

## Original Article

# Diet and Exercise among Students of a Well Reputed Dental College in Chennai: A Questionnaire-Based Survey

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### ABSTRACT

**Background:** With the busy lifestyle, there is little or no time to look after oneself, both physically and mentally. A balanced diet along with a healthy diet and regular physical exercise can help us combat various nutrition problems and achieve healthy weight goals. Obesity has become one among us. It is one of the most omnipresent, chronic diseases in need of new better strategies for prevention. Children are equipped with smartphones which makes them less active physically. It is the need of the day to have a check on the lifestyle of students, especially in the professional field, since everyday is tedious, and this is the time where tend to inculcate good or bad eating and exercising habits. Hence, this study aimed to evaluate the diet and exercise pattern of students of a well-reputed dental college. **Materials and Methods:** A structured questionnaire was prepared and given to the dental students of a reputed institution in Chennai, Tamil Nadu. The study was conducted from October 2016 to January 2017. A total of 197 responses were obtained. The obtained data were tabulated and analyzed. **Results:** This study showed that the diet and exercise habits of the students in majority are not very healthy. 36% of students had their breakfast on time, 42% had their lunch on time, and 51% had their dinner on time. 22.84% always ate more when stressed. A total of 54.3% had the habit of snacking during studying, 52.1% when they were bored, 34% at parties, and 7.4% due to other reasons which were not stated. Nearly 50% of them exercise 0–1 time/week with light intensity exercises such as walking. A majority of 66.7% did not have the habit even before joining the college. With regard to the level of intensity, 33.3% of them did light workout, and 42% did moderate workout and 7% had the habit of doing heavy workout. The reason for exercising was mainly to maintain or lose weight (45%). 29% for general health, 14% for enjoyment, 9% stated that they worked out to relieve stress, and 3% for other reasons. **Conclusion:** This study concludes that the students, if given enough guidance, will be able to choose proper diet and exercise patterns, maintain good fitness and follow it regularly. This will prevent obesity and thus, in turn, various chronic diseases.

**KEYWORDS:** Diet, exercise, obesity

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## INTRODUCTION

Diet is an important approach to prevent various diseases. The other important strategies that serve as a key to maintain a healthy weight and thus a healthy lifestyle are limiting caloric intake, exercising regularly, and avoiding smoking.<sup>[1]</sup> In addition to these, the

capability of the brain is also reduced when the body is not receiving the proper nutrients that are present in fresh

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food. The brain does not work to its maximum potential. The disadvantages of bad eating will not necessarily show immediately, but consequences will follow. There are studies that have shown that the risk of development of cardiac problems in individuals those had followed these strategies had reduced by 80% that compared with those who had not followed these strategies.<sup>[2]</sup>

A healthy diet is one which has the right proportion of carbohydrates, proteins, fats in addition to vitamins and minerals. Consumption of such a healthy diet can help in the prevention of malnutrition as well as in the prevention of a large range of communicable diseases. However, the exact makeup of a varied, balanced, and healthy diet will vary for each and every individual as it depends on various factors such as age, gender, lifestyle pattern, and degree of physical activity.<sup>[3]</sup> Physical inactivity has been established to be a modifiable risk factor in the development of cardiovascular diseases, chronic diseases such as diabetes, hypertension, and tumors.<sup>[4-6]</sup> The prevalence of physical inactivity has been found to be higher than the other modifiable risk factors.<sup>[7]</sup>

Exercise has many benefits, helps control weight, combats health conditions, and diseases, and it improves one's mood, boosts energy, promotes better sleep, puts a spark back into your life, and can be fun and social. The lack of regular physical exercise and diet can result in the development of the global problem – Obesity. Obesity has become a very common problem in today's world. It has become epidemic over the past few decades, thereby resulting in the increase of various chronic diseases of the heart, kidneys, and also diabetes.<sup>[8,9]</sup> However, even though obesity is a growing threat, it is still preventable by following a proper, healthy, and balanced diet combined with adequate physical exercise. The aim of this study is to study the dietary and exercise pattern of college-going students through a questionnaire.

