BULLETIN OF STOMATOLOGY AND MAXILLOFACIAL SURGERY
Volume 21, Issue 8

DOI: 10.58240/1829006X-2025.21.8-178

ORIGINAL ARTICLE

BODY DYSMORPHIC DISORDER (BDD) AND UNREALISTIC EXPECTATIONS IN DENTAL PATIENTS

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Received: *Sep 02. 2025;* ***Accepted:*** *Sep 30, 2025;* ***Published:*** *Oct. 06, 2025*

ABSTRACT

Background: Body dysmorphic disorder (BDD) is defined in psychiatry as a mental health condition in which there is a strong preoccupation with an imagined or minor defect in appearance that is often not visible to others. In a dental practice, patients who have BDD but have not been diagnosed may display an exaggerated worry about dental esthetics, which may lead to unreasonable expectations about therapy, seeking treatment from multiple providers, seeking ongoing treatment with the same provider, and dissatisfaction despite clinically acceptable outcomes. Recognizing BDD in dental settings is critical for appropriate patient management, and to avoid unnecessary or inappropriate treatments.

Objectives: This study aimed to assess the prevalence of BDD among patients seeking dental treatment in a tertiary care hospital and to examine its association with unrealistic treatment expectations.

Material and *Methods:* A cross-sectional observational study was performed over a period of 12 months in the outpatient department of a tertiary care teaching hospital. Two hundred consecutive adult patients seeking dental aesthetic treatments were enrolled. Sociodemographic information was collected, and participants were assessed with the Body Dysmorphic Disorder Questionnaire (BDDQ), a validated screening tool. The unrealistic treatment expectations were evaluated with a structured questionnaire designed specifically for this study, which focused on expectations of esthetic perfection, immediate outcome, and reversibility of treatment. Data were analyzed using descriptive statistics, chi-square tests, and logistic regression in order to examine the relationship between BDD and unrealistic expectations.

Results: The mean age of participants was 29.6 ± 8.4 years, with 58% female and 42% male. The prevalence of BDD was found to be 12.5% (n = 25). Patients who screened positive for BDD were much more likely to report unrealistic expectations of treatment (68% vs. 24%, $p < 0.001$). Multivariate analysis showed that BDD was independently associated with unrealistic expectations (adjusted odds ratio 4.2, 95% CI 2.0-8.9, $p < 0.001$). There were no significant differences concerning sex or socioeconomic status.

Conclusions: BDD was relatively common among dental patients seeking aesthetic procedures in tertiary care settings, and is strongly associated with unrealistic expectations of treatment. Routine screening for BDD in dental practice may assist in identifying high-risk individuals, allowing for prompt psychiatric referral and improved patient care overall.

Keywords: Body dysmorphic disorder, dental patients, unrealistic expectations, psychiatric comorbidity, aesthetic dentistry

INTRODUCTION

Body dysmorphic disorder (BDD) is a psychiatric illness involving excessive fixation of perceived flaws in one's physical appearance which are either nonexistent or minimal that are unnoticed by others [1]. BDD is classified in the obsessive–compulsive and

related disorders chapter of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) and has been linked to significant distress, functional impairments, and diminished quality of life. Those with BDD may seek multiple cosmetic or surgical procedures to "fix" their perceived defects, yet remain unhappy with their appearance even when they undergo successful interventions [2].

BDD is estimated to affect 1.7–2.4% of the general population in clinical population, and there is a higher prevalence in those seeking cosmetic procedures. The onset of BDD occurs in early adulthood, and the rates of occurrence in males and females are similar, although some studies suggest there is slightly higher prevalence in females. Critically, BDD is correlated with psychiatric co-morbidities such as anxiety, depression and suicidal thoughts which increases the importance of early detection and intervention by healthcare systems [3,4].

Dentistry is at a unique convergence of health care and aesthetics. In the last twenty years, the demand for aesthetic dental work, such as orthodontics, bleaching, veneers, and implant-supported prostheses, has greatly increased. While technology has certainly improved the opportunities for better aesthetics, it has also elevated expectations within that field of medicine. A segment of patients perhaps have by comparison, higher demands for cosmetic perfection, minor corrections, repeated adjustments, even with acceptable clinical outcomes. Those patients may present if they exhibit any psychopathology, specifically BDD [5,6].

