

INFLUENCE OF SOCIAL MEDIA ON BODY IMAGE PERCEPTION AMONG UNDERGRADUATE STUDENTS OF A MEDICAL COLLEGE IN PUDUCHERRY: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Body image perception plays a vital role in an individual's psychological wellbeing and self-identity. Social media exposure, sociocultural influences, and psychological factors may significantly affect body image and self-esteem, particularly among medical students who are exposed to academic stress and peer pressure. Hence, the present study was conducted to assess the influence of social media on body image perception among undergraduate medical students.

Materials and Methods: A cross-sectional study was conducted among 370 undergraduate medical students in a private medical college in Puducherry from October to December 2020. Data were collected through a pretested semi-structured questionnaire administered via Google Forms after obtaining informed consent. Body image perception was assessed using the Body Image Self-Assessment Questionnaire developed by Szuch, while self-esteem was measured using the Rosenberg Self-Esteem Scale. Data were analyzed using SPSS version 23.0. Chi-square test and Pearson's correlation coefficient were used to assess associations and correlations, respectively, with $p < 0.05$ considered statistically significant.

Results: Among the 370 participants, 57% were partially satisfied with their body image, 24.6% were highly satisfied and 18.4% were dissatisfied. Low self-esteem was observed among 22% of participants. Significant associations were found between body image perception and self-esteem with age, residence and BMI ($p < 0.05$). Lower self-esteem and greater body image dissatisfaction were more common among students aged 21–22 years, day scholars and overweight/obese participants. A statistically significant association was observed between body image perception and self-esteem ($p = 0.001$). Pearson's correlation analysis showed a strong positive correlation between hours spent on social media and body image perception ($r = 0.4$).

Conclusion: The study demonstrates a significant relationship between social media usage, body image perception and self-esteem among medical students. Increased social media exposure and higher BMI were associated with poorer body image perception and lower self-esteem, highlighting the need for mental health support, counselling and awareness programs promoting healthy body image and responsible social media use among young adults.

KEYWORDS: Body image perception, Self-esteem, Social media usage, medical students, Cross-sectional study

INTRODUCTION

Body image is an important element of one's own identity. The concept of body image has been defined in different terms in scientific literature. As per Gardener's definition, body image is "the mental picture we have of our body's measures, contours and shape; and our feelings related to these characteristics and to our body parts". [1]

Body image perception is influenced by a number of elements, including age, gender, friends and family, psychological factors, and sociocultural influences. In recent years, media has become an essential component of daily life. Print media, television, and the internet were the three types of media, each of which was further subdivided into sports, entertainment, and information. Unrealistic ideals presented in the media are influencing how people perceive their bodies. Men are portrayed as ridiculously muscular and women as unnaturally slender. In order to take action to lessen the negative consequences, it is now crucial to comprehend the particular role the media plays. [2,3]

Eating disorders and unhealthy behaviors such as using laxatives to lose weight, inducing vomiting, starving, and strenuous exercise are common among people with distorted image perception. Maintaining a healthy body and maintaining a regular weight depend on having a positive body image. [4-6]

One of the most reliable risk factors for eating disorders (EDS) and a strong predictor of obesity, depression, and low self-esteem is body dissatisfaction. As a result, it becomes crucial to recognize disordered eating behaviors before they develop into pathological eating disorders since early detection allows for quicker and more successful treatment. Unhealthy eating habits that are more common in men and male athletes include restrictive dieting, compulsive overeating, skipping meals, and intuitive eating. [3]

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 wellbeing. Body image is affected by self-esteem and self-evaluation more than by external evaluation by others. [7] The positive perceptions will help individuals follow a healthy lifestyle, while the negative perception will lead to unhealthy weight losing or gaining practices. Negative body image perceptions may also lead to poor self-esteem and mental health issues. [8] Various studies also reveal that health science students (medical and nursing) are under high levels of stress which is a causative factor of eating disorders, which in turn is intrinsically linked to body image perception and influenced by media. [9]

The subjective component of body image refers to one's own satisfaction with their own body size or specific body parts. Identifying and measuring the magnitude of body image self-perception distortions would be relevant for the clinical evaluation of those individuals at risk of developing obesity or undernourishment. [10] Therefore, the study was conducted to ascertain the influence of social media on body image perception among Undergraduate students in a private medical college at Puducherry.

