



Oral health behavior and attitudes among students of health and non-health oriented studies

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ABSTRACT

Introduction: Unhealthy behavior such as neglecting to brush and floss, using tobacco and alcohol, and inadequate nutrition can adversely affect dental health. The frequency of dental visits is also of great importance in the early detection of different oral disorders. Our aim was to assess oral health behavior and attitudes among students of the 1st year of two health and non-health oriented studies of University of Sarajevo.

Methods: We included 119 students of the 1st year of Faculty of Health Studies and 108 students of the 1st year of Faculty of Architecture of the University of Sarajevo. A self-administered questionnaire was used, comprising demographic data, data on oral hygiene habits, dental attendance pattern, a number of extracted teeth as well as problems with the appearance, comfort, and social life due to teeth problems.

Results: Faculty of Architecture students significantly more often visit their dentist ($\chi^2 = 24.174$, $df = 5$, $p = 0.00$). Faculty of Health Studies students have significantly more extracted teeth ($\chi^2 = 35.54$, $df = 4$, $p = 0.001$). Dental health habits were significantly better at the students Faculty of Architecture ($\chi^2 = 16.391$, $df = 2$, $p = 0.001$). No significant difference between the groups about avoiding encounters due to teeth and dentures problems.

Conclusion: Oral health related attitudes may be better in students of non-health oriented studies, however, these results have to be confirmed by more investigations and larger studies.

Key words: Oral health behavior; dental habits; oral health-related quality of life

INTRODUCTION

The quality of life of an individual, in addition to other factors of everyday life, is greatly affected by

oral conditions. Oral disorders may arise at all stages of life, and their presence affects the diet, reduces the sense of self-esteem and ability to communicate, and generally affects health both in the period of childhood and adolescence, as well as in the older age (1). Oral pathology shows a wide variety of conditions within the oral cavity, and dental plaque, as a mixed culture biofilm, can be considered as the main cause of dental and periodontal diseases. The main determinant of preservation of oral health, among other

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things, implies removing dental plaque (2). Unhealthy behaviors such as neglecting to brush and floss, using tobacco and alcohol, and inadequate nutrition can adversely affect dental health. A frequency of dental visits is also of great importance in the early detection of different oral disorders (3-6). Adequate oral hygiene implies removing the dental plaque using a toothbrush and toothpaste, as well as some additional products such as dental floss and mouthwash (7,8). Caries prevention through healthy diet implicates the reduction in frequency and amount of intake of cariogenic food, above all refined carbohydrates, sugars, and sweets (9). Regular dental examinations, at least annually, may detect an early carious lesion and indicate inadequate oral hygiene.

The aim of this study was to assess oral health behavior and attitudes among students of the 1st year of two faculties (students of health and non-health oriented studies) of University of Sarajevo.

METHODS

The research was conducted as a cross-sectional study to examine oral health behavior and attitudes among students of the 1st year of two faculties (students of health and non-health oriented studies) of University of Sarajevo. The sample consisted of 119 students of the 1st year of Faculty of Health Studies and 108 students of the 1st year of Faculty of Architecture of the University of Sarajevo. The aim, characteristics, and importance of the study were explained to all participants who voluntarily agreed to participate in the research, and the participation rate was 100%. The study was conducted using a self-administered questionnaire comprising demographic data, data on oral hygiene habits, dental attendance pattern, a number of extracted teeth as well as problems with the appearance, comfort, and social life due to teeth problems. The response rate was 100%.

All data were analyzed using Statistical Package for the Social Sciences (SPSS) edition 20.0. Chi-square test was used to estimate the statistical difference of the comparative data. $p \leq 0.05$ was considered statistically significant.

RESULTS

A total of 227 volunteered to participate in this study. Out of the 227 students, 52.4% (119) were

students of the 1st year of the Faculty of Health Studies, and 47.6% (108) were students of the 1st year of the Faculty of Architecture, out of which 165 (73.0%) were female, while 27.0% (62) were male respondents. The frequency of visits to the dentist is shown in Table 1. Majority of the participants, 125 or 55.1% of them, visited their dentist only if needed, 28.2% (64) respondents answered that they visited their dentist every 3 months, while 8.8% (20) respondents visit the dentist annually. Two participants did not answer this question. Chi-square test showed the statistically significant difference in the answers between students of the Faculty of Health Studies and the Faculty of Architecture ($\chi^2 = 24.174$, $df = 5$, $p = 0.001$) (Table 1).

