

Dentistry in the eyes of medical students

Marija Nikolić¹, Mina Golubović², Ivana Veličković², Antonije Stanković², Jelena Popović¹, Aleksandar Mitić¹, Radomir Barac¹

¹University of Niš, Medical Faculty, Dentistry Clinic, Niš, Serbia;

²University of Niš, Medical Faculty, Dentistry student, Niš, Serbia

SUMMARY

Introduction It is known that patients primarily come to general practitioners asking for help with oral disease. Although the matter falls out of the frame of `traditional` medical practice, ethical guidance suggests that doctors should examine one`s oral cavity with the aim of recognizing symptoms which treatment could improve the quality of oral and general health leading to an early discovery of potentially severe diseases.

The aim was to examine the habits and attitudes of medical students and graduates who are interns related to oral health care, their knowledge of oral cavity diseases and systematic diseases with symptoms manifested in oral cavity, as well as their knowledge of patients who are at risk from dental interventions.

Material and methods The survey was conducted on the sample of 100 subjects. The questionnaire consisted of 16 questions. The results were collected and statistically analyzed.

Results The majority of subjects go to the dentist only after the toothache starts. Although 84% of medical students make sure to check oral cavity while taking medical history, more than half of the examined medical students would not send the patient to dentist for consultation. Every tenth student was not able to state other local disease of oral cavity apart from tooth decay. Even 6% of examined students classified the tooth decay as an aesthetic problem. Half of examined students considered their study program needed course in the field of dentistry.

Conclusion Medical students are not well informed about the field of oral hygiene and pathology of oral cavity. Interdisciplinary cooperation of General Practitioners and Dentists is important.

Keywords: dentistry; medicine; oral health; pathology of oral cavity; interdisciplinary approach

INTRODUCTION

The first data on the influence of oral diseases on general health is dated back to Babylon (2500 BC) and Hippocrates. In the records of ancient Egyptians, Greeks and Romans there is written evidence of the link between toothache and related headache and pain in legs, as well as successful treatment of such diseases after removing the diseased teeth [1, 2].

General definition of oral health implies the state of oral cavity without any changes, which not only makes people prettier but also provides normal functioning through the ability to chew, swallow, speak, laugh and kiss and through senses- the sense of taste and touch [3].

Oral health is a precondition for the maintenance of general health. Oral changes can be initial symptoms of systematic diseases, and in some cases it has been proven that there is a link between oral diseases and diseases such as diabetes, digestive disorders, cerebrovascular stroke, cardiovascular diseases, metabolic syndrome and cancer [2, 3]. Studies have shown a connection between the periapical tooth abscess and the occurrence of extra systoles and rheumatoid arthritis [1, 2]. Some studies have also indicated the relationship between odontogenic infections and skin diseases, such as alopecia areata combined with cutaneous systematic lupus [4]. The existence of "key

types" of microorganisms in the ecosystem of the upper part of gastrointestinal tract can be associated with the increased risk of aero-digestive tract cancer [5]. Periodontal diseases are the risk factor for cardiovascular diseases, diabetes, cancer and hypertension. Inflammation followed by increased level of IL 1, TNF, IL6 in plasma can have a negative influence on CNS, leading to the impairment of cognitive functions [6-9].

It is interesting that a patient, instead of going to the dentist, often goes to the general practitioner for dental and oral diseases [10]. Reasons are likely the following: the first one is availability of general medical health services covered by health insurance for the majority of patients. Secondly, patients are convinced that the examination and treatment by the general practitioner are, unlike dental intervention, painless and therefore less stressful [11, 12]. Even though it lies outside of the scope of "traditional" medicine, ethical principles require doctors to examine oral cavity and possibly notice some of the symptoms that can be cured with an adequate and timely treatment thus improving oral and general health and leading to an early discovery of potentially serious diseases [11, 13]. The knowledge of a doctor about etiology and pathogenesis of three most common oral cavity diseases (caries, periodontal diseases and oral cavity cancer) can decrease

the prevalence of these diseases (incidence of oral cavity cancer is increasing) [13, 14].

The therapy given by doctors with the aim of curing a certain disease can also cause some changes to the oral cavity. One of the examples is reduction in salivary secretion (xerostomia) that is important caries risk and should involve a dentist [14, 15, 16]. On the other hand, it is necessary for dentists to be familiar with the diseases that cause oral symptoms, sometimes these are the first signs of a disease, and to be able to refer patient to a specialist.

Population aging is global phenomenon and life expectancy of humans has been increasing. Preservation of natural dentition that contributes to good health and quality of life should be the aim of medical community comprised of doctors of medicine and dentistry [17].

The aim of the current study was to examine the habits and attitudes of medical students and graduates of medicine who are interns related to oral health care, their knowledge of oral cavity diseases and systematic diseases with symptoms manifested in oral cavity, as well as their knowledge of patients who are at risk from dental interventions.

MATERIALS AND METHODS

The research comprised 100 people (54 female and 46 male) 21 to 27 years of age who signed the written consent to participate in the survey. Respondents were fourth, fifth and sixth year students of Medical Faculty in Nis, as well as doctors who graduated from the Medical Faculty of Nis and are currently interns.

The research was conducted by means of modified questionnaires: *Questionnaire for medical and dental students* [14] and *Oral health behavior and knowledge survey* [3] in accordance with the aims set in this research. Mixed type survey (*self-reported survey*) consisted of 16 questions to which respondents answered anonymously without time limits and with no access to the Internet. Responses were summarized and statistically analyzed by non-parametric descriptive statistics (frequency and percent).

RESULTS

The results of the survey are presented in the tables 1–16.

