

STUDY OF OVERWEIGHT AND OBESITY IN DENTAL STUDENTS IN A TEACHING COLLEGEJyoti Kiran Kohli¹¹Professor and HOD, Department of Anatomy, Manav Rachna Dental College.**ABSTRACT****BACKGROUND**

Obesity is found to be strongest risk factor for persistent hypertension, which is an important risk factor for coronary artery disease and stroke. Urbanisation, unhealthy eating and reduced physical activity are the important reasons. Prevention of obesity is always better than its treatment. The aim of this study is to find out relation of overweight and obesity in dental students with their changed lifestyle and lack of physical activity.

MATERIALS AND METHODS

A validated predesigned and pre-tested questionnaire was used. Overweight/obesity was assessed on the basis of Body Mass Index (BMI) for age using gender specific Center for Disease Control (CDC) charts.

Settings and Design- Cross-sectional study conducted in 1st year dental students, MRDC (Manav Rachna Dental College, Faridabad).

Statistical Analysis- ANOVA and unpaired t-tests were used to find out any statistically association of mean BMI for age with various correlate.

RESULTS

Out of 110 students, 101 were included in study 72 (71.2%) females and 29 (28.7) males. Total 25.7% were overweight students and 17.82% were obese with BMI >30 and grade 1 obesity, while 1.9% were of grade 2 obesity. Lack of physical activity, consumption of junk food, habit of not taking breakfast and consuming food in canteen, home and mess are found to have significant association with obesity and overweight.

CONCLUSION

The problem of obesity is on rise and there is a definite need to inculcate good habits of healthy eating and regular physical exercise.

KEYWORDS

Overweight, Obesity, Dental Students, Body Mass Index.

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BACKGROUND

Overweight and obesity are defined as abnormal or excessive fat accumulation in the body that may impair health. Obesity is often associated with diabetes, hypertension, other cardiovascular diseases, osteoarthritis and is the fifth leading risk factors for global death. Obesity is emerging as a serious problem throughout the world, not only among adults, but also children, teenagers and young adults.

The irregularity in diet, lack of exercise, addiction, lack of physical activity, junk food and sitting for long durations on computer are being an independent factor leading to

obesity.⁽¹⁾ In recent years, occurrence of overweight and obesity are very high affecting both developed and developing countries like India.^(2,3) Studies on medical students and health personnel in many countries suggested that obesity is a problem among these population groups who are exposed to many factors affecting their BMI stress cannot be modified at college level.

AIMS AND OBJECTIVES

Other modifiable factors such as fast food, increased carbonated drinks consumption, watching television, internet surfing and lack of outdoor games are more important from prevention point of view. Prevention of obesity is always better than its treatment and college can play a significant role in encouraging healthy behaviour in students.

A positive energy balance is required to be build up in dental students so that they are better educated about complex aetiology of this health condition and raising medical awareness of particular needs of this growing patient population. Hence, this study was undertaken to find

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out relation of overweight and obesity in dental students with their changed lifestyle and lack of physical activity.

MATERIALS AND METHODS

This was a cross-sectional study and ethical clearance was obtained from Ethical Committee. The subjects for the study were all students of 1st year B.D.S. (Bachelor of Dental Sciences) course in Manav Rachna Dental College.

Inclusion Criteria

Were all students who gave informed consent, validated predesigned and pre-decided questionnaire were used to interview the students. Study was done on type of diet students consuming, i.e. pure vegetarian diet or taking mixed diet at times. Data was also collected as students consuming breakfast regularly or occasionally at home, canteen or mess. Students were asked about daily consumption of junk food in their routine activity (>3 times a day). Physical activity was based on the hours spent on the playground for outdoor games, membership of any gymnasium, hours spent per week for brisk walking/jogging, use of vehicle for routine travel in campus or commuting to college, etc., i.e. adequate or inadequate (if less than 30 mins. in a day). Adequate daily physical activity of at least was defined as recommended by Global Recommendations on Physical Activity for Health, World Health Organization Publication 2010.⁽⁴⁾

Confidentiality and privacy was maintained. Appropriate training to the investigators was regarding measuring weight so as to reduce measuring error. All the instruments were standardised to reduce instrument error. Body weight was measured (to the nearest 0.5 kg) with the subject standing in an erect position against a vertical scale with feet 15 cm apart, weight equally distributed on each leg. Height was measured (to the nearest 0.5 cm) with the subject standing in an erect position against a vertical scale of portable audiometer with the head positioned so that the top of the external auditory meatus was in level with the inferior margin of the bony orbit. Overweight/obesity was assessed on the basis of Body Mass Index (BMI) for age using gender specific Center for Disease Control (CDC) charts.⁽⁵⁾ BMI values at or above the 95th percentile of the gender specific BMI growth charts were categorised as obese.⁽⁶⁾

STATISTICAL METHODS

To measure obesity/overweight, ANOVA and unpaired t-tests was used to find out any statistically association of mean BMI for age with various correlates. P value of lesser than 0.05 was considered to be of statistically significant. Data was analysed using Epi Info 2002 Software.

RESULTS AND OBSERVATIONS

Out of 110 students available at the time of study, 101 gave consent for participation in study. The response rate was 91.8%.

