



FACTORS ASSOCIATED WITH BODY IMAGE PERCEPTION AMONG LATE ADOLESCENT FEMALE STUDENTS IN A SOUTHERN COASTAL DISTRICT OF ANDHRA PRADESH - A CROSS-SECTIONAL STUDY.

Community Medicine

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ABSTRACT

Body image perception is the way a person feels about his/her body and it is ever-changing, and influenced by various factors. Adolescent girls try to lose or gain weight to attain the "ideal body". Body image perception is still naive, and this research is taken up to understand these unexplored areas. Materials and Methods: A cross sectional study was done among female students of degree college in Kakinada District during December 2022. Informed consent and ethical approval was taken. 100 Students were selected by simple random sampling and a semi-structured questionnaire was used to collect data on various factors associated with body image dissatisfaction. Body mass index (BMI) of the participants was calculated. Results: The mean (Standard deviation) age of students was 18.6 ± 2.02 . As per WHO BMI criteria for adolescents (18-19 yrs), 21% of girls were thin. Majority (71%) of students perceived their body image as normal. Approximately 35% of the students had wrong perceptions regarding their body image. Body image dissatisfaction was there among 36% of the girls. It was found that factors such as higher BMI, Internalization of thin body image ideals, media influence, appearance related pressures from peers, family were all significantly associated with body image dissatisfaction. Conclusions: This study establishes the fact that body image dissatisfaction affects adolescent girls to a great extent. Holistic strategies are needed for promoting the acceptance of the real body image.

KEYWORDS

Body image Dissatisfaction, late adolescents, BMI.

INTRODUCTION

Body image relates to a person's perceptions, feelings, and thoughts about his or her body. Adolescent girls are particularly vulnerable to body dissatisfaction due to the physiological, social, and psychological changes they are going through (1). These changes following puberty can strongly influence their body image and become more pronounced by late adolescence (2). Studies have shown that excessive concern about body weight, body image misconception, thinness as the ideal body shape, and internalization of sociocultural attitudes towards appearance are increasingly being witnessed among young girls (3).

Body image dissatisfaction (BID) is the negative perception of the weight and shape of one's body and it evolves from a complex interaction between psychological (personality, self-esteem), physical (body mass index), and cultural factors (social expectations and media messages). Perception of being overweight and dissatisfaction with body size, rather than actual weight appears to be a potent force behind girls' dieting and weight control behaviours. Such behaviour is related to negative physical and psychological changes and can lead to life-threatening conditions including disordered eating behaviours and disturbed eating patterns affecting the nutritional status and may also result in psychiatric illnesses like anxiety and depression (4).

There is a paucity of studies in India and gaps remain in our understanding of the factors responsible for the development of attitudes and behavior related to body weight and appearance among adolescent girls (5). Hence, this study aimed to assess the perception of body image and the proportion of girls dissatisfied with their body image, and the association of various factors with body image perception and dissatisfaction among late adolescent college girls.

MATERIALS & METHODS:

Study Setting:

This study was conducted in the Government Women's College at Kakinada district.

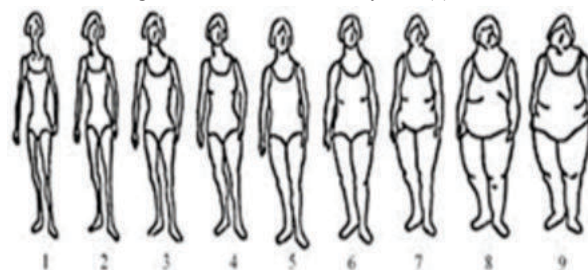
Study design: Observational Cross-sectional study

Study participants:

All Degree female students studying in college Inclusion criteria: Students aged 18 -19 years who are willing to participate in the study are recruited as the study participants. Exclusion criteria: Those who were not present at the time of the study are excluded. Study period:

The study was conducted from November to December 2022. Data collection technique:

Among 3 Government colleges present in Kakinada city, chit method was used to select a single Government College and Simple random sampling technique is used to select study participants. According to a study conducted by Rashmi B et al., in 2015, in Karnataka prevalence of body image satisfaction was 34.9%, considering 34.9% as a reference, based upon the formula $n = 4PQ / D^2$ (Absolute error 10%) a statistically adequate sample size was arrived to $90.8 \approx 100$ study subjects. Socio-demographic profiles of respondents were taken by self-administered, semi-structured questionnaire. The socioeconomic status of respondents was assessed using the Revised B. G. Prasad Scale 2022 (6). The Stunkard Figure Rating Scale (SFRS) is a pretested instrument used to assess self and ideal body sizes. It consists of nine silhouette figures that increase in size from very thin (a value of 1) to very obese (a value of 9). Self-body size is the number of the figure selected by participants in response to "Choose how you think you look." Ideal body size is the number of the figure chosen in response to "Choose your ideal figure". This scale has shown good validity and reliability. Later, body size satisfaction was calculated by subtracting the number of the figure indicated as the ideal body size from the number of the figure selected as the self-body size. (7)



Social-Cultural Attitudes Toward Appearance Questionnaire (SATAQ-4) was used to assess the internalization of appearance ideals and appearance-related pressures. The scale has 22-items and demonstrates good internal consistency and reliability. The thin/low body fat internalization and the muscularity/athletic internalization subscales of the SATAQ-4 questionnaire were used to assess internalization of thin and muscular appearance ideals, respectively and the family, peers, and media pressures subscale was used to measure appearance-related pressures from different social sources.