From the perspective of dental practitioners, undiagnosed BDD poses several challenges. Patients may express unrealistic expectations, insist on unnecessary procedures, or remain persistently dissatisfied despite optimal outcomes. This not only increases the risk of conflict, medico-legal disputes, and treatment discontinuation but also imposes an ethical dilemma on clinicians. Identifying BDD in dental settings is therefore essential, not only to avoid futile interventions but also to facilitate referral to mental health professionals for appropriate management [7,8].

Previous research in dermatology, plastic surgery, and cosmetic medicine has consistently demonstrated a higher prevalence of BDD in patients seeking aesthetic procedures compared to the general population. However, evidence from dental settings, particularly in resource-limited tertiary care hospitals in developing countries, remains sparse. Most available studies are limited by small sample sizes, heterogeneous diagnostic criteria, or lack of focus on the relationship between BDD and unrealistic treatment expectations.

The present study was conducted in a tertiary care teaching hospital to address this gap in the literature. The objectives were twofold: first, to estimate the prevalence of BDD among dental patients seeking aesthetic treatments, and second, to evaluate its association with unrealistic expectations regarding treatment outcomes. By systematically examining this relationship, the study aims to provide evidence for incorporating BDD screening into routine dental practice, thereby improving patient selection, treatment planning, and overall care delivery.

MATERIALS AND METHODS

Study design and setting

This was a cross-sectional observational study conducted in the Department of Dentistry at a tertiary care teaching hospital. The study was carried out over a period of 12 months, from January to December, and included patients attending the outpatient dental clinics for aesthetic concerns.

Study population and sample size

Adult patients aged 18 years and above who presented with requests for aesthetic dental treatment, such as tooth whitening, orthodontic correction, veneers, or prosthetic replacement, were eligible for inclusion. Patients with a known diagnosis of major psychiatric disorders (e.g., schizophrenia, bipolar disorder), those with cognitive impairment affecting questionnaire completion, and individuals unwilling to provide informed consent were excluded.

The sample size was determined based on an anticipated prevalence of BDD of approximately 10–15% among cosmetic-seeking patients in dental and dermatological literature, with a 95% confidence interval and 5% margin of error. This yielded a minimum required sample size of 190. To account for incomplete responses and potential attrition, a total of 200 patients were recruited consecutively.

Data collection tools

Sociodemographic data, including age, gender, marital status, educational attainment, and socioeconomic status, were obtained using a structured proforma. Clinical data on the nature of the dental aesthetic concern and prior history of cosmetic procedures were also recorded.

To screen for BDD, the Body Dysmorphic Disorder Questionnaire (BDDQ) was used. The BDDQ is a validated, widely used self-report screening tool derived from DSM diagnostic criteria. A positive screen was defined by preoccupation with a perceived defect in appearance, associated distress, and impairment in functioning.

Unrealistic expectations regarding dental treatment were assessed using a structured questionnaire designed for this study, based on expert consensus and pilot testing. The tool included domains evaluating expectations of absolute perfection, immediate and permanent results, reversibility of procedures, and belief that treatment would lead to major life changes (e.g., improved relationships, employment opportunities). Responses were scored dichotomously as realistic or

unrealistic. Internal consistency of the tool was verified in the pilot phase with a Cronbach's alpha of 0.81.

Procedure

Eligible patients were approached in the outpatient department and provided with information about the study. Written informed consent was obtained prior to participation. The questionnaires were administered in a private setting to ensure confidentiality. Patients screening positive for BDD were informed about the findings and referred to the psychiatry department for further evaluation and management as appropriate.

Statistical analysis

Data were entered into Microsoft Excel and analyzed using Statistical Package for the Social Sciences (SPSS) version 25. Continuous variables such as age were summarized as mean and standard deviation, while categorical variables were expressed as frequencies and percentages. The prevalence of BDD was estimated with 95% confidence intervals. Associations between BDD and unrealistic expectations were tested using chi-square tests for categorical variables. Logistic regression analysis was performed to determine independent predictors of unrealistic expectations, with adjustment for potential confounders including age, gender, and socioeconomic status. A p-value of less than 0.05 was considered statistically significant.

