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Original Research Article

Body image perception and body image satisfaction among female medical students of Mysuru

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ABSTRACT

Background: Concerning one's appearance too much can result in sadness, anxiety disorders, disrupted eating habits, and nutritional deficiencies. In India, the idea of body image has received less attention, particularly among young females. The objective of the study is to assess the body image perception and satisfaction among female medical students of Private Medical College, Mysuru.
Methods: This cross-sectional study was conducted among 210 female medical students of a Private Medical College in Mysuru using a self-administered questionnaire containing details of sociodemographic information and a validated visual analogue scale. Anthropometric measurements were taken using calibrated instruments. Data was analysed using SPSS version 26. The percentage was calculated for descriptive variables. The chi-square test was applied for analysing categorical variables.
Results: The majority of the participants (37.1%) had a neutral perception regarding their body image followed by 33.8% are satisfied and 24.2% are unsatisfied regarding their body image. Body image perception showed that the majority (52.3%) of them had normal weight. Unhealthy weight-changing patterns like skipping meals (24%), and increasing the quantity and frequency of meals (17%) were reported among study participants.
Conclusions: From the present study, it can be concluded that 37% had a neutral perception and 24% are unsatisfied with their body image. Psychological parameters like feeling anxious, lack of confidence, and attempts to change their body weight are associated with body image perception which may further result in affecting their mental health.

Keywords: Body image satisfaction, Body mass index, Body image perception

INTRODUCTION

Body image is defined by Grogan as "a person's perceptions, thoughts, and feelings about their body" and depends on a variety of factors: psychological components and sociocultural influences such as family, peers, and ethnicity.[1] People with a positive body image will generally have higher physical and mental health levels and better personal development. A positive body image will influence self-esteem, self-acceptance, and a healthy outlook and behavior.

It is important to remember that everyone is different. Each person's genetic inheritance affects the bone structure, body size, shape and weight differently. Focusing on balanced meals containing nutritious foods and regular physical activity will help you achieve balance and reach your ideal weight. It is also important to avoid comparing their body image to the bodies of their friends or people they see in advertisements or TV shows.[2]

Since India is still a developing country, many opinions about body image tend to carry a stigma. In India, more

than one-quarter of young women (28%) reported moderate to severe body dissatisfaction.[3] The impact of poor body image on mental health goes beyond the occasional negative thought. Body dissatisfaction can also cause mental health problems such as eating disorders. Body dissatisfaction leads to poor overall well-being in both sexes and a decline in mental health in women.

Recently, the authors noted that the association between exposure to extreme bodies and misperception of one's own body size resembles a visual adaptation effect. Visual adaptation is a phenomenon that has been known for many decades, perhaps even since Aristotle. The magnitude of body size adjustment effects was found to be related to body satisfaction. The mechanism of these effects is unknown. One proposed explanation for this difference is that the level of body satisfaction affects the amount of attention given to bodies of different shapes and sizes.[4]

The display of exaggerated beauty standards for women, which lead to the distortion of body image, is influenced by sociocultural factors. While the impact of the media on women's body image in Western nations has been extensively studied, there hasn't been enough research on this topic among the Indian population. References to the media or Westernization are additional intricate sociocultural aspects that influence Indian women's body image concerns5. The objective of the study is to assess the body image perception among female medical students of Private Medical College, Mysuru and to assess the body image satisfaction among them. This study also aims to compare the body image perception with the body mass index of the participants.

METHODS

This cross-sectional study was conducted among 210 female medical students of a Private Medical College in Mysuru for a period of two months from November 1st to December 31st 2022, after obtaining ethical clearance and permission from the Head of the institution. According to the normal body image perception of 83.3 % of female students based on a study conducted by Shwetha et al 6 sample size was calculated using the formula.

Sample size,

$$n = \frac{z^2 PQ}{L^2}$$

The sample size was calculated at a 95% confidence interval and 5% allowable error and the sample size was calculated to be around 210.

