



A STUDY TO MEASURE THE LEVEL OF SELF-ESTEEM AMONG UNDERGRADUATE STUDENTS WITH OBESITY IN JIPMER, PUDUCHERRY.

Psychiatry

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ABSTRACT

Background Recent lifestyle changes in India, such as increasing intake of calorie-dense meals and sugar-sweetened beverages, as well as high levels of physical inactivity and sedentary behavior, may have contributed to the rise in obesity. Obesity in young people not only increases lifetime cardiovascular risk, but it is also linked to psychological danger. Furthermore, there is limited data on self-esteem among Indian college students, particularly in relation to obesity and self-esteem levels. Therefore the present study was conducted to find out the self-esteem level among obese undergraduate students. **Methods** This cross sectional study was done between July 2022 and August 2022 among undergraduate students. Screening was done with 249 students of undergraduate allied health sciences and nursing using the questionnaire with basic demographic variables with physical parameters like height and weight which was measured in person with the standard instruments. After screening the Rosenberg self-esteem scale administered to only those students measure BMI ≥ 25 through their email with instructions. Then the self-esteem score was assessed by their response to the questions. **Results** Around 16.3% students were obese and 13.8% were overweight. In obese students 40.4% have low self-esteem and the remaining 59.6% are having normal self-esteem. No significant association found between self-esteem level and the demographic variables among obese students. **Conclusion** The study discovered a 13.8%/16.3% prevalence of overweight/obesity among undergraduate students. We investigated the relationships between demographic characteristics and self-esteem level, which revealed that there is no relationship between demographic variables and self-esteem level. Undergraduate students can be taught how to improve their self-esteem regardless of their BMI, as well as how to live a healthy lifestyle.

KEYWORDS

Obese, Undergraduate students, JIPMER, Rosenberg Self-esteem scale.

INTRODUCTION:

In older days, a fat child was considered as healthy. But now the total concept has changed. A major cause of concern started to prevail among the elders and the young minds of the Z generation. They are thinking that being overweight will definitely affect their confidence level during a social gathering [1-2]. If being an overweight is affecting their confidence level, here comes a question about the people who are obese? Nowadays, self-effacement is common. Because of this many youngsters are facing the harsh reality. The social stigma associated with it brings the potential for psychological adversity. People with high self-esteem are able to act independently, assume responsibility, tolerate frustration and attempt new tasks with confidence than people with low self-esteem.

Especially in college age students, obesity plays a major role in self-perception. Obese people are at particular risk of low perceived competence in sports, physical appearance, and peer engagement. Not all obese child is affected but the people who are not obese are also affected. The reason for this is still unknown. This concept typically relates to the adolescent teenage college age students [3]. Many studies have been conducted in developed as well as in developing countries. "The majority of studies conducted gave importance to the non-communicable diseases like hypertension, coronary artery disease, etc. but they ignored the fact that obesity is related to mental health [4-5]. This study was aimed to assess self-esteem level particularly in college age students whose Body mass index ≥ 25 as per Asian criteria of interpreting body mass index. The result of this study will give a clear mind set of the obese college students about their self-esteem. [10]

OBJECTIVES:

Primary objectives:

1. To assess the level of self-esteem among undergraduate students with obesity in JIPMER, Puducherry.

Secondary objectives:

1. To measure the proportion of obesity among undergraduate students in JIPMER, Puducherry.
2. To associate the level of self-esteem with their demographic variables among undergraduate students with obesity in Puducherry.

MATERIALS AND METHODS

Setting and participants

This was a cross sectional study conducted in the JIPMER College for the undergraduate students. The data collection period is between July 2022 and August 2022. Around 1800 undergraduate students are studying in various courses including MBBS, Allied Health Sciences and Nursing. Approximately 600 students are studying in allied health sciences and nursing courses. This study protocol was approved by the Undergraduate Research Monitoring Committee (JIP/UGRMC/GJSTRAUS/2022/22) and Institute Ethics Committee (JIP/IEC/2022/092), JIPMER.

Students aged between 18 to ≥ 25 years, who were willing to participate in the study were included from nursing and allied health sciences. Total 289 students were included in the study for screening in phase 1 and those who measured BMI of ≥ 25 were included for phase 2, with their informed consent from the courses of Allied Health Sciences and Nursing. Prior permission obtained from both departments to conduct the study.

