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Risk of Eating Disorders and Body Shape Preoccupation among Undergraduate Medical Students

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Abstract:
Background: *Eating disorders are characterized by irregular eating habits and distress or concern about bodyweight or shape. Medical students are exposed to high levels of stress and burnout which acts as a risk factor for eating disorders.The aim of the study is to identify the risk of eating disorders and body shape concern among undergraduate medical students.*
Materials and Methods: *A cross sectional study design was used to collect data from the undergraduate medical students. Study instruments include proforma for age, gender, height, weight; Eating Attitude Test (EAT 26) and Body Shape Questionnaire (BSQ 16). Analysis of the data was done using SPSS software.*
Results: *A total of 146 students were included in the analysis. The mean age of the students is 19.25 years. The sample consists of 57.5% males and 42.5% females. The mean Body Mass Index (BMI) is 22.06 kg/m^2. On Eating attitude test, 10.3% scored above 20 which indicates a risk for eating disorders. On Body Shape Questionnaire, 34.3% had concern with body shape.*
Conclusion: *The study shows the presence of body shape concern and impaired eating attitudes among undergraduate medical students. Thus, education regarding eating disorders and their early identification will prevent the onset of other mental and behavioural problems in future.*
Keywords: *Eating disorders, Eating attitudes, Body shape concern.*

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I. Introduction

Eating disorders are characterized by persistent disturbances in eating behaviors that significantly interfere with afflicted individual's life by negatively impacting physical health or medical status, impairing psychosocial functioning and causing intense distress. [1]Eating disorders are serious health issues and affect people of all ages but commonly seen among adolescents and students.[2]

Globally, in the general population, the point prevalence of eating disorders is 5.7% in women and 2.2% in men, according to a systematic review examining data from 2000 to 2018. [3]This prevalence sharply increases among medical students, with a recent systematic review and meta-analysis estimating a global prevalence of Eating Disorders risk among medical students at 10.4%. [4]

Eating disorders have been associated with disturbances of body image, eating attitude disorders, and other psychiatric morbidities. [5], [6]Eating disorders have their onset at any stage in life but usually occurs during the adolescence or young adulthood. Anorexia nervosa, bulimia nervosa, and binge eating disorder are the most common eating disorders. [7]It was earlier thought to be a Western problem but now, eating disorders are seen in adolescents of all ethnic groups and more than three fourths of these cases begin during adolescence. [8]

Eating disorders can be correctly diagnosed by a psychiatrist and regular screening with questionnaires as well as interviews followed by referral to a psychiatrist can help in early diagnosis and treatment of these illnesses. Increasing awareness about the disorder among the youth can help in primary and secondary prevention of the disorder.[9]

This study aims to study the risk of eating disorders and body shape preoccupation in undergraduate medical students.

II. Material And Methods

The study is a cross sectional observational study which was conducted during July and August, 2022. Convenience sampling was used. Undergraduate medical students pursuing MBBS course in Andhra medical college were included. The students were approached at their hostel and those who gave consent to participate in the study were asked to fill the form which included details regarding age, gender, weight and height. They also filled the self-report questionnaire of Eating Attitudes Test (EAT 26) and Body Shape Questionnaire (BSQ 16). The confidentiality of their responses to the self- report questionnaire was assured. The students were asked to

give the responses completely and honestly. Those who did not fill the questionnaires completely were excluded from the study.

Study Design: Cross sectional observational study
Study Location: This study was done in Andhra Medical college, Visakhapatnam, Andhra Pradesh, India
Study Duration: July,2022 to August, 2022.
Sample size: 195 students
Subjects & selection method: The study population were Undergraduate Medical students pursuing their MBBS in Andhra Medical College. The students who filled the questionnaires completely were included in the study.

Inclusion criteria:
1. All the students who completed the questionnaire completely were included in the study.

Exclusion criteria:
1. The students who refused to fill the questionnaire.

Procedure methodology

After written informed consent was obtained, a well-designed questionnaire was used to collect the data of the recruited students.The questionnaire includedage, gender, height and weight.

The body mass index (BMI) was calculated as the weight in kilograms divided by height in meters squared.

The students were asked to fill the two questionnaires namely, Body Shape Questionnaire (BSQ 16) and Eating Attitude Test (EAT 26).

Statistical analysis

Data was analyzed using SPSS version 25. Mean and standard deviation was calculated for continuous variables. For categorical variables, frequency and percentages were calculated. Pearson correlation was done to find the correlations between EAT 26 score and BSQ 16 score.

III. Result

195 students were approached out of which 146 students filled the questionnaire completely. The incomplete questionnaires were excluded from the analysis.