MATERIALS AND METHODS

This Cross-Sectional Study was conducted after obtaining approval from Institutional Ethical Committee [No:22/SVMCH/IEC/1120] in a private medical college in Puducherry among Undergraduate Medical students. 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. This study was conducted from October to December 2020 for a period of 3 months. Sample size was calculated using Epi Info software version 7.2.3.1, with the total number of Under Graduate Medical students were 620, with a Confidence Interval of 95%, margin of error 5% and the minimum expected sample size was 240, they were selected by convenience sampling technique. Students who have consented to participate were included, whereas chronic absentees, students with known Psychiatric illnesses, Metabolic disorders, Endocrinological abnormalities, conditions impairing digestion, Chronic infective conditions or Malignancies and those who had not filled the forms even after three reminders were excluded from the study. A predesigned pretested validated self-administered semi-structured questionnaire in English was used to collect the baseline demographic information. Body image self-assessment questionnaire developed by Szuch was used to find the influence of media on body image perception and participants' self-esteem was assessed by Rosenberg self-esteem scale (RSES).[7, 11-12] The Questionnaire was sent via Google forms to their respective E-mail ID and their responses were collected in Microsoft Excel.

STATISTICAL ANALYSIS

Data was entered in Microsoft Excel and analyzed using licensed Statistical Package for Social Sciences (SPSS) v.23.0. The data was summarized and presented in the form of tables and appropriate diagrams. Qualitative data such as body image perception, influence of social media was represented as frequencies and percentages, descriptive statistics was derived for quantitative data such as age, height, weight. Chi-square test was done to find the association of body image and self-esteem with Socio-demographic variables and also between body image perception and self-esteem among the participants. Pearson's correlation coefficient was used to assess the relationship between hours spent on social media, self-esteem scores and body image perception scores.

RESULTS

Table 1 shows the distribution of study participants based on socio-demographic profile. A total of 370 participants were included in the study. Majority 147 (39.7%) belonged to 18–20 years age group, followed by those aged between 21–22 years 114 (30.8%) and 23–24 years comprising 109 (29.5%). The gender distribution was almost equal, with males constituting 183 (49.5%) and females 187 (50.5%). With respect to residence, more than half of the participants were day scholars 214 (57.8%), while 156 (42.2%) were hostellers. Regarding nutritional status, 119 (32.2%) of the participants had a normal BMI, whereas 97 (26.2%) were obese and 90 (24.3%) were overweight; 64 (17.3%) were underweight.

Among the 370 participants, majority were only partially satisfied with their body image 211 (57.0%), while nearly one-quarter reported being highly satisfied 91 (24.6%). However, 68 (18.4%) participants expressed dissatisfaction with their body image, indicating a notable proportion with negative body image perception. (Figure 1)

The study participants had various levels of self-esteem, as evidenced by the fact that 80 (22%) of them had low self-esteem and the remaining 290 (78%) had high self-esteem. (Figure 2)

Age showed a statistically significant association with both self-esteem and body image. Lower self-esteem was more commonly reported among participants aged between 21–22 years, while students aged between 18–20 years age group had a normal self-esteem ($p = 0.001$). Body image perception also varied significantly with age; majority of the participants in the age group 23–24 years were partially satisfied ($p = 0.001$). Gender did not show a significant association with neither self-esteem nor body image, indicating comparable levels across males and females. Residence and BMI were significantly associated with both self-esteem and body image. Day scholars reported lower self-esteem and higher body image dissatisfaction compared with hostellers ($p < 0.05$). BMI showed a strong association, with overweight and obese participants exhibiting lower self-esteem and greater body image dissatisfaction ($p = 0.001$). (Table 2)

There was a statistically significant association observed between body image perception and self-esteem of the participants ($p=0.001$). (Table 3)

Table 4 shows the correlation between hours spent in social media and self-esteem with body image perception, there was a strong positive correlation between hours spend on social media with body image perception ($r=0.6$) and also a moderate positive correlation exists between self-esteem and body image perception and they were statistically significant ($r=0.4$).

