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Prevalence of Body Dysmorphic Disorder in College-Going Students: A Quantitative Study

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Abstract

Introduction: Body dysmorphic disorder (BDD) is a psychiatric disorder that is characterized by a preoccupation with an imagined or slight defect. It is an underrecognized part yet relatively common and is considered a severe mental disorder that occurs globally. BDD is more common than is realized and causes significant distress and occupational impairment. Hence, it is important to understand the magnitude of occupational impairment in college students with BDD. Before identifying the occupational impairment in college-going students, we need to understand the prevalence of BDD amongst them.

Aim: To measure the prevalence of BDD in undergraduate Medical and Allied Health college-going students.

Settings and Design: Cross-sectional quantitative study design was used to conduct the study. Medical and Allied Health Students of Goa Medical College, Goa.

Methods and Material: A convenient sampling method was used. A self-report, body image questionnaire was used, which has a sensitivity of 95.1% and a specificity of 71.6%.

Statistical Analysis used: Data obtained and entered in a Google Excel sheet and analyzed in IBM Statistical Package for Social Sciences version 24.0 (SPSS, Inc., Chicago, IL, USA).

Results: Out of the 378 students surveyed, 72.5% were female. Among the student population, 6.9% were found to have BDD. The male-to-female ratio among those with BDD was 1:5. Additionally, it was observed that approximately 61.5% of students who were under 21 years of age were likely to have BDD. Furthermore, it was noted that 45.8% of the total students surveyed experienced slight distress due to their physical features, while approximately 47.1% of students reported that they always avoided certain situations or activities because their features caused them distress. Additionally, 44.4% of the total student population expressed being slightly preoccupied with their physical features and thinking about them frequently. Moreover, approximately 25.1% of the overall student population stated that their features slightly affected their ability to work or study, indicating interference with their academic or professional pursuits.

Conclusion: The data suggests that a significant portion of the surveyed population, particularly females, are susceptible to BDD. The disorder appears to affect a substantial percentage of students, with a higher prevalence among those under 21 years of age. Additionally, a considerable number of students report experiencing distress, avoidance behaviors, preoccupation with their physical features, and interference with their work or study due to these concerns. These findings highlight the importance of addressing mental health and body image issues among students and may warrant further investigation and support for those affected by BDD.

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Introduction

Body Dysmorphic Disorder (BDD), commonly referred to as dysmorphophobia, represents a significant and profound psychiatric condition that involves an obsessive focus on an imagined flaw in one's physical appearance.[1] While a certain level of concern about physical appearance is considered normal, it becomes a matter of significance when these concerns reach an intensity that causes substantial subjective distress to the individual. A result of their appearance concerns leads to significant distress or hinders social, occupational, or other crucial aspects of daily functioning.[1,2] They may become housebound and even commit suicide.[3] BDD is an underrecognized yet relatively common and severe mental disorder that occurs around the world.

Although extensive epidemiological surveys specifically addressing BDD prevalence are yet to be conducted, available studies, to the best of my knowledge, originate from the US (n = 293)[4] and (n = 50),[5] Italy (n = 58),[6] and England (n = 50).[7] While a comprehensive evaluation of the prevalence of Body Dysmorphic Disorder (BDD) through epidemiological surveys is currently lacking, existing research indicates its widespread occurrence across various settings[2]. The prevalence rates among student samples, rates range from 2.2 to 13%[2]. The study in Pakistan found that BDD is fairly common in the medical student population, with a 5.8 % prevalence rate that met the DSM-IV criteria for BDD.[8]

Consequently, insights from these countries have significantly contributed to our understanding of BDD's clinical features within those particular contexts. Hence, the purpose of this study is to measure the prevalence of BDD in the Indian context. This will help us in further research to determine occupational impairment in persons with BDD in a local context.

