD. Individuals with BDD also need to observe their behavior over time and situations to see what is working and where he or she needs improvement. Consequently, they can brainstorm and try out potential alternative behaviors.

It is important to explore factors in the client's current life that are serving to maintain body image concerns, including triggers for negative thoughts about their appearance, interpretations of their thoughts, emotional reactions, and maladaptive of coping strategies [17].

6.2 Cognitive restructuring

In cognitive restructuring techniques, the therapist challenges clients' distorted beliefs about their physical appearance by encouraging them to evaluate their beliefs in the light of evidence. Cognitive techniques included identifying their maladaptive thoughts, completing thought records, identifying cognitive errors, applying the downward arrow technique, and self-talk that leads up to rituals and blocks them from engaging in social activities like going out with groups of friends, going to parties, or dating. Therapists will introduce clients to common cognitive errors in BDD, for example, "This scar makes me very disgusting." Clients are then encouraged to monitor their appearance-based thoughts in and outside of the session and identify their cognitive errors, for example, "Why am I nervous about going to the party?" After the client has gained skills in identifying their maladaptive thoughts and cognitive errors, the therapist starts to evaluate thoughts with the clients [17, 66]. Cognitive restructuring entails evaluating maladaptive thoughts with Socratic questioning and identifying cognitive errors with the goal of developing more accurate and helpful beliefs [67].

Clients will be given homework for every session if necessary, and homework will be discussed in early sessions. For example, they were assigned to record the triggers, excessive thinking, and ritual behavior every time when the symptoms appeared. The aim of the thought record homework is to help client to step back from some of their thoughts and reflect on them. In addition, to help them monitor the negative thoughts that link to the repetitive behavior and help them to be aware of when the trigger comes up.

6.3 Exposure and ritual prevention (ERP)

A form of cognitive behavioral therapy intervention emphasizing exposure and response prevention has been shown to produce marked improvement in 50–80% of treated clients [68]. Exposure and response prevention is a process whereby the rituals are actively prevented and the clients are systematically and gradually exposed to their feared thoughts or situations [69].

Prior to beginning exposure and response prevention, the therapist and clients should review the BDD model to help identify their rituals such as excessive mirror checking, exchanging clothes, comparing themselves with other people, and repeated examining of the imaginary defect. In addition identify avoidance behaviors such as avoiding shopping malls, and discuss the role of rituals and avoidance in maintaining his or her symptoms.

Firstly, therapist and clients jointly develop a hierarchy of anxiety-provoking and avoided situations, such as clients often avoiding daily activities or activities that could reveal one's perceived flaws, including going to a party, going to work or class, or accepting social invitations. The hierarchy should include situations that would broaden a client's overall social experiences. For example, a client might be encouraged to go out with their friends twice per week instead of avoiding friends on days when he or she thought the nose looked really huge [17].

The first exposure should be mildly to moderately challenging, with a high likelihood for success. Exposure can be very challenging for clients; therefore, it is important for the therapist to provide a strong rationale for exposure, validate the client's anxiety while guiding him or her toward change, be challenging and encouraging, be patient and a cheerleader and quickly incorporate ritual prevention [17].

Meanwhile there are several types of strategies to eliminate ritual. First is using stimulus control which requires clients to manipulate their environment to avoid cues that triggers ritual. For example, if the client uses a tool like a mirror for their appearance ritual, the therapist should tell him or her to give it to someone else to keep it temporarily. Secondly, there are methods used to reduce time spent ritualizing. For example, if the client took 1 hour to check the mirror every day, the therapist asks him or her to reduce it by 30 minutes for the next day and then reduce to 25 minutes, reduce to 20 minutes, and reduce to 15 minutes every day and so forth until he or she spent only for a few minutes in checking himself or herself in the mirror. Clients are also encouraged to monitor the frequency and contexts in which rituals arise [17].

This technique will be more effective if clients are encouraged to use ritual prevention strategies during exposure exercises, for example, going to work (exposure) without makeup or delayed makeup (ritual prevention).

Doing homework is an essential ingredient of getting better. Homework is also given between sessions. It involves practicing skills that have been learned in therapy sessions. At various stages of the treatment, clients do exposure or behavioral experiments and ritual prevention as homework [10]. Therapists must always encourage clients to do their homework and give some credits if they did a good job.

