

Original Research Article

A study on relationship between body-image and self-esteem among medical undergraduate students

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ABSTRACT

Background: Body image refers to how individuals think, feel and behave in relation to their body and appearance. During adolescence self-perception about their appearance is important to the development of self-esteem and is also understood to be an important predictor of self-worth. Research has shown that inappropriate perception of the body image and dissatisfaction can lead to physical and psychic problems in the youth. In today's society, with the growing sense of ideal body image, adolescents and young adults try to lose or gain body weight to attain perfect body. The objective of the study is to find out the proportion of students dissatisfied with their body image, and the association of various determinants with body image dissatisfaction and self-esteem.

Methods: A cross-sectional study was done among 125 first year medical students located in rural Haryana. A semi-structured questionnaire was used to collect data on various determinants associated with body image dissatisfaction and self-esteem.

Results: Body image dissatisfaction was present among 16.8% of the students. Low self-esteem was observed among 21.6% of the students. Low body mass index (<18.5) was found to be significantly associated with body image dissatisfaction. A moderately positive correlation ($r=0.384$, $p<0.001$) was observed between self-esteem and body image satisfaction.

Conclusions: Study findings support the fact that body image dissatisfaction has its impact on self-esteem among college-going youth. It is imperative that effective interventions be planned to educate the youth on ideal body weight and protect this young generation from pressures and consequences of negative body image.

Keywords: Body image, Body mass index, Self-esteem, Young adults

INTRODUCTION

Body image is a bio-psychosocial phenomenon that relates to how we perceive ourselves physically and how we think others perceive us. It is a multidimensional dynamic construct consisting of perceptual, cognitive, affective, and behavioural elements.¹

Body image is believed to be formed from the moment we become body aware as infants and is then based on the

complex ongoing interactions between child, caregivers and the environment. Extensive research in this area has shown that by 7-8 years of age, children develop images of an 'ideal body', but it is during adolescence that concerns with body image become most salient.

Negative body image is defined by negative perceptions of one's physical appearance and a degree of investment in appearance that negatively impacts upon, or interferes with, health and wellbeing. Positive body image is defined by positive perceptions of one's physical

appearance, in spite of any perceived imperfections. This includes feelings of acceptance, viewing the body as a favourable influence on life and the rejection of narrowly defined beauty ideals.

Individuals with positive body image are likely to attend to their body's needs by participating in healthy behaviours, and their appearance does not fully determine their self-worth.

Adolescence and youth is a period of life during which many important body changes take place that are determined by pubertal development.² Body image is one of the most important psychological factors that affects adolescents' personality and behaviour, because they view their body organs as separate parts, and each part plays a role in his/her personality.^{3,4} Research has shown that the intense concern of body image can cause unfavourable outcomes such as poor health status, anxiety, depression, low self-esteem, and poor quality of life which eventually lead to body shape dissatisfaction.⁵ It is observed that young adults having a negative body image are more vulnerable to depression, anxiety and suicidal tendencies than those without such dissatisfaction about their appearance.

The definition of self-esteem states that it is a positive or negative attitude toward the self and can be taken to be a key indicator of an individual's psychological well-being.⁶ Body image is affected by self-esteem and self-evaluation more than by external evaluation by others.⁷

During adolescence and youth, self-perception about their appearance is important to the development of self-esteem. Physical changes during puberty may cause them to have both positive and negative feelings towards their body which in turn affects their self-esteem. Though there are many factors that influence an individual's self-esteem, body image is one critical factor.⁸

There are many factors that lead to person's body image. Some of these include family dynamics, mental illness, biological predispositions and environment causes for obesity or malnutrition and cultural expectations (example- media and politics). People who are underweight or overweight can have poor negative image. The idea of body image creates a sense of insecurity and lack of confidence. The young adult especially struggles with body image problems as they feel the need to be thin and toned to be accepted in the society.

College going youth may often experience negative comments and hurtful teasing from peers about how they. Even though such comments are a result of ignorance, they do inadvertently affect body image and self-esteem.

The perception of appearance and self-worth are linked, and perceived appearance is a strong single predictor of self-esteem among both male and female adolescents and young adults.⁹ According to Erickson's theory, issues of

self-worth become prominent in adolescence when the major developmental task is to establish identity and coherent sense of self.¹⁰

The aim of the study was conducted with an aim to explore the relation between body image satisfaction and self-esteem among the first-year medical students in a private medical college in North India.

The objective is to study the body image satisfaction and the level of self-esteem among first year medical undergraduate students, to study the association of body image and self-esteem with its determinants, to study the correlation between body image satisfaction and the level of self-esteem.