No sampling (purposive sampling) was carried out and all 101 students who consented were included in the study. Out of 101 students, 72 (71.2%) were females and 29 (28.7)

were males. The mean age and standard deviation for age for female students was 22 yrs. and 4.9 yrs. and for male were 24 yrs. and 4.1 yrs., respectively. In present study, the total overweight students were 25.7%. Out of which, 23.6% was seen in females and 31.03% seen in male students. While 17.82% in total (BMI >30) out of which grade 1 (BMI 30-34.99) was 15.8%. In female students, it was 13.88%, while in male students, it was 20.68% while obese students with grade 2 (BMI 35-39.99) was 1.9% in the male students was 6.89% while nil in females. None of the students were found to be in grade 3 obesity (BMI >40) (Table 1). No overweight/obese student was found to be suffering from any metabolic disorder. The association of various correlates are summarised in Table 2. Prevalence of overweight/obesity in India is on rise. The importance of daily physical activity, daily calorie consumption and playing outdoor games are well known facts. Studies shows statically significant association with above-mentioned parameters.

Significant statistical association seen with source of breakfast/lunch/dinner whether house made or from canteen with overweight. Also, significant correlation is seen for regular intake of breakfast with obesity and overweight. Consumption of junk food/snaking is associated with overweight. Thus, lack of amount of daily physical activity, amount of frequency of taking junk food, habit of taking breakfast and consuming food in canteen, home and men are found to have statistically. Significant association with obesity and overweight, while type of diet is not found to be significant.

	Frequency	Mean BMI	T/F Value	P Value
Type of Diet (n=101)				
Mixed	68	22.7±4.6	0.99	0.32
Pure Vegetarian	33	21.8±3.5		
Habit of Taking Breakfast Daily (n=101)				
Yes	24	22.3±3.07	-2.9	0.004
No	77	25.1±4.1		
Source of Food (n=101)				
Canteen	10	28.5±3.3	5.87	0.003
Home	25	24±3.9		
Mess	66	25.5±3.4		
Frequency of Taking Junk Food per Day n=101				
<3 times a day	46	24.8±3.09	-2.43	0.001
>3 times a day	55	26.5±3.8		
Physical Activity (n=101)				
Adequate	42	22.7±3.24	-2.3	0.004
Inadequate	59	25.5±4.23		
Table 1. Relation of Overweight, Obesity with BMI				

BMI	Male N=29	Female N=72	Total 101	%
Normal 18.50-24.99	12	45	57	56.4
Pre-obese 25-29.99	9	17	26	25.7
Obese Class I 30-34.99	6	10	16	15.8
Obese Class II 35.00-39.99	2	0	02	1.9
Obese Class III >40	0	0	0	0

Table 2. BMI and its Correlation with Various Factors

DISCUSSION

India is currently in transitional phase between developing countries and developed countries. Overweight/obesity among college students is an important issue as height by this age is stabilised. This age group is very important to inculcate the importance of physical exercise and healthy eating. In present study, students who are overweight was 25.7% and obese are 15.8 and 1.9%. In female students, overweight was 23.6% and in male students was 31.03%. While obesity proportion is 17.82% out of which in female students was 13.88%, while for males, it was 27.58% (including grade 1 and grade 2 obesity). The gender difference was also found to be statistically significant ($p=0.044$). One of the limitations of our study was a small sample size. In a study conducted by Gupta et al⁽⁷⁾ among medical students studying in Midnapore Medical College, India, overall prevalence of 17.5% and 3.4% for overweight and obesity respectively was found.

Another study conducted by Chabra et al⁽⁸⁾ reported prevalence of 11.7% and 2% obesity among medical students of Delhi. This clearly indicates prevalence of overweight and obesity is on rise. The importance of socioeconomic status, family history of obesity, daily physical activity and playing outdoor games are well known facts. Similar results were seen by Goyal et al⁽⁹⁾ and our result is also similar to that. In present study, students not undertaking physical activity was 59%. Our study also shows statistically significant association of decreased physical activity with overweight/obesity. Similar results were also seen with Gupta et al.⁽⁷⁾ Obesity is associated with conditions like hypertension, coronary arteriosclerosis, elevated cholesterol, type 2 diabetes, stroke and certain type of cancers. Physiologically also, it is associated with several problems such as lower self-concept, negative self-evaluation, decreased self-image, anxiety and depression.⁽¹⁰⁾

Although, overweight is one of most important health problems worldwide today. It increases risk of other diseases such as diabetes, hypertension and cancer.⁽¹⁰⁾ Weight bias in healthcare setting maybe a global issue. The stigmatising

attitudes towards obesity and overweight are studied among a sample of German medical students.⁽³⁾

The negative attitude arise on basis of holding individual accountable for excess weight. A positive energy balance consisting of the aspects too much food, bad quality of food and too little physical exercise was perceived as most relevant cause for development of overweight. In present study, significant association was seen with habit of taking breakfast regularly with overweight and obesity. It is also seems to be associated with consumption of junk food and snacking with overweight and obesity. Thus, students should be educated regarding adverse effects of junk food and all complications associated with overweight and obesity. Obesity as seen by various investigators, daily consumption of tea/coffee, fruit juice with obesity/overweight is related.⁽⁶⁾

Studies have reported that gain in BMI was more likely to be contributed by consumption of alcohol, eating low-fibre diet, consumption of caffeine and eating cruciferous vegetables.⁽¹¹⁾ Studies also revealed that regular exercise/physical activity are taking care of precipitating factors could improve health of medical students. It is emphasised the importance for bringing the topic of overweight and obesity more into focus of medical curriculum for better educating medical students about complex aetiology of this health condition and for raising medical students awareness of particular needs of this growing patient population^(12,13) as problem of obesity/overweight is on rise and there is a definite need to inculcate good habits of healthy eating and regular physical exercise. Thus, students should be aggressively counseled on lifestyle and diet modification.

CONCLUSION

The problem of obesity is on the rise and there is a definite need to inculcate good habits of healthy eating and regular physical exercise.

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