ABSTRACT
When a new patient seeks orthodontic treatment, the orthodontist is obliged to treat the patient. But if that patient has a complaint which is inconspicuous or if he/she is not satisfied with the treatment provided, it worries the orthodontist what has to be done further.

There are a number of patients having a level of psychological distress that warrants intervention. Such patients visit the orthodontists for the correction of their ‘imagined’ defect. These patients are known to have body dysmorphic disorder (BDD).

In this article, we have made an attempt to create awareness among clinicians about BDD, its etiology, symptoms and management. This article also throws light on identifying such patients.

Keywords: Body dysmorphic disorder, Body dysmorphophobia, Body image disorder.


Source of support: Nil
Conflict of interest: None declared

INTRODUCTION
Each of us like to be good looking and attractive. Nobody wants to be dissatisfied with their appearance. Orthodontic treatment is known to improve the physical attractiveness of the patient. Thus for patients seeking orthodontic treatment body image plays an important role. It affects how patients feel about their physical appearance and in extreme cases, can lead to subjective fears of ugliness.

Most clinicians are familiar with patients requesting orthodontic treatment for what is either a small or nonexistent deformity or an unsatisfied patient, who has had technically satisfactory treatment, requesting further treatment. Both cases may suggest the diagnosis of body dysmorphic disorder (BDD).

BDD (previously known as dysmorphophobia is sometimes referred to as dysmorphic syndrome) is an anxiety (psychological) disorder in which the affected person is excessively concerned by a perceived defect in his or her physical features (body image).

The disorder is first documented in 1886 by the researcher Morselli, who dubbed the condition ‘dysmorphophobia’. BDD was recognized by the American Psychiatric Association in 1987 in the Diagnostic and Statistical Manual of Mental Disorders IV (DSM IV) and ICD-10 redefining dysmorphobia into delusional and nondelusional variants. The delusional variant is classified as psychotic disorders. The nondelusional; variant is known as BDD, in which,

1. There is a preoccupation with a defect in the appearance. The defect is either imagined, or if a minor defect is present, the individuals concern is excessive.
2. The preoccupation causes significant distress in social, occupational and other important areas of functioning.
3. The preoccupation is not better accounted for by another mental disorder (e.g. anorexia nervosa or hypochondriasis).

The disorder has been called ‘imagined illness’ because the appearance flaws usually are so small that others consider them or do not even notice them. But for a person with BDD, the concern feels very real because the obsessive thoughts distort and magnify any tiny imperfection. Because of the distorted body image caused by the disorder, a person may believe that he or she is too horribly ugly or disfigured to be seen.

Dentists and orthodontists are particularly likely to encounter this group of patients as the concerns of these patients frequently involve nonexistent or minor flaws of the face and head, for, e.g. odd smiles, profiles, shape of lips, etc.7

Hence, it is very important to identify such patients in order to avoid unnecessary treatment and distress to both patient and the clinicians.

COMMON SYMPTOMS AND BEHAVIOR
The main cognitive feature of BDD is excessive preoccupation with appearance and the belief that the imagined defect represents a personal inadequacy. These individuals find ways to avoid exposure of their defect in public. These avoidance strategies include camouflage by applying makeup or wearing concealing clothes. Fixation or avoidance of mirrors, i.e. compulsive mirror checking, glancing in reflective doors, windows and other reflective surfaces. Alternatively, an inability to look at one’s own reflection or photograph of oneself; also, the removal of mirrors from the home.

BDD patient avoid social contact in the belief that people are ridiculing them and that the defect reveals some personal inadequacy. This may reach such proportions that patients become housebound or even attempt suicide.
PREVALENCE
Since diagnosing a case with BDD is difficult it is likely that psychiatrists see only a small proportion of these patients and that many more are referred for medical or surgical treatment rather than psychiatric assessment.\textsuperscript{10} BDD occurs in both sexes although reports of sex bias are variable. Phillips\textsuperscript{9} quotes a ratio of 1.3:1 female to male, but in a later paper\textsuperscript{11} the ratio is said to be approximately 1:1. A Japanese study\textsuperscript{12} found that 62\% of their subjects with BDD who were requesting cosmetic surgery were male but there be an ethnic contribution to this as concern was primarily with the eyelids. The majority of individuals with BDD are unmarried and unemployed, which may reflect the time consuming behavior of effected individuals or the damage done to the personality due to BDD.\textsuperscript{11}