Question 1 – How do you choose a toothbrush? (Table 1)

Question 2 – Do you use any other oral hygiene aids besides a toothbrush? (Table 2)

Question 3 – What technique of brushing teeth do you use? (Table 3)

Question 4 – When do you go to see a dentist? (Table 4)

Question 5 – Have you ever had any of your teeth taken out (extracted)? (Table 5)

Question 6 – How many molars do humans have? (Table 6)

Question 7 – When would you refer your patient to a dentist? (Table 7)

Question 8 – Do you always examine oral cavity when taking a medical history (tongue, teeth, oral mucosa)? (Table 8)

Table 1
Tabela 1

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
Dentist's recommendation Preporuka stomatologa	34	33
TV Commercial TV reklama	9	9
Based on the appearance Zasnovano na izgledu	29	28
Based on the price Zasnovano na ceni	20	20
Pharmacist's recommendation Preporuka farmaceuta	4	4
I think that all the toothbrushes are equally good Mislim da su sve četkice za zube iste	6	6
Total number Ukupno	102	100

Table 2
Tabela 2

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
Dental floss Konac za zube	30	25
Interdental toothbrush Interdentalna četkica	18	15
Mouthwash Tečnost za ispiranje usta	52	43
I do not use anything else Ne koristim ništa dodatno	20	17
Total number Ukupno	120	100

Table 3
Tabela 3

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
I do not have a special technique Nemam posebnu tehniku	49	49
I follow the advice of my dentist Slušam savet stomatologa	48	48
According to the advice found on the Internet Po savetu sa interneta	1	1
Other Drugo	2	2
Total number Ukupno	100	100

Question 9 – Do you think that any oral cavity disease can manifest itself on a distant organ? (Table 9)

Question 10 – Do you think that your current knowledge of tooth and oral cavity diseases is satisfactory? (Table 10)

Question 11 – Do you think that medical students need a special subject on oral health and oral cavity diseases? (Table 11)

Question 12 – Do you consider caries to be: (Table 12)

Question 13 – Do you think that caries is a contagious disease? (Table 13)

Question 14 – Do you think that certain groups of patients are at risk from dental interventions? (Table 14)

Table 4
Tabela 4

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
Preventative examination (twice a year) Preventivni pregled (dvaput godišnje)	39	39
The moment I have a tooth ache or I notice something on my tooth Zubobolja ili neki problem sa zubima	46	46
When I have a tooth ache for a long time or I have noticed something on my tooth Zubobolja ili neki problem sa zubima već duže vreme	15	15
When the pain becomes unbearable Nepodnošljiva bol	0	0
Total number Ukupno	100	100

Table 5
Tabela 5

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
Only wisdom tooth (teeth) Samo umnjak(e)	21	21
Yes, one Da, jedan	13	13
Yes, one to three Da, 1–3	14	14
Yes, more than three Da, više od tri	4	4
No, I have all of my teeth Ne, imam sve svoje zube	48	48
Total number Ukupno	100	100

Table 6
Tabela 6

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
8	48	48
12	38	38
16	12	12
20	2	2
Total number Ukupno	100	100

Table 7
Tabela 7

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
When you feel bad breath Loš zadah	40	20
Due to a great lack of teeth Nedostatak zuba	45	22
For a checkup Pregled uopšte	60	29
For a medical consultation Medicinska konsultacija	46	23

Other Drugo	13	6
Total number Ukupno	204	100

Table 8
Tabela 8

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
Yes Da	84	84
No Ne	16	16
Total number Ukupno	100	100

Table 9
Tabela 9

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
Yes Da	93	93
No Ne	3	3
I do not know Ne znam	4	4
Total number Ukupno	100	100

Table 10
Tabela 10

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
Yes Da	34	34
No Ne	24	24
No, but I would like to learn more Ne, ali bih voleo/la da naučim više	42	42
Total number Ukupno	100	100

Table 11
Tabela 11

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
Yes Da	53	53
No Ne	20	20
I think that we gain enough knowledge within the existing study program Mislim da steknemo dovoljno znanja tokom studiranja	27	27
Total number Ukupno	100	100

Table 12
Tabela 12

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
Exclusively localized disease Samo lokalizovano oboljenje	57	57
Exclusively an aesthetic problem Samo estetski problem	6	6
Total number Ukupno	100	100

Table 13
Tabela 13

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
Yes Da	16	16
No Ne	75	75
I do not know Ne znam	9	9
Total number Ukupno	100	100

Table 14
Tabela 14

Answer Odgovor	Frequency Učestalost	Percentage Procenat
(frequency of repeated answer) (učestalost ponovljenog odgovora)		
Yes Da	76	76
No Ne	9	9
I do not know Ne znam	15	15
Total number Ukupno	100	100

Table 15
Tabela 15

Answer Odgovor	Frequency Učestalost	Percentage Procenat	
(frequency of repeated answer) (učestalost ponovljenog odgovora)			
Correct answers Tačan odgovor	Sjögrenov syndrome Sjogrenov sindrom	12	9
	Systematic sclerosis Sisematska skleroza	7	5
	Systemic lupus ery- thematosus Sistemski eritematozni lupus	6	5
	Crohn's disease Kronova bolest	2	1
Incorrect answers Netačan odgovor	91	71	
I do not know Ne znam	11	9	
Total number Ukupno	129	100	

Table 16
Tabela 16

Answer Odgovor	Frequency Učestalost	Percentage Procenat	
(frequency of repeated answer) (učestalost ponovljenog odgovora)			
Correct answers Tačan odgovor	Periodontal disease Parodontopatija	19	16
	Gingivitis Gingivitis	15	13
	Candidiasis Kandida	12	10
	Aphthous stomatitis Aftozni stomatitis	19	16
	Tonsillitis Upala krajnika	5	4
	Herpes Herpes	4	3
	Glossitis Upala jezika	4	3
	Stomatitis angularis Angularni stomatitis	4	3
	Other Drugo	26	22
	Incorrect answers Netačan odgovor	1	1
I do not know Ne znam	10	9	
Total number Ukupno	119	100	

Question 15 – Are you familiar with any systemic disease that can manifest itself in the oral cavity? (Table 15)

Question 16 – Are you familiar with any localized disease of oral cavity besides caries? (Table 16)

DISCUSSION

Survey techniques can be used for descriptive and explanatory research. The advantages are the possibility of investigating ethically sensitive topics and the possibility of repeating and combining research. On the other hand, the establishment of cause and effect relationships is susceptible to subjective interpretation. Disadvantages of this survey are the facts that the respondents could choose to give socially acceptable responses and a report on behavior is obtained instead the observation of behavior. A survey as an instrument of psychometry represents an irreplaceable method of quantifying and analyzing differences among people [18].

