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Relationship of Obesity on Self-esteem and Academic Performance Among Undergraduate Students

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ABSTRACT

Introduction: Overweight is a major global health concern that has a wide-ranging impact on people's life, particularly physical health, psychological wellness, and academic achievement. Obesity can have a substantial impact on under graduates' physical well-being, self-esteem, and their academic achievement. **Material and Methods:** A comparative cross-sectional research was carried out at Liaquat University of Medical & Health Science Jamshoro. Subjects of the study were Students of BS Nursing (Generic), Doctor of Pharmacy and Doctor of Physiotherapy, both males and females were included, and the sample size was 351. The Questionnaire was used as a data collecting tool consisting of three sections. Section One Demographic variables. Section 2 consists of Academic Performance Scale while Section 3 consists of Rosenberg Self-esteem Scale. **Results:** Data was analyzed by statistical package for social sciences version (SPSS) 23 Latest version. among351 undergraduate students. The mean age was 21.6 years, 34.8% females and 65.2% males. There was a significant association between self-esteem and BMI, with low self-esteem linked to higher BMI (p=0.016). **Conclusion:** Study revealed a significant association between BMI and academic performance, with students performing excellently more likely to have lower BMI and poorer academic performance association with higher BMI.

INTRODUCTION

A body mass index (BMI) of 30 or greater is considered obese, and it has grown to be a serious worldwide health concern The World Health Organization asserts that, since 1975, the prevalence of obesity has quadrupled globally. Over 340 million kids and teenagers were considered fat by 2016, while 39 million kids were overweight or obese in 2020. In2020, 39 million children were overweight or obese, and by 2016, over 340 million children and adolescents were considered obese.[1] Obesity is a major avoidable risk factor for many serious diseases, such as diabetes, stroke, and several types of cancer, including prostate, ovarian, and breast cancer. Obesity has an influence on mental health in addition to physical health. Research shows that compared to those of normal weight, persons who are obese have a 55% higher chance of experiencing depression.[2] Another research discovered a connection between

children'sacademicsuccessandfat.[3] Self-esteem, or a person's subjective assessment of their own value, has also proven to be impacted by obesity.[4] Self-esteem is a measure of one's attitude and emotional assessment of oneself. Numerous variables, including emotional experiences, physical appearance or weight, socioeconomic situation, mental health conditions, genetics, or bullying, can contribute to low self-esteem.[5] According to a Jordanian study, obesity significantly affects university students' academic performance and sense of self.[6] Obesity significantly affects medical students' academic performance and self-esteem, according to a new study of female medical graduates.[7] Prior research at Taibah University Madinah found that female medical students frequently experience body dissatisfaction, which is strongly correlated with a high body mass index (BMI).[8] Therefore, obesity is a condition that has a significant detrimental effect on human health and has grown to be a significant regional and worldwide health issue. International studies and interviews, however, indicate that obese persons might not consider their weight to be a major issue. Additionally, there is evidence that fewer than half of obese patients receive weight loss advice from their doctors.[9] Another research of Saudi female college students revealed a strong inverse relationship between BMI and self-esteem.[10] Indian research revealed no relationship between academic achievement and one's physical self-concept.[11] A systematic analysis of a study conducted among Saudi Arabian and Indian undergraduate medical students revealed no correlation between academic achievement and BMI.[12] Despite the growing concern about obesity, there is a limited amount of research focusing on Its prevalence among medical students, a critical group given their future roles in healthcare and their influence on their countries' development. Additionally, there is a scarcity of studies examining how obesity affects self-esteem and academic performance among university students.

OBJECTIVE

This study aims to find the relationship of obesity with self-esteem and academic performance among undergraduate students.

Research Hypothesis

H_0: There is no relationship of obesity with self-esteem and academic performance

METHODOLOGY

Study Settings

A comparative cross sectional study design was used. The study utilized a non-probability convenient sampling technique. The study was conducted at the Liaquat University of Medical and Health Sciences (LUMHS) Jamshoro. The sample size of 351 was used.

Inclusion Criteria

- Students of BS Nursing (Generic), Doctor of Pharmacy and doctor of physiotherapy
- Those who were willing and consenting to participant in study
- Both Male and female

Exclusion Criteria

- Non consenting participants.
- Students diagnosed with psychiatric illness.
- Those who study in MBBS and BDS departments

Data Collection procedure

After obtaining approval from Ethical Review Committee (ERC), the researcher had contacted each student. The questionnaires were distributed to the participants. Participants were assigned informed consent, which will be on the first page of the questionnaire.

Data Collection Tool

A questionnaire was employed in this study to gather data. Three sections makeup the data collecting tool. Section one asks demographic information like age, gender, and level of educational level. The academic Performance is covered in Section 2. With an internal consistency of 0.89 and test-retest reliability of 0.85, the Academic Performance Scale (APS) was employed. while the Rosenberg Self-Esteem Scale is included in section 3. Ten questions measuring self-esteem made up the scale. A four- point Likert scale, with 1 denoting "strongly disagree" and 4 denoting "strongly agree," is used to score 10 items.

Data Analysis

The version 26.0 of the statistical package for social sciences (SPSS) was used for analyzing the data.

