

Original Research Article

Weight awareness among medical students

Dushyant M. Nijhawan¹, Aditi J. Upadhye^{2*}, Jayshree J. Upadhye³

¹Department of Anaesthesiology, KDMC Hospital and Research Centre, Mathura, Uttar Pradesh, India

²Department of Pathology, PDMMC, Amravati, Maharashtra, India

³Department of Gynecology and Obstetrics, Rajshree Medical College, Bareilly, Uttar Pradesh, India

Received: 03 February 2018

Accepted: 09 February 2018

*Correspondence:

Dr. Jayshree J. Upadhye,

E-mail: jayshreeupadhye@gmail.com

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ABSTRACT

Background: Overweight and obesity is a global issue. It needs to be tackled at adolescent and young age. Aim of our study was to evaluate weight awareness, prevalence of overweight and obesity in medical students.

Methods: 200 medical students of 18-20 years were included in this cross-sectional study.

Results: Out of 100 girls, 51 (51%) girls had normal BMI, 19 (19%) were overweight, 17 (17%) girls were obese while 13 (13%) girls were underweight. Out of 100 boys, 66 (66%) boys were having normal weight, 16 (16%) boys were underweight, 14 (14%) boys were overweight and 4 (4%) boys were obese. Sixty-one (61%) girls were doing exercise >3 times in a week while 39 (39%) girls were doing exercise <3 times in a week. Out of 100 boys, 44 (44%) boys were doing exercise <3 times in a week while 56 (56%) boys were doing exercise >3 times in a week.

Conclusions: Issue of overweight and obesity needs to be focused more.

Keywords: Body mass index, Normal weight, Obese, Overweight, Under weight

INTRODUCTION

Globally there are more than 1 billion overweight adults. At least 300 million of them are obese. Obesity and overweight pose a major risk for chronic diseases like type 2 diabetes, cardiovascular disease, hypertension and stroke and certain forms of cancer. The key causes are increased consumption of foods high in saturated fats and sugars and reduced physical activity.¹ WHO definition-

Normal weight-BMI ≥ 18.5 to < 25 kg/m²,

Overweight-BMI of ≥ 25 to < 30 .

Obesity-BMI of ≥ 30 .²

Weight perception has been proposed as an important factor for explaining the relationship between weight status and behavior of weight control. Inaccurate weight perception can take the form of both over- and

underestimation of personal weight status. Both misperceptions can challenge healthy weight maintenance because overestimation is associated with unwarranted and unsafe dieting among adolescents, while underestimation among overweight or obese individuals may result in low motivation to reduce excessive weight.³

Physical inactivity is one of the major public health problems in the 21st century. Challenges in public health associated with sedentary lifestyles and the emerging multiple benefits of regular exercise make physicians to use exercise as a medical therapeutic option and to provide patient-oriented exercise prescriptions. Furthermore, exercise has intrinsic benefits for students in terms of their own health.⁴

Now-a-days obesity and overweight are common in all age groups of society due to less physical activity,

sedentary lifestyle and overeating. This lead to several health problems which are common causes of morbidity and mortality. Other way, underweight is also another cause resulting in certain diseases like malnutrition, anemia, mortality and morbidity. So, it is necessary to create awareness among students right from the beginning.⁵

BMI can be used as a simple method to assess the body weight of an individual. BMI provides a reliable indicator of body fat. Obesity is increased in developed countries and affluent societies. BMI is widely used for preliminary diagnosis of obesity. Waist circumference can also be taken for diagnosis. BMI helps to estimate the risk factors for health problems. BMI is a simple means of classifying sedentary populations with an average body composition.⁵

Body mass index calculated using the formula- weight in kgs/height² in meters.⁶ Overweight and obese individuals are at an increased risk for many diseases and health conditions, including the following.⁷

- Hypertension
- Dyslipidemia
- Type 2 diabetes
- Coronary heart disease
- Stroke
- Gallbladder disease
- Osteoarthritis
- Sleep apnea
- Respiratory problems
- Cancers like including endometrial, breast, and colon.⁸

WHO in 2006 estimated that at least 400 million adults (9.8%) are obese, with higher rates among women than men. WHO reports prevalence of excessive weight and obesity in males and females aged between 18 and 21 in Saudi Arabia is 23% and 30% respectively.⁹

Nutrition education in medical school, residency and training is inadequate despite the high prevalence of hospital malnutrition (40-60%) and evidence that nutrition interventions reduce morbidity and mortality.¹⁰ Appropriate knowledge of nutrition is necessary to

prevent and treat nutritional problems from the hospital to the community setting.¹⁰

Aims and objectives was to know body mass index of medical students. Also, to assess the diet and exercise habits. To find out their pattern of body image perception. Also, to increase knowledge and awareness about diet, exercise and weight maintenance in medical students.