The future profession of medical and dentistry students involves the promotion of general and oral hygiene; therefore it is expected for students to be familiar with appropriate ways of maintaining oral health. Beside the fact that oral hygiene influences their health and quality of life, it reflects the attitude that they as future medical professionals have toward oral health, as they should set an example for other people [3]. In the conducted survey almost half of the respondents stated that they do not have any special techniques of brushing teeth. This represents a less favorable result than the one found in the study

conducted by Ke Yao et al. on the sample of 202 medical students in China, where 35% of students did not have a special technique for brushing teeth [3].

As far as the choice of a toothbrush is concerned, when buying one, the price represents the main factor in one fifth of students, which is not in accordance with the results obtained by Dolar Doshi et al. who found that only in 2.5% of examined students at the private college in India the price of a toothbrush played the key role [19]. The possible difference in socio-economic status of students in these two studies may be the reason for the discrepancy of results. Six out of 100 medical students considered that all toothbrushes are equally efficient, which is less than the number of students in the study of Dolar Doshi et al. [19]. Twenty eight percent of students chose toothbrush based on its appearance that is similar to the percentage in the study of Dolar Doshi et al. [19]. Only one third of the future doctors would seek an advice from a dentist regarding which toothbrush to choose, and one half of them would ask for advice regarding the technique. This only proves that a dentist is seen more as someone who provides the treatment and not someone who plays a big role in the prevention of diseases.

The majority of students in this research (43%), mentioned mouthwash as an additional aid that they use to maintain oral hygiene, which is concurrent with results obtained by Dolar Doshi et al. [19]. Modern science gives preference to the use of interdental toothbrushes that are used by 15% of medical students in this study, while liquids are recommended for prevention of infections in people with weakened immune system, undergoing radio and chemotherapy. These agents can be harmful to healthy people because of some substances they contain (alcohol), while some can color teeth due to the presence of chlorhexidine [20–24].

The use of dental floss for maintaining dental hygiene is justified if interdental space is narrow [20]. Dental floss was used by almost one third of the respondents, which is not in accordance with the results of Ke Yao et al. who found that 6.4% students used floss to remove plaque from the tooth surfaces [3]. Different preventative programs specific for different schools promote different aids in maintaining oral hygiene and that can be the reason for the variation in the prevalence of dental floss use.

Loker et al. indicated that 15% of general population goes to the dentist only when they feel pain [25]. The results of that research are in accordance with the results of our research since the same percentage of the respondents confirmed that the pain was the main reason for visiting dentist. This information also indicates no difference in the attitude of general population and medical students [25]. However, the obtained results significantly differ from those found by Dolar Doshi et al. [19]. In their study, 68% students visit dentist only when they have a toothache, while 20% go to the dentist on regular basis as a part of prevention. Found data also showed larger percent of respondents (39%) went to dentist twice a year.

Tooth loss causes changes in occlusion and articulation in stomatognathic system as well as masticatory function and impaired aesthetics [26]. The survey revealed that

students had preserved dentition while approximately one third of respondents have had one tooth or more extracted, not including third molars. Given that this is young population, modern dentistry cannot justify early teeth loss. This study did not have the aim of investigating the reasons of an early tooth loss in this population, however, the lack of information and care for one's oral health impose possible reasons for it.

Oral cavity serves as a mirror of general health since it is a place where changes caused by some systematic disease and general diseases can primarily occur. Swollen lips, gingiva and a tongue as well as the appearance of oral aphthous ulcer, bumps on oral mucosa, loss of papilla are some of the changes that can be noticed during routine examination of the oral cavity [2, 27]. The results of the conducted research indicated that 84% of the students did a routine examination of oral cavity; however, more than one half of them (55%) would ignore missing teeth in a patient.

According to the research conducted by Lachlana et al. 28% of medical students performed a routine examination of oral mucosa, 48% of those who did not perform the examination would not even examine the oral cavity of a patient with a high risk of oral cavity cancer [14]. The same authors stressed out the habit of patients to turn to a general practitioner first when oral lesions appear [4]. Most of the respondents of the same study (71%) would not refer a patient to a dentist for consultation. Both studies confirmed the lack of interdisciplinary collaboration, at the cost of patients.

One fifth of the patients could name systemic diseases that have manifestations in the oral cavity. The most common response was Sjögren's syndrome (9%), in addition to systematic lupus erythematosus (6%), systematic sclerosis (7%) and Crohn's disease (1%). Answers such as measles, anemia, and diabetes were considered to be incorrect, since they cannot be classified as systematic diseases. Some medical students (16%) named fungal diseases, which even though incorrect, was the most frequently given answer. There is a possibility that the reason for such a great number of incorrect answers lies in the fact that the respondents did not pay attention that the question only referred to systemic diseases.

Caries is a local tooth disease which if not treated can lead to a number of complications that may be life threatening [28]. Thirty seven percent of medical students were aware of this fact. Six respondents considered caries as an entirely aesthetic problem. The majority of respondents (75%) thought that caries is not contagious. Ke Yao et al. presented similar results, they stated that more than 40% of the participants in their study were unaware of the crucial role that bacteria plays in the etiology of caries [3].