Procedure:

Phase 1:

All the study participants were obtained written consent after explaining the study procedure. Screening was done using the questionnaire with basic demographic variables with 289 students who were available during data collection period. Participants height was measured using portable stadiometer in bare foot ensuring standing straight with calves, upper back and head against the wall with head is level with a horizontal Frankfurt plane at nearest 0.1cm. Weight was measured in standing position wearing light weight clothing in barefoot using digital weighing scale set at nearest 100mg. Body Mass Index will be calculated as weight (in kilograms) divided by the square of your height (in meters). Obesity ($\geq 25\text{kg/m}^2$) was determined by following Asian cut-offs of BMI classification.

Phase 2:

After the screening, the students with BMI of ≥ 25 were administered google form with Rosenberg self-esteem scale through their Email with instructions. Then the self-esteem score was assessed by their response to the questions. After receiving the response from participants, the handouts on tips to improve self-esteem was posted through Email.

Statistical analysis

Analysis was done using SPSS software version 22.0. The distribution of categorical variables were expressed as frequencies and percentages. The continuous variables were expressed as mean, standard deviation. t-test was used to find relationship between physical parameters like height and weight and self-esteem variables. Using Chi square test the association level of self-esteem with physical parameters were calculated for individuals whose BMI is ≥ 25 .

RESULTS:

A total of 289 students were included in the study from the Allied Health Science and Nursing courses. The majority of the students come under the category of normal BMI ($n=143$). From 289 students, 47 students were obese based on the Asian criteria. The students whose BMI is ≥ 25 are mostly females ($n=41$). Among 47 students whose BMI is ≥ 25 , 19 individuals are having low self-esteem (Table 1-2).

Table 1: Frequency and percentage of BMI measure of undergraduate students. N=289

Sl.No	BMI	No of students	No of students in percentage
1	Underweight(<18.5)	59	20.4
2	Normal(18.5-22.9)	143	49.5
3	Overweight(23-24.9)	40	13.8
4	Obese(≥ 25)	47	16.3

Table 2: Self-esteem level among undergraduate students with obesity. n=47

Sl.No	Self-esteem level	No of students	No of students in percentage
1	Low	19	40.4
2	Normal	28	59.6

Majority students are non-vegetarian and 4 people are reported to be following vegan diet. The cardinal point to be noted is that 40 individuals are falling into the category of overweight. Secondary to this, majority of students ($n=118$) are having average level of physical activity. 4 students had reported that they are having medical condition which prevents them from performing exercise. In the group of 289 students, 277 students are having the habit of eating junk foods at regular intervals and 86 students reported that they are having binge eating habit (Table 3-4).

Table 3: Demographic variables among undergraduate students in JIPMER, Puducherry. N=289

Sl.No	Demographic variables	Frequency	Percentage (%)
1	Age		
	18-21	217	75.1
	21-24	70	24.2
	≥ 25	2	0.7
2	Gender		
	Male	51	17.6
	Female	238	82.4
3	Course of study		
	Allied Health Sciences	53	18.3
	Nursing	236	81.7
4	Domicile		
	Urban	187	64.7
	Rural	102	35.3
5	Grade level		
	1st year	116	40.1
	2nd year	99	34.3
	3rd year	21	7.3
	4th year	53	18.3
6	Diet		
	Veg	26	9
	Non veg	259	89.6
	Vegan	4	1.4
7	Current level of fitness		
	Perfect	23	8
	Good	115	39.8
	Average	118	40.8
	Poor	25	8.7

	Unfit	8	2.8
8	Medical limitations present		
	Yes	4	1.4
	No	285	98.6
9	Actively participate in favourite sports		
	Yes	92	31.8
	No	79	27.3
	Sometimes	118	40.8
10	Junk food		
	Yes	277	95.8
	No	12	4.2
11	Binge eating		
	Yes	86	29.8
	No	203	70.2

Table 4: Association of self-esteem level with the demographic variables among obese students. n=47