METHODS

A cross-sectional study was conducted on 200 medical students of 1st and 2nd year of different colleges in Uttar Pradesh and Maharashtra of 18-20 years of age by using simple random sampling technique. The data was collected by using structured knowledge questionnaire on weight awareness. The investigator obtained permission from the students, prior to the data collection and assured confidentiality to the subject to get their cooperation and explained the purpose of the study.

Inclusion criteria

Medical students willing to provide information

Exclusion criteria

Medical students not willing to provide information. Data was entered in Microsoft excel sheet and analyzed. Results were obtained in percentages.

RESULTS

In present study, out of 200 medical students, 100 (50%) were girls while 100 (50%) were boys.

Table 1: Sex distribution.

Sex distribution	No. of students	Percentage
Female students	100	50%
Male students	100	50%
Total	200	100%

In present study, 51 (51%) girls had normal BMI, 19 (19%) were overweight, 17 (17%) girls were obese while 13 (13%) girls were underweight.

Table 2: Body mass index (BMI).

Body mass index (BMI)	No. of female students	Percentage	No. of male students	Percentage
Normal	51	51%	66	66%
Underweight	13	13%	16	16%
Overweight	19	19%	14	14%
Obese	17	17%	4	4%

In our study, out of 100 boys, 66 (66%) boys were having normal weight, 16 (16%) boys were underweight, 14

(14%) boys were overweight and 4 (4%) boys were obese.

Table 3: Diet pattern.

Diet pattern	No. of female students	Percentage	No. of male students	Percentage
Vegetarian	51	51%	24	24%
Mixed (veg and non-veg)	49	49%	76	76%
Outside food <3 times a week	49	49%	30	30%
Outside food >3 times a week	51	51%	70	70%

In present study, out of 100 girls, 51 (51%) girls were consuming pure vegetarian diet while 49 (49%) girls were consuming mixed (vegetarian and non-vegetarian) food. In present study, out of 100 boys, 24 (24%) boys were consuming pure vegetarian diet while 76 (76%) boys were consuming mixed (vegetarian and non-vegetarian) food. Advice regarding healthy food was given. In present study, out of 100 girls, 51 (51%) girls

were eating outside food >3 times a week while 49 (49%) girls were eating outside food < 3 times in a week. In present study, out of 100 boys, 30 (30%) boys were eating outside food <3 times in a week while 70 (70%) boys were eating outside food >3 times in a week. In present study, out of 100 girls, 61 (61%) girls were doing exercise >3 times in a week while 39(39%) girls were doing exercise <3 times in a week.

Table 4: Exercise pattern.

Exercise pattern	No. of female students	Percentage	No. of male students	Percentage
Exercise <3 times a week	39	39%	44	44%
Exercise >3 times a week	61	61%	56	56%

In present study, out of 100 boys, 44 (44%) boys were doing exercise <3 times in a week while 56 (56%) boys were doing exercise >3 times in a week.

they were underweight while 5 (5%) girls felt that they were obese.

In our study, varied opinions were noted about self image. 74 (74%) girls thought that they were appropriate in weight for their height and age, 21 (21%) girls felt that

In our study, 72 (72%) boys thought that they were appropriate in weight for their height and age, 18 (18%) boys felt that they were underweight while 10 (10%) boys felt that they were obese.

Table 5: Opinion about self image.

Opinion about self image	No. of female students	Percentage	No. of male students	Percentage
Appropriate	74	74%	72	72% %
Underweight	21	21%	18	18%
Obese	5	5%	10	10%

DISCUSSION

In present study, out of 200 medical students, 100 (50%) were girls while 100 (50%) were boys. All were between 18-20 years. Lakshmi Y. et al reported number of females-104 and number of males-96. All were into the age group of 18- 20 years.⁵

In present study, 51 (51%) girls had normal BMI, 19 (19%) were overweight, 17 (17%) girls were obese while 13 (13%) girls were underweight.

