

Body image perception and self-esteem among undergraduate medical students in Nanded, Maharashtra

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ABSTRACT

Introduction: Body image is the perception and attitude one holds toward one's own body, especially, but not exclusively, one's physical appearance. The promotion of positive body image improves people's quality of life and behaviors related to health. Social factors, sociocultural influences, media pressure, and the pursuit of an ideal body, associated with accomplishments and happiness are among the causes of changes in the perception of body image, leading to dissatisfaction. There is very less literature on these topics among males and also medical students. **Objectives:** To assess body image perception and the influence of sociocultural factors on it and self-esteem among undergraduate students of a medical college. **Methods:** A cross-sectional study was carried out among 192 undergraduate medical students of a medical college from June 2021 to September 2021 using a predesigned pretested self-administered questionnaire in English. **Results:** Out of 200 students included in the study the mean age of study subjects was 19.78 ± 1.39 years, of which, 107(56%) were males and 85(44%) were females. The 192 students were classified as Underweight (27(14%)), Normal weight (78(41%)), Overweight (43(22%)) and Obese I (44(23%)) according to Asian WHO BMI classification. BISS scores (which measure body image satisfaction) were the median of the six items after reverse-scoring the three positive-to-negative items which were found to be 5.5(4-7) and 53% of students showed body image dissatisfaction. 33% (63 students) of students have thin/low body fat internalization and about 77(40%) have muscular/athletic internalization. 54(28%) students mostly agree about family pressure to attain the ideal appearance, 53(28%) feel pressure from peers and 75(39%) mostly agree with influence of media to attain ideal appearance. Out

of the 192 students, 124(64%) showed normal self-esteem, 63(33%) with low self-esteem, and 5(3%) with high self-esteem as per Rosenberg's self-esteem score. A statistically significant association was found between BMI and body image perception and also between Body image perception with sociocultural attitudes toward the appearance and self-esteem of students. **Conclusion:** Body image dissatisfaction affects young students. In this study, about 53% of the students showed body image dissatisfaction. This perception of self has mainly been influenced by media (39%), family pressure (28%), and peer pressure (28%). Also, 33% of the students have low esteem with a significant association between Body image perception and self-esteem.

KEYWORDS: Body image perception, self-esteem, undergraduate medical students, ROSENBERG SELF-ESTEEM SCALE, SATAQ-4

INTRODUCTION

Body image is the perception and attitude one holds toward one's body, especially, but not exclusively, one's physical appearance.^[1] It is a multidimensional concept and encompasses Cognitive, Perceptual, Affective, and Behavioral.^[2] According to Paul Ferdinand Schilder the Austrian psychiatrist, senses, ideas, and feelings establishes one's mental body image, most of the time, are unconscious.^[3,4] College adolescence are vulnerable to health risks due to their biological changes and psycho social instability, along with changes related to entering new social relations and the adoption of new behaviors.^[5,6]

Poor body image can affect physical and psychological health and can influence self-esteem, mood, competence, social

functioning, and occupational functioning.^[7] The distortion of body perception, that is, overestimating or underestimating the size and/or shape of the body, is not a particular characteristic of adolescents who develop some type of eating disorder, as it becomes increasingly present in the dynamics of these individuals' lives. age group.^[8] Grabe et al., said body dissatisfaction is one of the risk factors for eating disorders, low self-esteem, obesity, and depression.^[9]

Media plays a major role in an individual's life, environment, and communication with others. Use of these sites may lead to extreme focus on the physical appearance which can lead to body image dissatisfaction and low self.^[10]

To improve people's quality of life, physical health, and health-related behaviors, positive body image promotion is important. Most of the studies are about body image dissatisfaction in adolescents and females. However, for men, as for women, as the social pressure to attain an "ideal" physique increase, the discrepancy between that ideal and one's body increases as well which is more readily recognized for women than for men. As men are stigmatized for not discussing their body image concerns and self-esteem issues, it may reinforce behaviors resulting in weight gain.^[11] Being overweight can lead to lower body self-esteem. College-going students of age group 18-24 which WHO defines as young people/Youth, studies suggest a relationship between body image, body concerns, body dissatisfaction, and disordered eating attitudes among college women.^[12, 13]

In India, research on body image perception and the role of media, socio-cultural attitudes on body perception are mainly focused on adolescents and females. There is very less literature on these topics among males and also medical students. The objectives of the study were to assess body image perception and self-esteem and the influence of sociocultural factors on it.