Among localized diseases, the respondents often named periodontal disease, gingivitis, candidiasis and canker sores besides caries. Less frequent responses were glossitis, pulpitis, herpes and tonsillitis. Approximately 9% of medical students could not name any of the localized diseases of oral cavity, however, the majority of respondents (93%) thought that an oral cavity disease could manifest itself on a distant organ, which can be helpful for establishing a diagnosis and successful treatment of primary disease.

The results of the survey showed that 9% of medical students thought there are no patients who are at a risk of dental interventions, while 15% stated that they were unaware of the existence of such a group of patients. A research conducted by Sandra et al. in Lithuania showed somewhat better but certainly not encouraging results where only 36.4% of respondents (medical students, doctors and nurses) thought that some dental interventions may be life threatening.

One third of respondents categorized their knowledge in the field of tooth and oral diseases as satisfactory, while 42% wanted to learn more. Approximately one half of respondents claimed that they did not need a special exam on oral health, teeth and oral cavity diseases, and the fact that every human has 12 molars only 38 respondents out of 100 medical students knew. These results are different from ones obtained in the study conducted by Lachlan et al. who revealed that 93% of the final year medical students considered to have insufficient knowledge of prevention and detection of the changes which occur in mouth [14]. Different study programs most likely cause the differences in the results.

CONCLUSION

Habits and attitudes related to preservation of oral health of the majority of medical students and newly graduated doctors, as professionals are not different from those of general population. The lack of knowledge about oral diseases as well as some systemic diseases that have manifestations in mouth is observed among medical students. There are some final year medical students who did not know any other localized oral disease besides caries. A great number of medical students were unaware of the diseases that represent a risk for dental intervention. Interdisciplinary cooperation of doctors and dentists should be a prerequisite for good health of all patients.

REFERENCES

1. Regoje D, Golijanin R, Pinjić O, Obrenović M, Kujundžić B. Dentogene fokalne infekcije i alopecija areata. *Med čas (Krag)*. 2015;49(3):85–8.
2. Orlov S, Kojović D, Mirković B, Kesić Lj, Petrović D, Pešić Z. *Oralna medicina, dopunjeno izdanje*. Europrint, 2007.
3. Yao K, Yao Y, Shen X, Lu C, Guo Q. Assessment of the oral health behavior, knowledge and status among dental and medical undergraduate students: a cross-sectional study. *BMC Oral Health*. 2019;19(1):26–32. [DOI: 10.1186/s12903-019-0716-6] [PMID: 30696440]
4. Tietmann C, Bissada NF. Aggressive periodontitis in a patient with chronic cutaneous lupus erythematosus: a case report. *Quintessence Int*. 2006;37(5):401–8. [PMID: 16683689]
5. Le Bars P, Matamoros S, Montassier E, Le Vacon F, Potel G, Soueidan A. The oral cavity microbiota: between health, oral disease, and cancers of the aerodigestive tract. *Can J Microbiol*. 2017;63(6):475–92. [DOI: 10.1139/cjm-2016-0603] [PMID: 28257583]
6. Rogers J. The inflammatory response in Alzheimer's disease. *J Periodontol*. 2008;79(8 Suppl):1535–43. [DOI: 10.1902/jop.2008.080171] [PMID: 18673008]
7. Dioguardi M, Di Gioia G, Caloro GA, Capocasale G, Zhurakivska Z, Troiano G, et al. The Association between Tooth Loss and Alzheimer's Disease: a Systematic Review with Meta-Analysis of Case Control Studies. *Dent J (Basel)*. 2019;7(2):49–52. [DOI: 10.3390/dj7020049] [PMID: 31052367]
8. Garrett WS. Cancer and the microbiota. *Science*. 2015;348(6230):80–6.
9. Schirmer M, Smeekens SP, Vlamakis H, Jaeger M, Oosting M. Linking the human gut microbiome to inflammatory cytokine production capacity. *Cell*. 2016;167(4):1125–36.e8. [DOI: 10.1016/j.cell.2016.10.020] [PMID: 27814509]
10. Ivancic Jokic N, Bakarcic D, Grzic R, Majstorovic M, Sostarek M. What general medicine students of University of Rijeka know about dental avulsion? *Eur J Dent Educ*. 2017;21(4):131–4. [DOI: 10.1111/eje.12235]
11. Šutej I, Peroš K, Savić Pavićin I. Preporuke za pregled usne šupljine u obiteljskoj medicini – kada uputiti pacijenta doktoru dentalne medicine. *Medix*. 2019;135:106–11.
12. Stolzenberg-Solomon RZ, Dodd KW, Blaser MJ, Virtamo J, Taylor PR, Albanes D. Tooth loose, pancreatic cancer, and *Helicobacter pylori*. *Am J Clin Nutr*. 2003;78(1):176–81. [DOI: 10.1093/ajcn/78.1.176] [PMID: 12816788]
13. Mouradian WE, Reeves A, Kim S, Evans R, Susan G, Slayton R. An Oral Health Curriculum for Medical Students at the University of Washington. *Acad Med*. 2005;80(5):434–42. [DOI: 10.1097/00001888-200505000-00004] [PMID: 15851452]
14. Lachlan MC, Graham RO. Oral cancer awareness of undergraduate medical and dental students. *BMC Med Educ*. 2007;7:44–9. [DOI: 10.1186/1472-6920-7-44] [PMID: 18005417]
15. Pešić S, Balkanov T. *Farmakologija za stomatologe*. Medicinski fakultet Niš, 2007.
16. Petrauskienė S, Mushayev H, Zemgulyte G, Narbutaitė J. Oral Health Awareness among International Dental and Medical Students at Lithuanian University of Health Sciences: a Cross-Sectional Study. *J Oral Maxillofac Res*. 2019;10(4):3–7. [DOI: 10.5037/jomr.2019.10403] [PMID: 32158527]
17. Chen X, Chen H, Douglas C, Preisser JS, Shuman SK. Dental treatment intensity in frail older adults in the last year of life. *J Am Dent Assoc*. 2013;144(11):1234–42. [DOI: 10.14219/jada.archive.2013.0051] [PMID: 24177401]
18. Singleton AR, Straits BC. *Approaches to Social Research*. New York: Oxford University Press; 2005.
19. Doshi D, Baldavia P, Anup N, Sequiera PS. A Comparative Evaluation of Self-Reported Oral Hygiene Practices Among Medical and Engineering University Students with Access to Health-promotive Dental Care. *J Contemp Dent Pract*. 2007;8(1):68–75.
20. Apostolović M, Kostadinović Lj, Tričković-Janjić O, Igić M, Šurđilović D. *Preventivna stomatologija*. Niš: Galaksija; 2015.
21. Stanković D, Jovanović G. *Problematika bolesti rizika u stomatološkoj praksi*. Medicinski fakultet Niš, 2001.
22. Mueller HP. *Periodontology the essentials*. Thieme, Stuttgart-New York, 2004.
23. Walchuck RE. *Periodontitis – symptoms, treatment and prevention*. New York: Nova Science Publishers, Inc.; 2010.
24. Dimitrijević B, Leković V, Zelić O, Janković Lj. *Klinička parodontologija*. Beograd: Zavod za udžbenike; 2012.
25. Locker D, Shapiro D, Liddell A. Negative dental experiences and their relationship to anxiety. *Community Dent Health*. 1996;13(2):86–92.
26. Sokolović BB. *Fiziologija okluzije*. Niš: GRO Prosveta; 1982.
27. Brkić H. *Oralne manifestacije sistemskih bolesti*. Sveučilište u Zagrebu, Stomatološki fakultet, 2015
28. Mitić N. *Caries profunda*. Izdavačka jedinica Univerziteta u Nišu, Niš 1986.