A number of extracted teeth are presented in Table 2. Only 24 respondents (10.6%) have no extracted teeth. 105 or 46.3% participants reported that they have one to two extracted teeth and 33 of them (14.5%) have 3-9 extracted teeth.

Table 3 lists the student's answers concerning their home-based dental health care. A higher percentage of students reported a tooth brushing frequency of twice per day (97.4% or 221 of them). The regular use of toothpaste was reported by 119 students (52.4%), and dental floss was used at 99 students (43.6%). Oral hygiene habits were significantly better among the students of the Faculty of Architecture comparing with the students of the Faculty of Health Studies ($\chi^2 = 16.391$, $df = 2$, $p = 0.001$). No significant difference was observed between the respondents of the two faculties concerning the tooth brushing frequency (Table 4).

Regarding problems with teeth in the past 12 months, 38 participants (16.7%) reported that they have teeth problems sometimes, 14 (6.2%) of them have teeth problems periodically, while 99 or 43.6% of all participants never have problems with the teeth (Table 5).

Answers concerning the oral health-related quality of life were presented in Tables 6 and 7. Majority of the participants never felt shame because of the teeth problems (71.4% or 162 of them), and 15.9% (36) participants rarely felt a shame regarding the problems with their teeth. 11.5% (26) of the respondents reported that sometimes they feel ashamed because of the teeth problems and 0.9% (2) of participants

TABLE 1. Frequency of visits to the dentist

Groups	n (%)				
	Every 3 months	Annually	When needed	Rarely	Never
Faculty of Health Studies	22 (18)	11 (9.2)	80 (67.2)	3 (2.5)	1 (0.8)
Faculty of Architecture	42 (38.9)	9 (8.3)	45 (41.7)	12 (11.1)	-

$\chi^2=24.174$, $df=5$, $P=0.001$

TABLE 2. Number of extracted teeth

Groups	n (%)				
	None	1-2	2-3	3-9	9+
Faculty of Health Studies	-	54 (45.4)	41 (34.5)	21 (17.6)	3 (2.5)
Faculty of Architecture	24 (22.2)	51 (47.2)	21 (19.4)	12 (11.1)	-

$\chi^2=35.54$, $df=4$, $P=0.001$

TABLE 3. Products for maintaining oral hygiene

Groups	n (%)		
	Paste and toothbrush	Paste, toothbrush, and dental floss	Chewing gums
Faculty of Health Studies	74 (62.2)	45 (37.8)	-
Faculty of Architecture	45 (41.4)	54 (50)	9 (8.3)

$\chi^2=16.391$, $df=2$, $P=0.001$

TABLE 4. Frequency of tooth brushing

Groups	n (%)		
	Twice a day	Once a day	I do not wash teeth often
Faculty of Health Studies	116 (97.5)	2 (1.7)	1 (0.8)
Faculty of Architecture	105 (97.2)	3 (2.8)	-

$\chi^2=1.217$, $df=2$, $P=0.544$

TABLE 5. Problems with teeth in the past 12 months

Groups	n (%)				
	Most of the time	Sometimes	Periodically	Rarely	Never
Faculty of Health Studies	1 (0.8)	17 (14.3)	5 (4.2)	42 (35.2)	54 (45.4)
Faculty of Architecture	-	21 (19.4)	9 (8.3)	33 (30.6)	45 (41.7)

$\chi^2=3.938$, $df=4$, $P=0.414$

TABLE 6. Shame caused by teeth problems

Groups	n (%)				
	Most of the time	Sometimes	Periodically	Rarely	Never
Faculty of Health Studies	1 (0.8)	14 (11.8)	2 (1.7)	18 (15.1)	84 (70.6)
Faculty of Architecture	-	12 (11.1)	-	18 (16.7)	78 (72.2)

$\chi^2=2.85$, $df=4$, $P=0.583$

reported periodically problems of the shame caused by teeth. At the same time, 88.5% (201) participants never avoid encounters due to problems with their teeth, mouth, or dentures, 3.5% (8) respondents

sometimes avoid encounters because of the problems with their teeth, mouth, or dentures, while 6.2% (14) rarely have the same problem. Table 8 summarizes results of the importance of oral health.