Out of 146 students included in the analysis, 57.5% (n=84) were females and 42.5% (n=62) were males. The mean age of the sample was 19.25 years. The mean Body Mass Index (BMI) of the sample is 22.06 kg/m^2. The students were classified into underweight (BMI less than 18.5), normal (BMI= 18.5 to 24.9), overweight (BMI= 25 to 29.9), obese (BMI greater than 30) based on their BMI. (Table 2)

Table 1 Mean and standard deviation of continuous variables

	MEAN	STANDARD DEVIATION
AGE	19.25 years	1.02
HEIGHT	165.42cm	8.7
WEIGHT	60.5kg	11.7
BMI	22.06kg/m^2	3.4
EAT TOTAL SCORE	9.98	7.3
BSQ 16 TOTAL SCORE	35.9	16.7

Table 2 Classification of students based on their Body Mass Index

CATEGORY	**FREQUENCY**	**PERCENTAGE**
UNDERWEIGHT	Females-12 Males-7 Total-19	Females-8.2% Males-4.8% Total-13%
NORMAL	Females-63 Males-41 Total-104	Female-43.1% Male-28.1% Total -71.2%
OVERWEIGHT	Females-7 Males-11 Total-18	Female-4.8% Male- 7.5% Total-12.3%
OBESE	Females-2 Males-3 Total-5	Female- 1.4% Male- 2.1% Total-3.4%

On Eating Attitude Test (EAT 26), 10.3% of the students scored above 20 indicating that they are at risk for eating disorders out of which 5.5% were females and 4.8% were males. The percentage of students answering yes to various behavioural questions of EAT 26 is given in table 3.

Table 3. Response to Behavioural questions of EAT 26

BEHAVIOURAL QUESTION	PERCENTAGE
H/O binge eating	53.4%
H/O induced vomiting	13.7%
H/O Use of laxatives, diet pills or diuretics	4.1%
H/O exercising more than 1 hour per day	31.5%
H/O loss of 20 pounds or more in past 6 months	19.2%

On Body Shape Questionnaire (BSQ 16), the students were asked to answer based on their feelings about their appearance in the past 4 weeks. Based on the scores, they were classified as no concern (less than 38), mild concern (38-51), moderate concern (52-66), marked concern (greater than 66). 34.3% students had concern with their body shape. (Table 4)

Table 4. Classification based on Body Shape Questionnaire score

CATEGORY	FREQUENCY	PERCENTAGE
NO CONCERN	Female-54 Male-42 Total -96	Female-37% Male- 28.8% Total-65.8%
MILD CONCERN	Female-16 Male-10 Total-26	Female-11% Male-6.8% Total-17.8%
MODERATE CONCERN	Female-9 Male-7 Total-16	Female-6.2% Male-4.8% Total-11.0%
MARKED CONCERN	Female-5 Male-3 Total-8	Female- 3.4% Male-2.1% Total-5.5%

Pearson correlation was done, and positive correlation was seen between BMI and Body Shape Questionnaire scores with p value = 0.001 and Pearson's correlation = 0.378. A positive correlation was found between Eating Attitude test scores and Body shape Questionnaire scores with p value = 0.001 and Pearson correlation = 0.374.

Table 5. Pearson's correlation between Body shape questionnaires scores, Impaired eating attitudes, and BMI

	BMI	EATING ATTITUDE TEST SCORE
BODY SHAPE QUESTIONNAIRE SCORES	0.378 (p=0.001)	0.374 (p=0.001)

IV. Discussion

The mean age of the study sample was 19.25 years which was in keeping with the average age for five consecutive years of MBBS batches. There were 57.5% females and 42.5% males. Mean BMI was 22.06 kg/m^2 which falls under the normal category according to WHO classification. 13% of the students were underweight out of which 8.2% were females. This can be attributed to the preference of thin body figure by females.

The risk of eating disorders in the students using EAT 26 was found to be 10.3% which is similar to the findings in a global meta- analysis which concluded that the pooled prevalence of eating disorders among medical students was 10.4%.[4] The study by Ramaiah et al reported that the prevalence of eating disorders among medical students was 16.9%.[12] According to the study done by Nivedita N et al, 13.68% of the students had impaired eating attitudes using EAT 26.[13] The impaired eating attitudes was similar in females and males which suggests that males are also at risk for developing eating disorders and must be thoroughly screened.

On BSQ 16 questionnaire, 34.3% were found to have body shape concern with 5.5% having severe/marked concern. The results were similar to the study by Shruti Iyer et al in which 6.6% of the students had severe body shape concern.[9] Body shape concern was higher among females (20.5%) while compared to males (13.7%).

A positive correlation which is statistically significant was observed between BMI and Body shape concern which means that the students with higher BMI will have more body shape concern. This may be explained by the desire for lean body and thus an increased concern regarding body shape among those with higher BMI.

A positive correlation which is statistically significant was found between Eating Attitude Test score and Body Shape concern which means that higher the body shape concern higher the risk to developing eating disorders. This finding can be explained by Allocentric Lock theory, according to which, the risk of eating

disorders increases when there is deficit in the interaction between allocentric and egocentric representations of body shape. The individual is said to be locked to the allocentric representation of the body in the long-term memory. [14]

There are certain limitations of the study in that it was conducted in a single medical college in urban area and the findings cannot be generalised. Self- report questionnaire was used which has higher chance of reporting bias. The study instruments which were used are not validated in the local population.

V. Conclusion

The study found that there is risk of eating disorders in undergraduate medical students which is similar to the global prevalence of eating disorders. Body shape concern is also found to be present in about one third of the students and is associated with impaired eating attitudes. Thus, the students must be educated regarding eating disorders which can help in identifying them early and institute intervention at the earliest to reduce other mental and behavioural problems associated with them.

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