DISCUSSION

A total of 370 undergraduate medical students participated in the present study, of whom 97 (26.2%) were obese and 90 (24.3%) were overweight. In contrast, Virk A et al. [11] reported a lower prevalence, with 20% of students having a BMI ≥ 25 kg/m². The current study's considerably larger percentage of overweight and obese participants may be a result of lifestyle factors such as sedentary behaviour, eating habits, and stress related to school.

In the present study, 211 participants (57.0%) were partially satisfied with their body image, 91 (24.6%) were highly satisfied, and 68 (18.4%) were dissatisfied, indicating that only a smaller proportion had negative body image perception. In comparison, Virk A et al. [11] reported greater dissatisfaction, with 62.8% highly dissatisfied and an overall 73.2% showing partial or high satisfaction levels. Subramaniam S et al. [13] also observed body image misperception in 53.7% of females and 46.3% of males. Similarly, higher levels of dissatisfaction have been documented in other studies across different populations. Moehlecke M et al. [14] reported 45% dissatisfaction among adolescents, while Sihag R et al. [15] found 54% among newly joined female medical students. Shah PV et al. [16] documented an even higher prevalence of 69.8% in medical students. Radwan H et al. [17] reported that 81% of university students were dissatisfied with their body image and Silva LP et al. [18] observed dissatisfaction rates of 59.8% among males and 55.2% among females. Overall, the findings of the present study indicate comparatively lower body image dissatisfaction than earlier reports, although a considerable proportion of participants still experience dissatisfaction, which may be influenced by psychosocial environment, lifestyle factors, and sociocultural pressures.

In the current study, 80 participants (22%) had low self-esteem. This is consistent with Shah PV et al. [16] finding low self-esteem in 19.6% of participants and Virk A et al. [11] reporting a similar prevalence of 21.6%. These same results show that approximately one-fifth of medical students frequently have low self-esteem. Using the Rosenberg Self-Esteem Scale, Pop C et al. [19] found a substantially lower prevalence of just 1.87%, indicating a far better self-esteem level in their study sample. Overall, the results of this study are consistent with the majority of Indian studies that demonstrate moderate levels of low self-esteem; however, variances between studies may be explained by changes in population characteristics, stress levels, academic environments, and evaluation instruments.

Lower self-esteem was more frequently observed among students aged 21–22 years, whereas those aged 18–20 years predominantly had normal self-esteem ($p = 0.001$), indicating a significant association between age and self-esteem. Studies conducted among medical and undergraduate students in India have revealed similar trends. According to Rajesh SS et al. [20] students' self-esteem was adversely affected by growing academic burden and psychosocial pressures. A significant percentage of senior medical students had low self-esteem, which was connected to psychological stress and social anxiety, according to Patil SS et al. [21] Furthermore, body image issues and psychosocial stressors in young people are linked to lower self-esteem, according to Virk A et al. [11] These results imply that increasing academic demands, employment uncertainty, and emotional stress may accompany advancement to higher academic years, all of which may lead to a drop in self-esteem.

In the present study, body image perception was significantly associated with age, with most participants in the 23–24 years group reporting partial satisfaction ($p = 0.001$), suggesting that body image concerns tend to increase with advancing age. Sharma M et al. [3] reported a similar trend where, a significantly higher prevalence of abnormal body image perception among students aged ≥ 20 years (39.4%) compared to those aged < 20 years (28.4%) ($p = 0.033$), indicating greater dissatisfaction in older students. Prabhu S et al. [2] also demonstrated an age-related pattern, where early adolescents (10–13 years) showed minimal concern regarding body image, while older adolescents constituted the majority of those dissatisfied (78.66%). Overall, results from both current and earlier research consistently indicate that body image dissatisfaction rises with age, which may be explained by increased awareness of appearance standards, increased social comparison, and growing psychosocial pressures during late adolescence and early adulthood.