METHODS

This study was conducted in a private medical college located in rural Haryana. Study design is cross-sectional study. The study was conducted among 150 first year MBBS students, out of which 125 responded (Response rate: 83.3%). After obtaining informed consent, a semi-structured questionnaire was used to collect data on Socio-demographic details, body image and self-esteem perceptions of each student. Further height and weight of students were taken for calculating body mass index (BMI). Approval was obtained from the Institutional Ethical Committee prior to enrolment of study subjects in the study. This study was conducted from 1st to 30th April 2018.

Study tool

A semi-structured questionnaire with the following sections was used.

Section I: Socio-demographic and general characteristics (age, sex, residence, religion, type of family and monthly family income) of study subjects.

Section II: Body image self-assessment questionnaire developed by Szuch.¹¹ It is designed to help identify symptoms of negative body image and helps examine thoughts, feelings and behaviours.

This questionnaire has a total of ten items and the responses were marked on a 5-point Likert scale, 'never', 'rarely', 'sometimes', 'most of the times' and 'always'. The possible range of scores was from 10-50 and a higher score on the scale indicated body image dissatisfaction.

From the obtained scores, the mean and standard deviation were computed for perception of body image among adolescent girls.

The standard deviation value 7.0 was added and subtracted from the mean score i.e. 22 to obtain the following three categories for the interpretation of perception of body image among adolescent girls.

Scoring from <15: highly satisfied, 15-29: partially satisfied and >29: dissatisfied.

Section III: Self-esteem was assessed using the Rosenberg self-esteem scale (RSES).⁶ It is a ten-item Likert-type scale with items answered on a four-point scale-from strongly agrees to strongly disagree. Five of the items have positively worded statements and five have negatively worded ones. The scale measures self-esteem by asking the respondents to reflect on their current feelings. It is considered a reliable and valid quantitative tool for self-esteem assessment. Of the ten items 5 positive items were reverse scored. Higher scores were indicative of higher self-esteem.

Scoring

For self-esteem assessment, the sum of scores for the 10 items. The maximum score was 30 points and minimum score was 0 point. Higher scores indicate higher self-esteem.

Low self-esteem ≤ 15 , normal self-esteem 15-24 and high self-esteem 25-30

Section IV: Determinants of self-esteem and anthropometric measurements for calculation of BMI.

Content validity of the tool was performed by experts from the department of Community Medicine. The expert panel was asked to evaluate the questionnaire on the basis of language appropriateness, and ease of understanding for first-year medical students. Before embarking on the actual study, a pilot study was carried out on 10 students. After taking consent, to ascertain the clarity and applicability of the study tools and to identify obstacles that may be faced during data collection, these students were excluded from the study subjects. Based on the results of the pilot study, essential modifications were done.

Reliability of the tool was tested using Cronbach's alpha (0.84) for the modified questionnaire.

Statistical analysis

Descriptive statistics were calculated for predictors and determinants of Body image and Self-esteem. Means and standard deviations are presented for continuous variables and percentages and numbers of participants are presented for categorical variables. The association between the possible determinants of body image dissatisfaction and low self-esteem was assessed using Chi-square test. Pearson's correlation was used to study the correlation between Body image and self-esteem perceptions. Statistical significance was defined at the customary $p < 0.05$ level. Statistical analyses were performed using SPSS Version 22.

RESULTS

Table 1 presents the socio-demographic profile of the respondents. The results revealed that among the first-year medical students 56.8% were more than 20 years old. 80.0% of the respondents belonged to urban residential and 93.6% were Hindu by religion. Only 6.4% of the respondents were Sikhs. Majority of the students were from nuclear families, 71.2% while 28.8% belonged to joint families. The results revealed that 13.6% of the respondents had a family income of <50,000 Rs per annum. 60.8% of the respondents were females and 39.2% were males. As regards the BMI, 17.6% of the respondents had a BMI of <18.5 kg/m² and 20.0% of them had BMI ≥ 25 kg/m².

Table 1: Socio-demographic profile of study participants (n=125).

		N	%
Age (in years)	<20	54	43.2
	≥ 20	71	56.8
Residence	Urban	100	80.0
	Rural	25	20.0
Religion	Hindu	117	93.6
	Sikh	8	6.4
Type of family	Nuclear	89	71.2
	Joint	36	28.8
Family monthly income	<50000	17	13.6
	50000-100000	62	49.6
	≥ 100000	46	36.8
Gender	Male	49	39.2
	Female	76	60.8
BMI (kg/m²)	<18.5	22	17.6
	18.5-24.9	78	62.4
	25-29.9	20	16.0
	>30	5	4.0

As shown in Table 2, the results revealed that 16.8 % of the respondents were dissatisfied with their body image while 73.2% of the respondents were either partially satisfied or highly satisfied with their own body image. With respect to self-esteem, it was observed that 66.4% of the respondents had a normal self-esteem but 21.6% respondents had low self-esteem.