Each ideal is measured by five items scored on a 5-point Likert scale ranging from 1 (definitely disagree) to 5 (definitely agree). Higher scores are indicative of greater internalization of the respective appearance appearance-related pressures.(8)

Anthropometric measurements such as body weight and height were measured, and body mass index (BMI) was calculated according to the WHO standards for adolescents in our study, BMI $<-2sd$ was classified as thinness, $>+1SD$ as overweight, $>+1SD$ as obesity. The study was approved by Institutional Ethical committee. Appropriate permissions from the college were taken regarding the study. Informed consent was taken from each student and full confidentiality was assured.

Statistical analysis:

The data collected was analysed using IBM SPSS 20 Software. Descriptive statistics like Frequencies, and mean were measured and the Chi-square test was used, p-value (<0.05) was considered statistically significant. The association between the possible factors and body image dissatisfaction was assessed by using unpaired t-test. Those factors found significant by unpaired t test were further subjected to multivariate logistic regression analysis to identify factors that were significantly associated with body image dissatisfaction.

RESULTS

Out of the 100 female students who participated in the study, age of the students ranged from 18-19 years with a mean age $\pm SD$ of 18.6 ± 2.02 years. The majority of participants were 18 years old (52%) and 49% were travelling to college from a rural area. 41% belonged to the Middle class (according to Modified BG Prasad Classification 2022). 40% of participants' fathers had education up to high school and 50% of mothers had education up to 7th std. As per WHO BMI criteria for adolescents (18-19 yrs), 21% of girls were thin, 20% were overweight and 59% were normal. Approximately 65% of students perceived their BMI category correctly and 35% had wrong perceptions regarding their body image. Majority (71%) of students perceived their body image as normal, followed by lean (17%) and 12% felt that they were overweight.

Table 1 shows body image perception of female students according to BMI class. Out of the 21 thin female subjects, about 9 (42.8%) felt they were lean and 11 (52.4%) felt they were of normal weight and 1 (4.8%) felt overweight. Out of the 59 females who had normal BMI, 6 (10.1%) felt they were lean, 47 (79.8%) perceived their image as normal and 6 (10.1%) felt they were overweight. Similarly, out of the 20 who were overweight 2 (10%) felt they were lean, 13 (65%) felt normal, and 5 (25%) felt they were overweight. This association was found to be statistically significant. ($16.1 p = .002$). There was also a positive correlation between body image perception and BMI levels ($\rho = 0.741, p = 0.000$)

Table 1: Association of BMI and Body Image Perception.

BMI Class (Kg/m2)	Body Image Perception				Chi sq, P value
	Lean	Normal	Overweight	Total	
Thin	9 (42.8%)	11 (52.4%)	1 (4.8%)	21 (100%)	16.1 0.02
Normal	6 (10.1%)	47 (79.8%)	6 (10.1%)	59 (100%)	
Overweight	2 (10%)	13 (65%)	5 (25%)	20 (100%)	
Total	17 (17%)	71 (71%)	12 (12%)	100(100%)	

Area of residence and Socioeconomic status did not show any significant association with Body Image Perception. Body image perception among girls was found to be significantly associated with their mothers' literacy levels ($p < 0.05$) but not significantly associated with their fathers' literacy levels. Majority of participants whose mothers had an education more than high school perceived themselves to be of normal weight and participants with illiterate mothers perceived themselves to be of abnormal weight. Based on ideal body image, 74% aspired to have a normal BMI, while 26% wished to be thin. On enquiring about their impression of attractiveness (by opposite gender), the majority (73%) chose images corresponding to normal BMI, while 27% felt appearing heavier (overweight/obese)

would make them attractive. Regarding body image satisfaction, 64 (64%) were satisfied with their body image while 36 (36%) were Dissatisfied. Table 2 shows the distribution of image satisfaction according to BMI of the female students. About 9 (42.8%) of the thin females were satisfied while 12 (57.2%) were not satisfied with their body image perception. Among the 59 females with the normal BMI, around 44 (74.5%) were satisfied while 15 (25.5%) were not satisfied with their body and among 20 students who were overweight, 11(55%) were satisfied with their body image and 9 (45%) were not satisfied. This difference was found to be statistically significant. ($\chi^2 = 7.64, p = 0.02$)

Table 2: Association of BMI and Body Image Satisfaction

BMI Class (Kg/m2)	Body Image Satisfaction			Chi sq, P value
	Satisfied	Dissatisfied	Total	
Thin	9 (42.8%)	12 (57.2%)	21 (100%)	7.64 0.02
Normal	44 (74.5%)	15 (25.5%)	59 (100%)	
Overweight	11 (55%)	9 (45%)	20 (100%)	
Total	64 (64%)	36 (36%)	100 (100%)	

When the means were compared between satisfied and unsatisfied students, using unpaired t test the impact of social pressure on the internalization of a thin body image ideals, media influence and appearance related pressures from peers, family were found to be significantly associated with body image dissatisfaction. Internalization of a muscular body image ideals did not show any significant association. (Table 3).

