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A STUDY ON THE RELATIONSHIP BETWEEN BODY IMAGE DISSATISFACTION, SELF-ESTEEM, AND DEPRESSIVE SYMPTOMS AMONG MEDICAL STUDENTS

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ABSTRACT **Background:** Body image dissatisfaction (BID) is a growing psychological issue among medical students, often associated with low self-esteem and depressive symptoms. This study aimed to assess the prevalence of BID and its psychological correlates. **Methods:** A cross-sectional study was conducted among 300 undergraduate medical students from a tertiary institution between February 2024 and January 2025. Standardized tools-Body Shape Questionnaire (BSQ), Rosenberg Self-Esteem Scale (RSES), and Beck Depression Inventory-II (BDI-II)-were used. Data were analyzed using IBM SPSS 25 with correlation and regression models. **Results:** BID was highly prevalent, with significantly higher scores among females ($p<0.001$). BID showed a strong negative correlation with self-esteem and a positive correlation with depressive symptoms. Gender accounted for 65.1% of the variance in BID scores. **Conclusion:** BID is a significant concern among medical students, with clear gender differences and strong links to self-esteem and depression. Targeted, gender-sensitive interventions promoting body positivity and psychological resilience are urgently needed in medical institutions.

KEYWORDS : Body image dissatisfaction, Self-esteem, Depression, Medical students, Gender differences, Mental health

INTRODUCTION:

Body image is a complex psychological construct that reflects how individuals perceive, evaluate, and feel about their physical appearance, including body shape, size, weight, and attractiveness. It incorporates perceptual, cognitive, affective, and behavioral dimensions that directly influence self-worth and overall psychological well-being (1,2). When individuals experience dissatisfaction with their body image, the condition is termed Body Image Dissatisfaction (BID). BID is not merely a cosmetic concern; it is a significant psychosocial issue associated with adverse mental health outcomes such as low self-esteem, depressive symptoms, social withdrawal, anxiety, and disordered eating behaviors (3,4).

In contemporary society, body image has become increasingly important, particularly among youth and students, where social acceptance and identity formation are strongly influenced by appearance. The influence of mass media, celebrity culture, and social networking platforms has amplified unrealistic standards of beauty, leading to internalization of distorted ideals (5,6). For many young adults, especially in developing countries, prolonged exposure to such ideals fosters chronic dissatisfaction, preoccupation with perceived flaws, and vulnerability to mental health problems.

Medical students represent a particularly high-risk group for BID. Unlike their peers, they are exposed to unique pressures of rigorous academics, competitive environments, and implicit expectations of maintaining the image of "health role models." This constant scrutiny can promote self-comparison and hyperawareness of body appearance. In addition, the professional culture of medicine emphasizes discipline, fitness, and control, which may inadvertently reinforce unrealistic self-standards. Several studies have documented that female medical students report higher levels of body dissatisfaction compared to their male counterparts, often linked to internalized thin-ideal pressures and gender norms (7–9). Males, while not immune, may show concerns oriented toward muscularity or leanness, but the psychological burden tends to be less severe (10).

The psychological sequelae of BID are profound. BID has been consistently shown to correlate negatively with self-esteem, a crucial determinant of psychological resilience and coping capacity. Individuals with poor self-esteem often perceive themselves as inadequate and experience shame, guilt, and diminished self-worth, predisposing them to depression (11). Likewise, a strong positive association between BID and depressive symptoms has been identified across cultures. Depression linked to body dissatisfaction manifests as sadness, hopelessness, poor concentration, fatigue, and, in severe cases, suicidal ideation (12,13). Among medical students, such outcomes may impair academic performance, disrupt interpersonal relationships, and undermine professional development (14).

Although BID has been widely studied in Western settings, evidence from South Asian and developing countries remains sparse. In India, the problem is compounded by rapid urbanization, socio-cultural shifts, and increasing exposure to globalized ideals of beauty through social media. Simultaneously, entrenched stigma around mental health often prevents medical students from acknowledging distress or seeking support, leaving many cases unrecognized (15,16). This gap in recognition and intervention highlights the need for context-specific research.

Medical students' mental health has long-term implications not only for their personal well-being but also for their ability to deliver empathetic and effective patient care. Unaddressed BID may persist into professional life, contributing to burnout, impaired empathy, and reduced quality of doctor–patient interactions (17). Given these stakes, understanding the prevalence of BID and its associations with self-esteem and depression among medical students is of both academic and public health importance.

