

Oral Health Status among Students in Dormitories

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Abstract: Dental plaque is the best indicator for the oral hygiene. If we do not have satisfactory oral hygiene, there is high plaque index. DMFT index measures the prevalence of dental caries.

Aim: The aim of our survey is to assess the oral health status among students in the dorm.

Material and Methods: For the realization of this survey were included 100 students from the dorm "Oaza" in Stip, Macedonia. Among the students, examinations were made, where it was determined the condition of the teeth and plaque index.

Results: Mean value for sOHi was 1.42. More than half of the students maintain good oral hygiene, but they should take adequate measures to promote their oral hygiene. It was determined unsatisfied level of oral hygiene among fourteen percent of the students. DMFT index the mean value was 15.46. Twenty percent of students had DMFT index higher than 20. Forty-seven percent had DMFT index of 10 to 20 and less than 10 DMFT index had thirty – three of students from the dorm.

Conclusion: Oral health among students in dorms is on good level, but with adequate preventive methods and activities, and education in these collective it can get better.

Keywords - DMFT index, Dormitories, sOH index, Students, Oral hygiene

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I. Introduction

Life in dormitories, as a small residential unit allows the transfer of different habits and attitudes among individuals who are stationed there. Numerous negative attitudes can be transferred from one to another. Most students who have lived in a college dormitory are likely to agree that dorm-mates can have a large influence on the college experience. While living the college experience is an enjoyable one much of the time, the combination of stress and being made free from parental discretion leave students with new, liberating ventures. Dorm-mates are natural candidates for friendship and companionship. Partying roommates, besides being noisy, may tempt a student to join in the activity and reduce his or her study time.[1]

The student population includes individuals between the ages of 19-24 years. This age is perfect for creating bad habits in relation to oral health and hygiene. One of these is deciding which health students will continue with or drop once they begin their college lifestyle, in many instances, college students consider their health, especially their oral health, to be unessential when they are under pressure in several areas of their lives. Studies, papers, exams, sports, platonic love, intimate love, and other factors sometimes play a much bigger role to this demographic than the simple act of brushing, flossing, and maintaining a balanced diet.[2] Jain et al.[3] pointed to the fact that academic stress, which is inevitably present in students can affect oral health among students.

Irregular dental check-ups are also associated with poor oral health and hygiene among the residents in the dormitories. Sometimes these rare check-ups are due the fact that students are not in their place of living. Students also are not as receptive to being treated by a dentist with whom they are unfamiliar located close to campus, and they are also unsure of which dentist has the best reputation in the area, as would be the case if they went to a local practice.

Dental plaque and hard dental deposits are a risk factor for occurrence and progression of periodontal disease and dental caries. Different food habits especially using of high refined carbohydrates is one of the biggest cause of increased caries incidence. Health behavior such as the use of fluoridated tooth paste and regular tooth brushing is rare among students living in dorms.[4]

Oral health is an integral part of the overall health and includes the health of the oral cavity or the health of teeth themselves, periodontal tissues, oral mucosa, the salivary glands and surrounding structures.[5] Oral health is severely lacking across the nation. Institution needs to be made aware of this fact and reflect upon or change their oral hygiene habits.[6] The mouth contains a number of different tissues some of which, such as

mucous membrane, connective tissue, blood vessels, nerves, muscles and bone, are found throughout the body. Any of these tissues can suffer from infection, trauma, degeneration or neoplastic changes.