TABLE 7. Avoiding encounters due to problems with teeth and dentures

Groups	n (%)				
	Most of the time	Sometimes	Periodically	Rarely	Never
Faculty of Health Studies	1 (0.8)	2 (1.7)	--	8 (6.7)	108 (90.8)
Faculty of Architecture	-	6 (5.6)	3 (2.8)	6 (5.6)	93 (86.1)

$\chi^2=6.88$, $df=4$, $P=0.142$

TABLE 8. Importance of oral health

Groups	n (%)	
	Very important	Somewhat important
Faculty of Health Studies	113 (95)	6 (5)
Faculty of Architecture	102 (94.4)	6 (5.6)

$\chi^2=0.030$, $df=1$, $P=0.863$

A total of 94.7% (215) participants answered that the oral health is very important, which shows that all participants understand the significance of oral health.

The Chi-square statistic was used to compare the differences in oral health behavior and attitudes among students of the 1st year of the Faculty of Health Studies and the students of the 1st year of the Faculty of Architecture. The students of the 1st year of the Faculty of Architecture significantly more often visit their dentist. 38.9% or 42 of them visit their dentist every 3 months compared with the majority of participants from the 1st year of the Faculty of Health Studies, who visit their dentist if needed (67.2% or 80f them), ($\chi^2 = 24.174$, $df = 5$, $p = 0.00$).

Students of the 1st year of the Faculty of Health Studies have significantly more extracted teeth. Majority of the participants (45.4% or 54 of them) have 1 or 2 extracted teeth, while 2-3 extracted teeth have 34.5% or 41 participants ($\chi^2 = 35.54$, $df = 4$, $p = 0.001$).

Dental health habits were significantly better at the students of the 1st year of the Faculty of Architecture. Almost half of them (50% or 54 participants) used dental floss aside from the toothpaste, on daily bases ($\chi^2 = 16.391$, $df = 2$, $p = 0.001$).

When asked if they had teeth problems in the past 12 months, a higher percentage of students of the 1st year of the Faculty of Architecture (19.4% or 21 of them) reported that sometimes they had teeth problems compared to the students of the Faculty of Health Studies where 14.3% or 17 them

reported the same problems, but without statistical significance.

No significant difference was observed between the two groups of the participants concerning the answers about avoiding encounters due to teeth and dentures problems.

DISCUSSION

Students are a part of a population which plays a significant role in the progress and development of every society. As a whole, they represent a very important target group for the study of habits and practices that affect oral health. A special group in the student population is students of the Faculty of Health Studies, whose knowledge and attitudes of oral health and practicing of preventive measures largely influence primarily their actions in further work, which is of great importance for the health of the population. Numerous studies have shown that the knowledge of students of health education groups about oral hygiene-related practices is higher compared to the knowledge of students of other faculties (10,11), and from year to year, it rises to a higher level (12).

Regular dental visits play a major role in maintaining overall dental health. This study shows that the highest percentage of students of the Faculty of Health Studies visit their dentist only if needed (67.2%). The similar results were found in the group of students of the Faculty of Architecture, where the highest percentage of participants visits their dentist when they have a problem (45%). The percentage of participants in the group of students of the Faculty of Architecture who visit their dentist every 3 months is also high (42% of them). Similar research was carried out in Turkey and Montenegro. In Turkey, only 12% of respondents attend their dentists regularly (13), while in Montenegro 54.4% of respondents visit the dentist every 3-6 months (14). A result from our study is in consonance with the results of the study conducted in Foča where 51% of

school children visit a dentist only when they have a problem (15), and with the results found in Greece, where 51.25% of the respondents visit a dentist when they start feeling dental pain (16).

There is no one of the participants of the Faculty of Health Studies who has all their teeth. One or two extracted tooth has 54% of them, and 41% of the participants had 2 or 3 already extracted teeth. At the same time, in the group of students of the Faculty of Architecture, 24% of them have no extracted teeth at all.

Most of the participants from the Faculty of Health Studies use toothpaste and toothbrush as their regular oral hygiene-related practice (74%).

In the group of students of the Faculty of Architecture, aside from toothpaste and toothbrush 54% of them flossed at least once a day. Few studies also reported similar observation to ours. In a survey conducted in Montenegro, 71.2% of students of the Faculty of Political Science does not know that their toothpaste contains fluoride, while 87.7% of the respondents of the Faculty of Dentistry use fluoridated toothpaste (14).