6.4 Perceptual retraining

Individuals with BDD often have a complex relationship with mirrors and reflective surfaces. Clients may hesitate between getting stuck for hours in the mirror, grooming, or skin picking and actively avoiding seeing his or her reflection. Clients focus only on the body parts that are of concern and get very close to the mirror, which magnifies perceived imperfections and maintains maladaptive BDD beliefs and behaviors [17]. Clients also tend to engage in judgmental and emotionally charged self-talk.

Therefore, the goal of perceptual retraining is to develop a healthy relationship with mirrors, so clients do not check themselves excessively or avoid them and to view themselves more realistically [10]. The therapist helps to guide them in describing his or her whole body while standing at a conversational distance from the mirror.

Instead of judgmental language by clients, during perceptual (mirror) retraining, clients learn to describe themselves more objectively. The therapist encourages

them to refrain from rituals or repetitive, such as zoning in on disliked areas or touching certain body parts. Perceptual retraining strategies can also be used to broaden client's attention in other situations in which the clients selectively attend to aspects of theirs and others' appearance. For example, while at work, clients are encouraged to practice attending to other things in their environment as opposed to his own or others' appearance [17].

6.5 Relapse prevention

Relapse prevention techniques may entail scheduling healthy activities to replace and distract from time spent on repetitive or ritual behaviors. The techniques provide clients with various types of treatment alternatives such as skills or activities that can be applied outside the therapy session. Clients and therapist will review which techniques were most helpful for the clients and how they can keep practicing them in the future after the termination of intervention. Clients also do other things, such as anticipating possible future stressors and how they can manage them by using CBT skills [10].

7. Challenges in treating BDD

BDD symptoms can be distressing and can interfere to some extent with living. Symptoms cause clinically significant distress or impairment in functioning. Milder BDD is more manageable. People with milder BDD may be productive, and some manage well despite their suffering [10]. People with mild symptoms are easier to engage in because they are aware of their illness.

BDD can also be more moderate in severity, and in some cases, it is extremely severe. When BDD is severe, it can destroy virtually every aspect of one's life. Some people will stop working and are stuck in their homes, sometimes for years, and some will drop out of work, high school, or college. Some even get into life-threatening accidents. Some suffer so intolerably that they attempt suicide, and some of them kill themselves [10].

Somehow, individuals with severe symptoms are more hard to engage in and refuse to go for treatment. Many of them are ashamed of their symptoms and are reluctant to reveal them to others [70]. Some individual with BDD are also depressed that it is difficult for them to get motivated to come for treatments. Most of them also do not believe how therapy interventions can help them to alleviate the negative appearance, beliefs, and ritual behavior [17]. Others believe that their situation is hopeless and nothing can be done to help them [17]. Therefore, they decided not to seek any psychological treatment and prefer to choose cosmetic surgery treatment. Some people with BDD also believe that they are normal and very healthy and, hence, do not seek any treatment. They think that their symptoms were not that bad. Moreover, people with BDD also tend to be very sensitive to rejection. Therefore, therapist must be careful to convey a sense of acceptance and concern without reinforcing their inaccurate beliefs about their appearance. In addition motivational strategies are very useful during the treatment sessions [17].

8. Conclusion

BDD is an issue of concern to many people struggling around the world. BDD is a mental illness associated with high morbidity and mortality, and early

intervention is crucial for recovery to improve their life function. Treating BDD is very challenging for therapists, and CBT is a promised intervention for treating BDD [34, 60]. Therefore, research on psychotherapy for BDD is greatly needed. More research needs to be done to determine how well CBT works and which CBT techniques are most effective and whether other new techniques should be added for the effectiveness of the intervention. Research is also needed to find out for whom CBT works best and how to adapt it, specifically for adolescents and adults. On top of that, researchers, therapists, clinicians, and counselors are yielded to conduct more cross-cultural research in attempting to understand BDD culturally. Lastly, a study on a combination of CBT with pharmacological treatment is recommended.