Sample size,

$$n = \frac{(1.96)^2 \times 83.33 \times 16.67}{5 \times 5} = 210$$

Participants were selected from Phase 1, Phase 2, Phase 3 (part 1) and Phase 3 (part 2) MBBS students by systematic sampling method.

There is a total of 425 female medical students. The student list was obtained from the college office. The sampling frame was made by rearranging it into alphabetic order. The sampling interval was calculated to be 2 by dividing the total number of students by the required sample size. Every alternate student as per the sampling frame was taken for study. If the selected student was not willing, the next person on the list was considered

Female medical students aged more than 18 years who are willing to participate in the study were included in the study and those with diagnosed health problems which may interfere with anthropometric measurements or body image perception like kyphosis, and scoliosis were excluded. Data was collected using a self-administered questionnaire containing details of sociodemographic information and a validated visual analogue scale, consisting of 8 pictures depicting girls of different silhouettes7. The first three girls depicted in the picture were lean, the next two were normal weight, and the last three were overweight. Participants were asked to name the silhouettes that they felt represented their current weight. Height was measured with a calibrated Seca Stadiometer to the nearest to 0.1cm, weight was measured to the nearest to 0.1 kg using a calibrated digital weighing machine and body mass index is calculated. Body mass index levels were classified according to Asia-Pacific BMI classification [Underweight - < 18.5, Normal – 18.5 – 22.9, Overweight - 23-24.9, Obese - ≥ 25] 8

Data was analyzed using SPSS Version 26.0 (IBM Corp. Released 2019. IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp). The percentage was calculated for descriptive variables. The chi-square test was applied to analyse qualitative data. Associations with p-valve <0.05 at 95% CI were considered to be statistically significant

RESULTS

In the current study, the participants' age ranges from 18 to 24 years, with a mean age of 20.8±1.54.

Table 1: Distribution of study participants (n=210).

MBBS students	No. of participants (%)
Phase 1	55 (26.1)
Phase 2	57 (27.1)
Phase 3 (part 1)	48 (22.8)
Phase 3 (part 2)	50 (23.8)

Table 1 shows that 55 female students are taken from Phase 1, 57 from Phase 2, and 48 and 50 students from Phase 3 (part 1) and Phase 3 (part 2) respectively. The

participants' height in the current study ranges from 134 to 175 cm, with a mean of 160±6.5. The participant's weight in the current study ranges from 41 to 89 kg with a mean of 58.22±9.6. The BMI of the participants in the current study ranges from 16.1 to 32.7, with a mean BMI of 22.534±3.553

The majority of the participants in the current study are normal (47.1%) calculated by BMI and (52.4%) with the visual analogue scale, followed by overweight/obese (39%) with BMI and (34.3%) with the visual analogue scale and underweight corresponding to (13.8%) with BMI and (13.3%) with the visual analogue scale of the total study population (Table 2) (Figure 1).

Table 2: BMI categorisation and visual analogue body perception among the study participants.

	Body mass index		Visual analogue body perception	
	Normal	**Percentage (%)**	**Normal**	**Percentage (%)**
Underweight/lean	29	13.8	28	13.3
Normal	99	47.1	110	52.4
Overweight /obese	82	39	72	34.3

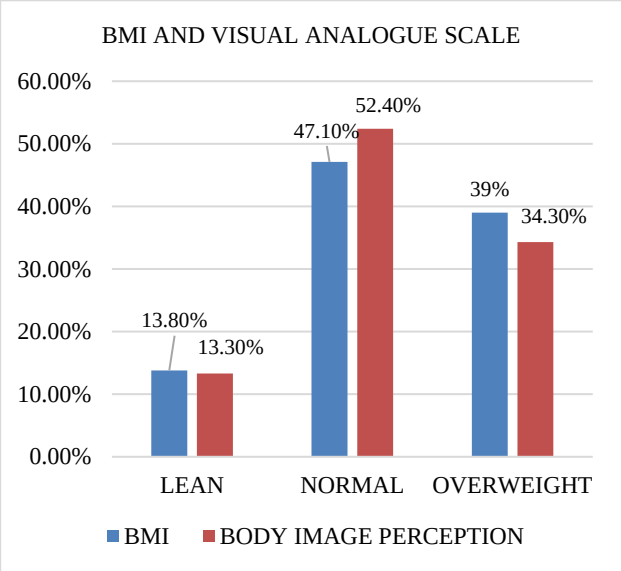

Figure 1: Comparison of BMI and visual analogue scale of study participants

Table 3: Body image perception and satisfaction level among the study participants.