Subjects and Methods

A cross-sectional study was conducted at Goa Medical College. About 378 students from Bachelor in Medicine & Bachelor in Surgery (MBBS) and Allied Health Science Courses (AHSC) undergraduate courses were recruited using convenience sampling. Participants aged 18 years and above were included and those who refused to provide consent were excluded from the study. A 9-item body image questionnaire and cosmetic procedure screening questionnaire (COPS) to screen for Body Dysmorphic Disorder and assess individual perceptions and concerns about their body image over the past week was used to assess the severity of prevalence. It contains nine questions, each aimed at evaluating different aspects of how individuals feel about a specific feature(s) of their body. The questions cover a range of topics, including the frequency of checking one's appearance, feelings of attractiveness or ugliness, levels of distress caused by one's appearance, avoidance of situations due to appearance, preoccupation with a particular feature, the impact of one's appearance on relationships and social activities, the interference of appearance with work, study, or homemaking roles, and the importance of appearance to one's self-identity. Each question is answered on a 9-point scale, where 0 might indicate no concern or impact (e.g., "Never check," "Not at all distressing," "Not at all preoccupied") and higher numbers indicate greater concern or impact (e.g., "About 40 times or more a day", "Extremely distressing", "Extremely preoccupied"). Specific descriptions are provided for certain points on the scale to help respondents gauge the severity or frequency of their feelings and behaviors related to their body image.'

Results

In our study, we delve further into the details of the participant demographics and the study's context. The demographic details of the study participants are summarized in Table 1. Our study engaged a robust sample of 378 participants, providing a well-rounded representation of individuals with a mean age of 20.65 years and a narrow standard deviation of 1.46, indicating a relatively homogenous age distribution within the cohort. This meticulous recruitment aimed to capture a nuanced understanding of the factors under investigation. Within this diverse group, there were 97 male participants, whose mean age was 20.88 years, and 274 female participants, with a slightly lower mean age of 20.58 years. Notably, 7 participants chose not to disclose their gender, highlighting the importance of respecting

Table 1: Demographic details of the study participants

	n = 378
Mean age	20.65 years
Standard deviation of age	1.46 years
Gender	
Male participants	97
Mean age of male participants	20.88 years
Standard deviation of age of male participants	1.63 years
Female participants	274
Mean age of female participants	20.58 years
Standard deviation of age of female participants	1.3 years
Participants who prefer not to say their gender	7
Program	
MBBS participants	151
AHSC participants	227

participant preferences in sharing personal information. Furthermore, to ensure a comprehensive exploration of the research objectives, participants were drawn from two distinct academic courses. A subgroup of 151 participants were enrolled in the MBBS program, representing a focus on medical education, while a larger cohort of 227 individuals pursued the AHSC program, emphasizing a broader perspective encompassing various health science disciplines.

From the comprehensive participant pool, totaling 378 individuals, constituting the entirety of our research population, we explored the prevalence of students who are likely to have body dysmorphic disorder (BDD) among this varied group. The prevalence of BDD among participants is presented in Table 2. Our findings indicate that 26 participants, or 6.9% of the total, exhibit potential signs of BDD. In contrast, the substantial majority, encompassing 352 individuals (93.1%), do not display indications of BDD. These insightful statistics illuminate the distribution of BDD tendencies within our diverse sample, providing a nuanced perspective on the prevalence of this condition in the examined context.

Table 2: Prevalence of BDD among participants

	Frequency (n)	*Percentage*
Likely to have BDD	26	6.90%
No BDD	352	93.10%
Total	378	100%

Table 3: Distribution of participants by age group

Participants	*Likely to have BDD*	*Distribution of Participants in Age Group*
20 or less than 20 years	n = 16 (4.2%)	n = 180
21 onwards	n = 10 (92.7%)	n = 198

Surveying the expansive range of 378 participants within our study, the demographic composition delineates 180 individuals in the younger age group and 198 in the older age group. Remarkably, variations in the prevalence of BDD emerge when considering different age brackets. The distribution of participants by age group is shown in Table 3.

In those aged 20 or less, the likelihood of BDD is notably higher, with 16 individuals (4.2%) exhibiting signs of this condition. Conversely, among participants aged 21 and older, the incidence of BDD is comparatively lower, affecting ten individuals (2.7%). These age-stratified findings shed light on the nuanced dynamics of BDD prevalence, emphasizing the importance of age considerations in understanding the manifestation of this condition within our study parameters.

This deliberate categorization based on academic programs adds depth to our findings, allowing for an analysis that considers the unique contexts and experiences of participants within these specific educational pathways. By incorporating these nuances, our study seeks to contribute valuable insights to the broader understanding of the factors under investigation in both medical and health science academic settings.

A notable distinction arises when examining the distribution across professional courses. Specifically, 227 participants are enrolled in the MBBS program, while 151 are pursuing studies in the AHSC program. The prevalence by professional course is detailed in Table 4.

