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Original Research

Assessment of obesity indices in adult population

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ABSTRACT:

Background: Obesity is defined as an excessive and abnormal buildup of fat that can have negative health effects. The present study was conducted to assess obesity indices in adult population. **Materials & Methods:** 190 subjects of both genders were enrolled. Body weight was measured by digital weighing machine. Height and BMI was calculated by Quetelet's formula i.e., weight (kg) divided by height (m2). Mid abdominal WC, Waist-to-height ratio (WHtR), skin fold thickness (SFT) was measured. **Results:** Out of 190, 90 were males and 100 were females. The mean weight was 70.4 Kg, BMI was 25.3 Kg/m2, WC was 91.2, WHtR was 0.59 and fat % was 23.6. **Conclusion:** Changes in eating habits and lifestyle are required. A number of dangerous ailments can be brought on by obesity.

Key words: BMI, Obesity, Overweight

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INTRODUCTION

Obesity is defined as an excessive and abnormal buildup of fat that can have negative health effects. A significant percentage of the obese and overweight population is from India. There are about 135 million obese persons worldwide. Three significant non-modifiable risk factors for obesity are age, gender, and genetic predisposition.[1] In addition to heredity, inadequate maternal nutrition causes the fetus to lower the metabolic capabilities of critical organs such the kidney, liver, and pancreas. Fat storage and other metabolic compensations result from later life exposure to dense calorie foods. Other significant factors that contribute to fat deposition are the shift in diet from a staple to a westernized diet, a diet high in carbohydrates, and a decrease in physical activity.[2]

Obesity has many causes, including a combination of metabolic and genetic predispositions and a fast evolving contemporary environment. Regulatory systems that actively protect against body weight deficiencies are strongly favored by selection. Significant drops in leptin and the gastrointestinal hormones peptide YY, cholecystokinin, and amylin, as well as elevations in ghrelin levels—hormonal alterations linked to increased appetite and cravings to eat—are among the regulatory changes that occur with weight loss.[3] Weight loss results in a proportionally lower energy expenditure, which is mostly caused by decreased physical activity and an increase in the work efficiency of skeletal muscles. The behavioral difficulties of regulating caloric intake and expenditure, along with these underlying adaptive physiological variables, make weight loss maintenanceis difficult.[4]Only 17.3% of individuals reported decreasing 10% of their maximum body weight and maintaining that weight loss for at least a year, according to self-report data from over 14,000 participants in the 1999–2006 National Health and Nutrition Examination Survey (NHANES). These factors make obesity a chronic, relapsing disease that requires treatment with a variety of approaches, such as medication, surgery, and lifestyle counseling.[5]The present study was conducted to assess obesity indices in adult population.

MATERIALS & METHODS

The present study comprised of 190 subjects of both genders. All were informed regarding the study and their written consent was obtained.

Data such as name, age, gender etc. was recorded. A thorough general physical examination was carried out. A computerized weighing equipment was used to

measure body weight. Quetelet's formula, which is weight (kg) divided by height (m2), was used to determine height and BMI. Skin fold thickness (SFT), waist-to-height ratio (WHtR), and mid-abdominal WC were assessed.Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of subjects