The accumulation and metabolism of bacteria on hard and soft oral surfaces is considered the primary cause of dental caries, gingivitis and periodontitis.[7] Indeed, dental caries and periodontal disease are so widespread that virtually everybody in the world, certainly every adult has either one or both of these conditions. The provision of dental treatment consumes economic resources and requires highly trained personnel. The only possible way forward in improving oral and dental health for all, is an only with excellent oral hygiene.[8]

Dental plaque is defined as the soft deposits that form from the bio film adhering to the tooth surface or other hard surface in the oral cavity including removable and fixed restorations. The biofilm community is initially formed through bacterial interactions with the tooth and through physical and physiologic interactions among different species within the microbial mass.[9] The dental plaque is differentiated into two categories by: supragingival and subgingival.[10]

Plaque identification may be done either by screening the plaque directly from the tooth surface,[11] changing its color with a disclosing solution,[12] or by using the ability of natural teeth to fluoresce under blue light.[13]

The main goal of our survey is to raise awareness of the risks of bad oral hygiene and the methods to prevent these risks as well as incite change in the oral hygiene practices of students in the dorm. Greater knowledge and attention to oral health is associated with better oral health. Therefore, investing in preventive and educational measures especially among young people and adolescents, among which students can transfer significantly improve the oral health of truth. Living and sharing a common space greatly facilitates the possibility of implementation of such a prevention program in the dorm.[14]

II. Material And Method

In the survey were included 100 students from the dorm "Oaza" in Shtip, Republic of Macedonia. The student population includes individuals between the ages of 19-24 years. The research was conducted in the period from April to July 2016

For the realization of this survey was made a questionnaire with four questions and evaluation of the dentist. Students answered the questionnaire about maintaining oral hygiene.

In the same students, checks were made, where it was determined the condition of the teeth and plaque index. Dental plaque was determined by probing and values were obtained with simplified OHI index by Green Vermilion which has three values at 0 to 0.6 is a excellent oral hygiene, 0.6 – 1.9 is a good oral hygiene and 1.9 – 3 is a unsatisfactory oral hygiene.

For determining this index is used representative group of teeth: first left and right upper molar, upper right and lower left central incisors determining the presence of dental plaque vestibular side, while on the lower first molars it was determined the presence of dental plaque from the lingual side. The presence of dental plaque is determined by sliding the probe along the surface of the tooth. Tooth surface is divided into three thirds: gingival, middle and occlusal. Therefore how much of the tooth in thirds is covered with dental plaque and estimated the presence of dental plaque.

For each representative tooth pre-defined by the tooth is estimated the presence of dental plaque according to the following numerical scale: 0 marks the absence of dental plaque, with 1 there is the presence of dental plaque present on a third of the tooth surface, 2 - dental plaque present on more than one third and less than two-thirds of the tooth surface, 3 dental plaque present on more than two-thirds of the tooth surface. The values for each tooth are collected and divided by the number of examined surfaces- 6.

The existence of dental plaque and dental caries during the research is noticing by check-ups of examined subjects only with using dental mirror and probe. During the examination, they were not used additional or supplementary instruments and methods.

For determining the level of caries among students was elected DMF Teeth index. DMFT - index (originally: D - "Decayed" – (cariou), M - "Missing" – (extracted due to caries), F- "Filling" – (tooth with definitive filling)).

The data obtained from the clinical examination after the collection was statistically processed. For statistical processing was used special software for statistical processing of data- Statistica 7.1.

III. Results

The average age of participants in the study was years (exactly 21, 04 ± 1.12 years, ranging from 19-24 years with Confidence interval from 19.64 to 23.42 years). For realization of this survey, students answered questions, which were part from one questionnaire.

Through the analysis of the first question how many times in a day do you brush your teeth? we can notice that more than half of the students brush their teeth (exactly 52% of the subjects) twice a day, and just 16% after each meal and 10% brush their teeth three or four times a day (Table 1).

By the answers on the questionnaire, we can note that most of the subjects use circular movement to brush their teeth (45 %). Just 15% of the subjects use horizontal movement to brush their teeth (Table 1).

Third question was about who has shown you how to brush your teeth? Most of them answered that it is their dentist (44%) and their parents (39%). By the answer we have noticed that nobody asked for help from his friend for teaching how to brush teeth (Table 1).