Stomatologija u očima studenata medicine

Marija Nikolić¹, Mina Golubović², Ivana Veličković², Antonije Stanković², Jelena Popović¹, Aleksandar Mitić¹, Radomir Barac¹

¹Univerzitet u Nišu, Medicinski fakultet, Klinika za stomatologiju, Niš, Srbija;

²Studenti stomatologije Medicinskog fakulteta Univerziteta u Nišu

KRATAK SADRŽAJ

Uvod Pacijenti se često primarno obraćaju lekaru opšte prakse zbog bolesti zuba i usne duplje. Iako to ispada iz okvira 'tradicionalne' medicinske prakse, etička načela nalažu lekarima pregled usne duplje u cilju uočavanja simptoma, čije lečenje može poboljšati kvalitet oralnog i opšteg zdravlja i dovesti do ranog otkrivanja potencijalno teških bolesti.

Cilj rada bio je da se ispituju navike i stavovi studenata medicine i svršenih doktora medicine na stažu vezani za brigu o oralnom zdravlju, njihovo poznavanje bolesti koje se javljaju u usnoj duplji i sistemskih bolesti sa manifestacijama u oralnoj regiji, kao i njihova informisanost o rizičnim pacijentima za stomatološke intervencije.

Materijal i metode Istraživanje je sprovedeno na uzorku od 100 ispitanika putem anketiranja. Upitnik se sastojao od 16 pitanja. Rezultati su sakupljeni i statistički analizirani.

Rezultati Većina ispitanika kod stomatologa odlazi tek kada ih zub zaboli. Iako 84% studenata medicine pregleda usnu duplju prilikom uzimanja anamneze, više od polovine ne bi poslalo svog pacijenta stomatologu radi konsultacije. Svaki deseti student nije znao da navede lokalno oboljenje usne duplje osim karijesa. Čak 6% ispitanika klasifikuje karijes kao isključivo estetski problem. Polovina ispitanih studenata medicine smatra da je njihovom studijskom programu potreban poseban predmet iz ove oblasti.

Zaključak Nedovoljna informisanost studenata medicine iz oblasti oralne higijene i patologije usne duplje ukazuje na postojanje prepreke u saradnji dve neodvojive zajednice. Interdisciplinarna saradnja opštih lekara i stomatologa predstavlja preduslov za dobrobit naših pacijenata.

Ključne reči: stomatologija; studenti medicine; oralno zdravlje; patologija usne duplje; interdisciplinarni pristup pacijentu

UVOD

Prvi zapisi o uticaju oralnih bolesti na opšte zdravlje potiču iz doba Vavilona (2500 godina p. n. e) i Hipokrata. U zapisima starih Egipćana, Grka i Rimljana ostali su pisani tragovi o postojanju veze između zubobolje, nastanka bolova u glavi ili u nogama, kao i o uspešnom lečenju takvih tegoba vađenjem obolelih zuba [1, 2].

Opšta definicija oralnog zdravlja podrazumeva stanje oralne duplje bez promena, koje ne samo da čini ljude lepšim već im pruža normalno funkcionisanje kroz mogućnost žvakanja, gutanja, govora, smeha i ljubljenja, i putem čula – ukusa i dodira [3].

