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RESEARCH ARTICLE

Study of knowledge and practices in relation to obesity among 1st year medical students of Belgaum Institute of Medical Sciences, Belgaum

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ABSTRACT

Background: Overweight and obesity are defined as abnormal or excessive fat accumulation that may impair health. Prevalence of obesity is increasing worldwide at an alarming rate in both developing and developed countries. Nowadays, college students are highly exposed to unhealthy eating habits leading to weight gain. Hence, this study attempts to know the knowledge and their practice toward obesity among 1st year MBBS students of Belgaum Institute of Medical Sciences, Belgaum. **Aims and Objectives:** The aim is to study the assessment of the knowledge and practices toward obesity among 1st year medical students. **Materials and Methods:** After obtaining the ethical committee clearance, this cross-sectional study was conducted among 1st year medical students of BIMS, in October 2013. The students who were willing to participate were enrolled in the study. After obtaining the informed written consent, they were administered semi-structured questionnaire. Frequency distributions and percentages were calculated for the variables. **Results:** In the present study, majority of the participants have correct knowledge on different aspects of obesity and opined that the lifestyle modification is an important aspect of prevention and management of obesity. However, 90% did not knew the correct intake of fruits, vegetables, and the duration of exercise for good health, and their practices were incorrect in this regard. **Conclusion:** Students were aware of obesity and its complications. However, their practice toward it was not satisfactory. Lifestyle modifications and improvement in the dietary habits should be emphasized to reduce the incidence of overweight and obesity.

KEY WORDS: Knowledge; Medical Students; Obesity; Practice

INTRODUCTION

Overweight and obesity are defined as abnormal or excessive fat accumulation that may impair health. The fundamental cause of obesity and overweight is an energy imbalance between calories consumed and calories expended.[1] Recent estimates suggest that up to 1.7 billion people worldwide are overweight or obese, making it one of the biggest health threats. Obesity is becoming a public health problem in developing countries as well, wherein over 115 million people suffer from obesity-related problems.[2]

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The industrial revolution and various technological innovations to reduce the work of workforce had led to a steady declination in the energy expenditure in the population of developed countries, thereby leading to increased incidence of overweight and obesity among them. In the recent years, the similar trend can be seen in the developing countries as well in an alarming rate.[3] Obesity is a major risk factor for cardiovascular disease, Type II

diabetes mellitus, and the presence of other risk factors such as smoking, hypertension, and elevated blood cholesterol has multiplicative effects.[4] Other major contributing factors for these diseases include unhealthy lifestyle habits such as inappropriate nutrition, lack of exercise, smoking, improper sleeping habits, and so on.[5]

Adolescence is one of the most vulnerable periods for the development of obesity during which the dietary quality declines from childhood to adolescence where food that is likely to promote obesity is being actively adopted and consumption of fruit, vegetables, and milk declines.[6-8] Watching television (TV) for long hours is also reported to have an influence on adolescent eating behaviors, including eating insufficient fruits and vegetables[9,10] and increased soft drink consumption.[11] Similarly, medical students are also exposed to the mentioned conditions with added risk factors such as stress prevailing in the medical education and lack of exercise. Studies have shown that prevalence of overweight and obesity is high among the 2nd and 3rd year medical students.[12]

Healthy and active life is an advantage both for the individuals and society by a decrease in the absenteeism, decrease in the health-care costs, improvement in the psychological well-being, physical capacity, self-esteem, boosting morale, and the ability to cope with stress.[13] Since medical students are the future health-care providers, they themselves should have a sound knowledge regarding obesity, the causing factors, preventing factors, and complications. There are limited data regarding these aspects among the fresher's batch of medical students. In this context, an attempt was made to know their knowledge regarding obesity, their food habits, and physical activities by administrating semi-structured questionnaire.

Objectives

The objective is to assess the knowledge and practices toward obesity among 1st year medical students.

MATERIALS AND METHODS

This is a cross-sectional study. 1st year medical students of BIMS, Belgaum, who were willing to participate in the study were enrolled in the study. Of the 99 students, 65 were males, and 34 were females. Their mean age was 18.14 years. These students were from different socioeconomic and cultural background. After the necessary formalities required for the conduction of study that is the Institutional Ethical Committee clearance and the written informed consents, they were handed the semi-structured questionnaire forms. The questionnaire included domains such as knowledge on the different aspects of obesity, its prevention and management, and their practices toward it.

RESULTS

For analysis, the frequency distributions and percentages of the variables were calculated from the obtained data.

In the present study, 21% of the students knew the correct definition of obesity and 83% knew about body mass index (BMI). 37% and 27% knew the BMI values to say overweight and obesity, respectively. 44% were of the opinion that the lack of physical activity and genetic susceptibility are risk factor, 57% knew that cancers are associated with obesity, but only 23% and 15% were aware that hypertension and diabetes, respectively, are associated with obesity

90% of the participants knew that obesity is preventable, and lifestyle modification is an important aspect in the management of obesity and that regular exercise is the best strategy to prevent obesity. 10% and 7% of participants knew the recommended fruits/vegetables intake and physical activity, respectively, for good health, and 47% knew that obesity can be treated.

97% of the participants have their regular food from either mess or at home, and 54% of participants had never skipped their breakfast, and 40 % of them skipped once or twice a week.

61% of participants have regular meals, and 86% of the participants said that they have outside food occasionally. 56% and 72% of them have occasional fried food and bakery items, respectively. 40% of them limit sweet and sugar intake. 46% of the students were involved in daily physical activities, and 73% of them spent more than 2 h watching TV or computer.

DISCUSSION

The present study was conducted on ninety-nine 1st year MBBS students during September in 2013 at Belgaum Institute of Medical Sciences, Belgaum.

