

Prevalence of Body Dysmorphic Disorder and its Effect on the Self-Esteem of Medical Students in Punjab: A Cross-Sectional Study

Zohad Fareh¹, Muhammad Talha Tariq², Muhammad Sabeeh³, Muhammad Abdullah Imran⁴, Muhammad Saad Habib⁵, Syed Muneeb Ahmad⁶, Sumia Fatima⁷

¹Final Year Medical Student, Services Institute of Medical Sciences, Lahore, ^{2,3}Third Year Medical Student, Nishtar Medical University, Multan, ⁴Second Year Medical Student, CMH Lahore Medical College and Institute of Dentistry, ⁵Medical Officer, Lahore General Hospital, Lahore, ⁶Graduate, Nishtar Medical University, Multan, ⁷House Officer, Rawalpindi Medical University, Rawalpindi

Received: April 15, 2025

Accepted: June 24, 2025

Published: June 30, 2025

Cite this paper: Fareh Z, Tariq MT, Sabeeh M, Imran MA, Habib MS, Ahmad SM, Fatima S. *Nepal Journal of Medical Sciences*. 2025;10(2):20:15-21. <https://doi.org/10.3126/njms.v10i2.79429>

ABSTRACT

Introduction: Body Dysmorphic Disorder (BDD) is a globally occurring psychiatric disorder of variable severity. Studies have shown that BDD is prevalent worldwide, especially in the student population. However, Pakistan has conducted only a few studies in this regard.

Methods: Data was collected through non-probability sampling using an online survey for a cross-sectional descriptive study with a sample size of 180 medical students and 16 house officers from 4 medical colleges across Punjab, determined by the Cochrane formula from August 2024 to February 2025.

Results: The sample data included 58.2% (n = 114/196) males and 41.8% (n = 82/196) females. The BDD Questionnaire diagnosed nearly 9.7% of them as “likely having BDD”, and another 10.2% as “may have BDD”. The Rosenberg Self-esteem Scale showed that almost 10.7% of subjects had low self-esteem. Out of 19 who fell under the DSM-IV criteria for BDD, 6 subjects had low self-esteem.

Of 196 respondents, 5.1% (n = 10/196) consistently compared their physical defects with those they saw on social media or television. Our study demonstrated a significant relationship between Body Dysmorphic Disorder (BDD) and self-esteem, as demonstrated by a chi-squared analysis with a p-value of less than 0.05.

Conclusions: BDD was found to be prevalent among medical students, affecting their regular daily routine and having its effect in lowering their self-esteem.



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Keywords: *Body dysmorphic disorder; Cross-sectional studies; Medical students; Pakistan; Prevalence.*

Corresponding Author: Muhammad Sabeeh, MBBS Student, Nishtar Medical University, Multan, Pakistan.
Email: thesabist@gmail.com

INTRODUCTION

Body Dysmorphic Disorder (BDD) is a globally occurring psychiatric disorder of variable severity [1]. People suffering from BDD become overly fixated and distressed on "defects" and "shortcomings" of their body and appearance [2]. People with BDD often experience poor quality of life, social isolation, depression, and a high risk of suicide[3,4]. Studies have shown that BDD is prevalent worldwide [1,2,5–8], especially in the student population [9–12]. Even in Southeast Asia, the number of patients suffering from BDD is on the rise [10,13,14].

Despite high prevalence of BDD, there were a limited number of noteworthy studies conducted in Pakistan, particularly targeting student populations. Taqui et al. [15] conducted one of the first studies on BDD in Pakistan, and while their effort was highly commendable, they had limited their study to students in Karachi. They did not examine its correlation with self-esteem.

The main objective was to determine the prevalence of Body Dysmorphia Disorder (BDD) among medical students, and observing its detrimental impact on their self-esteem was crucial for the effective management of this condition.

METHODS

This cross-sectional study was conducted throughout Punjab from August 2024 to February 2025. The approval for the study was taken from the Institutional Review Committee

(Reference number ID PH-46-46-21). Informed Consent was obtained from all the students through an online survey. The inclusion criteria included all the Currently enrolled medical students from First Year to Final Year MBBS among Medical Colleges of Punjab and House Officers working in Hospitals of Punjab. Students who did not give consent, who are not from Punjab and those who had a language barrier were excluded from the study. Informed consent was obtained from all participants through an online survey. The study employed a Non-Random convenience sampling approach, wherein the questionnaire as google forms were distributed to medical students across Punjab via social media platforms. The inclusion criteria targeted currently enrolled undergraduate medical students (First Year to Final Year MBBS) at Punjab Medical Council-recognized colleges and house officers working in affiliated hospitals within Punjab during the study period. Exclusion criteria comprised students who declined to participate and those with language barrier

The Sample size includes 180, using the Cochran formula with a 95% confidence level ($Z = 1.96$), an 87% expected proportion ($*p* = 0.87$), and a 5% margin of error ($*e* = 0.05$). We collected the data using the Body Dysmorphic Disorder (BDD) questionnaire, which follows DSM-IV for BDD diagnosis, and the Rosenberg Self-Esteem Questionnaire, which adheres to the Rosenberg Self-Esteem Scale. We gathered the

data via Google Forms from medical students pursuing MBBS across Punjab and house officers working in the hospitals of Punjab. We collected the data from the Standard Questionnaire of BDD and the Rosenberg scale of the self-esteem questionnaire.