Table 2: Distribution of study participants according to their perception of body image and self-esteem.

Body image	N	%
Highly satisfied	21	16.8
Partially satisfied	83	66.4
Dissatisfied	21	16.8
Self esteem		
Low self esteem	27	21.6
Normal self esteem	83	66.4
High self esteem	15	12.0

Table 3: Association of body image and self-esteem with its determinants.

Socio-demographic variables		Self esteem			P value	Body image			P value
		Low self esteem	Normal self esteem	High self esteem		Highly satisfied	Partially satisfied	Dissatisfied	
		N (%)	N (%)	N (%)		N (%)	N (%)	N (%)	
Age (in years)	<20	08 (6.4)	39 (31.2)	07 (5.6)	0.856	07 (5.6)	37 (29.6)	10 (8.0)	0.845
	≥20	13 (10.4)	50 (40.0)	0 (6.4)		08 (6.4)	52 (41.6)	11 (8.8)	
Residence	Urban	18 (14.4)	68 (54.4)	14 (11.2)	0.245	13 (10.4)	68 (54.4)	19 (15.2)	0.276
	Rural	03 (2.4)	21 (16.8)	01 (0.8)		02 (1.6)	21 (16.8)	02 (1.6)	
Religion	Hindu	21 (16.8)	82 (65.6)	14 (11.2)	0.415	14 (11.2)	82 (65.6)	21 (16.8)	0.415
	Sikh	0 (0.0)	07 (5.6)	01 (0.8)		01 (0.8)	07 (5.6)	0 (0.0)	
Family type	Nuclear	17 (13.6)	61 (48.8)	11 (8.8)	0.518	08 (6.4)	67 (53.6)	14 (11.2)	0.195
	Joint	04 (3.2)	28 (22.4)	04 (3.2)		07 (5.6)	22 (17.6)	07 (5.6)	
Monthly income	<50000	05 (4.0)	10 (8.0)	02 (1.6)	0.463	02 (1.6)	13 (10.4)	02 (1.6)	0.857
	50000-100000	07 (5.6)	47 (37.6)	08 (6.4)		06 (4.8)	44 (35.2)	12 (9.6)	
	≥100000	09 (7.2)	32 (25.6)	05 (4.0)		07 (5.6)	32 (25.6)	07 (5.6)	
Gender	Male	12 (9.6)	33 (26.4)	04 (3.2)	0.136	06 (4.8)	32 (25.6)	11 (8.8)	0.381
	Female	09 (7.2)	56 (44.8)	11 (8.8)		09 (7.2)	57 (45.6)	10 (8.0)	
BMI (kg/m²)	<18.50	02 (1.6)	05 (4.0)	15 (12.0)	<0.001*	04 (3.2)	04 (3.2)	14 (11.2)	<0.001*
	18.50-24.99	14 (11.2)	60 (48.0)	04 (3.2)		07 (5.6)	70 (56.0)	01 (0.8)	
	25.00-29.99	02 (1.6)	13 (10.4)	05 (4.0)		04 (3.2)	11 (8.8)	05 (4.0)	
	>30.00	01 (0.8)	04 (3.2)	0 (0.0)		0 (0.0)	04 (3.2)	01 (0.8)	

Table 3 presents the association of body image and self-esteem with socio-demographic determinants. It can be seen that low BMI (<18.5 kg/m²) showed highly significant association with dissatisfied perception of body image (p<0.001)

Table 4 presents the correlation between body image and self-esteem scores. The result showed that there was moderately positive correlation between body image and self-esteem with r=0.394 and p<0.001.

Table 4: Correlation between body image and self-esteem.

	Mean	SD	N	r	P value
Body image	22.432	7.0646	125	0.394	<0.001
Self esteem	19.74	5.037	125		

DISCUSSION

Adolescence is a crucial stage in every individual's life; being a transitional phase in the middle of the innocent childhood and maturity, this is the stage when adolescents crave for flexibility and freedom. As this phase is characterized by various changes in psychological, physiological and social behaviour, it is natural for adolescents to face distinctive difficulties in managing these rapid changes which influence their satisfaction about their bodies.¹²

The present study sought to explore how body image and self-esteem are affected by various socio-demographic determinants and the correlation between the two among new entrants in a medical college. The question of concern over body image among these students arises as these students lie at the threshold of adulthood at a time when they are equally concerned about their professional career. Undergraduate medical studies can be extremely demanding with respect to dedication and hard work on the part of students. The transitional stage of college life presents multiple challenges to students both at personal level with certain apprehensions about their physical appearance and professional level due to extensive academic expectations.