	N	%
What do you think about your body image perception		
Lean	25	11.9
Normal weight	130	61.9
Overweight	55	26.2
Satisfactory level about your body image		
Very satisfied	10	4.8
Satisfied	71	33.8
Neutral	78	37.1
Unsatisfied	45	21.4
Very Unsatisfied	6	2.9

Among the study participants, majority perceive themselves that they had normal body weight (61.9%), followed by overweight (26.2%) and lean (11.9%). In the current study, most participants are neutral regarding their body image (37.1%), (33.8%) are satisfied whereas 24.3% are unsatisfied about their body image (Table 3).

Table 4: Comparing visual analogue body image perception with various body image perception factors.

Body image perception factors		N (%)	N (%)	N (%)	Chi-square value	P value
Do you wish to increase or decrease your weight	Yes	17 (60.7)	49 (44.5)	62 (86.1)	31.5	<0.01
	No	11 (39.3)	61 (55.5)	10 (13.9)		
What is your relatives' opinion about you	Lean	23 (82.1)	31 (28.2)	0 (0.0)	105.2	<0.01
	Normal weight	5 (17.9)	73 (66.4)	40 (55.6)		
	Overweight	0 (0.0)	6 (5.5)	32 (44.4)		
What is your friends' opinion about you	Lean	20 (71.4)	17 (15.5)	1 (1.4)	94.8	<0.01
	Normal weight	8 (28.6)	90 (81.8)	50 (69.4)		
	Overweight	0 (0.0)	3 (2.7)	21 (29.2)		

Continued.

Body image perception factors		N (%)	N (%)	N (%)	Chi-square value	P value
Do you increase the frequency of meal intake	Yes	8 (28.6)	25 (22.7)	14 (19.4)	0.9	0.612
	No	20 (71.4)	85 (77.3)	58 (80.6)		
Do you decrease the frequency of meal intake	Yes	5 (17.9)	18 (16.4)	33 (45.8)	20.6	<0.01
	No	23 (82.1)	92 (83.6)	39 (54.2)		
Do you increase the quantity of meal intake	Yes	10 (35.7)	23 (20.9)	13 (18.1)	3.8	0.149
	No	18 (64.3)	87 (79.1)	59 (81.9)		
Do you decrease the quantity of meal intake	Yes	5 (17.9)	17 (15.5)	38 (52.8)	31.5	<0.01
	No	23 (82.1)	93 (84.5)	34 (47.2)		
Do you skip meals to reduce your weight	Yes	8 (28.6)	16 (14.5)	28 (38.9)	14.0	.001*
	No	20 (71.4)	94 (85.5)	44 (61.1)		
Do you use any treatment for increasing your weight	Yes	0 (0.0)	0 (0.0)	0 (0.0)		
	No	28 (100.0)	110 (100.0)	72 (100.0)		
Do you use any treatment for decreasing weight	Yes	1 (3.6)	1 (0.9)	1 (1.4)	1.1	.570
	No	27 (96.4)	109 (99.1)	71 (98.6)		
Are you on any specific diet for increasing your weight	Yes	1 (3.6)	3 (2.7)	1 (1.4)	0.5	.76
	No	27 (96.4)	107 (97.3)	71 (98.6)		
Are you on any specific diet for decreasing weight	Yes	1 (3.6)	5 (4.5)	8 (11.1)	3.5	.173
	No	27 (96.4)	105 (95.5)	64 (88.9)		
Do you feel anxious about your body type	Yes	7 (25.0)	21 (19.1)	46 (63.9)	39.7	<0.01
	No	21 (75.0)	89 (80.9)	26 (36.1)		
Do you feel confident about your body type	Yes	18 (64.3)	85 (77.3)	30 (41.7)	23.7	<0.01
	No	10 (35.7)	25 (22.7)	42 (58.3)		
Did you make any attempts to change your body weight	Yes	13 (46.4)	52 (47.3)	59 (81.9)	23.7	<0.01
	No	15 (53.6)	58 (52.7)	13 (18.1)		