The operational definition of Body Dysmorphic Disorder, according to DSM-V, is defined as a preoccupation with a perceived defect or flaw in one's physical appearance when, in fact, they appear normal [16].

RESULTS

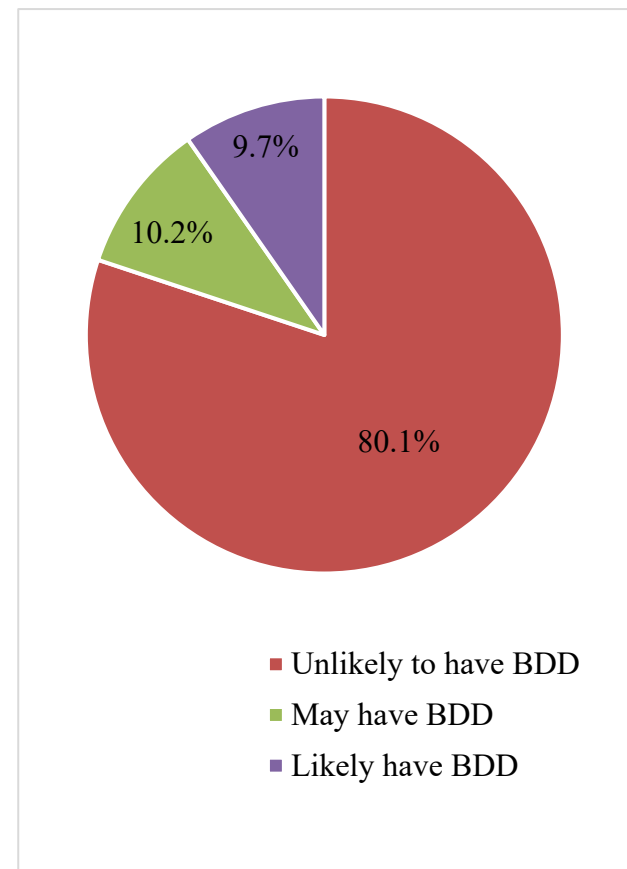
The demographics section covered Gender, Age Group, Class of enrollment and Marital status. Of the 196 respondents, 58.2% ($n = 114/196$) were males and 41.8% ($n = 82/196$) were females. The majority of the sample size consisted of students falling in the 21-23 Age group ($n = 116/196$). Students contributed to the sample size almost consistently from all classes.

Table 1: Demographics (n=196)

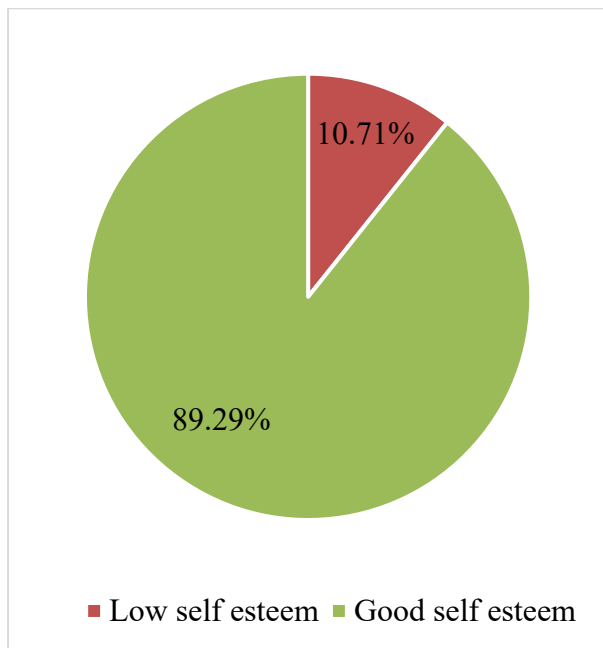
Variables		Frequencies	P-Value
Gender	Male	114	0.98
	Female	82	
Age Group	18-20	51	0.01
	21-23	116	
	>23	29	
Class of Enrolment	1 st Year	13	0.17
	2 nd Year	59	
	3 rd Year	31	
	4 th Year	33	
	5 th Year	44	
	House Officers (internship year)	16	
Marital Status	Married	5	0.06
	Unmarried	191	

Among the 196 participants, 19 (9.7%) received a BDD diagnosis and were advised to visit a clinician for further assessment. A total of 20 (10.2%) students were found to potentially having BDD and recommended further assessment. 157 students (80.1%) did not have BDD. A pie chart makes understanding the prevalence pattern easier.