The present study was therefore undertaken to evaluate body image dissatisfaction, self-esteem, and depressive symptoms among undergraduate medical students in a tertiary institution in India. By employing validated tools such as the Body Shape Questionnaire (BSQ), Rosenberg Self-Esteem Scale (RSES), and Beck Depression Inventory-II (BDI-II), this study provides systematic insights into the interrelationships among these constructs. Particular attention is given to gender differences, given that prior literature has consistently emphasized the role of gender as a significant predictor of BID (18,19). This research thus addresses an important gap by providing evidence from an Indian context, highlighting the scale of BID and its psychological correlates among medical students. The findings are expected to inform mental health interventions within medical institutions, such as structured counseling, body positivity workshops, resilience training, and early screening programs. Ultimately, such initiatives can enhance both the psychological well-being of medical students and the quality of future healthcare delivery.

OBJECTIVES:

1. To determine the prevalence of body image dissatisfaction among medical students.
2. To examine gender differences in the relationships between BID, self-esteem, and depressive symptoms

MATERIAL AND METHODS

Research Design:

This study adopted a descriptive, observational **cross-sectional design** to assess body image dissatisfaction (BID), self-esteem, and depressive symptoms among undergraduate medical students. The study was conducted at the World College of Medical Sciences, Jhajjar, Haryana, India, over a period of **3 months, from November 2024 to January 2025**. The total sample size was **300 students**, determined using prevalence estimates from earlier literature and adjusted for non-response. A **convenience sampling method** was employed to recruit participants from first to final year MBBS students.

Study Population:

Eligible participants included undergraduate medical students aged **18 years and above**, enrolled in MBBS courses during the study period. Students willing to provide informed consent and complete the study questionnaires were included. Exclusion criteria comprised students working as interns, as well as those with a diagnosed eating disorder or major psychiatric illness, to avoid potential bias and psychological distress.

Data Collection:

After obtaining informed consent, socio-demographic information was collected, including **age, sex, year of study, and residence type**. Standardized, validated self-report instruments were used:

- **Body Shape Questionnaire (BSQ)** for assessing body image dissatisfaction,
- **Rosenberg Self-Esteem Scale (RSES)** for self-esteem, and
- **Beck Depression Inventory-II (BDI-II)** for depressive symptoms.

The tools were administered in English, with clear instructions provided to ensure reliability. Confidentiality and anonymity were maintained throughout the process.

Inclusion Criteria

- Undergraduate medical students aged **≥18 years**.
- Enrolled in MBBS courses (first to final year).
- Provided voluntary, informed consent.

Exclusion Criteria

- Medical interns.
- Students with diagnosed eating disorders or psychiatric conditions.
- Incomplete or inconsistent responses in the questionnaires.

Statistical Analysis:

All data were compiled in Microsoft Excel and analyzed using **IBM SPSS Statistics version 25**. Descriptive statistics (mean, standard deviation, proportions) were used to summarize socio-demographic variables. Inferential tests, including **independent t-test, Pearson's correlation, and regression analysis**, were applied to examine associations between BID, self-esteem, and depression, as well as gender-based differences. A p-value of <0.05 was considered statistically significant.

RESULTS

A total of **300 undergraduate medical students** participated, with equal representation of males (n=150) and females (n=150). The mean age was 21.3 years (SD ±1.4).

Prevalence:

A high prevalence of body image dissatisfaction (BID) was observed. Female students reported significantly higher BID scores (Mean = 3.55 ± 0.68) compared to males (Mean = 2.89 ± 0.76), $p < 0.001$.

Self-Esteem:

Female students also had lower mean self-esteem scores (19.8 ± 3.9) versus males (22.5 ± 3.4), $p < 0.001$.

Depressive Symptoms:

Depressive symptom scores were higher among females (13.7 ± 4.8) compared to males (10.2 ± 4.1), $p < 0.001$.

Correlation Analysis:

Pearson's correlation showed:

- Strong **negative correlation** between BID and self-esteem ($r = –0.62, p < 0.01$).
- Strong **positive correlation** between BID and depressive symptoms ($r = 0.67, p < 0.01$).
- Negative correlation between self-esteem and depression ($r = –0.59, p < 0.01$).

