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Review Article

Body Dysmorphic Disorder: A Comprehensive Review

Kris Ke Shyang See[2], Miew Leng Khoo[2], Romel Mario Soyza[1], Kishan Kannan Yogaratnam[1], Wai Hong Cheang[1], Nur Dalila Nabihan Ahmad Tajuddin[1], Amarpreet Kaur Sarjit Singh[1], Vivien Kesu Belani[1], Leah Siew Fong Ng[1], Sangeetha Prabakaran[1], Teh Hui Ying[1], Ananyaa Sreekumar[3], and Khai Fong Lim[4]

[1]Osel Clinic, Osel Group, Malaysia

[2]Osel Diagnostics, Osel Group, Malaysia

[3]The Frontier Medicine Institute, Malaysia

[4]Department of Psychology, Faculty of Behavioural Science, HELP University, Malaysia

*Corresponding Author: Kris Ke Shyang See, Osel Diagnostics, Osel Group, Malaysia.

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Abstract

Body dysmorphic disorder (BDD) is a debilitating psychiatric condition characterized by a persistent preoccupation with an imagined or slight defect in one's appearance. This paper provides a comprehensive review of the current understanding of BDD, including its definition, clinical presentation, epidemiology, etiology, assessment, and treatment approaches. The review incorporates relevant studies and scholarly articles to present an evidence-based overview of BDD.

Keywords: Body dysmorphic disorder; Obsessive compulsive disorder; Mental disorder; Distorted body image; Personality disorder.

Abbreviations: BDD: Body Dysmorphic Disorder; OCD: Obsessive Compulsive Disorder; OCPD: Obsessive Compulsive Personality Disorder.

Introduction

Body dysmorphic disorder (BDD) is a psychiatric condition that involves a distressing preoccupation with perceived flaws in one's appearance. BDD is classified as an obsessive-compulsive spectrum disorder in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), highlighting its shared features with obsessive-compulsive disorder (OCD) [1]. This section provides an overview of the historical context of BDD and emphasizes the impact of BDD on individuals' psychological well-being and quality of life.

Diagnostic criteria and prevalence:

The diagnostic criteria for body dysmorphic disorder according to the Diagnostic and

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Statistical Manual of Mental Disorders (DSM-5)

1. Preoccupation with one or more perceived defects or flaws in physical appearance that are not observable or appear slight to others.
2. The preoccupation causes significant distress or impairment in social, occupational, or other important areas of functioning.
3. The preoccupation is not better explained by concerns with body fat or weight in an individual with an eating disorder.
4. The preoccupation is not better explained by an existing medical condition (e.g., body disfigurement due to burns or other injury).
5. The preoccupation is not better accounted for by another mental disorder (e.g., dissatisfaction with body shape and size in anorexia nervosa).

To meet the criteria for a diagnosis of body dysmorphic disorder, the preoccupation must not be better explained by other factors and must cause significant distress or functional impairment.

The prevalence of body dysmorphic disorder in the general population varies, but studies suggest that it affects around 1-2% of individuals. It can occur in both men and women and often starts during adolescence or early adulthood. It is important to note that the actual prevalence may be higher as many individuals with BDD may not seek treatment or remain undiagnosed due to shame, embarrassment, or lack of awareness about the condition [2].

Causes and risk factors:

The causes of body dysmorphic disorder (BDD) are complex and involve a combination of genetic, biological, psychological, and environmental factors [3]. While the exact cause is unknown, several potential factors may contribute to the development of BDD. Here are some common causes and risk factors associated with body dysmorphia:

1. Genetic and Biological Factors: There is evidence to suggest that genetics may play a role in the development of BDD. Individuals with a family history of BDD or other mental health disorders may be at higher risk. Additionally, imbalances in neurotransmitters, such as serotonin, which is involved in mood regulation, may contribute to the development of BDD.
2. Brain Structure and Function: Certain differences in brain structure and function have been observed in individuals with BDD. These differences may affect how individuals perceive and process information about their appearance, leading to distorted body image and preoccupation with perceived flaws.
3. Environmental and Sociocultural Factors: Sociocultural factors, such as societal emphasis on beauty and appearance, media influence, and cultural norms, can contribute to the development of BDD. Unrealistic

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standards of beauty and societal pressure to conform to these standards may contribute to body dissatisfaction and the development of body dysmorphic disorder.