Table 4: Prevalence by professional course

Likely to have BDD		*Participants: n = 378*
Distribution of Participants in Professional Course	MBBS	n = 10(2.7%)
	AHSC	n = 16(4.2%)
	MBBS	n = 227
	AHSC	n = 151

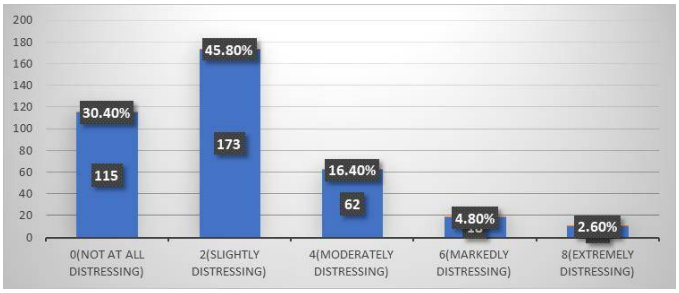

Figure 1: Proportion of participants reporting distress due to body dysmorphic features

When scrutinizing the prevalence of BDD within these distinct academic paths, intriguing patterns emerge. Among the MBBS students, a total of 10 individuals, constituting 2.7% of this subgroup, exhibit indications suggestive of BDD. In contrast, within the AHSC program, 16 individuals, representing 4.2% of the cohort, demonstrate signs indicative of body dysmorphic disorder. These findings, categorized by professional courses, provide a detailed perspective on the manifestation of BDD, allowing for a nuanced exploration of potential factors influencing its prevalence within the MBBS and AHSC academic contexts.

The Figure 1 underscores the potential impact of body image distress on students' daily lives. It's concerning that nearly 80% of the respondents reported experiencing some level of distress due to their physical features, with over 45% indicating "slightly distressing" and over 30% reporting "moderately distressing." The proportion of participants reporting distress due to body dysmorphic features is illustrated in Figure 1.

This widespread distress suggests a significant concern among these students regarding their appearance. It's crucial to address this issue as body image dissatisfaction can negatively impact mental and physical well-being.

Secondly, the chart reveals a trend towards multiple physical features contributing to distress. The "extremely distressing" category, though representing a smaller percentage of students, disproportionately includes those experiencing distress from multiple physical features.

This finding indicates that body image concerns often manifest as a complex interplay of factors rather than being isolated to a single aspect of appearance. Addressing these concerns effectively requires a holistic approach that considers the interplay of various physical features.

Thirdly, the chart underscores the potential impact of body image distress on students' daily lives. The higher levels of distress, particularly "markedly distressing" and "extremely distressing," suggest significant interference in students' daily functioning.

Overall, the findings paint a concerning picture of body image distress among MBBS and allied health students. The prevalence, complexity, and potential impact of this distress demands attention from educators, healthcare providers, and support services to promote positive body image and well-being among these students.

A striking majority (80.2%) of MBBS and allied health students reported feeling preoccupied with their body features, indicating a prevalent concern among this population. This preoccupation reached moderate to extreme levels for 50.8% of students, highlighting the severity of body image concerns in this group. Figure 2 shows the proportion of participants who reported being preoccupied due to body dysmorphic features. Notably, only 19.8% of students reported minimal or no preoccupation, emphasizing the exceptionalness of being free from such concerns. Interestingly, the level of preoccupation did not differ significantly between MBBS and

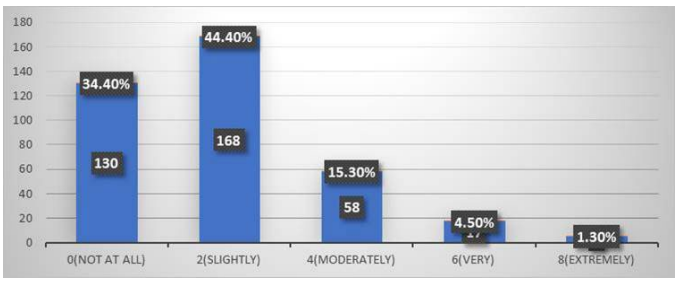

Figure 2: Proportion of participants who reported that they were preoccupied due to Body Dysmorphic features

allied health students, suggesting that body image issues are not unique to one particular group. These findings underscore the need for further research to understand the contributing factors and develop effective interventions to address body image preoccupation among MBBS and allied health students.