METHODOLOGY

STUDY DESIGN: The present study was a cross-sectional study.

STUDY POPULATION: Undergraduate medical students of 1st, 2nd, 3rd, and 4th professional years of Dr. Shankar Rao Chavan Medical Government College, Nanded.

Sample size: The sample size was calculated taking the prevalence of abnormal body image perception as 35.4% according to a study conducted among medical college students in Delhi.^[14] Considering the confidence limit of 95.0%, the sample size was worked out by following the formula $n = \frac{Z^2 PQ}{L^2}$, n = sample population, P=prevalence of abnormal body image perception, Q=1-P, and L= allowable error which is 20% of total prevalence and 10% population added as non-response rate. The total sample size came out to be 194. Students who were not present to fill out the questionnaire were excluded from the study. Systematic Random Sampling was done. 150 students are enrolled each

year in MBBS. The required sample size was 194 and a round figure of 200 was taken. A total of 600 students were arranged in chronological order and systematic random sampling was done. Every 3rd student was selected. In case the student was not willing/absent 4th student was chosen. However, 8 forms were not filled properly and hence discarded.

STUDY TOOLS: A predesigned pretested self-administered questionnaire in English was used to collect the baseline demographic information (age, gender, religion, total family income, socioeconomic status) and the self-perceived body image, socio-cultural impact on it, and self-esteem. The BMI of each student was calculated and classified according to Asian Pacific WHO Classification.^[13] Body image perception was assessed using Body Image State Scale (BISS). For the influence of social and cultural factors like media, family, and peers, SATAQ-4 (Social-Cultural Attitudes Toward Appearance Questionnaire) was used. For assessing the self-esteem of the students, Rosenberg's self-esteem scale was used.

Body Image State Scale (BISS)^[1]: Six items written to measure the body image domains at the moment of response was used. The responses were based on Likert type with 9-point, bipolar, scales with scores ranging from 1 to 9, and higher scores indicating more positive body image. BISS scores were the mean of the six items after reverse-scoring the three positive-to-negative items. Thus, higher BISS scores on the 9-point dimension indicate more favorable body image states.^[1, 15] Cronbach's α was calculated to be **0.89**, hence this scale has good internal consistency and reliability in the Indian population.

SATAQ-4: Sociocultural Attitudes Towards Appearance Questionnaire-4 is a 22 item five factor questionnaires that is used to assess thin/muscular internalization as well as appearance-related pressures from peers, family, and media. It is rated on a 5-point Likert scale, where 1 and 5 mean definite disagreement and agreement respectively. The higher the score, the greater is the internalization of the dominant sociocultural standards for appearance. The scale demonstrates good internal consistency and reliability.^[16, 17]

ROSENBERG SELF-ESTEEM SCALE: It is a widely used self-reporting instrument with 10 items used for evaluating individual self-esteem. It was investigated using item response theory. All items were answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree. It has an excellent internal consistency and reliability.^[18-20]

Informed written consent was taken from all students. Sufficient time was given to fill the questionnaire, as 8 students did not fill the questionnaire properly, the data was discarded. The final analysis was done on 192 students. Ethical clearance was taken from the institutional ethical committee of Dr Shankar Rao Chavan Government medical college hospital, Nanded.

STATISTICAL ANALYSIS

Data was compiled in Microsoft Excel 2019 and Statistical Analysis of the data was carried out in SPSS. Data in the form of scores and scales were represented as median and interquartile ranges. Data was also expressed in terms of frequency tables and percentages. For categorical data, Pearson's Chi-square test was used to find statistical significance and the association between two variables

Cronbach's α for internal consistency and reliability of the BISS scale of the study population was calculated using Microsoft Excel 2019.