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References

[1] Pop C. Self-esteem and body image perception in a sample of university students. Eurasian Journal of Educational Research. 2016;**64**:31-44. DOI: 10.14689/ejer. 2016.64.2

[2] Sarcu D, Adamson P. Psychology of the facelift patient. Facial Plastic Surgery. 2017;**33**(3):252-259. DOI: 10.1055/s-0037-1598071

[3] American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorder. 5 th ed. Washington, DC: American Psychiatric Publication; 2013

[4] Phillips KA, Menard W, Pagano M, Fay C, Stout RL. Delusional versus nondelusional body dysmorphic disorder: Clinical features and course of illness. Journal of Psychiatric Research. 2006;**40**(2):95-104. DOI: 10.1016/j. jpsychires.2005.08.005

[5] Phillips KA, Rogers J. Cognitive-behavioral therapy for youth with body dysmorphic disorder: Current status and future directions. Child and Adolescent Psychiatric Clinics of North America. 2011;**20**(2):287-304. DOI: 10.1016/j. chc.2011.01.004

[6] Sarwer DB, Crerand CE, Magee L. Body dysmorphic disorder in patients who seek appearance-enhancing medical treatments. Oral and Maxillofacial Surgery Clinics of North America. 2010;**22**(4):445-453. DOI: 10.1016/j.coms.2010.07.002

[7] Greenberg JL, Markowitz S, Petronko MR, Taylor CE, Wilhelm S, Wilson GT. Cognitive-behavioral therapy for adolescent body dysmorphic disorder. Cognitive and Behavioral Practice. 2010;**17**:248-258. DOI: 10.1016/j.cbpra.2010.02.002

[8] Phillips KA, Menard W, Fay C, Weisberg R. Demographic characteristics, phenomenology, comorbidity, and family history in 200 individuals with body dysmorphic disorder. Psychosomatics. 2005;**46**(4):317-325. DOI: 10.1176/appi. psy.46.4.317

[9] Buhlmann U, Etcoff NL, Wilhelm S. Facial attractiveness ratings and perfectionism in body dysmorphic disorder and obsessive-compulsive disorder. Journal of Anxiety Disorders. 2008;**22**(3):540-547. DOI: 10.1016/j. janxdis.2007.05.004

[10] Phillips KA. Understanding Body Dysmorphic Disorder: An Essential Guide. New York, NY, US: Oxford University Press; 2009

[11] Phillips KA, Diaz SF. Gender differences in body dysmorphic disorder. The Journal of Nervous and Mental Disease. 1997;**185**(9):570-577. DOI: 10.1097/00005053-199709000-00006

[12] Phillips KA, Wilhelm S, Koran LM, Didie ER, Fallon BA, Feusner J, et al. Body dysmorphic disorder: Some key issues for DSM-V. Depression and Anxiety. 2010;**27**(6):573-591. DOI: 10.1002/da.20709

[13] Veale D, Riley S. Mirror, mirror on the wall, who is the ugliest of them all? The psychopathology of mirror gazing in body dysmorphic disorder. Behaviour Research and Therapy. 2001;**39**(12):1381-1393. DOI: 10.1016/ S0005-7967(00)00102-9

[14] Hadley SJ, Greenberg J, Hollander E. Diagnosing and treatment of body dysmorphic disorder in adolescents. Current Psychiatry Reports. 2002;**4**(2):108-113

[15] Phillips KA, Didie ER, Menard W, Pagano ME, Fay C, Weisberg RB. Clinical features of body

dysmorphic disorder in adolescents and adults. Psychiatry Research. 2006;**141**(3):305-314. DOI: 10.1016/j.psychres.2005.09.014

[16] Buhlmann U, Marques LM, Wilhelm S. Traumatic experiences in individuals with body dysmorphic disorder. The Journal of Nervous and Mental Disease. 2012;**200**(1):95-98. DOI: 10.1097/NMD.0b013e31823f6775

[17] Wilhelm S, Philips KA, Steketee G. A Treatment Manual : Cognitive Behavioral Therapy for Body Dysmorphic Disorder. New York: The Guilford Press; 2013

[18] Albertini RS, Phillips KA. Thirty-three cases of body dysmorphic disorder in children and adolescents. Journal of the American Academy of Child and Adolescent Psychiatry. 1999;**38**(4):453-459. DOI: 10.1097/00004583-199904000-00019

[19] Mancuso SG, Knoesen NP, Castle DJ. Delusional vs nondelusional body dysmorphic disorder. Comprehensive Psychiatry. 2010;**51**(2):177-182. DOI: 10.1016/j.comppsych.2009.05.001