Within the cohort of 378 MBBS and AHSC students who responded to the inquiry regarding the impact of certain features on their work, study, or homemaking roles, a detailed examination of the findings unfolds. The majority of participants, specifically 62.7% (n = 237), reported experiencing no interference at all, signifying that for a substantial proportion of respondents, these features do not hinder their engagement in daily activities. This suggests a general resilience or adaptability among a significant segment of the study population.

Conversely, 25.10% (n = 95) acknowledged a slight interference in their work, study, or homemaking roles due to these features. This indicates a noticeable but not overwhelming impact on a considerable portion of the sample, providing insight into the range of experiences within the study group. Figure 3 depicts the proportion of participants reporting that body dysmorphic features interfered with their ability to work or study.

Delving further into the spectrum of responses, 9.30% (n35) indicated a moderate interference, highlighting a more pronounced disruption in their roles compared to those experiencing slight interference. Additionally, 2.10% (n = 8) reported a marked interference, and 0.80% (n = 3) responded with a perception of very severe interference. These findings offer a nuanced understanding of the varying degrees of impact on different individuals within the study cohort.

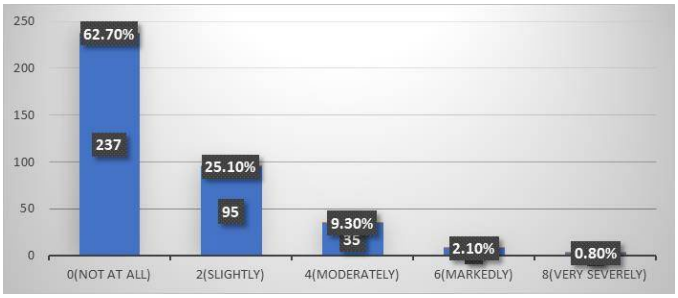

Figure 3: Proportion of participants reporting that Body Dysmorphic features interfered with their ability to work or study

The extent of interference across different categories should contribute to a comprehensive understanding of how these features influence the daily lives and roles of the participants in the MBBS and AHSC programs.

Discussion

The aim of the study was to measure the prevalence of BDD and its impact on Quality of Life in undergraduate Medical and Allied Health college-going students. The findings of the study are discussed on the following headings: Prevalence of students likely to have BDD, BDD distribution by age range, BDD distribution by Professional course, features preoccupying the participants.

Prevalence of BDD

In our study encompassing 378 participants, constituting 100% of the sample, we observed a nuanced prevalence of BDD among college students. Our findings indicate that 26 participants (6.9%) are likely to have BDD, while the majority, comprising 352 participants (93.1%), do not exhibit signs of the disorder. These results contribute valuable insights into the specific context of BDD prevalence within our sampled population. When contextualized with existing literature, our study aligns with the varied landscape observed in previous research. Bohne (2002) reported a prevalence of 5.3% in a German sample,[9] Cansever (2003) found 4.8% in a Turkish sample,[10] Bartsch (2007) identified 2.3% in an Australian sample,[11] and Taqui (2008) reported 5.8%[8] in a Pakistani medical student population. This collective body of evidence underscores the heterogeneity of BDD prevalence in college populations, ranging from 2.3 to 5.8%, highlighting the need for further investigation into the factors contributing to this variation and the development of targeted interventions to address this common psychiatric disorder among college students.

BDD Distribution by Age Range

In this study, we also observed a notable discrepancy in the prevalence of BDD between students under 21 and those aged 21 and above. Specifically, among students under 21, 4.2% (16 students) were identified

as affected by BDD, whereas among those aged 21 and above, 2.7% (10 students) exhibited symptoms of the disorder. This discovery is consistent with existing research that has highlighted a correlation between appearance-related concerns, symptoms of depression, and social anxiety, particularly in first-year medical students.[12]

Furthermore, our findings resonate with the established pattern of BDD onset, which commonly occurs during childhood or adolescence, with a mean age of 16.7 years. Notably, the disorder exhibits a higher prevalence among women. Interestingly, as individuals surpass the age of 44, the prevalence of BDD experiences a decline, reaching a nationwide rate of 2.4%. This aligns with broader trends and underscores the importance of recognizing age-related variations in the manifestation of BDD.

In summary, our study underscores the age-related differences in the prevalence of BDD among students, highlighting a higher incidence among those under 21 compared to their older counterparts.[13] These results not only contribute to the understanding of BDD within the student population but also align with broader patterns observed in the general population, emphasizing the need for targeted interventions and support for individuals at different life stages.