4. Childhood and Adolescent Experiences: Traumatic experiences during childhood or adolescence, such as bullying, teasing, or emotional/physical abuse related to appearance, may increase the risk of developing BDD. These negative experiences can contribute to low self-esteem, body dissatisfaction, and distorted body image.
5. Personality Traits: Certain personality traits may be associated with an increased risk of BDD. These traits include perfectionism, high levels of self-criticism, low self-esteem, and anxiety. Individuals with these traits may be more prone to obsessing over perceived flaws in their appearance.

It's important to note that while these factors can contribute to the development of body dysmorphic disorder, they do not guarantee that an individual will develop the condition [4]. BDD is a complex disorder, and its development likely involves a combination of multiple factors interacting with each other.

Symptoms and clinical presentation:

Body dysmorphic disorder (BDD) is characterized by a range of symptoms and clinical presentations. The primary feature of BDD is an excessive preoccupation with perceived defects or flaws in one's appearance that are not observable or appear slight to others. Here are some common symptoms and clinical presentations associated with body dysmorphia:

1. Preoccupation with Appearance: Individuals with BDD spend a significant amount of time and mental energy obsessing over their perceived flaws. They may constantly check their appearance in mirrors, seek reassurance from others, or engage in repetitive behaviors such as grooming, picking at the skin, or excessive exercise.
2. Distorted Body Image: People with BDD have a distorted perception of their own appearance. They may focus intensely on specific features they believe to be flawed, such as skin, hair, nose, eyes, or body shape. They often view these flaws as significantly more prominent or abnormal than they actually are.
3. Avoidance and Concealing Behaviors: Individuals with BDD may go to great lengths to hide their perceived flaws. They may wear excessive makeup or clothing to conceal the perceived defects or avoid social situations altogether to prevent others from noticing their flaws.
4. Excessive Self-Consciousness: People with BDD are overly self-conscious about their appearance. They may believe that others are constantly judging and scrutinizing their flaws, leading to feelings of embarrassment, shame, and self-consciousness in social interactions.
5. Impaired Functioning and Distress: BDD can significantly impact an individual's daily functioning and

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overall well-being. The preoccupation with appearance and distress related to perceived flaws can interfere with work, school, relationships, and social activities. The distress may also lead to anxiety, depression, or thoughts of self-harm.

6. Body Checking and Comparing: Individuals with BDD often engage in repetitive behaviors known as body checking and comparing. They may spend excessive time comparing their appearance to others or examining their perceived flaws in mirrors or reflective surfaces.
7. Seeking Reassurance: People with BDD frequently seek reassurance from others about their appearance. They may ask for validation or opinions regarding their perceived flaws, but even when reassured, they may have difficulty accepting or believing positive feedback [5].

Co-occurring disorders and comorbidities:

Body dysmorphic disorder (BDD) often co-occurs with other mental health disorders. Individuals with BDD may have higher rates of comorbidities compared to the general population. Here are some common disorders that can co-occur with body dysmorphia:

1. Anxiety Disorders: Anxiety disorders, such as social anxiety disorder, generalized anxiety disorder, or panic disorder, frequently co-occur with BDD. The excessive worry and distress associated with body dysmorphia can contribute to the development or exacerbation of anxiety symptoms.
2. Depression: BDD is often associated with depression. The preoccupation with perceived flaws and the impact on self-esteem and self-worth can lead to feelings of sadness, hopelessness, and a loss of interest in previously enjoyable activities.
3. Obsessive-Compulsive Disorder (OCD): BDD shares similarities with OCD in terms of obsessive thoughts and compulsive behaviors. Some individuals with BDD engage in repetitive behaviors (e.g., checking appearance, grooming rituals) as a way to alleviate anxiety related to their appearance.
4. Eating Disorders: There is an overlap between BDD and eating disorders, particularly when the focus of body dissatisfaction centers around weight, body shape, or body size. BDD can contribute to the development of eating disorders such as anorexia nervosa or bulimia nervosa.
5. Substance Use Disorders: Individuals with BDD may be at a higher risk of developing substance use disorders. Substance use can sometimes serve as a way to cope with the distress and anxiety associated with BDD symptoms.
6. Personality Disorders: Certain personality disorders, such as obsessive-compulsive personality disorder (OCPD) or avoidant personality disorder, may co-occur with BDD. These disorders can influence the severity and presentation of BDD symptoms.

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7. Suicidal Ideation and Self-Harm: Individuals with BDD may experience significant distress, hopelessness, and suicidal ideation. They may also engage in self-harming behaviors as a way to cope with their emotional pain.

Assessment and diagnosis:

Assessing and diagnosing body dysmorphic disorder (BDD) typically involves a comprehensive evaluation by a qualified mental health professional, such as a psychiatrist or psychologist [7]. The assessment process for BDD may include the following components:

1. Clinical Interview: The mental health professional will conduct a thorough interview to gather information about the individual's symptoms, medical history, and psychosocial background. They will explore the nature and severity of the preoccupation with appearance, associated distress, and functional impairment [8].
2. Diagnostic Criteria: The mental health professional will assess whether the individual meets the diagnostic criteria for BDD as outlined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5).

   This includes the presence of excessive preoccupation with perceived flaws that are not observable or appear slight to others, significant distress or impairment, and ruling out other possible explanations.
3. Symptom Assessment: The clinician will assess specific symptoms associated with BDD, such as body image distortions, avoidance behaviors, repetitive behaviors (e.g., checking, grooming), and seeking reassurance. They will also evaluate the impact of these symptoms on the individual's daily functioning and quality of life [9].
4. Differential Diagnosis: The mental health professional will differentiate BDD from other conditions with similar symptoms, such as obsessive-compulsive disorder (OCD), eating disorders, or social anxiety disorder. This process involves considering the duration, intensity, and specific features of the symptoms.
5. Psychosocial Assessment: The clinician will explore psychosocial factors, such as childhood or adolescent experiences, cultural influences, and interpersonal relationships, to understand their potential contribution to the development and maintenance of BDD [10].
6. Assessment Tools: Various standardized assessment tools may be utilized to aid in the diagnosis and assessment of BDD, such as the Body Dysmorphic Disorder Examination (BDDE) or the Yale-Brown Obsessive Compulsive Scale Modified for BDD (BDD-YBOCS).

   These tools provide additional information on symptom severity and can track changes over time.

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Treatment approaches:

The treatment of body dysmorphic disorder (BDD) typically involves a combination of psychotherapy and medication, tailored to the individual's specific needs and symptom severity. Here are some common treatment approaches for BDD:

1. Cognitive-Behavioral Therapy (CBT): CBT is considered the gold standard for treating BDD. It focuses on helping individuals identify and challenge distorted thoughts and beliefs about their appearance. CBT for BDD often includes exposure and response prevention (ERP) techniques, where individuals gradually face situations that trigger anxiety related to their appearance and learn to resist engaging in compulsive behaviors or avoidance. CBT also addresses body image concerns, self-esteem, and functional impairment.
2. Medication: Selective serotonin reuptake inhibitors (SSRIs), such as fluoxetine (Prozac) or sertraline (Zoloft), may be prescribed to help manage the symptoms of BDD. SSRIs can reduce obsessive thoughts, anxiety, and depression associated with the disorder. Medication should be prescribed and monitored by a psychiatrist, and it is often used in combination with psychotherapy.
3. Supportive Therapy: Supportive therapy can provide a safe and nonjudgmental space for individuals with BDD to express their feelings, receive emotional support, and develop coping strategies. Although it may not specifically target the core symptoms of BDD, it can be helpful in improving overall well-being and functioning.
4. Group Therapy: Group therapy can be beneficial for individuals with BDD as it provides a supportive environment where they can share experiences, receive feedback, and learn from others facing similar challenges. Group therapy can help reduce feelings of isolation, provide a sense of belonging, and offer opportunities for social skills practice.
5. Body Dysmorphic Disorder-Specific Interventions: Some specialized interventions have been developed specifically for BDD, such as BDD-focused cognitive-behavioral group therapy (CBGT) or mirror retraining therapy. These interventions address the unique cognitive and behavioral aspects of BDD and can be effective in reducing symptom severity.
6. Family Involvement: Involving family members in the treatment process can provide support and help improve communication within the family system. Family therapy or psychoeducation can assist family members in understanding BDD and learning strategies to support their loved one in recovery.