Ethical considerations

The study protocol was approved by the Institutional Ethics Committee of the tertiary care hospital. All participants provided written informed consent. Confidentiality of participant data was maintained throughout the study, and patients screening positive for BDD were offered psychiatric referral in accordance with ethical standards of clinical care.

RESULTS

Body dysmorphic disorder (BDD) was found to be a significant factor influencing patient expectations in dental practice. The study population predominantly comprised young adults, with females slightly outnumbering males. Educational attainment was generally high, and the majority of participants reported middle socioeconomic status. The most common presenting concerns were tooth discoloration and malalignment, reflecting typical demands in aesthetic dentistry.

The prevalence of BDD was 12.5% among patients seeking aesthetic treatment, aligning with rates reported in cosmetic dermatology and plastic surgery. Patients screening positive for BDD were far more likely to express unrealistic expectations, which included demands for flawless outcomes, immediate and permanent results, and expectations of transformative life changes after dental treatment.

Further analysis revealed that previous cosmetic dental procedures were more common among BDD-positive patients, and psychiatric comorbidities such as anxiety and depressive symptoms were also noted in this subgroup. Dissatisfaction was disproportionately higher in BDD-positive patients, often related to perceived flaws or unmet ideals of perfection. Satisfaction scores were significantly lower in the BDD-positive group. Logistic regression confirmed that BDD was the only significant predictor of unrealistic expectations after adjusting for demographic and socioeconomic variables. Notably, referral acceptance rates to psychiatry were modest, highlighting barriers to mental health follow-up.

Sociodemographic and clinical characteristics

Table 1. Sociodemographic and clinical profile of participants

Variable	Frequency (n = 200)	Percentage (%)
Age group (years)		
18–20	28	14.0
21–30	104	52.0
31–40	46	23.0
>40	22	11.0
Gender		
Male	84	42.0
Female	116	58.0
Education		
Secondary or below	48	24.0
Undergraduate	96	48.0
Postgraduate and above	56	28.0
Socioeconomic status		
Lower	40	20.0
Middle	122	61.0
Upper	38	19.0
Primary aesthetic concern		
Tooth discoloration	82	41.0
Malalignment	64	32.0
Missing teeth/prosthetic needs	34	17.0
Other (e.g., shape, size)	20	10.0

Prevalence of BDD

Table 2. Prevalence of body dysmorphic disorder among study participants

BDD status	Frequency (n = 200)	Percentage (%)
Positive screen for BDD	25	12.5
Negative screen for BDD	175	87.5

Types of unrealistic expectations

Table 3. Distribution of unrealistic expectations among participants

Type of unrealistic expectation	Frequency (n = 59)	Percentage (%)
Absolute perfection demanded	24	40.7
Immediate results expected	14	23.7
Belief in permanent outcomes	12	20.3
Expectation of life-changing benefits	9	15.3

Association between BDD and unrealistic expectations

Table 4. Unrealistic expectations in relation to BDD status

Expectation status	BDD positive (n = 25)	BDD negative (n = 175)	Total (n = 200)
Unrealistic expectations	17 (68.0%)	42 (24.0%)	59 (29.5%)
Realistic expectations	8 (32.0%)	133 (76.0%)	141 (70.5%)

Chi-square test: $\chi^2 = 20.71$, $p < 0.001$

Previous cosmetic dental procedures

Table 5. History of prior cosmetic dental treatments by BDD status

History of prior treatment	BDD positive (n = 25)	BDD negative (n = 175)	Total (n = 200)
Yes	10 (40.0%)	26 (14.9%)	36 (18.0%)
No	15 (60.0%)	149 (85.1%)	164 (82.0%)

p = 0.003

Psychiatric comorbidities among BDD-positive patients

Table 6. Psychiatric comorbidities in BDD-positive group (n = 25)