RESULTS

The present study was a cross-sectional study carried out among undergraduate medical students of Dr Shankar Rao Chavan Medical Government College, Nanded To assess the body image perception and the influence of socio-cultural factors on it and self-esteem among undergraduate students of a medical college. 192 participants were included in the study and the final analysis was done on data collected from these students, results of the study are as follows.

Out of the total 192 participants, the mean age of study subjects was 19.78 ± 1.39 years 48(25%) were of age 19 years, 43(22%) belonged to age 18 years, 42(21%) of 20 years and 40(21%) and 19(10%) of age 21 years and 22 years respectively. Out of 192 participants, 107(56%) were males and 85(44%) were female students. The majority [149(78%)] of the students belonged to the upper socioeconomic class followed by the upper middle class [21(11%)] and middle class [12(6%)]. Only 10(5%) belonged to the lower middle class and none belonged to the lower socioeconomic class. Table 1

The 192 students were classified as underweight (27(14%)), normal weight (78(41%)), overweight (43(22%)) and obese I (44(23%)) according to Asia-Pacific WHO BMI classification. Out of 27 underweight 5 were males and 22 were females, out of 78 normal-weight students 52 were males and 26 were females. Among 43 overweight, 22 are males and 21 are females and among 44 obese I students, 28 are males and only 16 are female. Table 2

For BISS scores showing body image dissatisfaction, the median and interquartile range of the six items after reverse-scoring the three positive-to-negative items was found to be 5.5(4-7). 101 (52.6 %) students showed body image dissatisfaction, out of the 101 students showing body image dissatisfaction, 54 were males (50% of male students showed dissatisfaction) and 47 (55% of females showed dissatisfaction) were females Figure 1. As shown in Table 3, there is a statistically significant association between Body image satisfaction/dissatisfaction and BMI (χ^2 -40.9, df-8, $p < 0.001$).

SATAQ-4 questionnaire was used to assess sociocultural attitudes towards appearance. The median (interquartile

Socio-demographic factors	Frequency	Percent
Age (in years)		
18	43	22%
19	48	25%
20	42	22%
21	40	21%
22	19	10%
Gender		
Male	107	56%
Female	85	44%
Socio-economic status		
I [upper]	149	78%
II [upper middle]	21	11%
III [middle]	12	6%
IV [lower middle]	10	5%
V [lower]	0	0%

Table 1: Sociodemographic characteristics of respondents (n=192)

BMI (ASIA- PACIFIC CLASSIFICATION)	MALE	FEMALE	TOTAL NO (%)
Underweight	5	22	27(14%)
Normal	52	26	78(41%)
Overweight	22	21	43(22%)
Obese I	28	16	44(23%)
Total	107	85	192 (100%)

Table 2: Distribution of Students according to Asia-Pacific WHO BMI Classification

range) of socio-cultural influence on appearance showing internalization was 3(3-4) & 3(1-4) for thin/low body fat & muscular/athletic respectively. The median & interquartile range for pressures-family, peer, media were 2.5(1-4), 2.5(1-4) & 3(1-4) respectively. Figure 2 shows that about 33% (63 students) of students have thin/low body fat internalisation and about 77(40%) have muscular/athletic internalization. 54(28%) students mostly agree about family pressure to attain the ideal appearance, 53(28%) feel pressure from peers and 75(39%) mostly agree influence of media to attain ideal appearance.

Out of the 192 students, 124(64%) showed normal self-esteem, 63(33%) with low self-esteem, and 5(3%) with high

