



PREVALENCE AND PATTERN OF PRE OBESITY AND OBESITY IN MEDICAL STUDENTS

Dr. Saurabh Aggarwal	Assistant professor Department of Medicine, Shri Guru Ram Rai Institute of Medical & Health Sciences Dehradun
Dr. Ritu Thapliyal*	Assistant professor Department of Medicine, Shri Guru Ram Rai Institute of Medical & Health Sciences Dehradun *Corresponding Author
Dr. Lovedeep Saini	Senior resident, Department of Medicine, Shri Guru Ram Rai Institute of Medical & Health Sciences Dehradun
Dr. Dorchhom Khrieme	Professor, Department of Medicine, Shri Guru Ram Rai Institute of Medical & Health Sciences Dehradun
Dr. Amit Varma	Professor & Head, Department of Medicine, Shri Guru Ram Rai Institute of Medical & Health Sciences Dehradun

ABSTRACT

Intro: Obesity is an increase in body weight as the result of excessive accumulation of body fat and occurs when the calorie value of food intake exceeds energy output.

The professional students, including medical students are in a high-risk side when obesity is concerned. This is mainly because medical education is stressful throughout the whole course of training. The amount of material to be absorbed, social isolation, pressure of examination, discrepancies between expectation and reality all can be anticipated to bring psychological stress.

Aims and objectives: The objective of this study was to evaluate the prevalence of obesity and overweight among medical students in SGRRIMHS, Dehradun, India.

Material and methods: 200 students from all batches of M.B.B.S course were selected as a participant in this study, as they were available in the campus during the study period. The data collection was done using a pretested proforma. Tools used for measuring BMI were, a digital weighing machine which could measure least up to 100gms, a calibrated height measuring scale which could measure least up to 0.1 cm.

Results: Out of 200 students, we found that underweight students were 3 (1.5%), normal students were 100 (50%), overweight were 64 (32%), pre obese 20(10%) and obese were 13 (6.5%).

Half of the medical students were found to be of normal weight.

The proportion of overweight, preobese and obese is higher among females.

KEYWORDS :

INTRO:

Obesity is an increase in body weight as the result of excessive accumulation of body fat and occurs when the calorie value of food intake exceeds energy output.

Obesity is a complex multifactorial chronic disease that develops from an interaction of social, behavioral, culture, psychological, metabolic and genetic factors. [1]

The body mass index (weight/height²) is widely used in adult populations, and a cutoff point of 30 kg/m² is recognized internationally as a definition of adult obesity. [2]

Overweight and obesity is one of the preventable causes of death. Morbidity associated with overweight and obesity is also enormous. [1]

Obesity increases one's risk of developing conditions such as high blood pressure, diabetes (type 2), heart disease, stroke, gallbladder disease and cancer of the breast, prostate and colon.

Obesity is a life-style disease that affects nearly one-third of the adult population.

According to the World Health Organization, there are over 300 million obese adults and 1.1 billion overweight people worldwide. [3]

Environmental and behavioral changes brought about by economic development, modernization, and urbanization has been linked to the rise in global obesity.

According to a recent study by the RAND organization, obesity is more damaging to health than smoking, high levels of alcohol drinking and poverty. [4]

Obesity is emerging as a serious problem throughout the world, not only among adults but also children, teenagers and young adults. [1]

The professional students, including medical students are in a high-risk side when obesity is concerned. This is mainly because medical education is stressful throughout the whole course of training. The amount of material to be absorbed, social isolation, pressure of examination, discrepancies between expectation and reality all can be anticipated to bring psychological stress.

Hence, this study was undertaken to find out the prevalence of overweight and obesity among undergraduate medical students from all over India in SGRRIMHS, Dehradun, India.

Obesity and overweight in medical students is gradually becoming a health problem in many developing countries, including India as obesity appears to increase the risk of subsequent morbidity. It is difficult to reduce excessive weight in adults once it becomes established. Hence, it would be more sensible to begin prevention and treatment of obesity and overweight right from childhood itself.

Aims and objectives

The objective of this study was to evaluate the prevalence of obesity and overweight among medical students in SGRRIMHS, Dehradun, India.

Material and methods

This institution based cross sectional study was conducted among the medical students in the age group of 18 to 25 yrs. of SGRRIMHS, Dehradun.

BMI is calculated by dividing a person's body weight in kilograms by their height in meters squared (weight [Kg]/height [m]²). A BMI of 30 or more is considered obese, a BMI of 25.0 - 29.9 is considered Pre-

obese and a BMI 23 to 24.9 is considered overweight. [5]

200 students from all batches of M.B.B.S course were selected as a participant in this study, as they were available in the campus during the study period.

The study period was between 1st may 2017 to 30th June 2017.

The data collection was done using a pretested proforma. Tools used for measuring BMI were, a digital weighing machine which could measure least up to 100gms, a calibrated height measuring scale which could measure least up to 0.1 cm.

Informed consent was obtained from the participants and ethical approval obtained from IEC

The collected data were entered into Microsoft excel software and the analysis was done using SPSS software version 20.

Results

We conducted the study on 200 students. Out of them, 110 (55%) were males and 90 (45%) were females. Out of 200 students, we found that underweight students were 3 (1.5%), normal students were 100 (50%), overweight were 64 (32%), pre obese 20(10%) and obese were 13 (6.5%).