BMI is one's weight in kilograms (kg) divided by his or her height in meters squared. BMI has been well documented as a negative biological component contributing to body image and fear of negative evaluation (FNE).^{13,14}

Underweight and overweight individuals tend to experience negative affective feelings toward their body and are more likely to have a sense of dread with how others see them in social situations than their normal weight counterparts.

The present study revealed that 37.6% of the respondents had a body mass index either less than or more than normal values (<18.5 or >24.9 kg/m²).

As regards, body image dissatisfaction it was also observed that 14.4% of the respondents having BMI

<18.5 kg/m² were either partially dissatisfied or dissatisfied with their Body image (3.2% and 11.2% respectively).

At the same time 4.0% of the obese (BMI >30 kg/m²) respondents were found to be partially dissatisfied or dissatisfied with their body image.

There is enough evidence to suggest that BMI is a very important destructive factor in the development of negative body image. Research studies have used a randomized sample of 188 college males to explore the association between BMI and cognitive and affective dimensions of Body Image, it was found that overweight and obese participants reported significantly higher levels of negative body image, higher weight and shape concerns, and body dissatisfaction than the normal and underweight participants.¹⁵⁻¹⁷

In a study conducted in South India, majority of the adolescents 279 (90.2%), irrespective of BMI, or gender were concerned with their body shape. Among the age groups, the early teens (10-13 years) were the least concerned about their image compared to the older teens who formed a majority of the dissatisfied lot (78.66%).¹⁸

In this study moderate positive correlation between body image and self-esteem was observed indicating that a negative body image can adversely affect an individuals' self-esteem ($r=0.394$ and $p<0.001$).

A study similar to ours by Duchesne et al evaluated the negative effect of body dissatisfaction on self-esteem in adolescents, which confirmed that a negative discernment of one's body leads to low self-esteem resulting in psychological distress.¹⁹

Another study by Murray et al investigated the relationship between body satisfaction and psychological constructs of self-esteem, depressive symptoms, and stress in adolescents. Results revealed a significant association between body dissatisfaction and higher levels of stress and lower self-esteem.²⁰

In a sample of 425 African, American men and women, self-esteem was also identified as a safeguard measure to body dissatisfaction.²¹

The findings in this study support the notion that high self-esteem can have determinants other than body image and that self-esteem by itself may be an important protecting factor in reducing the impact of BMI on body image. These findings corroborate well with studies which reveal that self-esteem has a protective effect in individuals over their own negative feelings about their body and others' negative evaluation of their body.²²

Individuals with high self-esteem are less likely to have negative feelings about their body and appearance and show less fright of others' judgment regarding their body

as to whether they are overweight, underweight, or normal weight. They tend to feel positive about their body, while those with low self-esteem tend to appraise their appearance in a more negative and critical light. High self-esteem brings about individuals to accept imperfection in their looks with a degree of confidence and makes them feel that they deserve to be valued and respected by themselves and others regardless of their appearance.

Indeed, people with high self-esteem appreciate their strengths, try to enhance their abilities and competencies, and do not look down upon themselves if they are not happy with their appearance.

Given that BMI is a negative determinant of body image, a holistic approach toward weight management inclusive of both underweight or overweight, and implementation of lifestyle along with public health-related efforts are recommended to highlight the detrimental consequences of this problem, as a risk factor to the various psychological problems associated with the college-going youth.

This study has a few limitations. The gender specific determinants need further exploration as the perception of individuals about body image and self-esteem may be different for males and females.

Also, this study used self-reported data on BMI which may affect the validity and reliability of the results. Future studies may attempt to take actual anthropometric measurements to find BMI to achieve better reliability and validity.

CONCLUSION

Body image has always been a significantly sensitive issue with the youth. The ideal body shape may differ by gender as well as socio-cultural norms. Study findings support the fact that body image dissatisfaction has its impact on self-esteem among college-going youth. The social norms consider looks to be important in girls whereas strength and body mass matters for boys. This stereotypic image is understood to have been enforced by parents, peer influence, social media and cultural invasion. We suggest appropriate interventions such as life skills education and media literacy to minimize body image issues. In addition, information regarding normal growth and its variations should be provided to adolescents and the youth.

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