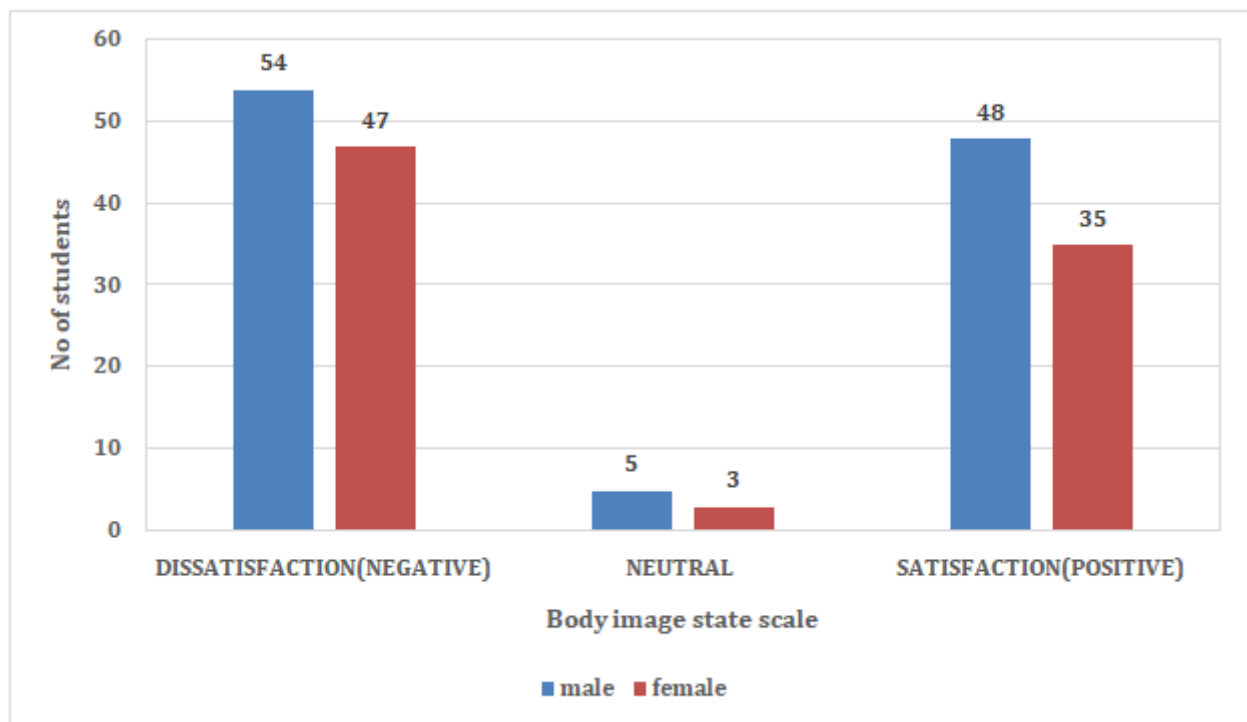


Figure 1: Gender wise Body image perception of students (n=192)

BISS	UNDER WEIGHT	NORMAL RANGE	OVER WEIGHT	OBESE I	Sig
DISSATISFACTION	7	21	21	34	$\chi^2 = 40.9$ DF=8 P<0.001*
NEUTRAL	0	2	3	3	
SATISFACTION	20	55	19	7	
TOTAL	27	78	43	44	

Table 3: Association between body image perception & BMI

self-esteem as per Rosenberg's self-esteem score. Of 36% of male students showed lower esteem which is more than that of female students (30%). Figure 3

As shown in Table 3, there is a significant association between self-esteem and body image perception. Table 4 shows that there is a significant association between Body image perception (BISS) and sociocultural attitudes towards appearance (SATAQ-4).

DISCUSSION

Body as perceived by self, judgment by others, and pressures from media, family, and peers can be quite detrimental to young students, especially to their mental health. In this study it was found that about 53% of the students were dissatisfied with their bodies, this trend is seen both in males (50%) and females (55%). There was no significant difference between male and female students

though females show slightly higher body dissatisfaction.

In India studies among medical undergraduates/students/adolescents varied regionally which could be explained due to the difference in demography, and the difference in scales used for measurement. Subhashini et al. [21] in a cross-sectional study conducted among 1200 college girls of Coimbatore found 77.6% of the girls were dissatisfied with their body image. In Delhi, Manisha Sharma et al. [14] in their study among both female and male medical undergraduates found body image dissatisfaction to be 35.4%. B.M. Rashmi et al. [22] in their study among medical undergraduates found 19% to be unsatisfied/very unsatisfied with their body image. Similar results have been found in studies conducted by Goswami S et al. [23] (13.5%) among dental and medical undergraduates, Priya D et al. [24] (33.3%) among female undergraduates at Mangalore, and Dixit S et al. [25], (26.6%) among 586 adolescent girls of Lucknow. Radwan et al. [26] in their cross-sectional study in UAE found