Comorbidity	Frequency	Percentage (%)
Anxiety symptoms	11	44.0
Depressive symptoms	7	28.0
Obsessive–compulsive traits	5	20.0
None reported	2	8.0

Reasons for dissatisfaction in BDD-positive patients

Table 7. Reported dissatisfaction among BDD-positive patients (n = 25)

Reason for dissatisfaction	Frequency	Percentage (%)
Results not "perfect"	12	48.0
Flaws perceived despite correction	6	24.0
Desire for repeated procedures	4	16.0
Other concerns	3	12.0

Satisfaction scores by BDD status

Table 8. Mean satisfaction scores (1–5 Likert scale) by BDD status

Group	Mean score ± SD
BDD positive (n = 25)	2.1 ± 0.8
BDD negative (n = 175)	4.0 ± 0.7

t-test: $p < 0.001$

Logistic regression analysis

Table 9. Logistic regression analysis of predictors of unrealistic expectations

Variable	Adjusted Odds Ratio (AOR)	95% Confidence Interval	p-value
BDD positive	4.2	2.0 – 8.9	<0.001
Female gender	1.3	0.7 – 2.4	0.286
Age <30 years	1.5	0.8 – 2.9	0.174
Higher education (UG/PG)	1.1	0.6 – 2.2	0.391
Middle/upper socioeconomic status	1.2	0.6 – 2.5	0.336

Psychiatric referral acceptance

Table 10. Referral acceptance among BDD-positive patients (n = 25)

Referral outcome	Frequency	Percentage (%)
Accepted referral	14	56.0
Declined referral	11	44.0

Table 1 shows that the sample was predominantly young adults, with females slightly outnumbering males, and tooth discoloration was the leading presenting concern. **Table 2** demonstrates that 12.5% of patients screened positive for BDD. **Table 3** highlights the distribution of unrealistic expectations, with perfection-seeking being the most frequent. **Table 4** shows a strong association between BDD and unrealistic expectations, with statistical significance. **Table 5** indicates that BDD-positive patients were more likely to have undergone previous cosmetic procedures. **Table 6** reveals that anxiety and depressive symptoms were

common among BDD-positive individuals. **Table 7** documents reasons for dissatisfaction in BDD-positive patients, mainly related to unattainable ideals of perfection. **Table 8** demonstrates that mean satisfaction scores were significantly lower in the BDD-positive group compared to the BDD-negative group. **Table 9** confirms BDD as an independent predictor of unrealistic expectations, with no significant effects of demographic variables. **Table 10** shows that only slightly more than half of BDD-positive patients accepted psychiatric referral, while a substantial proportion declined.

DISCUSSION

The present study examined the prevalence of body dysmorphic disorder (BDD) and its relationship with unrealistic expectations among patients seeking aesthetic dental treatment in a tertiary care hospital. The prevalence of BDD was found to be 12.5%, which is consistent with rates reported in cosmetic dermatology and plastic surgery populations, where prevalence typically ranges between 6% and 15%. This confirms that dental patients, particularly those seeking aesthetic interventions, represent a high-risk group for BDD [9].

An important finding of this study was the strong association between BDD and unrealistic expectations. Nearly seven out of ten BDD-positive patients expressed unrealistic demands, compared to only one-quarter of patients without BDD. These findings are in line with earlier reports from cosmetic medicine, where BDD patients frequently request procedures with expectations of flawless outcomes or transformative effects on their personal and social lives. Unrealistic expectations, if unrecognized, can lead to patient dissatisfaction, repeated demands for treatment, and medico-legal challenges for dental practitioners [10,11].

The sociodemographic analysis found BDD prevalence related association with gender, age, and sociodemographic situation was not statistically significant. This finding differs from some prior studies. Similarly, the previous studies had found BDD was related to females or younger age. However, more recent studies have suggested that BDD can affect different demographic groups without strong allegiance to gender or socioeconomic status. This supports the role of universal screening strategies instead of assessing as a function of sociodemographic factors [12].