ONSET
The onset of BDD is common during adolescence\textsuperscript{7} although the DSM IV definition states that onset is between adolescence and third decade. BDD is often present with depressive disorders, social phobias and obsessive-compulsive disorders.\textsuperscript{13-16}

DOCTOR SHOPPING
Patients frequently go from one clinician to another until they find someone who is willing to operate on them. They request unnecessary treatment. They would have previous treatment and may want to have another treatment only to find a new ‘defect’. Hence, it is important for the clinician to assess whether a ‘defect’ requiring correction really exists or not.

Some of the reasons why patients seek orthodontic treatment are as follows:
1. Asymmetry of the chin
2. Asymmetry during smile
3. Unesthetic smile
4. Persistent unexplained dental pain
5. Upper midface deficiency.

Common locations of the defect (facial) are as follows:
1. Hair
2. Nose
3. Skin
4. Eyes
5. Head/face
6. Lips
7. Teeth.

Symptoms of BDD are:
1. Frustration with those who do not see the perceived defect.
2. Obsession with the perceived defect: Touching it, picking at it, measuring it, staring at it for hours.
3. Frequent absenteeism from school because of ‘feeling ugly’ or the inability to properly ‘hide’ the perceived defect.
4. Excessively reading or searching the internet about the perceived defect.

DIAGNOSIS
Three criteria must be fulfilled for a diagnosis of BDD:
1. Preoccupation with an imagined defect in appearance. If a slight physical anomaly is present the person’s concern is markedly excessive.
2. The preoccupation causes significant distress or impairment in social, occupational, or other important areas of functioning.
3. The preoccupation is not better accounted for by another mental disorder (e.g. dissatisfaction with body shape and size in anorexia nervosa).

In most cases, BDD is underdiagnosed. This underdiagnosis is due to the disorder only recently being included in DSM IV; therefore, clinician knowledge of the disorder, particularly among general practitioners, is not widespread and a dentist having no knowledge of BDD treats such a patient might land up in legal redress. Also BDD is often associated with shame and secrecy; therefore, patients fail to reveal their appearance concerns for fear of appearing vain or superficial. BDD is also often misdiagnosed because its symptoms mimic that of major depressive disorder or social phobia. Many individuals with BDD also do not possess knowledge or insight into the disorder and so regard their problem as one of a physical rather than psychological nature; therefore, individuals suffering from BDD may seek cosmetic treatment rather than mental health treatment.

An adequate measure of BDD must distinguish it from normal body dissatisfaction and from body image problems in other clinical populations, such as people with real physical deformities. To do this, the measure should address feelings of shame in social situations, excessive importance given to physical appearance, body checking and impairment of activities. The contents should not be sex biased or limited to particular appearance complaints.

Methods of assessment include the Brown Assessment of Belief Scale (BABS),\textsuperscript{17} the BDD modification of the Yale-Brown Obsessive Compulsive Scale (YBDCS),\textsuperscript{18} and the Body Dysmorphic Disorder Examination (BDDE).\textsuperscript{19}

CAUSES OF BDD
Biologic/Genetic
Chemical imbalance in the brain: An insufficient level of serotonin, one of the brain’s neurotransmitters involved in
mood and pain, may contribute to BDD. Although such an imbalance in the brain is unexplained, it may be hereditary.

**Genetic predisposition:** Certain genes may predispose an individual to developing BDD. This theory is supported by the fact that approximately 20% of people with BDD have at least one first-degree relative, such as a parent, child or sibling, who also has the disorder. Twin studies suggest that the majority; if not all, mental disorders are influenced, at least to some extent, by genetics and neurobiology, although no such studies have conducted specifically for BDD.

**Brain region:** MRI-based studies have found that individuals with BDD may have abnormalities in brain region similar to those in OCD.