In the present study, residence and BMI were significantly associated with both self-esteem and body image. Day scholars reported lower self-esteem and higher body image dissatisfaction than hostellers ($p < 0.05$), indicating that the living environment may influence psychological outcomes. This is in line with Kapoor T et al. [22] where residential status significantly influenced self-esteem, with day scholars demonstrating comparatively lower self-esteem than hostellers. Overall, these findings suggest that day scholars may experience greater exposure to social comparison, family expectations, and appearance-related peer pressure, which in turn may contribute to poorer body image perception and reduced self-esteem compared to students residing in hostels, whereas hostellers benefit from greater independence and peer support, which may enhance self-esteem.

In the current study, BMI was found to have a strong and substantial relationship with psychological outcomes, with overweight and obese participants having lower self-esteem and more body image dissatisfaction ($p = 0.001$), showing that increasing BMI is associated with inferior self-image. In a similar vein, BMI and body image perception were found to be significantly correlated ($p < 0.001$) by Virk A et al. [11] It's interesting to note that they found body image dissatisfaction in both underweight and obese people. 14.4% of participants with a BMI of less than 18.5 kg/m² expressed either partial or whole dissatisfaction with their body image (3.2% slightly unhappy and 11.2% dissatisfied). Furthermore, 4% of those who were obese (BMI > 30 kg/m²) expressed dissatisfaction with their bodies. Overall, these findings suggest that deviations from normal BMI in either direction may negatively influence body image perception, although overweight and obesity tend to have a stronger and more consistent association with lower self-esteem and higher dissatisfaction, as also observed in the present study.

In the present study, body image perception showed a significant association with self-esteem ($p = 0.001$), with a moderate positive correlation ($r = 0.4$), indicating that better body image perception is associated with higher self-esteem. A strong positive correlation was also observed between time spent on social media and body image

perception ($r = 0.6$), suggesting increased media exposure may influence body-related perceptions. These findings are consistent with Diengdoh I et al. [23] where a significant positive correlation between self-esteem and positive body image dimensions and negative correlations with body dissatisfaction and weight preoccupation was reported. Similarly, Abdoli M et al. [24] demonstrated strong positive associations between self-esteem and body image ($r = 0.72$) and negative associations with body uneasiness, indicating that higher self-esteem is linked with better body satisfaction and lower psychological distress. Virk A et al. [11] also reported a moderate positive correlation between body image and self-esteem ($r = 0.394$, $p < 0.001$), while Pop C et al. [19] found a significant negative correlation between body image dissatisfaction and self-esteem, with body dissatisfaction explaining a meaningful proportion of self-esteem variance. Overall, these studies consistently indicate a bidirectional relationship where positive body image is associated with higher self-esteem, whereas dissatisfaction is linked with reduced self-esteem, with external influences such as social media playing a significant contributory role.

CONCLUSION

The study highlights a significant relationship between body image perception, self-esteem, BMI, residence, age, and social media usage among the participants. Majority of the students were only partially satisfied with their body image, and nearly one-fifth expressed dissatisfaction. Lower self-esteem was more common among participants aged 21–22 years, day scholars, and those with overweight or obesity. Body image dissatisfaction was also higher among overweight and obese participants. A significant positive association was observed between body image perception and self-esteem. Furthermore, increased time spent on social media showed a strong positive correlation with body image perception, emphasizing the psychosocial influence of media exposure on young adults.

STRENGTHS

The study specifically focused on undergraduate medical students, a population particularly vulnerable to academic stress and social pressures, making the findings important for planning student mental health interventions. The use of standardized and validated tools, including the Body Image Self-Assessment Questionnaire and the Rosenberg Self-Esteem Scale, strengthened the validity and comparability of the results. In addition, the study comprehensively assessed multiple factors such as socio-demographic characteristics, BMI, self-esteem, body image perception, and social media usage, providing a broader understanding of the determinants influencing body image and self-esteem among medical students.

LIMITATIONS

The use of convenience sampling may have introduced selection bias and reduced the generalizability of the findings to other populations. Additionally, data regarding body image, self-esteem, height, weight, and social media usage were self-reported by participants, which may have led to recall and social desirability bias.