Total- 190		
Gender	**Male**	**Female**
Number	90	100

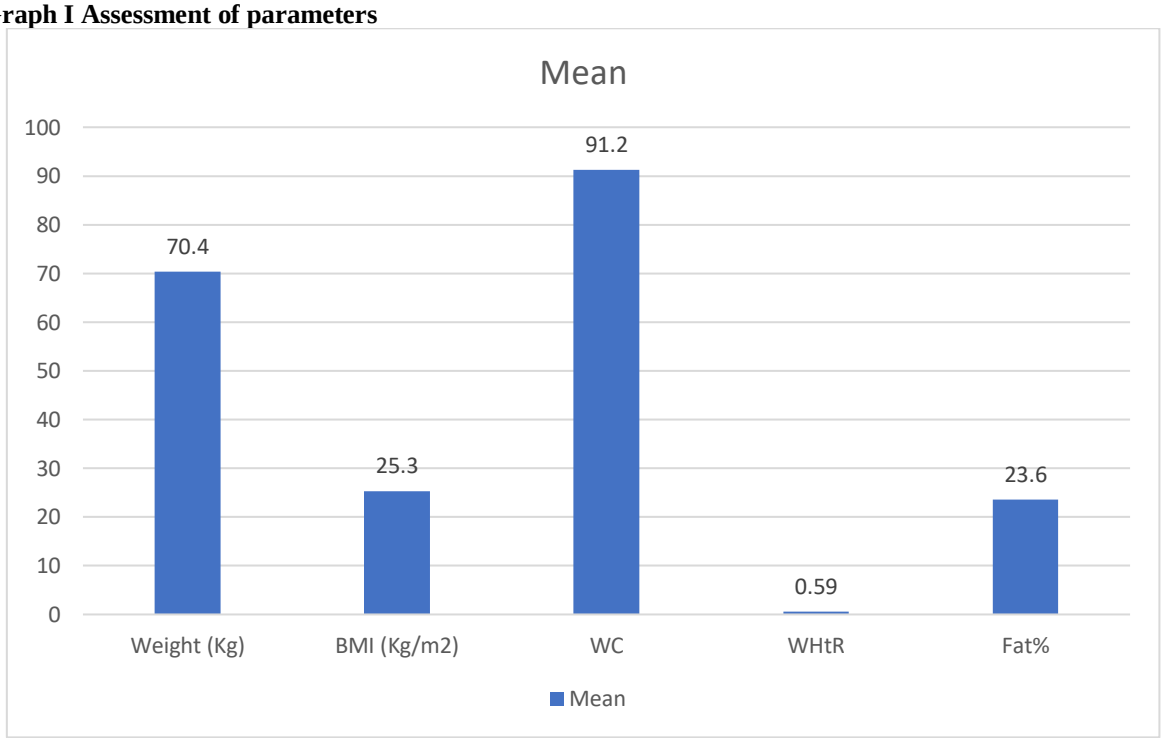
Table I shows that out of 190, 90 were malesand 100 were females.

Table II Assessment of parameters

Parameters	Mean
Weight (Kg)	70.4
BMI (Kg/m^2)	25.3
WC	91.2
WHtR	0.59
Fat%	23.6

Table II, graph I shows that mean weight was 70.4 Kg, BMI was 25.3 Kg/m^2, WC was 91.2, WHtR was 0.59 and fat% was 23.6.

Graph I Assessment of parameters



DISCUSSION

A complex illness, obesity is caused by a confluence of environmental, genetic, and physiological factors.[6,7] Obstructive sleep apnea, cardiovascular disease, musculoskeletal diseases, type 2 diabetes, and several cancers are among the negative health outcomes linked to obesity.[8] Losing 5% to 10% of body weight over time can reduce the likelihood of experiencing negative health consequences. Two important indicators of body fat are waist circumference and body mass index.[9,10]The present study was conducted to assess obesity indices in adult population.

We found that out of 190, 90 were males and 100 were females.The risk variables for obesity in the study population were estimated by Katiyar et al.[11] In 2015, 300 college students participated in this study. There were 160 female individuals and 140 male subjects out of 300. There was no significant change ($P < 0.1$). The subjects were underweight (24 females and 21 males), normal weight (68 females and 77 males), overweight (20 females and 22 males), preobese (25 females and 23 males), and obesity (8 females and 12 males). There was no significant difference between the sexes ($P > 0.05$). As a result, 14% of the participants were overweight, and 6.6%

were obese. Of the 140 males, 80 were from metropolitan areas and 60 were from rural areas. Ninety of the 160 females were from metropolitan areas, and 70 were from rural areas. Both Chinese and Indian people made up the subjects. Underweight (41), normal (139), overweight (37), pre-obesity (46), and obese (17) were the weight categories among Indians. Underweight (4), normal (6), overweight (5), pre-obesity (2), and obese (3) were the classifications for Chinese people.

We observed that the mean weight was 70.4 Kg, BMI was 25.3 Kg/m^2, WC was 91.2, WHtR was 0.59 and fat % was 23.6.Sa Ali et al estimated the prevalence of obesity, study the KAP (knowledge, attitude and practice) among students studying at Sohag University and compare KAP between obese and non obese participants. The study included 961 university students, mean age 19.5±1.5 years; equally divided into males andfemales. The prevalence of obesity among our study group was 17.2%. No significant difference between obese andnon obese students regarding age or sex. Diagnosis:36.4% of them were by medical consultation, 29.1% by self notice, 18.8% by family and lastly 15.8% by other methods. The knowledge about obesity was assessed by two types of questions; the nature of obesity and its cause the vast majority of our participants thought that obesity is a hormonal disease, then psychological and an infectious disease. As the attitude, surprisingly, more of the obese persons thought that they should not marry or have children than the non obese ones, only about half of our obese persons thought that they can think like any normal person, compared to over 76% of the non obese persons had this belief; the difference is significant. As regards the practice towards obesity, less than half of the obese persons agreedto marry another obese one, while only 28% of the non obese persons agreed to do. They found that more of the nonobese persons agreed to have friendship and/or to work with an obese person (53%) compared to only (37%) of the obese persons. The differences in the above three comparisons were statistically significant