Figure 1: Prevalence of BDD (n=196)



The following pie chart better illustrates the prevalence of low self-esteem. Out of the 196 students who took part in the study, 21 (10.9%) were diagnosed with low self-esteem according to the Rosenberg Self-Esteem Scale (RSES), and 175 (89.3%) were diagnosed with having normal self-esteem.

Figure 2: Self-Esteem Prevalence (n=196)

The correlation was calculated between BDD and self-esteem. There was a significant relation between BDD and Self-esteem using Chi-Square ($p < 0.01$).

Table 2: BDD and self-esteem Correlation(n=196)

Variables	Low self-esteem	Good self-esteem	Total	P value
Unlikely have BDD	10	147	157	<0.001
May have BDD	5	15	20	
Likely have BDD	6	13	19	
Total	21	175	196	

The Rosenberg Self-Esteem Scale identified 21 of the 196 respondents as having low self-esteem. Of these 21 individuals, 6 met the DSM-

IV criteria for body dysmorphic disorder (BDD).

The Chi-Square test applied to the data revealed no significant correlation between the prevalence of BDD and the gender of the respondents ($p = 0.985$). Of 19 who “likely have BDD”, 11 were males, and 8 were females. This showed a prevalence of 9.64% in males and 9.75% in females.

Table 3: Relation between Gender and BDD (n=196)

Variable	Likely to have BDD	May have BDD	Unlikely to have BDD	p-value
Male	8	8	66	0.985
Female	11	12	91	
Total	19	20	157	

The chi-squared test applied to the data showed no significant relationship between the prevalence of BDD and the marital status of the respondents. ($p=0.059$). Among married respondents, 2 individuals had Body Dysmorphic Disorder (BDD), while among unmarried respondents, 17 individuals had BDD.

The Chi-Square test indicated no significant correlation between the prevalence of BDD and the respondent's year of study ($p=0.177$).

Table 4: BDD and Year of Study Correlation(n=196)

Variables	1 st year	2 nd year	3 rd year	4 th year	5 th year	House Officer
Unlikely have BDD	2	4	1	2	7	3
May have BDD	4	6	3	2	4	1
Likely have BDD	7	49	27	29	33	12
Total	13	59	31	33	44	16

Overall, out of 196 respondents, 157 were unlikely to have BDD, 20 may have BDD, and 19 have BDD.

DISCUSSION

Our study found that there was a significant relationship between BDD and self-esteem. Our study demonstrated the prevalence of BDD and self-esteem, and also elucidated the phenomenon of individuals comparing their physical defects with those they see on television or social media. Our study revealed a prevalence of 9.7% among medical students and house officers in Punjab, compared to the 7.1% [17] reported in Makkah City, Saudi Arabia.

Of the total 196 subjects in our study, 114 were males and 82 were females. Out of 82 females, 8 were likely to have BDD, while 11 out of 114 males were likely to have BDD, which showed 9.76% prevalence in females and 9.65% in males. This result suggested a slightly higher prevalence among females. A previous study on

Lebanese females had found a prevalence of 13.5% [18]. The study among medical students in Karachi had shown a high prevalence among males, more specifically, the male-to-female ratio for BDD was 1.7 [15]. However, previous studies had shown a different gender prevalence. We could conclude that different populations exhibit variability in gender prevalence. Examining BDD among males and females in extensive studies could overcome this inconsistency.

In terms of age, students over the age of 23 had a 27.59% higher prevalence of BDD. 5 out of 29 people in this age group had low self-esteem, the highest prevalence among age groups. The higher prevalence of BDD among this age group may be attributed to their greater concern for their appearance, which was associated with a higher prevalence of BDD, and the influence of family, peer pressure on physical changes, which could also lead to low self-esteem. A previous study also revealed a higher prevalence among younger individuals. [19]

Our study revealed that 19 out of 196 individuals suffered from BDD, and 6 of these individuals had low self-esteem. The Pearson correlation between BDD and total self-esteem was -0.28, with a p-value of <0.01, indicating a significant relationship between BDD and self-esteem. A previous meta-analysis supported the association between BDD and self-esteem. [20]

We collected the data from a self-administered questionnaire, which may need to be more

accurate due to recall bias. Secondly, we relied on convenient sampling, which could lead to selection bias and compromise the validity of our results.

CONCLUSIONS

The study found a significant correlation between BDD and self-esteem. Subject comparisons on social media were also associated with BDD prevalence and its effects on an individual's self-esteem.

CONFLICT OF INTEREST

None

SOURCES OF FUNDING

None

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