

Awareness about Diet Patterns and Physical Activity among Orthodontic Patient Post Covid

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Abstract

Background : The demand for orthodontic treatment has been increased in recent years. This is due to the high conscious of esthetics by the patient themselves. Most done treatment is fixed orthodontics. During fixed orthodontics, patients are often advised to follow certain dietary restrictions such as to eat soft food during the initial stages of treatment by the practitioner for preventing pain and discomfort which is usually caused by the appliance. This study involves in accessing the difference of level of awareness about dietary pattern among patients before and after COVID.

Aim

The aim of the study to access the awareness of patient for dietary plan for healthy lifestyle

Materials and Methods

This study involves collection of information from 100 individuals who is undergoing orthodontic treatment. An online survey platform was used and information was collected from the patient pre and post COVID.

Results

A significant association between calorie and protein intake with BMI categories underweight, normal, overweight and obesity was observed. There was a significant association between excess calorie intake and BMI but not between physical activity and BMI.

Conclusion

Improper dietary habits including high calorie/protein intake was associated with increased BMI among the orthodontic patients. The role of regular physical activity alone as a single factor influencing variations in BMI among each persons could not be established in the study.

Introduction

The demand for orthodontic treatment has been increased in recent years. This is due to the high conscious of esthetics by the patient themselves. Most done treatment is fixed orthodontics. During fixed orthodontics, patients are often advised to follow certain dietary restrictions such as to eat soft food during the initial stages of treatment by the practitioner for preventing pain and discomfort which is usually caused by the appliance. Epidemiological transition in relocating the etiological fields of morbidity and mortality from infections to Non- communicable diseases took an alarming deviation when World Health Organization (WHO) declared obesity as a global epidemic with major implications on human health in 1997. Nutritional transition has also occurred over the last four decades with the food consumed by humans having an average 7% decrease in Carbohydrate derived energy and 6% increase in energy derived from fats. There has been a decline in consumption of traditional diets which contain grains, vegetables and fruits and increase in unhealthy modern diets rich in fat, sugar and salt. Urbanization and Globalization have influenced the cultural values of people in selecting fancy and high calorie fast foods, popularly known as Junk

foods over their healthy counterparts. Physical inactivity has partnered unhealthy diet as the socio-economic transition made decline in traditional agricultural hard work to intermittently active computerised occupational activity which renders only 14% of the population in India involved in regular non-occupational physical activity. Adolescence is there where the influence of marketing world is high and choice of right food and exercise becomes hurdled. The WHO alarm on increasing NCDs among adolescents ratifies the need for appropriate intervention at this age group

The change in the food pattern represents the quantity, the number of times, and the food that they are taking as their daily routine diet. Usually, the amount of food that the persons take when they are during orthodontic treatment is less than that of normal times. This change has a direct effect on the weight of the person, pattern of metabolism in these specific persons. This is because the pattern of body's metabolic maintenance differs and thus resulting in decrease in weight and the body mass index (BMI) of the persons at the termination of the treatment. This study involves in accessing the difference of food pattern changes and their respective BMI changes in patients undergoing orthodontic treatment pre and post COVID.

Materials and Methods

100 patients undergoing orthodontic treatment was included in the study. This study involves collection of information from the patients were involved. An online survey platform was used to collection of the data from the patient. The collected data were then converted to excel format statistical analysis was done

Results

The study included 100 orthodontic patients among which majority were females (76.5%) and few were males (23.5%). All the study participants belonged to the adolescent age group with a mean age of 21.05 years. The BMI of the study participants along with their mean Calorie intake and protein intake is pictured in graph 1.

There is no significant difference ($p=0.24$) in the distribution of participants in various BMI categories. There is a significant increase in Mean Calorie and protein intake as the BMI increases showing significant differences ($p<0.001$) among the four BMI Categories.

Among the orthodontic patients, 33% had normal BMI, 91.8% had history of junk food consumption and 65% had the habit of skipping meals. Lack of time (30.59%), aversion towards food (29.4%) and dieting (7.1%) were considered as major reasons for skipping the meals(23.5%), lack of company (20%) and lack of motivation (14.1%) were major reasons for skipping exercises. There was a significant association between excess calorie intake and BMI but not between physical activity and BMI.

Discussion

Food industry has been maximum influenced by globalization resulting in acculturation of modern, ready to consume, attractive, maximally advertised and minimally nutritive (empty calorie foods) food called 'Junk foods' with the traditional nutritive Indian diet, gradually, replacing the healthy eating habit to unhealthy food consumption. In the present study 91.8% had habit of junk food consumption. Shukla et al in their study 40.7% of patients habitually consumed some type of junk food daily.⁶ This was less compared to our study and may be attributed to the higher availability of shops, lesser sample size and higher age group in our study compared to the former. Habitual junk food consumption changes the entire pattern and frequency of food consumption. The three time meals and two times snacks in between cycle of diet pattern gets broken due to the convenience in consumption of junk food anywhere and anytime. We found that 65% of the patients in study skipped meals due to various reasons as mentioned earlier. This leads to erratic timing, quantity and quality (high calorie, low nutritive) of food intake which triggers major enzymatic/hormonal

changes in the body splinting- up many non-communicable diseases including obesity. In the study by Kumar et al, 56% of study subjects skipped meals, which was similar to the findings of our study.⁷ Among the students, the proportion of underweight, normal BMI, overweight and Obesity were 21.2%, 32.9%, 24.7% and 21.2% respectively and were symmetrically distributed among the various BMI categories ($p=0.24$). In the study done by Geethamani in 2014, the proportion of overweight 24% was similar to our study but obesity 9.3% was comparatively low.⁸ This clearly shows that the incidence of obesity has increased among the dental students over years and it is an alarming trend. This increase in overweight and obesity was attributed to the physical inactivity in a study done by Saranya et al but a significant association of overweight, obesity and physical inactivity could not be established in our study.

Conclusion

The study clearly showed that improper dietary habits including high calorie/protein intake was associated with increased BMI among the dental students. The role of regular physical activity alone as a single factor influencing variations in BMI among the students could not be established in the study. Hence proper diet modifications including avoiding junk foods and including timed healthy food along with physical activity can help in preventing overweight and obesity.

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