Table 3: Association Body Image Satisfaction with the factors

Factors	Satisfied (mean $\pm$ SD)	Unsatisfied (mean $\pm$ SD)	P value
Internalization - Muscular body ideal	13.9 $\pm$ 3.7	14.6 $\pm$ 2.8	0.133
Internalization -Thin body ideal	11.9 $\pm$ 2.1	14.9 $\pm$ 2.2	0.02
Peer Pressure	9.4 $\pm$ 1.9	11.2 $\pm$ 2.1	<0.01
Family Pressure	8.4 $\pm$ 2.4	12.3 $\pm$ 2	0.03
Media Influence	7.8 $\pm$ 1.8	12.1 $\pm$ 1.6	<0.01

Table 4 shows multivariate logistic regression exploring the association of body image dissatisfaction. Factors having statistically significant association with body image dissatisfaction in unpaired t-test were included in the logistic regression. Students with peer pressure [AOR-1.13 (1.09- 1.15)], Internalization -Thin body ideal [AOR-1.05 (1.01- 1.08)], Media Influence [AOR-1.04 (0.9- 1.08)], higher BMI [AOR-1.02 (0.9- 1.05)], Family Pressures [AOR-1.01 (0.8- 1.04)] are more likely to be dissatisfied with their body.

Table 4: Association of Body Image Dissatisfaction with the factors by multivariate logistic regression.

Factors	AOR (95% CI)	P value
Internalization -Thin body ideal	1.05 (1.01- 1.08)	0.02
High BMI	1.02 (0.9- 1.05)	0.02
Peer Pressure	1.13 (1.09- 1.15)	<0.01
Family Pressure	1.01 (0.8- 1.04)	0.03
Media Influence	1.04 (0.9- 1.08)	<0.01

DISCUSSION

The current study was taken up to find body image perception and various factors associated with it. In the present study, almost 1/3rd of the study participants (35%) had abnormal body image perception similar to study done by Rashmi B et al in which it was 33.3% in female medical students in Karnataka.(9). Regarding body image satisfaction, 64% were satisfied with their body image while 36% were Dissatisfied. Similar rates of body image dissatisfaction have been found in studies conducted by Goswami S et al (33.3%) (10). The difference in prevalence can be due to the use of different scales/methods to assess body image perception and satisfaction. The difference in demographic characteristics between different regions of India can also contribute to the wide array of results.

In our study, thin females (21%) were more compared to overweight females (20%). A 59% of participants were normal weight. Similar results were found in the study conducted by Priya D et al., among female MBBS students in Mangalore(11).

In the present study, education status of mothers was found to be significantly associated with respondents' body image perception, wherein majority of girls of illiterate mothers perceived to be overweight when compared to those of literate mothers. In a study conducted by Shagar PS et al., it was found that respondents whose mothers received a lower level of education had 3.7 times greater risk of misperception of own weight status compared to respondents whose mothers received higher level of education (12). Majority of participants having mothers, who were illiterate, reported dissatisfaction with their body image. Whereas in study done on body image satisfaction among female college students by Goswami S et al., it was found that mother's education was inversely associated with the respondents' body satisfaction (10). Our study showed that increased socio-cultural pressure, higher BMI had significant association with body image dissatisfaction which is similar to the study done by Stice et al. (13). Students with Internalization -Thin body ideal, Media Influence are significantly associated to be dissatisfied with their body. The changing cultural context, transitional phase in dietary pattern, mass media, marketing and advertising, rapid urbanization and globalization in India have resulted in an inclination towards concept of thin body image which may be leading to dissatisfaction over body weight, further provoking body weight concerns and disordered eating behaviors among young girls (14).

The above findings also reflect the fact that body image satisfaction and opinions by family and peer group play an important role in body image satisfaction, which in turn may have played a major role in unhealthy weight changing eating patterns. Similar results have been found in studies conducted by Mallick N et al. (11).

CONCLUSION

This study establishes the harsh fact that body image perceptions and dissatisfaction affect adolescent girls to a great extent. There is also a tendency to favour thin body figures which is evident in the study. There was a high prevalence of abnormal body image perception. The findings of this study give us a deeper understanding of the problem and an insight into the changing trends when it comes to body image and the influence of media on young minds. With wide access to media, exposure to family and peer pressure, girls are more prone to alter their physical appearance to abnormal standards.

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Conflict of interest: Nil

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