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Procjena oralnoga zdravstvenog stanja i zubnog plaka u turskoj studentskoj populaciji, osim kod studenata upisanih na Stomatološki fakultet

An Assessment of Oral Health Status and Dental Plaque of Non-Dental School Students in Turkey

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Sažetak

Svrha: Zadatak ovog istraživanja bio je analizirati oralni status i zubni plak kod studenata upisanih na sve visoke škole, osim na Stomatološki fakultet. **Ispitanici i postupci:** U istraživanje je bilo uključeno 308 studenta i to 238 muškaraca i 70 žena. Svi su ispunili upitnike kako bi stručnjaci skupili informacije o njihovim navikama u vezi s oralnom higijenom te na temelju tih podataka procijenili stanje njihova oralnog zdravlja. Status zubnog karijesa određivao se prema smjernicama Svjetske zdravstvene organizacije za kriterije karijesa, zuba koji manjkaju i onih s ispunima te broj zahvaćenih površina. Za procjenu statusa plaka bio je odabran Silness-Löeov indeks. Osim navedenoga, zapisivalo se i koji se materijal rabio za ispune te je na kraju klinički ocijenjeno njihovo stanje. **Rezultati:** Svi su studenti održavali oralnu higijenu – 92,3 posto koristilo se četkicom i zubnom pastom, a 43,3 posto njih četkali su zube dva ili više puta na dan. Kod pregledanih studenata aritmetička sredina KEP-indeksa zuba iznosila je 1,54 (±1,60), a KEP-indeksa površine 7,62 (±7,85). Aritmetička sredina indeksa plaka bila je 1,01 (±0,40). KEP-indeks bio je niži kod žena negoli kod muškaraca, premda statistički razlika nije bila velika. Povezanost spola i indeksa plaka bila je statistički znatna (p=0,006) - studenti su imali više plaka od studentica. **Zaključak:** Premda su KEP-indeksi zuba studenata bili razmjerno niski i njihovo oralno zdravlje dobro, trebalo ih je obavijestiti o njihovu stanju i je li im tijekom školovanja potrebna protetska rehabilitacija.

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Ključne riječi
KEP indeks; studenti; oralno zdravlje; zubni plak, indeks

Uvod

Individualni zubni status posljedica je dugogodišnjeg ponašanja i mišljenja o samoodržavanju zdravlja (1). Školovanje, socijalno-ekonomski status, socijalizacija, psihološki stres te kulturna i vjerska stajališta mogu utjecati na ponašanje u vezi s oralnim zdravljem i statusom (2-5). Ispunjavanje upitnika i pregledi danas su uobičajen način na koji se dobivaju dijagnostički podaci i provodi ispitivanje oralnoga zdravlja (6-7). Usporedba ustanovljenog stanja samoprocjene mogla bi upozoriti na to koliko je pojedinac u stanju ocijeniti vlastiti zdravstveni status i zna li u kojima je područjima samoprocjena točna ili netočna (6). Istraživanja u kojima se uspoređuju upitnici i klinički pregledi pokazala su dobru samoprocjenu kad je riječ o broju zuba i prisutnosti proteza (8,9).

Introduction

An individual's dental health status is a result of life-long oral self-care behaviour and attitudes (1). Education, socio-economic conditions, acculturation, psychological stress and cultural and religious beliefs can affect the oral health behaviour and status (2-5). The use of questionnaires and interviews have become a more common method for collecting diagnostic data and performing oral health survey (6,7). Comparisons of oral health normative versus self-perceived assessments could demonstrate the efficacy of the individual to evaluate personal health status and highlight fields in which self-perceived asssessment is precise or unprecise (6). Studies comparing questionnaires and interviews with clinical examinations have demonstrated the efficacy of self-perceived asssessment concerning the number of teeth and presence of dentures (8,9).

Za incidenciju i distribuciju karijesa i parodontne bolesti obično se upotrebljavaju indeksi koji pokazuju brojčano stanje oralnoga zdravlja ili stupanj patološki neaktivnih. Karijes/ekstrakcija/plomba površine (KEP-P) i karijes/ekstrakcija/plomba zuba (KEP-Z) indeksi su koji se često odabiru za epidemiološka istraživanja oralnoga zdravlja (10, 11) jer ih preporučuje Svjetska zdravstvena organizacija (SZO) za mjerenje i usporedbu zubnog karijesa u populacijama. Indeks za neku skupinu izražava srednju vrijednost karijesnih i ekstrahiranih zuba te onih s ispunom (12). Dokazano je da je plak važan čimbenik u razvoju bolesti tvrdih i mekih tkiva te ako ga ima manje, među stanovništvom se smanjuje i pojavnost zubnog karijesa (13, 14), gingivitisa (15) i parodontne bolesti (16). Galgut i O'Mullane (17) istaknuli su da - ako se žele postići najbolji mogući rezultati u kliničkim ispitivanjima - treba se koristiti varijablama gingivitisa, a ne količinom plaka. Incidencija zubnog karijesa i parodontalne bolesti smanjila se kako se poboljšavala oralna higijena. Zato što su jednostavni, učinkoviti i jeftini, četkanje zuba (18) i zubni konac (19) osnovni su u nastojanjima da se smanji bakterijski plak i njegov virulentni potencijal.