## MATERIALS AND METHODS

A structured questionnaire<sup>[10]</sup> was prepared to assess the attitude of the students toward healthy eating, snacking, and to study the pattern of exercising. A total of 11 questions were framed and given in a printed format. The study was conducted in a reputed institution from October 2016 to January 2017 and involved students from the 1<sup>st</sup> year to final year. Ethical clearance was obtained from the Saveetha Dental College Ethical Committee Board. The inclusion criteria were healthy college-going students without any known systemic diseases, boys and girls in the age group of 17–22 years. The exclusion criteria were students with any known

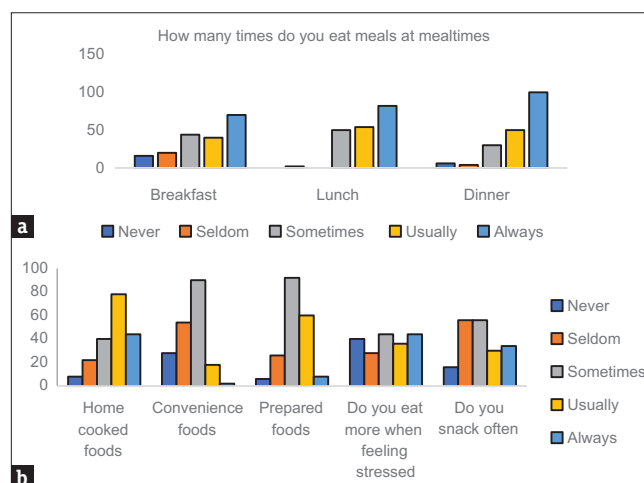
systemic diseases, students who did not attend the college regularly and those above 23 years.

A total of 204 were responses were obtained, of which 7 responses were eliminated due to inadequate information. Thus, a total of 197 responses were obtained. The obtained data were collected and tabulated used to create frequencies and percentages which were used to create pie charts and bar graphs.

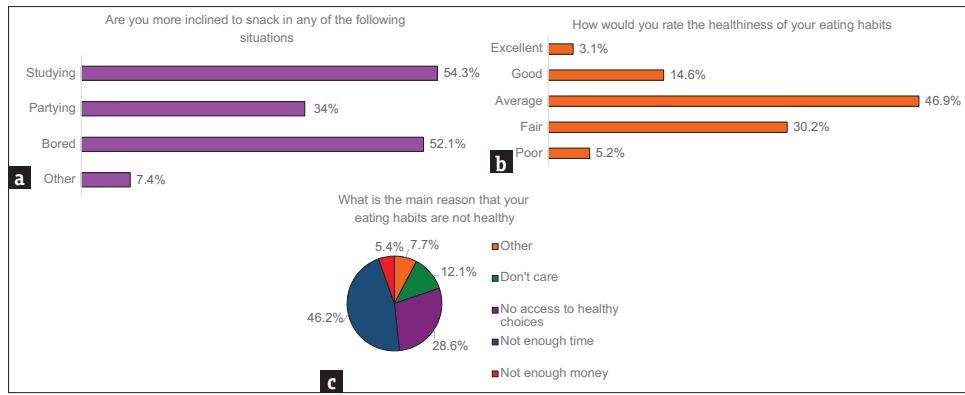
## RESULTS

The data were collected and tabulated in forms of bar charts and pie charts [Figures 1-5]. When asked about eating meals at exact mealtime, a total of 36% had their breakfast on time, 42% had their lunch on time, and 51% had their dinner on time. Some of the remaining participants had their meals usually, seldom or never [Figure 1a]. Details regarding the preference to the type of food revealed that 44.67% preferred home foods, 45.69% had convenience food sometimes, and 46.7% sometimes had preserved or processed foods. With regard to stress eating and snacking frequency, it was found that 22.84% always ate more when stressed, whereas the same percentage ate more when stressed only sometimes. 27.92% seldom had the habit of snacking [Figure 1b].

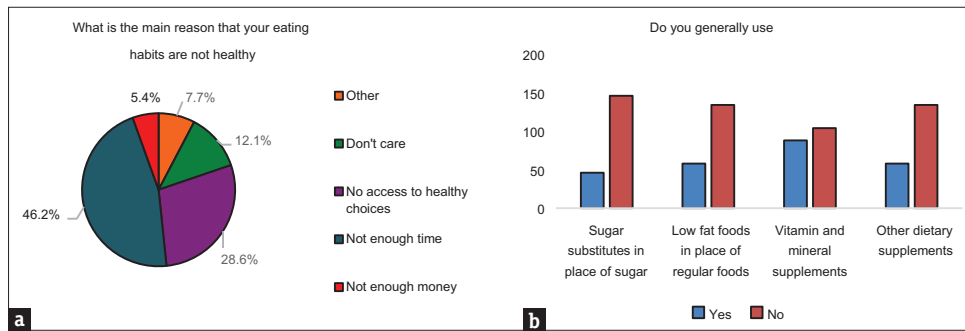
When asked about the snacking habits, in reference to the time or situation, a total of 54.3% had this habit during studying, 52.1% when they were bored, 34% at parties, and 7.4% due to other reasons which were not stated. In reference to the type of snacks that they consumed, 58.7% ate foods that were high in salt and oil such as chips. 41.3% consumed foods that were rich in sugar such as sweets, ice-cream, and sticky foods such as cookies. 37% had the habit of eating fast foods and 4.3% stated other foods which were not specified