[20] Phillips KA, Menard W, Faya C, Pagano ME. Psychosocial functioning and quality of life in body dysmorphic disorder. Comprehensive Psychiatry. 2005;**46**(4):254-260. DOI: 10.1016/j.comppsych.2004.10.004

[21] Gunstad J, Phillips KA. Axis I comorbidity in body dysmorphic disorder. Comprehensive Psychiatry. 2003;**44**(4):270-276. DOI: 10.1016/S0010440X(03)00088-9

[22] Phillips KA, Stein DJ, Rauch SL, Hollander E, Fallon BA, Barsky A, et al. Should an obsessive-compulsive spectrum grouping of disorders be included in DSM-V? Depression and Anxiety. 2010;**27**(6):528-555. DOI: 10.1002/da.20705

[23] Grant JE, Menard W, Pagano ME, Fay C, Phillips KA. Substance use disorders in individuals with body dysmorphic disorder. The Journal of Clinical Psychiatry. 2005;**66**(3):309-316

[24] Bjornsson AS, Didie ER, Phillips KA. Body dysmorphic disorder. Dialogues in Clinical Neuroscience. 2010;**12**(2):221-232

[25] Satel SL, McDougle CJ. Obsessions and compulsions with cocaine abuse [letter]. The American Journal of Psychiatry. 1991;**48**:947

[26] Phillips KA, Menard W. Suicidality in body dysmorphic disorder: A prospective study. The American Journal of Psychiatry. 2006;**163**(7):1280-1282. DOI: 10.1176/appi.ajp.163.7.1280

[27] Phillips KA. Body dysmorphic disorder: Recognizing and treating imagined ugliness. World Psychiatry. 2004;**3**(1):12-17

[28] Angelakis I, Gooding PA, Panagioti M. Suicidality in body dysmorphic disorder (BDD): A systematic review with meta-analysis. Clinical Psychology Review. 2016;**49**:55-66. DOI: 10.1016/j.cpr.2016.08.002

[29] Witte TK, Didie ER, Menard W, Phillips KA. The relationship between body dysmorphic disorder behaviors and the acquired capability for suicide. Suicide & Life-Threatening Behavior. 2012;**42**(3):318-331. DOI: 10.1111/j.1943-278X.2012.00093

[30] 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):196-220. DOI: 10.1192/bjp.169.2.196

[31] Wilhelm S, Neziroglu F. Cognitive theory of body dysmorphic disorder. In: Frost RO, Steketee G, editors. Cognitive Approaches to Obsessions and

Compulsions: Theory, Assessment, and Treatment. New York, NY: Pergamon; 2002. pp. 203-214. DOI: 10.1016/B978-0-08-043410-0.X5000-4

[32] Beck AT, Rush A, Shaw B, Emery G. Cognitive Therapy of Depression. New York: Guilford Press; 1979

[33] Deckersbach T, Otto MW, Savage CR, Baer L, Jenike MA. The relationship between semantic organization and memory in obsessive - compulsive disorder. Psychotherapy and Psychosomatics. 2000;**69**(2):101-107. DOI: 10.1159/000012373

[34] Veale D. Cognitive-behavioural therapy for body dysmorphic disorder. Advances in Psychiatric Treatment. 2001;**7**:125-132

[35] Feusner JD, Moody T, Hembacher E, Townsend J, McKinley M, Moller H, et al. Abnormalities of visual processing and frontostriatal systems in body dysmorphic disorder. Archives of General Psychiatry. 2010;**67**(2):197-205. DOI: 10.1001/archgenpsychiatry.2009.190

[36] Atmaca M, Bingol I, Aydin A, Yildirim H, Okur I, Yildirim MA, et al. Brain morphology of patients with body dysmorphic disorder. Journal of Affective Disorders. 2010;**123**(1-3):258-263. DOI: 10.1016/j.jad.2009.08.012

[37] Feusner JD, Townsend J, Bystritsky A, Bookheimer S. Visual information processing of faces in body dysmorphic disorder. Archives of General Psychiatry. 2007;**64**(12):1417-1425. DOI: 10.1001/archpsyc.64.12.1417

[38] Bienvenu O, Samuels J, Riddle M, Hoehn-Saric R, Liang K, Cullen B, et al. The relationship of obsessive-compulsive disorder to possible spectrum disorders: Results from a family study. Biological Psychiatry. 2000;**48**(4):287-293. DOI: 10.1016/S0006-3223(00)00831-3