In our study, out of 100 boys, 66 (66%) boys were having normal weight, 16 (16%) boys were underweight, 14 (14%) boys were overweight and 4 (4%) boys were obese.

Lakshmi Y. et al reported that 18 males and 22 females come into underweight group and their total percentage is 20%, 58 males and 60 females come into normal weight group and their total percentage is 59%, 10 males and 10 females come into overweight group and their total percentage is 10% and 10 males and 12 females come into obese group and their total percentage is 11%.⁵

In present study, out of 100 girls, 51 (51%) girls were consuming pure vegetarian diet while 49 (49%) girls were consuming mixed (vegetarian and non-vegetarian) food. In present study, out of 100 boys, 24 (24%) boys were consuming pure vegetarian diet while 76 (76%) girls were consuming mixed (vegetarian and non-vegetarian) food. In present study, out of 100 girls, 51 (51%) girls were eating outside food >3 times a week while 49 (49%) girls were eating outside food < 3 times in a week. In present study, out of 100 boys, 30 (30%) boys were eating outside food < times in a week while 70 (70%) boys were eating outside food >3 times in a week. Majeed P et al reported that students usually preferred home cooked food (81%) and inclined to snack more frequently during studying and partying (33% each), 60% stated that frequency is decreased after attending college.⁹

In present study, out of 100 girls, 61 (61%) girls were doing exercise >3 times in a week while 39(39%) girls were doing exercise <3 times in a week. In present study, out of 100 boys, 44 (44%) boys were doing exercise <3 times in a week while 56 (56%) boys were doing exercise >3 times in a week.

Majeed P. et al reported that main reason was no time for exercise (57%). Relating students BMI with their dietary habits and physical activity revealed significant relation between "eating more during stress" and consumption of sugar candy and food ($p = 0.010$ and 0.011 respectively). "Level of intensity of exercise" and "reason for exercise" was ($p = 0.006$ and 0.000 respectively).⁹

In our study, varied opinions were noted about self image. 74 (74%) girls thought that they were appropriate in weight for their height and age, 21 (21%) girls felt that they were underweight while 5 (5%) girls felt that they were obese.

In our study, 72 (72%) boys thought that they were appropriate in weight for their height and age, 18 (18%) boys felt that they were underweight while 10 (10%) boys felt that they were obese. David P reported that 33% (101/310) self-reported a significant ("moderate" or "strong") explicit anti-fat bias. No students self-reported a significant explicit anti-thin bias. According to the IAT scores, over half of students had a significant implicit weight bias: 39% (121/310) had an anti-fat bias and 17% (52/310) an anti-thin bias. Two-thirds of students (67%, 81/121) were unaware of their implicit anti-fat bias. Only male gender predicted an explicit anti-fat bias (odds ratio 3.0, 95% confidence interval 1.8-5.3). No demographic

factors were associated with an implicit anti-fat bias. Students' explicit and implicit biases were not correlated (Pearson $r = 0.03$, $P = .58$).¹¹

A Wattanapisit reported that 279 (response rate 97.9%) medical students participated in the study. 49.5% of the participants were physically active. The median total energy use was 540 metabolic equivalent-min/week (range 0-5640). Male and preclinical students were more likely to be physically active ($p < 0.05$).¹² Pantenburg B. reported that a higher proportion of students had negative attitudes towards the overweight as compared to the normal weight individual (98.9% versus 53.7%, $p < 0.001$).¹³

Pantenburg B. reported that 49.8% agreed "strongly" and 38.7% "somewhat" to the statement that "overweight is one of the most important health problems in Germany today". Similarly, 67.4% agreed "strongly" and 26.3% "somewhat" that "overweight increases the risk for other diseases such as diabetes and cancer".¹³ Pantenburg B. reported that when asked about their opinion on whether finding a solution for the overweight epidemic was the responsibility of the society or the individual, 43.5% of participants stated that it was "rather" the individual's responsibility while 44.1% of participants stated that it was equally the individual's and the society's responsibility.¹³

CONCLUSION

These data highlight the importance for bringing the topic of overweight and obesity more into the focus of the medical curriculum, for better educating medical students about the complex etiology of this health condition, and for raising medical students' awareness of the particular needs of this growing patient population. Further research to elucidate medical students' attitudes towards overweight and obese patients is urgently needed.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Nijhawan DM, Upadhye AJ, Upadhye JJ. Weight awareness among medical students. *Int J Res Med Sci* 2018;6:848-52.