Boo et al[13]determined the prevalence of obesity among medical students and its relationship with their dietary intake and physical activities.The median body weight of the participants was 59.0 kg (interquartile range: 51.3-66.8), the mean body height was 166.1 cm (standard deviation [SD] 8.5 cm), and the mean body mass index (BMI) was 21.8 kg/m2 (SD 3.4 kg/m2). Based on the World Health Organization BMI cut-offs for the Asian population, 30.1 percent (n is equal to 72) of the students were overweight or obese, with a BMI that was equal to or greater than 23.0 kg/m2. Logistic regression analysis showed that, after controlling for various potential confounders, the only significant risk factors associated with overweight/obesity among these students were: male gender (adjusted odds ratio [OR] 2.1; 95 percent confidence intervals [CI] of 1.1 and 4.1; p is equal to 0.03), Malay ethnic group (adjusted OR 2.4; 95 percent CI 1.0 and 5.7; p is equal to 0.04), Indian ethnic group (adjusted OR 3.6; 95 percent CI 1.5 and 8.9; p is equal to 0.005), and the number of soft drinks consumed per week (adjusted OR 1.3; 95 percent CI 1.0 and 1.5; p is equal to 0.02). Skipping breakfast, the frequency of physical exercise per week, the number of hours of sleep per day, and eating noodles or roti canai (a type of Malaysian pancake) for breakfast were not significant risk factors.

CONCLUSION

Authors found that changes in eating habits and lifestyle are required. A number of dangerous ailments can be brought on by obesity.

REFERENCES

1. Martorell, R., Khan, L.K., Hughes, M.L. et al. 2000. Obesity in women from developing countries. Eur. J. Clin. Nutr. 54; 247- 252.
2. Gupta S, Ray TG, Saha I. Overweight, obesity and influence of stress on body weight among undergraduate medical students. Indian J Community Med. 2009; 34: 255-7.
3. Bogers RP, Bemelmans WJE, Hoogenveen RT, Boshuizen HC, Woodward M, Knekt P, van Dam RM, Hu FB, Visscher TLS, Menotti A, Thorpe RJ, Jamrozik K, Calling S, Strand BH, Shipley MJ. Association of overweight with increased risk for coronary heart disease partly independent of blood pressure and cholesterol levels: A meta-analysis of 21 cohort studies including more than 300,000 persons. Arch Intern Med. 2007; 167:1720–1728.
4. Sturm R. The effects of obesity, smoking, and drinking on medical problems and costs. Health Aff (Millwood) 2002; 21: 245-53.
5. Shashikiran U, Sudha V, Jayaprakash B. What is Obesity? The Medical Journal of Malaysia. 2004; 59: 10-4.
6. Ismail MN, Chee SS, Nawawi H, Yusoff K, Lim TO, James WP. Obesity in Malaysia. Obes Rev. 2002; 3: 203-8.
7. Rampal L, Rampal S, Khor GL, Zain AM, Ooyub SB, Rahmat RB, Ghani SN, Krishnan J. A national study on the prevalence of obesity among 16,127 Malaysians. Asia Pac J Clin Nutr 2007; 16: 561-6.
8. Chhabra P, Grover VL, Aggarwal K, Kanan AT. Nutritional Status and Blood Pressure of Medical Students in Delhi. Ind J Comm Med. 2006; 31: 248-5.
9. Kahn HS, Valdez R. Metabolic risks identified by the combination of enlarged waist and elevated triacylglycerol concentration. Am J Clin Nutr. 2003; *78*:928–934.
10. Gopalakrishnan S, Ganeshkumar P, Prakash MV, Amalraj V. Prevalence of overweight/obesity among the medical students, Malaysia. The Medical Journal of Malaysia. 2012 Aug 1;67(4):442-4.
11. Katiyar YC, Mishra PK. Assessment of risk factors leading to obesity among the college students: A community programme. J Adv Med Dent Scie Res 2017;5(1):59-61.
12. SaAli MM, Zaki NA. Assessment of prevalence, knowledge, attitude and practices of obesity among college students in Sohag Governorate. Int. J. Curr. Res. Med. Sci. 2017;3(4):87-96.

13. Boo NY, Chia GJQ, Wong LC, Chew RM, Chong W, Loo RCN. The prevalence of obesity among clinical students in a Malaysian medical school. Singapore Med J. 2010; 51: 126.