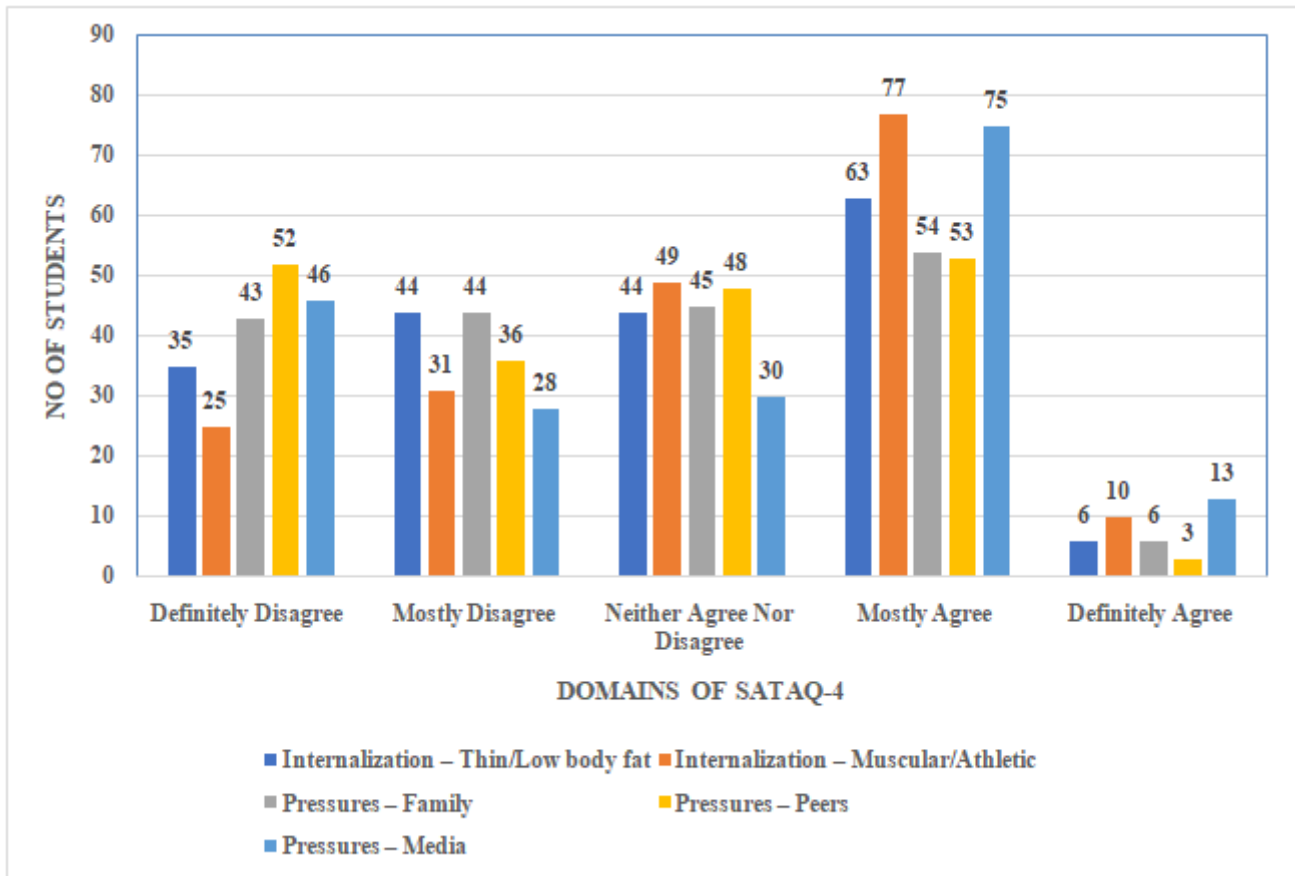


Figure 2: Influence of socio-cultural factors on body image perception measured using SATAQ-4 questionnaire