Oralno zdravlje je preduslov za očuvanje zdravlja čitavog organizma. Oralne promene mogu biti početni simptomi sistemskih oboljenja, a u nekim slučajevima je dokazana veza između oralnih oboljenja i bolesti poput dijabetesa, digestivnih tegoba, cerebrovaskularnog insulta, kardiovaskularnih oboljenja, metaboličkih sindroma, kancera [2, 3]. Istraživanja pokazuju povezanost periapikalnog procesa na zubu sa pojavom ekstrasistolata i reumatoidnim artritismom [1, 2]. Pojedine studije ukazuju na vezu odnotogenih infekcija i kožnih bolesti, poput alopecije udružene sa kutanim tipom sistemskog lupusa [4]. Prisustvo „ključnih vrsta“ mikroorganizama u ekosistemu gornjeg dela gastrointestinalnog trakta može biti u vezi sa povećanim rizikom za kancer aerodigestivnog trakta [5]. Parodontalna oboljenja predstavljaju faktor rizika za kardiovaskularne bolesti, dijabetes, karcinom i hipertenziju. Inflamacija praćena povećanim nivoom IL1, TNF, IL6 u plazmi može uticati na CNS, dovodeći do poremećaja kognitivnih funkcija [6–9].

Zanimljivo je da se pacijenti, umesto stomatologu, neretko obraćaju lekaru opšte prakse zbog bolesti zuba i usne duplje [10]. Prvi razlog je dostupnost zdravstvenih usluga opšte medicine, koje za većinu pacijenata u svetu pokrivaju osnovno zdravstveno osiguranje. Drugi razlog je uverenje pacijenata da su pregled i lečenje opšteg lekara, za razliku od stomatoloških intervencija,

bezbolni, pa je i strah manji [11, 12]. Iako to ispada iz okvira 'tradicionalne' medicinske prakse, etička načela nalažu lekarima pregled usne duplje pri čemu mogu uočiti neki od simptoma, čije adekvatno i pravovremeno lečenje može poboljšati kvalitet oralnog i opšteg zdravlja i dovesti do ranog otkrivanja potencijalno teških bolesti [11, 13]. Upućenost lekara u etiologiju i patogenezu tri najčešća oboljenja usne duplje (karijes, parodontalna oboljenja i rak usne duplje) može smanjiti učestalost ovih oboljenja [13], što je od posebnog značaja kod raka usne duplje, čija je incidenca u porastu [14].

Terapije koje lekari propisuju u cilju lečenja nekog oboljenja takođe mogu biti uzrok pojava promena u usnoj duplji. Primer je smanjenje lučenja pljuvačke (kserostomija), koje zahteva uključivanje stomatologa u lokalnu terapiju, a predstavlja i faktor rizika za nastanak karijesa [14, 15, 16]. Sa druge strane, potrebno je da stomatolozi budu upućeni u oboljenja koja daju oralne manifestacije, koje su ponekad prvi znak bolesti, kako bi uputili pacijenta kod lekara koji će lečiti osnovnu bolest.

Starenje populacije je globalni fenomen, životni vek čoveka je produžen i očuvanje prirodne denticije, koja doprinosi očuvanju zdravlja i kvaliteta života, trebalo bi biti cilj medicinske zajednice koju zajedno čine doktori medicine i stomatologije [17].

Cilj ovog naučno-istraživačkog rada bio je da se ispituju navike i stavovi studenata medicine i svršenih doktora medicine na stažu vezani za brigu o oralnom zdravlju, njihovo poznavanje bolesti koje se javljaju u usnoj duplji i sistemskih bolesti sa manifestacijama u oralnoj regiji, kao i njihova informisanost o rizičnim pacijentima za stomatološke intervencije.

MATERIJAL I METODE

U istraživanju je učestvovalo 100 ispitanika (54 žena i 46 muškaraca) starosti od 21 do 27 godina koji su dali pismenu saglasnost

za učešće u anketiranju. Ispitanici su bili studenti četvrte, pete i šeste godine Medicinskog fakulteta Univerziteta u Nišu, kao i svršeni doktori medicine na stažu nakon završenog Medicinskog fakulteta Univerziteta u Nišu.

Istraživanje je sprovedeno putem anketiranja modifikovanim upitnicima *Questionnaire for medical and dental students* [14] i *Oral health behavior and knowledge survey* [3] usklađenim sa ciljevima postavljenim u ovom istraživanju. Upitnik mešovito tipa (*self reported survey*) sastojao se od 16 pitanja na koja su ispitanici anonimno odgovarali bez vremenskog ograničenja i bez mogućnosti pristupa internetu. Odgovori su sumirani i statistički obrađeni metodama neparametrijske deskriptivne statistike (frekvencija i procenat).

REZULTATI

Rezultati ankete su predstavljeni u tabelama 1–16.

Pitanje 1 – Na koji način birate četkicu za zube? (Tabela 1)

Pitanje 2 – Da li pored četkice koristite još neka sredstva za čišćenje zuba? (Tabela 2)

Pitanje 3 – Koju tehniku pranja zuba koristite? (Tabela 3)

Pitanje 4 – Kada odlazite kod stomatologa? (Tabela 4)

Pitanje 5 – Da li ste izvadili neki svoj zub? (Tabela 5)

Pitanje 6 – Koliko molara ima čovek? (Tabela 6)

Pitanje 7 – Kada biste svog pacijenta poslali stomatologu? (Tabela 7)

Pitanje 8 – Da li prilikom uzimanja anamneze uvek pregledate usnu duplju? (jezik, zube, sluzokožu usne duplje)

Pitanje 9 – Da li mislite da se neko oboljenje usne duplje može manifestovati na nekom drugom udaljenom organu? (Tabela 9)

Pitanje 10 – Da li smatrate svoje trenutno znanje o bolestima zuba i usne duplje zadovoljavajućim? (Tabela 10)

Pitanje 11 – Da li smatrate da je studentima medicine potreban poseban predmet o oralnom zdravlju i bolestima usta i zuba?