**Visual processing:** Some believe that BDD is caused by an individual’s distorted perception of his or her actual appearance; others have hypothesized that people with BDD actually have a problem processing visual information. This theory is supported by the fact that individuals who are treated with medications often report that their defect has gone that they no longer see it. However, this may be due to a change in the individual’s perception, rather than a change in the visual processing itself.

**Obsessive compulsive disorder:** BDD often occurs with OCD, where the patient uncontrollably practices ritual behaviors that may literally take over his or her life.

**Generalized anxiety disorder:** BDD may coexist with generalized anxiety disorder. This condition involves excessive worrying that disrupts the patient’s daily life, often causing exaggerated or unrealistic anxiety about life’s circumstances, such as perceived flaw or defect in appearance, as in BDD.

**Psychological**

**Teasing or criticism:** It has been suggested that teasing or criticism regarding appearance could play a contributory role in the onset of BDD. While it is unlikely that teasing causes BDD, it may act as a trigger in individuals who are genetically or environmentally predisposed.

**Parenting style:** Similarly to teasing, parenting style may contribute to BDD onset; for example parents who either place excessive emphasis on esthetic appearance, or disregard it all, may act as a trigger in the genetically predisposed.

**Other life experiences:** Many other life experiences may also act as a trigger to BDD onset; for example neglect, physical and/or sexual trauma, insecurity or rejection.

**Environmental**

**Media:** It has been theorized that media pressure may contribute to BDD onset; for example, glamour models and the implied necessity of esthetic beauty. However, BDD occurs in all parts of the world, including isolated areas where access to media is limited or (practically) nonexistent. Media pressure is therefore an unlikely cause of BDD, although it may act as a trigger in those already genetically predisposed or could worsen existing BDD symptoms.

**Personality:** Certain personality traits may make someone more susceptible to developing BDD. Personality traits which have been proposed as contributing factors include:

- Perfectionism
- Introversion/shyness
- Neuroticism
- Sensitivity to rejection or criticism
- Unassertiveness
- Avoidant personality
- Schizoid personality.

Since, personality traits among people with BDD vary greatly, it is unlikely that these are the direct cause of BDD. However, like the aforementioned psychological and environmental factors, they may act as triggers in individuals.

**TREATMENT OF BDD**

**Pharmacological treatment:** Use of specific serotonin reuptake inhibitors, such as clomipramine and fluoxetine. However, Philips et al cautioned that, for effective treatment of BDD with specific serotonin reuptake inhibitors, patients require long treatment and often higher doses than those used for depression.

**Cognitive behavioral therapy:** Rosen et al showed encouraging result using cognitive behavioral body image therapy. This form of treatment involves the patient constructing a hierarchy of these symptoms and keeping a body image diary during treatment, which is exposure therapy to overcome self-consciousness and response to decrease checking behavior.

**Surgery:** The role of surgery for the treatment of BDD remains controversial, but it is generally recognized that surgery rarely improves the situation and can even make matters worse because the patient finds a new ‘defect’ or becomes even more concerned about the existing defect. Andreasen and Bardach suggested that, because the imagined defect is emotional rather than physical, the patient will rarely be satisfied with the result of surgery.
CONCLUSION

BDD often occurs in patients seeking orthodontic treatment and also in members of the general public. Clinicians should be alerted to the possibility of BDD and assessment may include having psychological evaluation of all our patients. But it is highly unlikely for an orthodontist to do a psychological evaluation for all our patients. Hence, a few carefully chosen questions during the initial consultation could help to identify patients who might cause problems. These questions could include the following:

1. Are you happy with your appearance?
2. Is there anything that you would like to change about your appearance and, if so, what?
3. Is there anything that you avoid because of the way that you look?
4. Have you sought help before?
5. What do you expect to achieve from your treatment?

So the key is to take full case history and ensure that you are fully aware of the patient’s expectations and whether they are within the realms of reality. If there is any uncertainty, referral should be made to a psychiatrist or clinical psychologist for a thorough psychological analysis.

REFERENCES


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