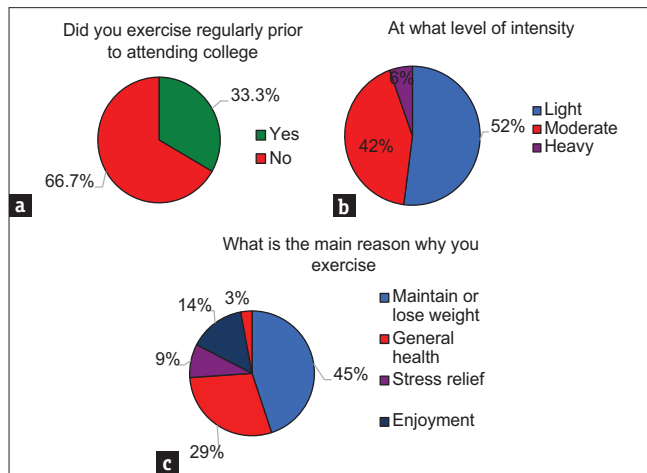
**Figure 1:** (a) Graph depicting the frequency of eating meals at mealtimes. (b) Graph representing the frequency of snacking



**Figure 2:** (a) Graph depicting situations where one is inclined to snack. (b) Graph depicting ratings of one's healthiness of eating habits. (c) Graph depicting the main reason that the eating habits are not healthy



**Figure 3:** (a) Graph depicting the reasons for not having healthy habits. (b) Graph depicting the supplements/substitutes generally used



**Figure 4:** (a) Depicting graph regarding the previous habit of exercise. (b) Graph depicting the intensity of exercise, (c) Graph depicting the reason for exercising

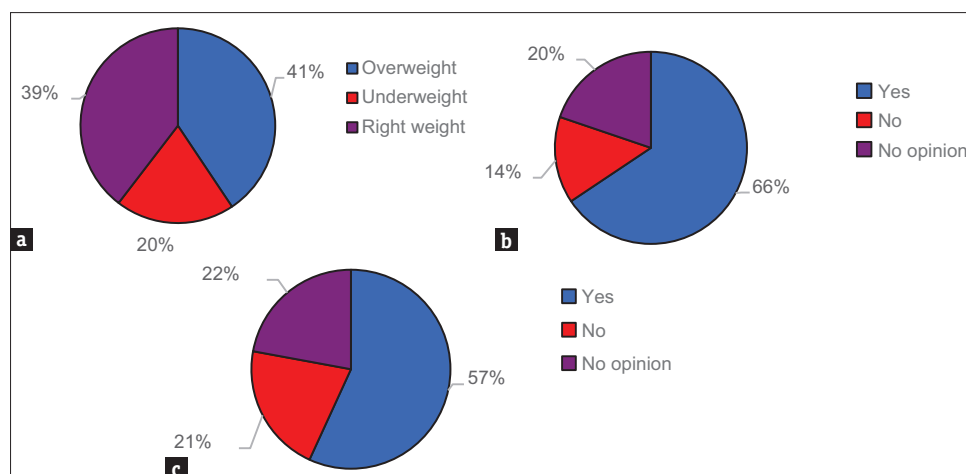
[Figure 2a and b]. When asked to rate the healthiness of the foods that they eat, 46.9% rated it average, 30.2% rated it fair, 14.6% rated it as good, 5.2% rated it poor, whereas 3.1% rated it excellent [Figure 2c].

The reason behind unhealthy eating habits was also evaluated. A majority of 46.2% stated that they did not have enough time, 28.6% said that they did not have proper access to healthy foods, and 12.1% said that they did not really care or pay attention to what they were

eating. 5.4% said that they did not have enough money and 7.7% were due to some other reason [Figure 3a]. The intake of sugar substitutes and various other dietary supplements were also evaluated. 76% of them did not use any sugar substitutes, 70% did not have the habit of taking any vitamin or mineral supplement, 46% had the habit of taking low-fat foods, and only 29% took other dietary supplements [Figure 3b].

The exercise pattern was evaluated on the basis of habit, intensity, and reason. A majority of 66.7% did not have the habit even before joining the college. With regard to the level of intensity, 33.3% of them did light workout, and 42% did moderate workout and 7% had the habit of doing heavy workout. The reason for exercising was mainly to maintain or lose weight (45%). 29% for general health, 14% for enjoyment, 9% stated that they worked out to relieve stress, and 3% for other reasons [Figure 4a-c].