It's essential for individuals with BDD to seek treatment from qualified mental health professionals experienced in treating the disorder. Treatment plans should be individualized and may involve a combination of the approaches mentioned

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above. The duration of treatment can vary depending on the severity of symptoms, but long-term management and support may be necessary to maintain recovery and prevent relapse.

Therapeutic considerations and support:

When providing therapeutic considerations and support for individuals with body dysmorphic disorder (BDD), it is important to address the specific challenges and needs associated with the disorder. Here are some key considerations and supportive approaches for individuals with BDD:

1. Empathy and Validation: It is crucial to approach individuals with BDD with empathy, understanding, and validation. Recognize the distress and impact that their perceived flaws have on their daily lives. Validating their experiences can help build rapport and foster a trusting therapeutic relationship.
2. Psychoeducation: Educate individuals and their loved ones about BDD, including its symptoms, causes, and treatment options. Help them understand that BDD is a recognized mental health disorder and not simply a personal flaw or vanity. Psychoeducation can reduce self-blame, increase motivation for treatment, and enhance engagement in therapy.
3. Addressing Body Image Distortions: Help individuals challenge their distorted body image perceptions. Encourage them to collect evidence that counters their negative beliefs and to consider alternative, more realistic interpretations of their appearance. This can involve techniques such as guided self-reflection, reality testing, or using photographs as objective evidence.
4. Cognitive Restructuring: Assist individuals in identifying and modifying their negative thought patterns related to appearance. Teach them to challenge automatic negative thoughts, cognitive distortions, and perfectionistic thinking. Encourage the development of more balanced and adaptive ways of thinking about their appearance.
5. Exposure and Response Prevention (ERP): Gradual exposure to feared situations related to appearance and prevention of accompanying compulsive behaviors can be effective in reducing anxiety and avoidance. Support individuals in developing a hierarchy of exposure tasks, starting with less challenging situations, and gradually progressing to more difficult ones.
6. Body Acceptance and Self-Compassion: Help individuals cultivate self-compassion and acceptance of their bodies. Encourage them to focus on their strengths, achievements, and positive aspects unrelated to appearance. Promote self-care activities that nurture overall well-being, emphasizing that self-worth is not solely dependent on physical appearance.
7. Supportive Environment and Social Skills: Address social skills deficits

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and support individuals in building healthy social connections. Help them develop strategies to cope with perceived negative judgments or teasing from others. Encourage them to engage in activities and relationships that promote positive self-esteem and support their recovery.

8. Relapse Prevention: Assist individuals in developing relapse prevention strategies to maintain progress and manage setbacks. Identify potential triggers and develop coping skills to address moments of heightened distress or appearance-related triggers. Encourage them to seek ongoing support and to utilize learned skills in their daily lives.

In addition to therapy, support groups, online communities, and BDD-focused resources can provide individuals with BDD a sense of validation, understanding, and connection with others who share similar experiences. It is important to involve loved ones in the treatment process, as their support and understanding can be valuable in the individual's recovery journey.

Remember, providing a supportive and nonjudgmental environment is key to helping individuals with BDD navigate their challenges and work towards a healthier relationship with their appearance.