RESULTS

Table1

Mean age, height, weight and BMI of undergraduate students

Statistics	Age	Height	Weight	BMI
Mean	21.61 years	5.21 meters	76.01 kg	29.66 kg/m^2
Std. Deviation	1.81 years	0.361 meters	5.57 kg	1.50 kg/m^2

The 351 undergraduate students' average age was 21.61 years, with a 1.81-year standard deviation. They were 5.21 meters tall on average, with a 0.361-meter standard deviation. The average body mass index (BMI) was 29.66 kg/m², with a standard deviation of 1.50 kg/m², and the average weight was 76.01 kg, with a standard deviation of 5.57 kg.

Table 2

Gender distribution of undergraduate students

Gender	Frequency	Percent
Female	122	34.8%
Male	229	65.2%
Total	351	100.0%

Gender distribution, indicating that 34.8% (122) of the students were female, and 65.2% (229) were male

Table 3

Academic disciplines of undergraduate students

Discipline	Frequency	Percent
BS Nursing Generic	117	33.3%
Doctor of Physiotherapy	120	34.2%
Pharm D	114	32.5%
Total	351	100.0%

According to the student's academic disciplines, 33.3% (117) were of BS Nursing Generic, 34.2% (120) were Doctor of Physiotherapy, and 32.5% (114) were Doctor of Pharmacy.

Table 4

Self-esteem association with BMI among undergraduate students

Variables		Body mass index, BMIkg/m^2 25-29.9kg/m^2	Body mass index, BMIkg/m^2 30-35kg/m^2	Total	p-value
Self-stem	Low self-stem	21 6.0%	42 12.0%	63 17.9%	0.016
	Normal self-stem	135 38.5%	144 41.0%	279 79.5%	
	High self-stem	7 2.0%	2 0.6%	9 2.6%	
Total		163 46.4%	188 53.6%	351 100.0%	

On the association between self-esteem and BMI among 351 undergraduate students, it has been indicated that 17.9% of students with low self-esteem had a BMI between 25-29.9 kg/m², while 12.0% had a BMI between 30-35 kg/m². For those with normal self-esteem, 79.5% had BMIs in these ranges, with 38.5% in the25-29.9 kg/m² range and 41.0% in the 30-35 kg/m² range. Only 2.6% of students with high self-esteem had BMI in these ranges. The p-value of 0.016 suggests a significant association between self-esteem and BMI.

Table 5

Academic performance association with BMI among undergraduate students

Variables		Body mass index (BMI kg/m^2) 25-29.9kg/m^2	Body mass index (BMI kg/m^2) 30-35kg/m^2	Total	p-value
Overall academic performance	Excellent	96 27.4%	79 22.5%	175 49.9%	0.001
	Good	51 14.5%	71 20.2%	122 34.8%	
	Satisfactory	16 4.6%	26 7.4%	42 12.0%	
	Needs improvement	0 0.0%	12 3.4%	12 3.4%	
		163 46.4%	188 53.6%	351 100.0%	

DISCUSSION

In the present study among 351 undergraduate students, the mean age of respondents was 21.61 years, with a standard deviation of ±1.81 years. (Alatupa et al., 2020) conducted study from teen to adulthood, this study showed that academic achievements of teen agers & adult is significantly associated with obesity.[13] The findings are very similar to the present study. The present study indicated that the mean weight is 76.01kg, with a standard deviationof±5.57 kg, and the average Body Mass Index (BMI) was 29.66kg/m², with a standard deviation of ±1.50kg/m². A study showed that the sample size were 362 students participated in the study, out of which 77.9 percent of the students were male, and 22.1 percent of the students were female. As for as BMI is concerned, 10.2 percent students were Under weight (<18.5), 68.5 percent students were Normal (18.6-25) 10.5 percent students were Overweight (25.1-30) and 10.8 percent students were Obese (>30). Many other studies indicated the similar results as the present study.[14,15] The current study findings

indicated the association between self-esteem and BMI among 351 undergraduate students, 17.9% of students with low self-esteem had a BMI between 25-29.9 kg/m², while 12.0% had a BMI between 30-35kg/m². For those with normal self-esteem, 79.5% had BMI in these ranges, with38.5% in the 25-29.9kg/m² range and 41.0% in the 30-35kg/m² range. Only 2.6% of students with high self-esteem had BMI in these ranges. The p-value of 0.016 suggests a significant association between self-esteem and BMI. Many Researches has shown a significant relationship between Body Mass Index (BMI) and self-esteem among undergraduatestudents.[16-17] The present study findings showed overall academic performance among undergraduate students n=351 by the Pearson correlation coefficient of obesity and academic performance is statistically significant associated and a p-value of 0.001. According to a research, senior college students' BMI and academic achievement, as measured by their final grade, are significantly correlated.[18] another study showed that there was a significant negative relationship between obesity and academic achievement. Both studies have different findings may be due different setup.[19]

CONCLUSION

A significant association with BMI was observed. Students with excellent academic performance were more likely to have a BMI in the lower range of 25-29.9kg/m², while those with poorer performance were more likely to have higher BMIs. This association suggests that higher BMIs may negatively impact academic performance. Overall, the findings highlight the complex interplay between obesity, self-esteem, and academic performance, emphasizing the need for supportive interventions that address these inter connected aspects of students' well-being.

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