Pitanje 12 – Da li smatrate da je karijes...? (Tabela 12)

Pitanje 13 – Da li mislite da je karijes zarazna bolest? (Tabela 13)

Pitanje 14 – Da li mislite da pojedine grupe pacijenata predstavljaju pacijente rizika za stomatološke intervencije? (Tabela 14)

Pitanje 15 – Da li znate za neko sistemsko oboljenje koje ima manifestacije u usnoj duplji? (Tabela 15)

Pitanje 16 – Da li znate za neko lokalno oboljenje osim karijesa u usnoj duplji? (Tabela 16)

DISKUSIJA

Tehnike anketiranja se mogu koristiti kako za deskriptivna, tako i za eksplanatorna istraživanja. Prednosti su mogućnost istraživanja etički osetljivih tema i mogućnost ponavljanja i kombinovanja istraživanja. Sa druge strane, utvrđivanje uzročno-posledičnih odnosa je izloženo subjektivnoj interpretaciji. Nedostaci su i to što ispitanici pribegavaju socijalno poželjnim odgovorima i dobija se izveštaj o ponašanju umesto opservacije ponašanja. Anketiranje kao instrument psihometrije ipak predstavlja nezamenljivu metodu kvantifikovanja i analize razlika između ljudi [18].

Buduća profesija studenata medicine i stomatologije podrazumeva promovisanje opšte i oralne higijene, pa se od njih očekuje da poznaju adekvatne načine održavanja zdravlja usne duplje. Osim što oralna higijena utiče na njihovo zdravlje i kvalitet života, ona predstavlja i refleksiju stava koji oni, kao budući profesionalci iz oblasti medicine, imaju o oralnom zdravlju, i koji bi trebalo da bude primer ljudima izvan medicinske sfere [3].

U sprovedenoj anketi gotovo polovina ispitanika se izjasnila da nema posebnu tehniku pranja zuba, što predstavlja manje povoljan rezultat od rezultata studije koju su sproveli Ke Yao i sar. na uzorku od 202 studenta medicine u Kini, gde 35% ispitanika nema posebnu tehniku pranja zuba [3].

U izboru četkice, pri kupovini, cena predstavlja glavni faktor kod petine ispitanika, što nije u saglasnosti sa rezultatima koje su dobili Dolar Doshi i sar. ispitivanjem studenata medicine na privatnom fakultetu u Indiji, kod kojih cena igra presudnu ulogu kod svega 2,5% ispitanika [19]. Eventualna razlika u socioekonomskim statusima ispitanika ova dva istraživanja, bi mogla biti razlog nepodudarnosti rezultata. Šest od ukupno 100 ispitanih studenata medicine smatra da su sve četkice za zube jednako efikasne, što je duplo manje nego u studiji koju su sproveli Dolar Doshi i sar. [19]. Na osnovu izgleda četkicu bira 28% ispitanika i približno isti procenat ispitanika u studiji koju su sproveli Dolar Doshi i sar. [19]. Savet stomatologa kod izbora četkice potražiće svega trećina budućih lekara, a kod izbora tehnike pranja zuba oko polovina, što govori da stomatologa posmatraju prvenstveno kao terapeuta, a manje kao preventivca.

Najveći broj ispitanika u ovom istraživanju (43%) izdvojio je tečnost za ispiranje usne duplje kao dodatno sredstvo koje najčešće koriste u održavanju oralne higijene, što je u saglasnosti sa rezultatima koje su dobili Dolar Doshi i sar. [19]. Savremena naučna shvatanja daju prednost upotrebi interdentalnih četkica, koje koristi 15% studenata medicine ispitanih u ovom istraživanju, dok se po ovim shvatanjima tečnosti preporučuju u prevenciji stvaranja infekcija kod osoba sa narušenim imunitetom, kod osoba na radioterapiji i hemioterapiji. Kod zdravih osoba ova sredstva mogu biti štetna zbog supstanci koje ulaze u njihov sastav (alkohol), dok neka dovode do prebojavanja zuba zbog prisustva hlorheksidina [20–24].

Upotreba konca, kao pomoćnog sredstva za održavanje higijene, opravdana je ukoliko je interdentalni prostor sužen [20]. Konac, kao pomoćno sredstvo, koristi skoro trećina ispitanika ankete, što nije u saglasnosti sa rezultatima koje su u svom istraživanju pokazali Ke Yao i sar., koji navode da 6,4% studenata uklanja naslage sa aproksimalnih površina zuba na ovaj način [3]. Preventivni programi karakteristični za određeno podneblje, koji mogu promovisati različita pomoćna sredstva u održavanju oralne higijene, mogu biti razlog za različitu zastupljenost upotrebe zubnog konca.

Loker i sar. su u ispitivanju sprovedenom na opštoj populaciji ukazali da 15% ispitanika odlazi kod stomatologa samo kada oseti bol [25]. Rezultati sprovedenog istraživanja su u potpunosti u saglasnosti sa ovim jer je isti procenat anketiranih studenata medicine naveo bol koji traje duže vreme kao ključni faktor za posetu stomatologu. Ovaj podatak može da ukaže na nepostojanje razlike u stavu između opšte populacije i studenata medicine o tome kada bi trebalo da zatraže pomoć stomatologa [25]. Dobijeni rezultati se, sa druge strane, značajno razlikuju od rezultata koje su dobili Dolar Doshi i sar. [19], a odnose se takođe na populaciju studenata medicine. Naime 68% studenata

posećuje stomatologa samo kada se javi dentalgija, dok 20% odlazi kod stomatologa preventivno. Podaci koje smo dobili u istraživanju pokazuju da veći procenat ispitanika (39%) odlazi kod stomatologa dva puta godišnje.