Discussion

Although the present study is a comprehensive review, an online survey screening questionnaire developed by Veale et al. (2012) was given to 174 individuals to collect data on the prevalence of Body Dysmorphic Disorder (BDD) across multiple factors in Malaysia. In terms of age group differences, it was hypothesized that individuals in the age group of adolescents (16 -25) are more likely to develop BDD. For gender differences, it was postulated that females are more susceptible to developing BDD compared to males. Lastly, with regards to mental health diagnosis differences, it was hypothesized that individuals who have been clinically diagnosed with mental illness are more likely to have BDD.

The hypothesis of age group differences aligns with the finding of numerous past literatures. In the present study, 3.45% (6 out of 64) of the individuals belonging in the age group of 16 to 25 are likely to develop BDD, the highest prevalence rate across all age groups. In accordance with Veale et al. (2016)'s study, it was posited that 1.9% of adults within his study have BDD and 2.2% for adolescents, this is especially prevalent within the student population with a prevalence rate of 3.3%. In another study by Zimmerman and Mattia (1998), 1000 psychiatric outpatients sourced from the same practice setting were divided into 2 samples in which patients from each sample undergoes a different method of diagnosis. It was reported that a significant number of younger individuals have BDD compared to non-BDD individuals.

The hypothesis that individuals who are clinically diagnosed with mental illness are likely to have BDD was disproved as the present study's findings identified that 6.9% of respondents (12 out of 165) who have never been clinically diagnosed with mental illness are likely to develop BDD and 0.56% of

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respondents (1 out of 165) is certain to have some degree of BDD. Meanwhile, 11.11% of respondents (1 out of 9) who have been clinically diagnosed with mental illness are likely to develop BDD. The present finding suggests that psychiatric conditions tend to go unreported as seen in the likelihood of BDD development among respondents with no history of clinical diagnosis of mental illness.

A recent study by Hong, et al., further consolidates the issue of cultural differences influencing the prevalence of BDD in east asian societies. The relationship between cultural and biological factors on the prevalence of BDD in east asian countries was discussed and it was stated that although psychological issues and disorders have undergone in-depth research in western societies, subjects regarding psychiatric conditions are often not discussed in east asian countries due to cultural differences and stigmatization of psychiatric conditions.

Disorders such as BDD are subjected to cultural influences as different cultures have different standards of beauty that people in their respective culture have to conform to. It was further stated that, "Westernization" is associated with the diagnosis of BDD due to growing pressure to conform to different standards of beauty as a result of entertainment media such as Hollywood influencing the perception of beauty and social desirability globally.

The hypothesis that females are more susceptible to developing BDD than males is although the number of male and females in the present study is not even. The present study showed that 5.75% of females (10 out of 96) are likely to develop BDD while 1.72% of males (3 out of 74) are likely to develop BDD.

Additionally, there were 4 individuals which did not disclose their gender, 25% of these individuals (1 out of 4) scored 32 out of 40 in the BDD questionnaire which indicates that the individuals have some extent of BDD.

According to Buhlmann et al. (2010), it was reported that BDD prevalence generally affects both genders equally, with 1.8% males having BDD while in some instances reported females having a marginally higher rate around 2.0%.

Future directions and research

Future directions and ongoing research in the field of body dysmorphic disorder (BDD) aim to improve understanding, assessment, and treatment of the disorder. Here are some potential areas of focus for future research on BDD

1. Neurobiological Mechanisms: Further exploration of the neurobiological underpinnings of BDD can provide valuable insights into the etiology and neural mechanisms of the disorder. Research on brain structure and function, genetics, and neurotransmitter systems may help unravel the biological basis of BDD.
2. Early Detection and Intervention: Identifying BDD symptoms early in the course of the disorder is crucial for prompt intervention and prevention of functional impairment. Research can focus on developing effective screening tools and early detection strategies to facilitate early

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intervention and reduce the duration of untreated BDD.