[39] Monzani B, Rijsdijk F, Lervolino AC, Anson M, Cherkas L, Mataix-Cols D. Evidence for a genetic overlap between body dysmorphic concerns and obsessive-compulsive symptoms in an adult female community twin sample. American Journal of Medical Genetics. Part B, Neuropsychiatric Genetics. 2012;**159B**(4):376-382. DOI: 10.1002/ajmg.b.32040

[40] Monzani B, Rijsdijk F, Anson M, Lervolino AC, Cherkas L, Spector T, et al. A twin study of body dysmorphic concerns. Psychological Medicine. 2012;**42**(9):1949-1955. DOI: 10.1017/S0033291711002741

[41] Lopez-Sola C, Fontenelle LF, Alonso P, Cuadras D, Foley DL, Pantelis C, et al. Prevalence and heritability of obsessive compulsive spectrum and anxiety disorder symptoms: A survey of the Australian twin registry. American Journal of Medical Genetics. Part B, Neuropsychiatric Genetics. 2014;**165B**:314-325. DOI: 10.1002/ajmg.b.32233

[42] Yamada M, Kobashi K, Shigemoto T, et al. On dismorphophobia. The Bulletin of the Yamaguchi Medical School. 1978;**25**:47-54

[43] Turkson SN, Asamoah V. Body dysmorphic disorder in a Ghanaian male: Case report. East African Medical Journal. 1999;**76**(2):111-114

[44] Ung EK, Fones CS, Ang AW. Muscle dysmorphia in a young Chinese male. Annals Academy of Medicine Singapore. 2000;**29**(1):135-137

[45] Iwata Y, Suzuki K, Takei N, Toulopoulou T, Tsuchiya KJ, Matsumoto K, et al. Jiko-shisen-kyofu (fear of one's own glance), but not taijin-kyofusho (fear of interpersonal relations), is an east Asian culture-related specific syndrome. The Australian and New Zealand Journal of

Psychiatry. 2011;**45**(2):148-152. DOI: 10.3109/00048674.2010.534068

[46] Oh NR, An SY, Jeong MA. Relationship of BMI to body dysmorphic disorder among college students in Gangwon Province. Journal of the Korea Academia-Industrial Cooperation Society. 2013;**14**(7):3293-3300. DOI: 10.5762/KAIS.2013.14.7.3293

[47] Brito MJ, Nahas FX, Cordás TA, Gama MG, Sucupira ER, Ramos TD, et al. Prevalence of body dysmorphic disorder symptoms and body weight concerns in patients seeking abdominoplasty. Aesthetic Surgery Journal. 2016;**36**(3):324-332. DOI: 10.1093/asj/sjv213

[48] Jeremy GCG, Stephen L. Prevalence of body dysmorphic disorder and impact on subjective outcome amongst Singaporean rhinoplasty patients. Anaplastology. 2015;**4**:140. DOI: 10.4172/2161-1173.1000140

[49] 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. DOI: 10.1176/appi.psy.43.6.486

[50] Bernstein IH, Lin TD, McClellan P. Cross-vs. within-racial judgments of attractiveness. Perception & Psychophysics. 1982;**32**(6):495-503. DOI: 10.3758/BF03204202

[51] Weingarden H, Curley EE, Renshaw KD, Wilhelm S. Patient-identified events implicated in the development of body dysmorphic disorder. Body Image. 2017;**21**:19-25. DOI: 10.1016/j.bodyim.2017.02.003

[52] Webb HJ, Zimmer-Gembeck MJ, Mastro S, Farrell LJ, Lavell CH. Young adolescents' body dysmorphic symptoms: Associations with same-and cross-sex peer teasing via appearance-based rejection sensitivity. Journal of Abnormal Child Psychology. 2015;**43**(6):1161-1173. DOI: 10.1007/s10802-014-9971-9

[53] Webb HJ, Zimmer-Gembeck MJ, Mastro S. Stress exposure and generation: A conjoint longitudinal model of body dysmorphic symptoms, peer acceptance, popularity, and victimization. Body Image. 2016;**18**:14-18. DOI: 10.1016/j.bodyim.2016.04.010