This study shows no statistically significant difference in the frequency of toothbrushing between the investigated groups of students of health and non-health oriented studies ($p = 0.544$) which is in contrast comparing with the study conducted in Hiroshima, where was found that dentists and students of health studies have brushed their teeth more often compared to respondents from the Faculty of Civil Engineering (17). Most respondents from the Faculty of Health Studies (45.4%) and the Faculty of Architecture (41.7%) did not have problems with their teeth in the past 12 months, and most of them never felt embarrassed due to teeth problems.

CONCLUSION

This study has shown that the participants take care of their oral health and that there was no statistically significant difference in oral health behavior and attitudes among the students of health and non-health oriented studies. Either way, continuing education programs on the importance and preservation of oral health should be carried out in early childhood, primary and secondary school. The focuses during the studies should be emphasized among students of health studies because they are the bearers of the health policy of their population.

CONFLICT OF INTERESTS

Authors declare no conflict of interests.

REFERENCES

- Davidović B, Janković S, Ivanović D, Grujić I. Assessment of oral health of dentistry students. *Dent J Serbia* 2012;59(3):141-7. <https://doi.org/10.2298/SGS1203141D>.
- Marijević S. Oral hygiene as the dominant determinant of health. *Acta Stomatologica Naissi* 2013;29:1298-305. <https://doi.org/10.5937/asn1368298M>.
- Andelić I, Matijević S, Andelić J. The importance of oral health behavior of children form their oral health. *Sanamed* 2015;10(2):101-7. <https://doi.org/10.5937/sanamed1502101A>.
- Lalić M, Krivokapić M, Janković-Bukva M, Alekić E, Gajić M, Banković OD. The influence of habits and attitudes related to oral health on the oral health of adolescents in Belgrade. *Dent J Serbia* 2013;60(2):76-84. <https://doi.org/10.2298/SGS1302076L>.
- Računica J, Ivetić V, Naumović N, Đurić M. The influence of smoking on the resorption of the alveolar bone. *Dent J Serbia* 2008;55(2):107-14. <https://doi.org/10.2298/SGS0802107R>.
- Grgić O, Blagojević D. Effect of nutrition on oral health. *Dent Informant* 2012;2(3):34-38.
- Ljaljević A, Matijević S, Terzić N, Andelić J, Mugoša B. The importance of maintaining oral hygiene for mouth and tooth health. *Mil Med Rev* 2012;69(1):16-21.
- Lj L, Tošović V, Hasanagić S, Janković S. Maintenance of oral hygiene in patients with fixed orthodontic devices. *Dent Informant* 2011;11(27):5.
- Peres MA, Sheiham A, Liu P, Demarco FF, Silva AE, Assunção MC, et al. Sugar consumption and changes in dental caries from childhood to adolescence. *J Dent Res* 2016;95(4):388-94. <https://doi.org/10.1177/0022034515625907>.
- Usaman S, Bhat S, Sargod S. Oral health knowledge and behavior of clinical medical, dental and paramedical students in Mangalore. *J Oral Health Comm Dent* 2007;1(3):46-8.
- Simat S, Mostarčić K, Matijević J, Simeon P, Grget KR, Krmek JS. Comparison of oral status of students of the fourth year of various faculties of the university of Zagreb. *Acta Stomatologica Croatica* 2011;45(3):177-83.
- Nadeem M, Sidra S, Ahmed S, Khaliq R, Mirza H. Evaluation of dental health education and dental status among dental students at liaquat college of medicine and dentistry. *Int J Dent Clin* 2011;3(3):11-3.
- Akar CA, Ozmutaf NM, Ozgur Z. Assessment of oral health behavior of Turkish students. *Acta Stomatologica Croatica* 2009;43:13-23.
- Marković T. Student behavior related to oral health. *Acta Stomatologica Croatica* 2016;41:205-215.
- Davidović B, Ivanović M, Janković S, Lečić J. Awareness, attitudes and behavior of children towards oral health. *Mil Med Rev* 2014;71(10):949-56.
- Chrysanthakopoulos NA. Personal view and attitude towards oral health of medical students in Greece. *Acta Stomatologica Croatica* 2012;46(2):126-35.
- Jaramillo JA, Jaramillo F, Kador I, Masuoka D, Tong L, Ahn C, et al. A comparative study of oral health attitudes and behavior using the Hiroshima university-dental behavioral inventory (HU-DBI) between dental and civil engineering students in Colombia. *J Oral Sci* 2013;55(1):23-8. <https://doi.org/10.2334/josnud.55.23>.