Sl.No	Demographic Variables	Low	Normal	P value
1	Age			
	18-21	12(63.2%)	23(82.1%)	
	22-24	6(31.6%)	5(17.9%)	0.214
	≥ 25	1(5.3%)	0(0%)	
2	Gender			
	Male	4(21.1%)	2(7.1%)	0.204
	Female	15(78.9%)	26(92.9%)	
3	Course of study			
	AHS	4(21.1%)	1(3.6%)	0.142
	Nursing	15(78.9%)	27(96.4%)	
4	Domicile			
	Urban	14(73.7%)	21(75%)	1.000
	Rural	5(26.3%)	7(25.0%)	
5	Grade level			
	1st year	8(42.1%)	12(42.9%)	
	2nd year	3(15.8%)	5(17.9%)	
	3rd year	4(21.1%)	1(3.6%)	0.305
	4th year	4(21.1%)	10(35.7%)	
6	Diet			
	Veg	1(5.3%)	0(0%)	
	Non veg	18(94.7%)	27(96.4%)	0.650
	Vegan	0(0%)	1(3.6%)	
7	Current level of fitness			
	Perfect	1(5.3%)	2(7.1%)	
	Good	3(15.8%)	6(21.4%)	
	Average	11(57.9%)	13(46.4%)	0.762
	Poor	2(10.5%)	6(21.4%)	
	Unfit	2(10.5%)	1(3.6%)	
8	Medical limitations present			
	Yes	0(0%)	0(0%)	
	No	19(100%)	28(100%)	
9	Actively participate in favorite sports			
	Yes	4(21.1%)	8(28.6%)	
	No	9(47.4%)	9(32.1%)	0.602
	Sometimes	6(31.6%)	11(39.3%)	
10	Junk food			
	Yes	18(94.7%)	27(96.4%)	1.000
	No	1(5.3%)	1(3.6%)	
11	Binge eating			
	Yes	7(36.8%)	14(50%)	0.551
	No	12(63.2%)	14(50%)	

The mean height and weight of the students who have low self-esteem are 160.737 and 71.632. The mean height and weight of the students who have normal self-esteem are 158.429 and 71.850.

The t- test is insignificant for height and self-esteem ($p=0.285$). Similarly the t-test is insignificant for weight and self-esteem

($p=0.947$). The Chi square test is insignificant for the demographic variables and self-esteem. (Table-5)

Table 5 Mean difference of height, weight of students with self-esteem level of obese students. n=47

Sl.No	Interpretation		N	Mean	Standard deviation	Statistical significance
1	Height-cms	Low self esteem	19	160.737	8.1024	P=0.285
		Normal self esteem	28	158.429	6.5003	
2	Weight-kg	Low self esteem	19	71.632	9.8613	P=0.947
		Normal self esteem	28	71.850	11.7079	

DISCUSSION:

Obesity prevalence is higher in South India compared to other parts. There are many reasons for obesity like genetic, hereditary, lack of physical activity and many. But these reasons are not clear enough to depict the self-esteem of individual. So, we conducted a cross sectional study to measure the self-esteem among undergraduate students in JIPMER. The prevalence of obesity was 16.3% and prevalence of low self-esteem among people with obesity was 40.4%. [7, 8, 9]

The obese and overweight category is increasing in young adults because of sedentary life style. Especially in college students who lack physical activity due to modern way of life. Among 289 students 47 students were obese and 40 students were overweight. Necessary measures need to be taken to increase the physical activity of students. This can be done by conducting sports events and club activities via college club activity. [10]

The prevalence of obesity is generally common in females because of hereditary, medical conditions etc. However nowadays, young female adults are also being obese and face so many health problems like PCOD, metorrhagia, menorrhagia, oligo menorrhea etc. In this study as well, the female college students who are falling into the category of obese is 87.2% (n=41). [11, 12]

Generally, people living in urban areas lead sedentary lifestyle. Therefore people tend to fall in obese category even in their early 20's. The prevalence of obesity in students who are from urban was 74.5% (n=35) according to this study. [13, 14, 15]

The US national cross sectional data show positive associations between meat eaters and risk for obesity. Similarly the non-vegetarians of this study (n=45), i.e. 95.7% are obese. Some people have medical conditions that prevent them from doing physical activity, for e.g. heart patients, COPD, diabetes. This also presents a major challenge to chronic disease prevention and maintenance of health [16, 17]. Occasionally, obesity may also lead to chronic health condition. [18]

Majority of people are eating junk foods in their daily life. This contributes binge eating out of curiosity to enjoy the pleasure of the taste buds but also for some other reasons like dieting. Junk foods have high content of sugar, fat and other chemical additives. These factors leads to obesity [19, 20]. Some studies have shown that there is some significant relationship between height and self-esteem. [21, 22]

To the best, this study from South India will aid the future studies as a reference based on that the self-esteem is not associated with demographic variables. The study reveals that the future young generation does not feel bad about their appearance. They are having low self-confidence due to their obsolete perception about the life that they are going to lead.

Summary:

The result of this study says, there is no association between the demographic variables and self-esteem. The self-esteem is truly based on the individual's perception of life. Maybe in future, after completing their UG degree i.e. when facing the social hierarchy, they may or may not experience the fall in their self-esteem.

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