[54] Didie ER, Tortolani CC, Pope CG, Menard W, Fay C, Phillips KA. Childhood abuse and neglect in body dysmorphic disorder. Child Abuse & Neglect. 2006;**30**(10):1105-1115. DOI: 10.1016/j.chiabu.2006.03.007

[55] Silverman AB, Reinherz HZ, Giaconia RM. The long-term sequelae of child and adolescent abuse: A longitudinal community study. Child Abuse & Neglect. 1996;**20**(8):709-723. DOI: 10.1016/0145-2134(96)00059-2

[56] Walker JL, Carey PD, Mohr N, Stein DJ, Seedat S. Gender differences in the prevalence of childhood sexual abuse and in the development of pediatric PTSD. Archives of Women's Mental Health. 2002;**7**:111-121. DOI: 10.1007/s00737-003-0039-z

[57] Veale D, Neziroglu F. Body Dysmorphic Disorder. A Treatment Manual. Wiley-Blackwell. UK: John Wiley & Sons, Ltd; 2010

[58] Rhodes G. The evolutionary psychology of facial beauty. Annual Review of Psychology. 2006;**57**:199-226. DOI: 10.1146/annurev.psych.57.102904.190208

[59] Feusner JD, Bystritsky A, Hellemann G, Bookheimer S. Impaired identity recognition of faces with emotional expressions in body dysmorphic disorder. Psychiatry Research. 2010;**179**(3):318-323. DOI: 10.1016/j.psychres.2009.01.016

[60] Wilhelm S, Phillips KA, Didie E, Buhlmann U, Greenberg JL, Fama JM, et al. Modular cognitive-behavioral therapy for body dysmorphic disorder: Randomized controlled trial. Behavior Therapy. 2014;**45**(3):314-332. DOI: 10.1016/j.beth.2013.12.007

[61] Prazeres AM, Nascimento AL, Fontenelle LF. Cognitive-behavioral therapy for body dysmorphic disorder: A review of its efficacy. Neuropsychiatric Disease and Treatment. 2013;**9**:307-316. DOI: 10.2147/NDT.S41074

[62] Neziroglu F, Khemlani-Patel S. A review of cognitive and behavioral treatment for body dysmorphic disorder. CNS Spectrums. 2002;**7**(6):464-471. DOI: 10.1017/S1092852900017971

[63] McKay D, Todaro J, Neziroglu F, Campisi T, Moritz EK, Yaryura-Tobias JA. Body dysmorphic disorder: A preliminary evaluation of treatment and maintenance using exposure with response prevention. Behaviour Research and Therapy. 1997;**35**(1):67-70. DOI: 10.1016/S0005-7967(96)00082-4

[64] Geremia GM, Neziroglu F. Cognitive therapy in the treatment of body dysmorphic disorder. Clinical Psychology & Psychotherapy. 2001;**8**(4):243-251. DOI: 10.1002/cpp.284

[65] McKay D. Two-year follow-up of behavioral treatment and maintenance for body dysmorphic disorder. Behavior Modification. 1999;**23**(4):620-629. DOI: 10.1177/0145445599234006

[66] Veale D, Gournay K, Dryden W, Boocock A, Shah F, Willson R, et al. Body dysmorphic disorder. A cognitive behavioural model and pilot randomized controlled trial. Behaviour Research and Therapy. 1996;**34**(9):717-729

[67] Vashi NA. Beauty and Body Dysmorphic Disorder: A Clinician's Guide. New York: Springer; 2015. DOI: 10.1007/978-3-319-17867-7

[68] Sarwer DB, Gibbons LM, Crerand CE. Treating body dysmorphic disorder with cognitive-behaviour therapy. Psychiatric Annals. 2004;**34**:934-931

[69] Abramowitz JS, Taylor S, McKay D. Exposure-based treatment for obsessive compulsive disorder. In: Steketee G, editor. The Oxford Handbook of Obsessive Compulsive and Spectrum Disorders. New York, NY: Oxford University Press; 2012. pp. 322-364. DOI: 10.1093/oxfordhb/9780195376210.001.0001

[70] Grant JE, Kim SW, Crow SJ. Prevalence and clinical features of body dysmorphic disorder in adolescent and adult psychiatric inpatients. The Journal of Clinical Psychiatry. 2001;**62**:517-522