RECOMMENDATIONS

Mental health support and counselling services should be enhanced in medical colleges to help students cope with body image dissatisfaction and low self-esteem. Routine student health evaluations may include screening for body image concerns, poor self-esteem and unhealthy eating behaviors to facilitate early detection and timely intervention. In addition, institutions should promote healthy lifestyle practices through activities focusing on balanced diet, regular physical activity, stress management and overall wellbeing. Parents, teachers and peers also need to be made aware of the psychological effects of unrealistic beauty standards and excessive social media exposure on young adults. Furthermore, future longitudinal and multicentric research is necessary to better establish the causal relationship between social media use, body image perception, and self-esteem over time.

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TABLES AND FIGURES:

Table 1: Distribution of study participants based on Socio-demographic profile (n=370)

Socio-demographic profile	Frequency (%)
Age (in years)	
18-20	147 (39.7)
21-22	114 (30.8)
23-24	109 (29.5)
Gender	
Male	183 (49.5)
Female	187 (50.5)
Residence	
Day scholar	214 (57.8)
Hosteller	156 (42.2)
BMI	
Underweight	64 (17.3)
Normal	119 (32.2)
Overweight	90 (24.3)
Obese	97 (26.2)
Hours spend in social media	
Mean (SD) hours spend in social media	03.41(01.25)

Table 2: Association of body image and self-esteem with Socio-demographic variables (n=370)

Socio-demographic variables	Self esteem				Body image				
	High (n=29)	Low (n=80)	χ ² value	p value	Highly satisfied (n=91)	Partially satisfied (n=211)	Dissatisfied (n=68)	χ ² value	p value
Age (in years)									
18-20	130	17	29.286	0.001*	57	63	27	48.150	0.001*
21-22	70	44			21	61	32		
23-24	90	19			13	87	09		
Gender									
Male	147	36	0.812	0.367	48	108	27	3.237	0.198
Female	143	44			43	103	41		
Residence									
Day scholar	160	54	3.907	0.048*	75	96	43	36.534	0.001*
Hosteller	130	26			16	115	25		
BMI									
Underweight	54	10	81.375	0.001*	24	24	16	25.932	0.001*
Normal	111	08			21	68	30		
Overweight	80	10			20	64	06		
Obese	45	52			26	55	16		

Chi-square test, *p<0.05, statistically significant

Table 3: Association between body image perception and self-esteem among the participants

Body perception image	Self esteem		Chi-square value	p value
	Low	High		
High	24	67	17.98	0.001*
Partially	25	186		
Dissatisfaction	31	37		

Table 4: Correlation between hours spent in social media and self-esteem with body image perception

Variables	r value	p value
Hours spend in social media	0.6	0.001*
Self esteem	0.4	0.001*



Figure 1: Distribution of Body image perception among the participants (n= 370)

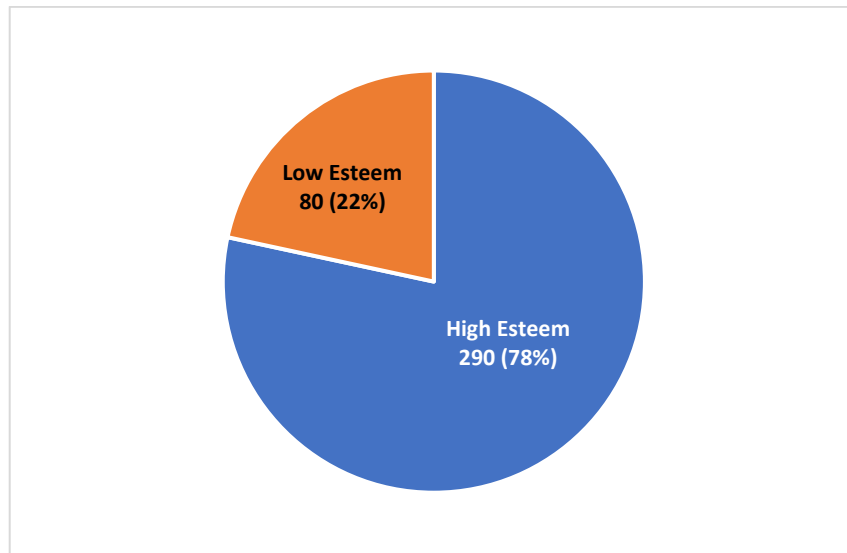


Figure 2: Distribution of self-esteem among study participants (n=370)