Values are expressed as frequency and parentage. The p-value is by chi-square test. A p-value of less than 0.05 is considered statistically significant.

Family history of obesity shows an association with Visual Analogue Body Perception with a chi-square value of 6.4 and a p-value of 0.04, which shows statistical significance. 16.7% perceived themselves as overweight shows a positive family history of obesity.

Several body image perception factors show an association with the Visual Analogue Body Perception scale. Similarly, the factors associated with a Visual Analogue Body include the intention to decrease or increase body weight, increasing and decreasing the frequency and quantity of meal intake, and skipping meals to reduce or increase body weight. Psychological parameters like feeling anxious, lack of confidence and attempts to change their body weights are also associated (p-value <0.05) (Table 4).

In the current study, 55.6% of participants perceive themselves as overweight but their relatives consider them as normal weight and 69.4% of participants perceive themselves as overweight but their friends consider them as normal weight. Among the study participants, 63.9% perceived themselves as overweight feel anxious about their body type and also 58.3% perceiving themselves as overweight were not confident about their body type and 81.9% perceived themselves as overweight makes attempts to change their body weight.

DISCUSSION

The present study reflects the patterns of body image perception and body image satisfaction, assessing the BMI and the various attempts to alter their body weight and the psychological factors of female medical students of Mysuru.

In the present study, the majority of the participants had neutral perceptions (37%) regarding their body image, 33.8% were satisfied whereas 24.3% were unsatisfied about their body image. Similar rates of dissatisfaction had been found in studies conducted by Rashmi BM et al (19%), Dixit S et al (26.6%), and Priya D et al (33.3%).[9-11] There is lesser body image dissatisfaction among Asian women compared to American and Caucasian women as per some studies.[12]

In the present study, 60.7 % who perceive themselves as lean wanted to decrease or increase their body weight. In a similar study conducted by Priya D et al, all the participants who felt lean wished to increase their weight.[11] The present study concludes skipping meals was practiced among the study participants. The study denotes 38.9% who perceive themselves as overweight skip their meals to reduce weight. Researchers suggest the effects of skipping a meal can be different from one person to another according to age, general health, and diet of the subject. Research also shows that people who skip

breakfast are at a higher risk of developing type 2 diabetes and also an increased risk of heart disease.[13]

Among the study participants, 63.9% perceived themselves as overweight feel anxious about their body type and also 58.3% perceived themselves as overweight and were not confident about their body type and 81.9% perceived themselves as overweight makes attempts to change their body weight. A survey conducted by Qurat - ul-Ain et al suggests that females have a low level of confidence in their body image as compared to male adolescents.[14]

Self-esteem grows up in young people through positive body image. If self–body image is negative and unfavorable then it prompts distress and dissatisfaction with oneself which leads to a low level of self-esteem.

CONCLUSION

From the present study, it can be concluded that 37% had a neutral perception and 24% are unsatisfied with their body image. Familial obesity also plays a key role as there is an association with body image perception. Several body image perception factors are associated with the participants' Visual Analogue Body Perception. Psychological parameters like feeling anxious, lack of confidence, and attempts to change their body weight are associated with body image perception which may further result in affecting their mental health. Counselling services and the provision of IEC materials regarding body image and its taboos would be useful. They should be counselled to stop discussions regarding body shape, weight loss, dieting, and even appearance in general.

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