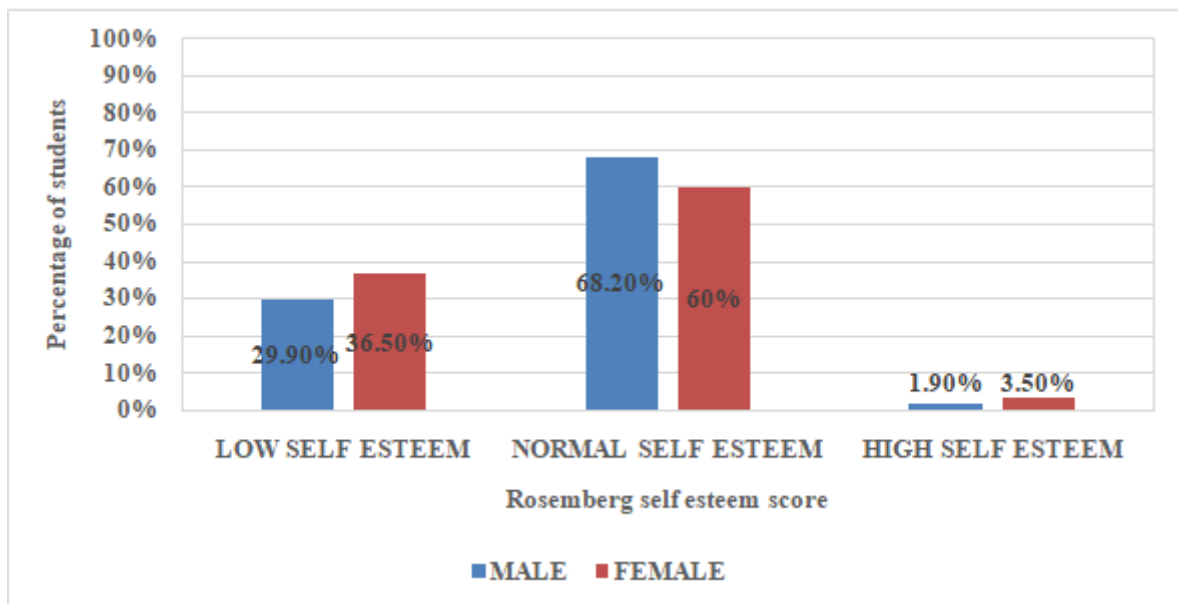


Figure 3: Self-esteem among male and female medical students as per Rosenberg self-esteem score. (n=192)

ROSENBERG SELF ESTEEM SCALE	BISS			Sig
	DISSATIS FACTION	NEUTRAL	SATIS FACTION	
LOW SELF ESTEEM	39	0	6	$\chi^2-46, df-8$ $p<0.001$ **
NORMAL	43	8	91	
HIGH SELF ESTEEM	1	0	4	
Total	83	8	103	

Table 4: Association between Body image perception with the self-esteem of students

that the majority of the participants (81%: 58.2% females and 41.8% males) were dissatisfied with their BI. Body image dissatisfaction among students ranged from 43.9% (using Figure Rating scale) in Moroccan students a study by Boutahar et al. [27] and 75.49% in Brazilian students a study done by Barreto et al. [28]

The 192 students were classified as underweight (27(14%)), normal weight (118(62%)), overweight (41(21%)) and obese (6(3%)) according WHO BMI classification. Of these 83.3% of obese students and 70.73% of overweight students showed dissatisfaction with their body image. Goswami et al. [23] in their study among female college students found that overweight students had a significantly higher (54.54%) prevalence of dissatisfaction. In this study about 33% (63 students) of students have thin/low body fat internalization and about 77(40%) have muscular/athletic internalization. 54(28%) students mostly agree about family pressure to attain the ideal appearance, 53(28%) feel pressure from peers and 75(39%) mostly agree to influence of media to attain ideal appearance. Body shape dissatisfaction is significantly associated with higher body mass index and lower self-esteem. Subhashini et al. [21] in their study found that factors such as higher BMI, depression, and sociocultural pressure to be thin were significantly associated with body image dissatisfaction among adolescents. Vaishali Deshmukh et al. also found a Significant association was found between various BMI categories and attitudes toward appearance. [29] Manila Sharma et al. [14] in their study found 36.5%, agreed to be influenced by models and 40.5% of athletic figures in media, 42.2% and 27.6% accepted that their source of information regarding attractive standards was media and felt pressured to be attractive respectively. Disordered eating attitudes and media pressure to achieve an ideal body image was found to be more in males. A similar finding was found in a cross-sectional, study among male college students aged 18–25 years by Soohinda et al. [30]