Evaluation of one's own weight revealed that 41% considered themselves overweight, 39% considered them correct, and 20% considered themselves as underweight [Figure 5a]. When asked about the importance of courses on the health and general well-being, 66% felt a need for courses in the curriculum, whereas 14% did not have any opinion [Figure 5b]. With regard to opinion about nutrition counseling, a majority of 57% were in favor of it, whereas 21% were not for it [Figure 5c].



**Figure 5:** (a) Graph depicting the category they consider themselves. (b) Graph depicting the opinion regarding health and wellness courses in the curriculum. (c) Graph depicting the opinion regarding nutrition counseling for students

## DISCUSSION

A proper diet and physical activity is very essential for the prevention of many chronic diseases and thereby premature death.<sup>[11]</sup> The energy expenditure for day-to-day life has decreased in the recent years, resulting in the increase in mean body weight in men and women.<sup>[12]</sup> It has been shown that regular exercises on an average can also increase the life expectancy by 1–2 years.<sup>[13]</sup> The dietary pattern in today's world has undergone many variations. Certainly, there has been an increased consumption of fancy and caloric foods.<sup>[14]</sup> Thus, it is necessary to maintain a balance between these two.

In this study, only 36% of them had their breakfast on time, 42% had their lunch on time, and 51% had their dinner on time. Not eating on time can result in various adverse effects. For instance, it may play a vital role in the etiology of gastric ulcers.<sup>[15]</sup> Skipping meals cannot necessarily reduce weight but may cause various other problems. Studies have shown that dietary treatment consists in lowering the energetic value through reduction of fat consumption and quantity and quality changes with respect to carbohydrates decreased obesity.<sup>[16]</sup>

There have been various speculations about eating late at night. Previously, it was thought that eating just before night time may result in the development of obesity and variations in the circadian rhythm.<sup>[17,18]</sup> Studies have also shown that the thermal response to a meal is lowest at night time when compared with anytime during the day.<sup>[19]</sup> Recent studies have shown that only large quantities of food will result in adverse effects and in fact when small quantities of food are taken, then these results are inconsistent.<sup>[20,21]</sup>

The preference to the type of food showed that only 44.67% preferred home cooked, while the others gave preference to convenience foods and processed and fast foods. Increased consumption of fast and/or junk foods can result in various adverse effects such as problems with memory and learning abilities, exposes to the individuals to increased risk of dementia, increased appetite and cravings, and also depression due to various chemical changes.<sup>[22]</sup> Thus, it is best if these foods are avoided.

In our study, 22.84% revealed that, they ate more when stressed which is in concordance with other studies.<sup>[23]</sup> This is due to the effects of long-term stress on various hormones such as insulin, glucocorticoids, which in turn influences the activity of leptin, thereby resulting in increased intake of food.<sup>[24-26]</sup>

The findings of this study revealed that a majority of them (54.3%) had the habit of snacking during studying. Literature shows that the intake of food increases when the individual's attention is diverted toward something else and is not concentrated on eating.<sup>[27]</sup> 58.7% of them consumed foods that were high in salt. Chronic consumption of foods with high levels of sodium can eventually result in increased blood pressure and cardiac problems.<sup>[28]</sup>

Sugar substitutes also called as artificial sweeteners can be used as alternatives to sugar in our day-to-day life. These can help to reduce the prevalence of diabetes and other related diseases.<sup>[29,30]</sup> The most commonly used are saccharin and sucralose.<sup>[31]</sup> In our study, only 24% used sugar substitutes.

In our study, it was found that only 66.7% of them had the habit even before joining college and 42% of them did a moderate workout. There are various studies which

correlate the relative risk of death due to diseases and physical inactivity.<sup>[32-35]</sup> Studies suggest that a regular, even, low-intensity workout on the long run can help in the prevention of various diseases thereby helping in the overall health of the individual.<sup>[36,37]</sup>

Nutrition counseling can help in assisting to make changes in a person's diet. It helps in the improvement of a person's dietary habits. It helps majorly in people with a mental disorder and in those who are taking medications to adopt a more healthier diet and to avoid drug–nutrient interactions.<sup>[38]</sup> In our study, 66% were in favor of courses on health education and 57% were willing for nutrition counseling. Thus, incorporation of these can help in the betterment of the students dietary pattern.

The limitation of our study was that it was carried out in a single institution. Further studies with increased sample size covering the various other aspects such as attitude toward other dietary products will help us better to understand the subject.

## CONCLUSION

Obesity is on the rise, a reservoir for many of the chronic diseases. Taking care of our diet and adopting a simple exercise pattern is essential to prevent the adverse effects due to unhealthy habits and maintain fitness along with a healthy lifestyle.

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## Conflicts of interest

There are no conflicts of interest.

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