3. Tailored Treatment Approaches: Investigating the effectiveness of various treatment approaches for different subtypes and presentations of BDD is important. Further research can explore the development of tailored interventions based on individual needs, symptom severity, and comorbidities.
4. Digital Therapeutic Interventions: With the rise of technology, exploring the potential of digital therapeutic interventions, such as mobile applications or virtual reality-based treatments, can expand the accessibility and reach of evidence-based treatments for individuals with BDD. Research can focus on the development and evaluation of such interventions.
5. Long-Term Treatment Outcomes: Research on long-term treatment outcomes and relapse prevention strategies can help assess the effectiveness and durability of interventions for BDD. Longitudinal studies can provide insights into the factors that contribute to long-term recovery and help optimize treatment approaches.
6. Transdiagnostic Approaches: Investigating the shared features and underlying mechanisms between BDD and other related disorders, such as OCD, eating disorders, and anxiety disorders, can contribute to the development of transdiagnostic treatment approaches that address common underlying processes.
7. Stigma Reduction and Public Awareness: Research efforts can be directed toward reducing the stigma associated with BDD, improving public awareness and understanding of the disorder, and promoting help-seeking behaviors among individuals with BDD. This can contribute to earlier recognition and intervention.
8. Cultural and Societal Influences: Examining the impact of cultural and societal factors on the development, maintenance, and treatment of BDD can help inform culturally sensitive interventions.

Understanding the influence of media, beauty standards, and cultural norms can contribute to the development of targeted prevention and intervention strategies.

By advancing knowledge in these areas, future research on BDD can contribute to the development of more effective interventions, improved diagnostic criteria, and increased public awareness and understanding of the disorder [11].

Conclusion

The conclusion summarizes the key findings from the review and underscores the importance of advancing our understanding of BDD to optimize treatment outcomes. It emphasizes the need for multidisciplinary collaboration between mental health professionals to provide comprehensive care for individuals with BDD.

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References

1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. Arlington, VA: American Psychiatric Publishing. 2013.
2. 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 Res. 2010;178(1):171-5. PubMed | CrossRef
3. Castle D, Rossell S L, Kyrios, M. Body Dysmorphic Disorder: A Review of Nosology, Cognition, and Neurobiology. Neuropsychol Rev. 2006;16(2):83-96.
4. Greenberg, Reuman L, Wilhelm S. Body Dysmorphic Disorder. In C. G. Fairburn and K. D. Brownell (Eds.), Eating Disorders and Obesity: A Comprehensive Handbook Guilford Press. 2006; 302-6.
5. Phillips KA. The Broken Mirror: Understanding and Treating Body Dysmorphic Disorder. Oxford University Press, USA. 2005.
6. Sarwer DB, Crerand CE. Body Dysmorphic Disorder and Appearance Enhancing Medical Treatments. Body Image. 2008;5(1):50-8. PubMed | CrossRef
7. Veale D, Gournay K, Dryden W, Boocock A, Shah F, Willson R, et al. Body Dysmorphic Disorder: A Cognitive Behavioural Model and Pilot Randomised Controlled Trial. Behav Res Ther. 1996;34(9):717-29. PubMed | CrossRef
8. Veale D, Ellison N, Werner TG, Dodhia R, Serfaty MA, Clarke A. Development of a Cosmetic Procedure Screening Questionnaire (COPS) for Body Dysmorphic Disorder. J Plast Reconstr Aesthet Surg. 2012;65(4):530-2. PubMed | CrossRef
9. Veale D, Gledhill LJ, Christodoulou P, Hodsoll J. Body Dysmorphic Disorder in Different Settings: A systematic Review and Estimated Weighted Prevalence. Body Image. 2016;18:168-86. PubMed | CrossRef
10. Wilhelm S, Greenberg J L. Changing beliefs about appearance and attractiveness: Recent advances and future directions. Curr Psychiatry Rep. 2018; 20(8).
11. Hong J, Hadeler E, Mosca M, Brownstone N, Bhutani T, Koo J. Cultural and Biological Factors in Body Dysmorphic Disorder in East Asia. Dermatol Online J. 2021;27(9). PubMed | CrossRef

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