Out of the 192 students, 124(64%) showed normal self-esteem, 63(33%) with low self-esteem, and 5(3%) with high self-esteem as per Rosenberg's self-esteem score. Of 36% of male students showed lower esteem which is more than that of female students (30%). A significant association between body image dissatisfaction and low self-esteem. Students with body image dissatisfaction showed lower self-

esteem. Similar findings were found in studies (Soohinda et al.) [30] across India and around the world (Abel et al. [31]) among undergraduate medical students.

The limitation of our study is that the study should have been carried out in a larger number of study subjects.

CONCLUSION

Body image dissatisfaction affects both male and female youth. Increasing social media influence along with family and peer pressure forces them to think of an ideal body image. This has proven to influence their eating habits in various studies. Negative images of self can also affect the self-esteem of the young. They are the future of this world. The key to a healthy life is a healthy mind. A positive body image should be developed among them for a positive mindset and higher self-esteem.

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SATAQ-4	BISS	BISS			Significance
		DISSATIS FAC-TION	NEUTRAL	SATIS FACTION	
INTERNALISATION-MUSCULAR/ATHLETIC	Definitely Disagree	0	1	24	$\chi^2-58.09$ df-8 p<0.001**
	Mostly Disagree	4	2	23	
	Neutral	21	0	25	
	Mostly Agree	41	5	28	
	Definitely Agree	17	0	1	
	Definitely Disagree	4	1	16	
	Mostly Disagree	13	5	15	
	Neutral	17	0	36	
	Mostly Agree	43	2	30	
	Definitely Agree	6	0	4	
INTERNALISATION-THIN/LOW BODY FAT	Definitely Disagree	9	1	35	$\chi^2-28.65$ df-8 p < 0.001
	Mostly Disagree	12	3	27	
	Neutral	16	3	26	
	Mostly Agree	41	1	11	
	Definitely Agree	5	0	2	
	Definitely Disagree	7	2	43	
	Mostly Disagree	14	1	24	
	Neutral	16	3	21	
	Mostly Agree	42	2	12	
	Definitely Agree	4	0	1	
PRESSURES-FAMILY	Definitely Disagree	7	3	33	$\chi^2-48.35$ df-8 p<0.001**
	Mostly Disagree	11	1	20	
	Neutral	24	0	21	
	Mostly Agree	39	4	22	
	Definitely Agree	2	0	5	
	Definitely Disagree	7	3	33	
	Mostly Disagree	11	1	20	
	Neutral	24	0	21	
	Mostly Agree	39	4	22	
	Definitely Agree	2	0	5	
PRESSURES-PEERS	Definitely Disagree	7	3	33	$\chi^2-27.605$ df-8 p<0.001**
	Mostly Disagree	11	1	20	
	Neutral	24	0	21	
	Mostly Agree	39	4	22	
	Definitely Agree	2	0	5	
	Definitely Disagree	7	3	33	
	Mostly Disagree	11	1	20	
	Neutral	24	0	21	
	Mostly Agree	39	4	22	
	Definitely Agree	2	0	5	
PRESSURES-MEDIA	Definitely Disagree	7	3	33	$\chi^2-27.605$ df-8 p<0.001**
	Mostly Disagree	11	1	20	
	Neutral	24	0	21	
	Mostly Agree	39	4	22	
	Definitely Agree	2	0	5	
	Definitely Disagree	7	3	33	
	Mostly Disagree	11	1	20	
	Neutral	24	0	21	
	Mostly Agree	39	4	22	
	Definitely Agree	2	0	5	

Test: Pearson's chi-square test, * statistically significant (p<0.05), **statistically highly significant(p<0.001)

Table 5: Association between Body image perception with sociocultural attitudes towards appearance and self-esteem of students,

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