About the use of some additional things to maintain oral hygiene, we can see that 65% of the examined subjects use some additional things such as: dental floss, interdental brush and mouthwash solution (Table 1).

TABLE No. 1. Questionnaire of Oral Hygiene Habits on the Students

Questions	Response	Percentage of students	Number of students N=100
How many times in a day do you brush your teeth?	Once	22%	22
	Twice	52%	52
	After each meal	16%	16
	Other	10%	10
Which movement do you use to brush your teeth?	Horizontal	15%	15
	Vertical	27%	27
	Circular	45%	45
	Other	13%	13
Who has shown you how to brush your teeth?	Your Dentist	44%	44
	Parent	39%	39
	Friend	0%	0
	Other	17%	17
Do you use some additional things to maintain oral hygiene?	Yes	65%	65
	No	35%	35

Presence of the dental plaque was determined by probing and values were obtained with simplified OHI index Green Vermilion. The mean value found for sOHI index was 1.42 ± 0.78 (range from 0.8-2.6 with Confidence interval from 0.96 to 2.31). More than half (53%) of the students had plaque index of 0.6 to 1.9 which means that they maintain good oral hygiene, but they should take adequate measures to promote their oral hygiene. It was determined unsatisfied level of oral hygiene among fourteen percent of the students (Table 2).

TABLE No. 2. Values of Silness and Loe Dental plaque index

Values of Silness and Loe Dental plaque index	Percentage of students	Number of students Total = 100
0 – 1	45%	45
1 – 2	53%	53
2 – 3	2%	2

The mean value found for DMFT index was 15.46 (range 2-24 with Confidence interval from 5.18 to 21.76). Twenty percent of students had DMFT index higher than 20. Forty-seven percent had DMFT index of 10 to 20 and less than 10 DMFT index had thirty-three of students from the dorm (Table 3). The most common component among students of dorms is filling teeth with definitive filling (F – component of DMFT index) with average value of this was 12.91. Most students, fifty – three percent had repaired teeth less than 10. Thirty percent had repair teeth between 10 and 20. And seventeen percent of the students had filling teeth higher than 20 (Table 3). The average value of untreated caries teeth (D - component of DMFT index) among the students in the dorm was 1.26. Fifty – four percent of students had tooth decay, of which: eighteen percent had caries on a one tooth, caries on a two teeth had twenty percent of students and tooth decay of three or more teeth had sixteen percent. (Table 3). The mean value of lost teeth (M - component of DMFT-index) was 1.26. Large percent of the students (45%) had extracted teeth. As a result of Irregular dental check-ups are also associated with poor oral health and hygiene among the residents in the dormitories. Seventeen percent of the students had extracted one tooth, twelve percent had two extracted teeth, three extracted teeth had seven percent of the students and four extracted teeth had eight percent of the students. Fifty – five percent of the student didn't have missing teeth (Table 3).

TABLE No. 3. Values of DMFT index

	Number of tooth	Percentage of students	Number of students N= 100
DMFT Index	0 – 10	33%	33
	10 – 20	47%	47
	20 – 32	20%	20
"Filling" – (tooth with definitive filling)	0 – 5	53%	53
	6 – 10	30%	30
	10 – 32	17%	17
"Decayed" – (caries teeth)	No caries	46%	46
	Caries on a one tooth	18%	18
	Caries on a two teeth	20%	20
	Caries on a three teeth	8%	8
	Caries on a four teeth	8%	8
"Missing" – (extracted due to caries)	No extracted tooth	55%	55
	One	18%	18
	Two	12%	12
	Three	7%	7
	Four	8%	8

IV. Discussion

A greater knowledge and attention to oral health is associated with better oral health. Therefore, investing in preventive and educational measures especially among young people and adolescents, especially among students may provide a significant improvement on the oral health and hygiene. Living and sharing a common space greatly facilitates the possibility of implementation of such a prevention program in the dorm.