BDD Distribution by Professional Course

In this study, there appears to be a difference in the distribution of BDD between MBBS and AHS students, with MBBS showing a prevalence of 2.7% and AHS with 4.2%. This suggests potential variations in BDD prevalence among these two groups. Furthermore, a study was conducted in two public-sector medical colleges and one public-sector general education college, where 378 students completed a validated 7-item dysmorphic concern questionnaire (DCQ) online. Of 378 participants, 251 (66%) were medical students and 127 (34%) were general education students. About 1.3% of medical students and 5.0% of non-medical students were classified as having potential body dysmorphic disorder, respectively, suggesting BDD is comparatively frequent in non-medical female students aged 18 to 20 years.[14]

Features Preoccupying the Participants

In this study, participants used a scale ranging from 0 to 8 to indicate the distress levels associated with BDD features. The majority (62.70%) reported experiencing no distress, while 25.10% expressed slight discomfort, 9.30% noted moderate distress, 2.10% indicated marked distress, and 0.80% reported very severe distress. This breakdown provides a clearer understanding of the diverse range of distress levels reported by participants in relation to BDD-related features. Similar studies were done among Australian university students from which About two-thirds of the participants had worries about how they looked, and around one-third of these individuals were particularly preoccupied with these concerns. This suggests that a considerable portion of the sample experiences a notable level of concern and fixation regarding their appearance.[15]

Features interfering ability to work/ study

In this BDD study, most participants experienced varying degrees of preoccupation with appearance features. Notably, 44.40% reported 'slight' preoccupation, while 34.40% were 'not at all' preoccupied. These results resonate with findings from other studies, underscoring that the preoccupation with perceived appearance flaws is a central characteristic of BDD, leading to personal and functional impairment.[16-18]

In our study, the majority of participants (62.70%) reported minimal to no interference in their work or study, indicating that they scored 'not at all' on this aspect. Interestingly, 25.10% experienced slight interference, while 9.30% encountered a moderate level of interference. Only a small percentage, 2.10%, felt marked interference, and an even smaller fraction, 0.80%, reported very severe interference. This breakdown simplifies the understanding of the varying degrees of interference reported by participants in relation to their work or study activities. Another study, which was conducted on 141 adults with BDD assessed occupational functioning and other clinical variables and showed Fewer than half of the subjects were working full-time, and 22.7%

were receiving disability pay. Thirty-nine percent of the sample reported not working in the past month because of mental health challenges. Of those subjects who worked in the past month, 79.7% reported impairment in work functioning because of mental health challenges.[19]

Limitation

The existing literature lacks a thorough examination of the intricate interplay between cultural influences and the psychological facets contributing to the manifestation and understanding of BDD. A more detailed exploration of these nuanced aspects is imperative for a holistic comprehension of the disorder, shedding light on the cultural variations and psychological intricacies that shape the experiences of individuals grappling with BDD.

The study also relied on convenient sampling, a method prone to introducing selection bias, thereby posing a potential limitation to the generalizability of the findings. This sampling approach, while expedient, may not adequately represent the broader population, emphasizing the need for caution when extrapolating the study's results to wider contexts. It is essential to acknowledge the inherent limitations associated with this sampling method and recognize that the findings may not be universally applicable due to the potential biases introduced by the convenience sampling strategy.

Conclusion

The prevalence of likely to have BDD stands at a noteworthy 6.9% within the surveyed population, surpassing rates observed in comparable studies. This heightened prevalence of BDD symptoms is particularly notable among females, indicating a higher susceptibility to BDD compared to males. The impact of the disorder is significant among students, with those under 21 years of age exhibiting a pronounced prevalence, as evidenced by reported distress, avoidance behaviors, and an increased preoccupation with physical features.

These findings highlight the urgency of addressing mental health and body image concerns within the student population, emphasizing the necessity for targeted interventions. The observed prevalence rates and associated psychological impacts underscore the need for further investigation into these issues. Consequently, future studies should incorporate an assessment of occupational impairment in individuals with BDD, recognizing its potential implications for overall well-being and functioning.

This comprehensive approach aims to provide a more nuanced understanding of the prevalence, gender variations, and associated challenges of BDD among students. It will guide the development of effective interventions and support systems tailored to the unique needs of this demographic, contributing to improved mental health outcomes and overall student well-being.

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