Gubitak zuba uzrokuje promenu okluzije i artikulacije u stomatognatom sistemu, kada se javlja poremećena mastikatorna funkcija uz narušenu estetiku [26]. Anketiranjem je dobijen podatak da 48% studenata medicine ima očuvan zubni niz, dok je približno trećina ispitanika izvadila jedan ili više zuba, ne računajući treće molare. S obzirom na to da se radi o mladoj populaciji, savremena stomatologija ne nalazi opravdanje za tako rani gubitak zuba. Ova studija nije imala za cilj da ispita razloge ranog gubitka zuba ove populacione grupe, ali se nedovoljna informisanost i briga o sopstvenom oralnom zdravlju nameću kao mogućí odgovori.

Usna duplja predstavlja ogledalo opšteg zdravlja jer je ona mesto gde se promene uzrokovane nekom sistemskom bolešću i opštim oboljenjima mogu primarno javiti. Pojava otoka usana, gingive, jezika kao i pojava ulceroznih afti, bula na oralnoj mukozí i zbrisanost papila samo su neke od promena koje se lako mogu uočiti rutinskim pregledom usne duplje [2, 27]. Rezultati sprovedenog ispitivanja ukazuju na to da 84% studenata medicine obavlja rutinski pregled usne duplje, ali sa druge strane, više od polovine ispitanika (55%) ignorisalo bi veliki nedostatak zuba kod pacijenata.

U rezultatima istraživanja koje su sprovedeli Lachlan i sar. rutinski pregled oralne mukoze obavlja 28% studenata medicine, a 48% onih koji ne obavljaju rutinski pregled ne bi pregledali usnu duplju ni kod pacijenata sa visokim rizikom za pojavu raka usne duplje [14]. Isti autori u svom istraživanju ukazuju na navike pacijenata da se prilikom pojave oralnih lezija najpre konsultuju sa lekarom opšte prakse [14]. Većina ispitanika (71%) sprovedenog israživanja ne bi prosledila pacijenta stomatologu radi medicinske konsultacije. Oba istraživanja potvrđuju nedostatak interdisciplinarné saradnje, na štetu zajedničkih pacijenata.

Petina ispitanika znala je da navede sistemsku bolest koja se manifestuje u usnoj duplji. Najčešći odgovor bio je Sjogrenov sindrom (9%), pored koga su pominjani sistemski lupus eritematodes (6%), sistemská skleroza (7%) i Kronova bolest (1%). Odgovori poput morbila, anemija, dijabetesa svrstani su u netačne odgovore, jer se ne mogu klasifikovati u sistemská oboljenja. Najveći broj studenata medicine (16%) naveo je gljivična oboljenja, što ovaj odgovor čini najfrekvencijim iako je netačan. Postoji verovatnoća da je razlog za veliku frekvencu netačnih odgovora bio neobraćanje pažnje da se pitanje odnosi isključivo na sistemská oboljenja.

Karijes predstavlja lokalno oboljenje zuba koje u slučaju ne-lečenja može dati brojne komplikacije koje mogu ugroziti život

[28] i ta je informacija poznata za 37% anketiranih studenata medicine. Šestoro ispitanika kategoriše karijes isključivo kao problem estetske prirode. Najveći broj anketiranih (75%) smatra da karijes nije zarazno oboljenje, a slične podatke predstavljaju i Ke Yao i sar., koji navode da više od 40% ispitanika nije znalo za kritičnu ulogu bakterija u etiologiji karijesa [3].

Od lokalnih oboljenja u usnoj duplji, osim karijesa, anketirani su najčešće navodili parodontopatiju, gingivitis, kandidijazu i afte. Manje frekventni odgovori bili su glositis, pulpitis, herpes, upala krajnika. Približno 9% studenata medicine nije znalo da navede nijedno lokalno oboljenje u usnoj duplji, ali najveći broj ispitanika (93%) smatra da se neko oboljenje usne duplje može manifestovati na udaljenom organu, što može pomoći ranom postavljanju dijagnoze i uspešnom lečenju primarnog oboljenja.

Rezultati ankete pokazuju da 9% studenata medicine smatra da ne postoje rizični pacijenti za stomatološke intervencije, dok se 15% izjasnilo da ne zna za postojanje ove grupe pacijenata. Istraživanje koje su sprovedeli Sandra i sar. [16] u Litvaniji pokazuje nešto bolje ali ne i ohrabrujuće rezultate, prema kojima 36,4% anketiranih (studenti medicine, lekari i medicinske sestre) smatra da neka od stomatoloških intervencija može uzrokovati po život opasna stanja.

Trećina ispitanika kategoriše svoje znanje iz oblasti bolesti zuba i usne duplje kao zadovoljavajuće, dok 42% želi da nauči više. Približno polovina ispitanika tvrdi da im ne treba poseban predmet o oralnom zdravlju i bolestima usta i zuba, ali je podatak da čovek ima 12 molara znalo 38 ispitanika od ukupno 100 anketiranih studenata medicine. Ovi rezultati se razlikuju od istraživanja koje su sprovedeli Lachlan i sar., u kojem navode da se 93% studenata završné godine medicine izjasnilo da nema dovoljno znanja o prevenciji i detekciji promena u usnoj duplji [14]. Razlika u rezultatima najverovatnije je uzrokovana različitim programima studija.

ZAKLJUČAK

Navike i stavovi vezani za očuvanje oralnog zdravlja najvećeg broja studenata medicine i tek diplomiranih lekara ih, kao profesionalce, ne odvajaju u odnosu na opštu populaciju. Zapaža se nedovoljna informisanost studenata medicine o oboljenjima usne duplje kao i sistemskim oboljenjima koja daju oralne manifestacije. Postoje studenti završné godine medicine koji osim karijesa ne poznaju nijedno drugo lokalno oboljenje usne duplje. Veliki broj studenata medicine ne poznaje oboljenja koja predstavljaju rizik za stomatološke intervencije. Interdisciplinarna saradnja lekara opšte prakse i stomatologa bi trebalo da bude preduslov za dobro zdravlje svih pacijenata.