Carelessness to oral health and hygiene is prevalent among individuals in the dormitories. Such attitudes spread quickly among students who are placed in such institutions. An attitude naturally reflects their own experiences, cultural perceptions, familial beliefs, and other life situations and has a strong influence on oral health behavior.[15]

Oral hygiene is one of the most important measures for the preservation and promotion of oral health. Oral hygiene represents the removal of substances which have a deleterious effect on hard dental tissue and soft dental tissue. Person who maintain regular oral hygiene have a significant low plaque index.[16]

According to Kojima et al.,[17] university students are in a dynamic transition period of growth and development that bridges adolescence and adulthood. At this age, many of them live away from home for the first time in their life and are faced with the responsibility for their personal health and behavior. During this period, poor health behavior may affect self-rated oral health. Thus it is important to focus on any factors related to self-rated oral health in university students.

From the obtained results during the research we can observe that half of all respondents brush their teeth twice a day, which is a high percentage. But it should be noted that this is subjective survey question, so there are possibility respondents not to provide relevant data.

According to the results the majority of respondents learned to brush your teeth with the help of their dentists or with the help of their parents. It is interesting that none of the respondents did not seek help from their roommates to learn how to brush teeth. So it can be concluded that roommates have no role in the process of learning for brushing teeth.

The results more than 60% use additional things in maintaining oral hygiene, such as: dental floss, interdental brush and mouthwash solution. But it must be noted that it is subjective assessment, and it is possible they do not provide true data.

The obtained mean value for simplified OHI index Green Vermilion of 1.42 ± 0.78 indicates that most respondents have satisfactory oral hygiene. Only concern is the fact that only a small proportion of respondents possess excellent oral hygiene. Among the most of the participants it is necessary to take appropriate preventive and educational measures to improve the level of oral hygiene.

DMFT index is chosen because is commonly used index for assessment of dental status. DMFT-index is used in order to statistically determine the number of carious, extracted and filled teeth per individual and the average value of this index in the tested population. Primary DMFT index is developed for use in childhood and later is adapted for use in the older population groups.

This index refers only to the presence of the disease, this index does not take into consideration the reasons for teeth loss - whether the tooth is lost due to caries or periodontal disease, risk for caries occurrence and dental assessment of the need for treatment.

DMFT index largely depends on individual oral hygiene. The presence of dental plaque and tartar leads to the possibility of the occurrence and progression of dental caries and periodontitis.[18]

The value of DMFT index obtained in this research was 15,46 is quite high and often seen in the literature. Our results for DMFT index correlate with the data obtained by Ditmyer .[19] Lower index values for

DMFT index are presented by Hopcraft[20] and Morgan[21], Kruger et al. [22], Petti et al.[23] and Levin et al.[24] Higher values for DMFT index are quite rare in the literature and observed by Veerasamy et al.[16]

F- Component (teeth with definite fillings) has the highest value in the DMFT index among these students. This value of F-component is contrary of the neglect for their oral health of the respondents, irregular check-ups Also this value is high even the definitive fillings were not last, or their durability is reduced due to other factors. The lack of four or more teeth in about ten percent of respondents indicating the ultimate effect of the indifference of the population for the oral health and low education and promotion of oral health globally.

A particular concern in our investigated population is the high percentage of people with caries. More than half of respondents in their own mouth possess unless one carious tooth, indicating a lack of interest in this population for oral health.

V. Conclusion

Life in the dormitory as a small residential unit allows the transfer of different habits and attitudes among individuals who are stationed there. Students in this dormitory regularly maintain oral hygiene. More than half brush their teeth twice a day, most of the students brushed their teeth with circular movements and use additional funds for oral hygiene as dental floss, interdental brush and mouthwash solution. But despite good oral hygiene students have high DMF Teeth index with an average value 15.46. Large percent of the students (45%) had extracted teeth. These high values of the DMFT index are due to irregular dental check-ups among the residents in the dormitories.

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