Half of the medical students were found to be of normal weight.

The proportion of overweight, preobese and obese is higher among females.

Classification	BMI	Male	Female	Total	Total
		Number	%	Number	%
Underweight	<18.4	1	0.90%	2	1.5%
Normal	18.5 – 22.9	65	59.09%	35	38.88%
Overweight	23.0 – 24.9	22	20%	42	46.66%
Pre-obese	25.0 – 29.9	8	7.27%	12	13.33%
Obese	>30	4	3.63%	9	10%
Total		110	100%	90	100%

DISCUSSION

In our study when the overweight group, pre-obese and the obese group are combined, they account for 48.5% of the study population, which is much higher than the findings of other studies conducted earlier.

The prevalence of obesity in our study was found to be 6.5 %, pre-obese it was 10 % and that of overweight it was 32%.

A study conducted in West Bengal in India among undergraduate medical students showed an overall prevalence of overweight 17.5% and prevalence of obesity was 3.4%. [6]

Another similar study by Chhabra et al. reported a prevalence of 11.7% overweight and two per cent obesity among medical students of Delhi. [7]

In the study conducted among 458 medical students of Kanchipuram district, prevalence of obesity was 8.6%. [8]

In a study conducted among adolescents in Chennai city, 6.2% were overweight and 5.2% were obese. [9]

Boo NY et al. conducted a study to determine the prevalence of obesity among medical students in a private medical school in Malaysia and found, similarly, that 30.1% of the students were overweight or obese. [10]

In a study conducted in Kelantan by department of medicine, university saints Malaysia, out of 2,284 subjects over 20 years old, the overall prevalence of overweight and obesity was 21.3% and 4.5% respectively. [11]

Study conducted among the medical students of Malaysia, showed that

prevalence of obesity was 5.2%, pre obese was 15.9 % and that of overweight was 14.8 %. [12]

The study conducted among medical student's in Greece revealed a slightly higher prevalence of obesity, which was 22%. [13]

Conclusion

Our study concluded with the fact that the prevalence of obesity and overweight is increasing at an alarming rate of 48.5% out of 200 medical students of SGRIMHS, Dehradun, India.

Prevalence of overweight is 32% ,pre obese is 10% and that of obesity is 6.5%. This fact is really distressing because the health status of future doctors of our country, who in turn should lead our country into the lights of better health, is at risk. They should be the role models, but when their health status itself is at stake it is really a matter of disappointment.

Thus this study reinforces the need to encourage healthy lifestyles, healthy food habits and a physically active daily routine, among the adolescents and youth of this country, to prevent this obesity epidemic.

References

- World Health Organization. Obesity: preventing and managing the global epidemic. Report of a WHO Consultation on Obesity, Geneva, 3-5 June 1997. Geneva: World Health Organization; 1998. WHO document WHO/NUT/NCD/98.1. Available from: URL: [http://whqlibdoc.who.int/hq/1998/WHO_NUT_NCD_98.1_\(p1-158\).pdf](http://whqlibdoc.who.int/hq/1998/WHO_NUT_NCD_98.1_(p1-158).pdf); and URL: [http://whqlibdoc.who.int/hq/1998/WHO_NUT_NCD_98.1_\(p159-276\).pdf](http://whqlibdoc.who.int/hq/1998/WHO_NUT_NCD_98.1_(p159-276).pdf)
- World Health Organisation. Physical status: the use and interpretation of anthropometry. Geneva: WHO, 1995.
- Obesity and Overweight: WHO Global Strategy on Diet, Physical activity and Health [Internet] 2003. [cited 2012 Jan 23]. Available from: http://www.who.int/hpr/NPH/docs/gs_obesity.pdf (accessed 23 Jan 2012)
- Sturm R. The effects of obesity, smoking, and drinking on medical problems and costs. Health Aff (Millwood) 2002; 21(2): 245-53.
- Shashikiran U, Sudha V, Jayaprakash B. What is Obesity? The Medical Journal of Malaysia 2004; 59: 10-4.
- 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.
- 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.
- Selvaraj K, Sivaprakasam P. A study on the prevalence of overweight and obesity among medical students of Kanchipuram district. NJRCM 2013;2(2):140-4.
- Behavioural determinants for obesity: a cross-sectional study among Urban Adolescents in India. Rani MA, Sathiyasekaran BW. 4, Chennai : J Prev Med Public Health, 2013 Jul; Vol. 46.
- 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(2): 126.
- Mohamad WB, Mokhtar N, Mafauzy M, Mustaffa BE, Musalmah M. Prevalence of obesity and overweight in northeastern peninsular Malaysia and their relationship with cardiovascular risk factors. Southeast Asian J Trop Med Public Health 1996; 27(2): 339-42.
- Gopalakrishnan S, Ganeshkumar P, Prakash MV, Christopher. Amalraj V. Prevalence of overweight/obesity among the medical students, Malaysia. Med J Malaysia 2012;67(4):442-4.
- Bertsias G, Mammias I, Linardakis M, Kafatos A. Overweight and obesity in relation to cardiovascular disease risk factors among medical students in Crete, Greece. BMC Public Health 2003;3:3.