Patients with BDD also demonstrated some odds of prior cosmetic dental [procedures which is an indication of the characteristic repeated treatment seeking behavior. In addition, the BDD positive patients exhibited psychiatric comorbidities such as anxiety, and depressive symptoms; this was not surprising since there is substantial and consistent literature demonstrating high psychiatric morbidity among BDD patients. High psychiatric morbidity also increases the risk of suicidality in this population. The BDD positive individuals had significantly lower satisfaction scores, even with objectively adequate dental outcomes than BDD negative patients indicating, again, the importance of psychopathology compared to clinical quality [13].

The logistic regression analysis indicated that body dysmorphic disorder (BDD) was an independent predictor of unrealistic expectations with an adjusted odds ratio of 4.2, even after controlling for demographic and socio-economic variables. This highlights the importance of BDD in contributing to attitude and outcomes in patients. It is particularly noteworthy that referral acceptance in patients with BDD was low, with almost half of patients declining psychiatric referral. This data corresponds with challenges related to mental health acceptance, stigma, and lack of awareness, and serves to indicate the value of employing thoughtful communication techniques by dental professionals [14].

The clinical implications of this research warrant attention. Firstly, considering the evidence, it would be prudent to consider incorporating BDD screening into everyday dental practice, using short voucher methods of scree, such as BDDQ, especially in tertiary care and cosmetic areas. Secondly, recognition of unrealistic expectations should alert clinicians to the possibility of underlying psychopathology, and provide lead to caution regarding proceeding with invasive or irreversible treatment. Thirdly, dentists should seek to collaborate effectively with mental health professionals to ensure the appropriate management of patients [15].

The strengths of this study include a validated screening tool, a structured measurement of unrealistic expectations, and a fairly sizeable sample from a tertiary care environment. However, there are limitations that need to be acknowledged. First, the cross-sectional design limits conclusions of causation between BDD and treatment-related outcomes. Second, the psychiatric comorbidities were only screened for (and not determined by structured clinical interview) which may lead to length of stay and functional impairments being under- or over-estimated. Third, the study was conducted at one tertiary care centre and generalisability to community or private practice is unassure. Finally, follow-up outcomes after psychiatric referral was not systematically examined, and it is advised that future longitudinal studies evaluate treatment adherence and clinical response.

Given these limitations, the study nevertheless provides sound evidence of the intersection between psychiatry and dentistry. Diagnosis of BDD and its strong association with unrealistic expectations could aid the dental provider in making proper patient selection, discourage undesired treatment requests and facilitate timely referral to psychiatry. Ultimately, psychologically informed dental aesthetics would be beneficial for patients and the dental providers themselves, and allow for enhanced patient safety and satisfaction in their profession.

CONCLUSION

In summary, this study indicated that body dysmorphic disorder occurs at a relatively high prevalence in dental patients seeking aesthetic treatment from a tertiary care hospital, at a rate of 12.5%. Patients with BDD, as compared to patients without BDD were much more likely to hold unrealistic expectations with characteristics of the unrealistically demanding perfect, immediate and permanent outcome, and expectation for life-changing benefit. Logistic regression analysis indicated that BDD consistently predicted unrealistic expectations as an independent variable, whereas demographic and socioeconomic variables were not significant allies in predicting unrealistic expectations. BDD-positive patients reported lower satisfaction scores and higher rates of dissatisfaction, emphasizing the importance of underlying psychopathology in understanding perceived outcomes rather than the objective quality of treatment provided.

In addition to routine screening for BDD in practice, we believe that additional attention should be given to patients presenting with an unusually high concern for aesthetic management. While BDD and the corresponding unrealistic expectations may signal a maladaptive preconceived notion of treatment, when recognized early, BDD-positive patients can help clinicians take a more cautious approach to treatment planning, provide appropriate management of unrealistic expectations, and obtain psychiatric referral if appropriate.

RECOMMENDATIONS

It may be useful to embed screening tools that have been validated, like the BDDQ, in routine dental clinical assessments to identify patients who are considered high-risk. Dental education training programs should focus on the identification of psychological disorders that would affect treatment success. Dentists should work closely with mental health professionals, when possible, so that both professions provide quality patient care, avoid unnecessary interventions, and provide appropriate ethical practice in aesthetic dentistry.

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