Regression Analysis:

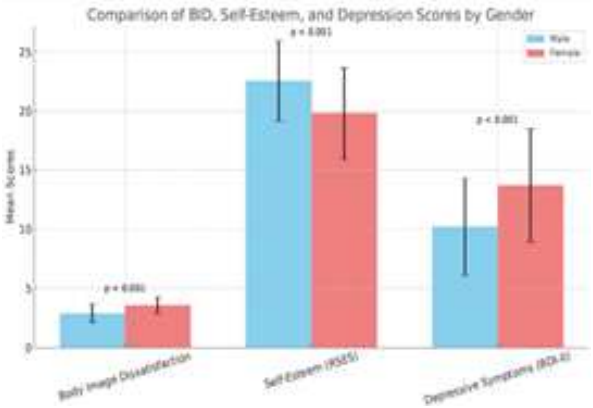
Gender accounted for **65.1% of variance** in BID scores ($R^2 = 0.651$, $p < 0.001$), indicating gender as a strong predictor of BID.

Table 1: Descriptive Statistics Of Key Variables By Gender

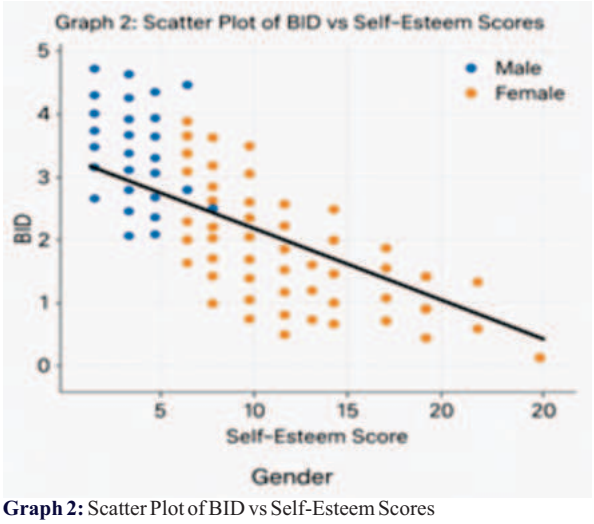
Variable	Male (n=150)	Female (n=150)	Total (N=300)	p-value
Body Image Dissatisfaction (Mean ± SD)	2.89 ± 0.76	3.55 ± 0.68	3.22 ± 0.72	<0.001
Self-Esteem (RSES Score)	22.5 ± 3.4	19.8 ± 3.9	21.1 ± 3.8	<0.001
Depressive Symptoms (BDI-II Score)	10.2 ± 4.1	13.7 ± 4.8	11.9 ± 4.6	<0.001

Table 2: Regression Model Summary For BID And Gender

Model	R	R Square	Adjusted R Square	Std. Error
1	0.807	0.651	0.649	0.818



Graph 1: Comparison of BID, Self-Esteem, and Depression Scores by Gender



Graph 2: Scatter Plot of BID vs Self-Esteem Scores

Table 4: Pearson's Correlation Coefficients

Variables	BID	Self-Esteem	Depression
Body Image Dissatisfaction	1.00	-0.62	0.67
Self-Esteem	-0.62	1.00	-0.59
Depression	0.67	-0.59	1.00

Note: *$p < 0.01$ indicates statistical significance.*

DISCUSSION

This study highlights a **concerning prevalence of body image dissatisfaction** among medical students, with marked gender

differences. Female students were significantly more dissatisfied with their body image, had lower self-esteem, and reported higher depressive symptoms compared to males. These findings align with previous studies conducted in India, Pakistan, and Sudan, which consistently reported higher BID among females due to stronger societal pressures and media-driven beauty ideals (1–4).

The observed **negative correlation between BID and self-esteem** reinforces prior research demonstrating that dissatisfaction with body image undermines self-worth and psychological resilience (5,6). Similarly, the **positive correlation between BID and depressive symptoms** echoes global findings that poor body image contributes to sadness, hopelessness, and impaired quality of life (7,8).

The regression analysis emphasizes **gender as a significant predictor of BID**, explaining over 65% of the variance. This underlines the importance of designing **gender-sensitive interventions** in medical colleges to promote body positivity and resilience, particularly among female students.

From a public health perspective, these results are important because **medical students are future healthcare providers**. If their psychological well-being is compromised by BID, it may affect their academic performance, empathy, and long-term professional functioning (9,10). Early screening, structured counseling, and workshops on media literacy and body acceptance should be integrated into medical education curricula.

CONCLUSION

This study demonstrates that body image dissatisfaction is a prevalent and serious concern among medical students, strongly associated with low self-esteem and depressive symptoms. The striking gender differences observed highlight females as particularly vulnerable. These findings emphasize that BID is not a superficial issue but a critical determinant of psychological well-being and academic performance. Early screening, gender-sensitive interventions, and body positivity initiatives within medical institutions are essential. Addressing BID at this stage will not only strengthen student resilience but also ensure healthier, empathetic future healthcare professionals.

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