In the present study, 21% of the students gave the correct definition of obesity, 83% gave the correct response for BMI, and the findings were similar in a study done in Tamil Nadu.[14] Less than half (37% and 27%) knew the BMI values to say overweight and obesity, respectively. BMI is the tool to categorize the person as to be normal weight, overweight, or obese (BMI >18–22, ≥23, and ≥25, respectively).

Obesity is multifactorial. The common risk factors for non-communicable disease are physical inactivity, unhealthy diet, genetic susceptibility, lack of sleep, and stress. In the present study, 44% are of the opinion that the lack of physical activity and genetic susceptibility are risk factor, which is consistent with the study done in Tamil Nadu.[14] Major and most common conditions associated with obesity are

hypertension, diabetes, and some cancers, namely, carcinomas of the breast, small intestine, colon, and gallbladder.

In our study, 57% did knew cancers are associated with obesity; however, only 23% and 15% were aware that hypertension and diabetes, respectively, are associated with obesity as against 71% in other study.[14] Our study data revealed that majority (90%) of the participants did agree that obesity is preventable and lifestyle modification is an important aspect in management of obesity which is in accordance with the study wherein most of the participants were of the opinion that regular exercise is the best strategy to prevent to prevent obesity.

According to the WHO guidelines, 5 servings of fruits/vegetables (400 g/day) and at least 150 min of moderate-intensity aerobic activity through the week are recommended to reduce the risk of communicable diseases.[15] In the present study, only 10% and 7% of participants knew the recommended fruits/vegetables intake and physical activity, respectively, for good health and less than half (47%) knew that obesity can be treated by methods as against 51% of participants in other study.[14] Majority (97%) of the participants have their regular food from either mess or at home. As medical profession involves busy learning schedule, breakfast consumption is important for sustaining sufficient energy levels, and it is found that there is an association between skipping breakfast and overweight and obesity. In the current study, 54% of participants had never skipped their breakfast, 40 of them skipped once or twice a week which is similar to the Lebanese study[16] and Malaysian study[17] and inconsistent with other study.[12]

Frequent consumption of snacks, i.e., food and drink that are taken outside the context of the three main meals and having light meals is the usual teenage behaviour and medical students are no exception in the same. In our study, majority (61%) of participants have regular meals which are consistent with other studies.[16] When questioned about the outside food, 86% of the participants said that they have it occasionally. 56% of students have fried food, and 72% of them have bakery items occasionally. These practices are good, and they need to be encouraged. However, only few of them consider nutrient value while choosing food, and less than half (40%) of them limit sweet and sugar intake. Fruits and vegetables play an important role in the management of weight. The recommended vegetable/fruit consumption per day as per the WHO is 5 servings/day (400 g/day).

In the present study, at least 46% of students were involved in daily physical activities while it becomes necessary to encourage the other set of students who either engage themselves to less hours of physical activity or none at all. 73% of the students spent more than 2 h either in watching TV or computer in addition to their attending classroom lectures which is a compounding factor [Table 1]. Spending more hours watching TV or sitting for long time are also the factors responsible for the increase in the incidence of overweight and obesity. Studies have shown that obese students who spend more time in watching TV were physically less active than the non-obese students.[18]

Table 1: Practices of participants toward obesity

Parameters	Response	Percentage
Regular source of food	Home/mess	97
	Outside food	2
Outside food per week	Occasionally	86
	2/3 days	12
	Almost all the days	1
Frequency of intake of fried stuff in a week	Occasionally	56
	2–3 times	30
Skipping the breakfast	Never	54
	Occasionally	40
	Most of the days of a week	4
Food intake per day	2 meals+1 snack	61
	3 meals+1 snack	15
	2 meals+2 snacks	23
Consider nutritional value while choosing the food	Yes	34
	No	60
Limit high fat food	Yes	48
	No	51
Limit sweets and sugar intake	Yes	30
	No	69
Consumption of bakery items in a week	Occasionally	72
	2–3 times	25
Drinking of≥8 glasses of fluid/water	Yes	55
	No	44
Number of servings of fruits and vegetables	Correct	25
	Incorrect	70
Involvement in physical activities	Daily	46
	Twice/thrice a week	25
	Once a week	20
	No	8
Watching TV/using computer	>2 h	73

TV: Television

The present study shows that the students though were aware of obesity and the associated factors lack in implementing the same in their dietary practices. Such alterations in their

lifestyles can be explained in terms of stress and anxiety, long study and working hours prevailing in medical profession, peer pressure, change in the living environment that is from home to hostels and mainly because of increase in the number of cafés, fast food outlets wherehigh calorie/fat rich food is easily available and hence increasing the risk factor for overweight and obesity in the future.

These factors make it important to emphasize the implementation of certain lifestyle modifications such as yoga, exercises, or relaxation techniques as a part of their curriculum and to encourage the students to improve their dietary habits so as to reduce the incidence of overweight and obesity.

Strength

The study includes the assessment of the participants with respect to various domains of obesity such as their knowledge regarding eating habits, importance of physical activity, comorbidity factors, and their actual practice toward it.

In the present study, participants of varied socioeconomic background were included so that the study is unbiased.

Limitations

The findings cannot be generalized as the sample size is less.

Dietary habits and socioeconomic status of the parents could not be included in the study. These parameters might give insight in the assessment of the students practice toward obesity.

CONCLUSION

The present study shows that the students were aware of obesity and its complications and that the lifestyle modifications can prevent the complications. However, their practice toward it was not satisfactory enough. Lifestyle modifications such as exercise and yoga should be emphasized, and students are to be encouraged to improve their dietary habits so as to reduce the incidence of overweight and obesity in the future.

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