Bolje poimanje studenata u dobi od 20 godina o njihovu trenutačnom oralnom zdravlju moglo bi pomoći da se pronađu ključna područja koja treba odabrati ili ih proučiti kako bi se pojačala svijest o oralnom zdravlju. Kada bi studenti bili bolje obaviješteni o tome kakvo im je oralno zdravlje, ta bi činjenica također olakšala prognozu za pojavu oralnih bolesti i predviđanja koje će zdravstvene usluge biti potrebne. A to su važne komponente za određivanje budućih medicinskih i stomatoloških troškova (20).

Svrha ovog istraživanja bila je analizirati plak i oralni status studenata ostalih fakulteta s onima upisanima na Visoku medicinsko-tehnološku školu Sveučiliša Ege u Izmiru u Turskoj, na kojoj se školuje pomoćno zdravstveno osoblje.

Trajanje svih programa bilo je dvije godine i ni jedan nije uključivao informacije o brizi za oralno zdravlje, osim kolegija za asistentice stomatološke protetike gdje se spominje oralna anatomija i fiziologija.

Metode

Ispitanici

Planirano je bilo prikupiti podatke od 402 studenta prve i druge godine upisana na Visoku medicinsko-tehnološku školu Ataturk u akademskoj godini 2006./2007. na devet različitih odsjeka - za tehničare urgentne medicine, anesteziologije i audiometrije, zatim za stomatološku protetiku, dijalizu, radiodijagnostiku i oftalmologiju te smjer za medicinske laborante, medicinsku dokumentaciju i tajnice.

Ukupno se prijavilo 308 studenata (76,6 % - srednja dob 18,99±1,34) - od njih je u ovo istraživanje bilo uključeno 238 muškaraca (srednja dob 18,71±0,99) i 70 žena (srednja dob 19,95±1,88). Provedbu studije odobrilo je Etičko povjerenstvo Medicinskog fakulteta Sveučilišta Ege (#06-3,1/5).

Upitnik

Svaki student anonimno je ispunio upitnik s pitanjima o navikama u vezi s njegom zuba (četkanje i zubne paste, ispiranje usne šupljine, koriste li se zubnim koncem, čačkalicama,

The prevalence and distribution of caries and periodontal diseases are usually reported by using indices, which express numerically the oral health situation or degree of pathological involment. The decayed/missing/filled surface (DMFS) and decayed/missing/filled teeth (DMFT) indices have been widely utilized in epidemiological surveys of oral health (10,11). It is recommended by the World Health Organization (WHO) for measuring and comparing the experience of dental caries in populations. The index expresses the mean number of decayed, missing and filled teeth in a group of individuals (12).

It is demonstrated that plaque is an important factor in the development of hard and soft tissue diseases, and that the reduction of its accumulation decreases the prevalence of dental caries (13,14), gingivitis (15) and periodontal diseases (16) in the population. Galgut & O'Mullane (17) showed that in order to achieve the best possible results in a clinical trial, the variable of gingivitis should be used in preference to plaque scores. Prevalence of dental caries and periodontal diseases has decreased with improvements in oral hygiene. Tooth brushing (18) and flossing (19) are reported to be fundamental to reduce the amount of bacterial plaque and its virulence potential, for they are easy, effective and cost-efficient.

An improved understanding of the current status of oral health in university students, approximately 20 years of age, may help to identify key areas that should be targeted or studied to enhance the awareness of oral health. A better grasp of the current oral health status of university students would also facilitate the prognosis of oral diseases and forecasting demand for health care services, important determinants of future medical and dental costs (20).

The aim of this study was to analyse the dental plaque and oral health status with that of students in Medical Technology Vocational Traning School of Ege University, Izmir, which educates auxiliary health personnel. The duration of education for all programs was 2 years and none of the programs included information on oral care, except for the one educating dental prosthetics technicians where oral anatomy and phsiology were mentioned.

Methods

Subjects

The data were planned to collect from 402 students in Ataturk Medical Technology Vocational Training School, which had 1st and 2nd grade students for 9 different programmes (Ambulance and Emergency Care Technician, Anesthesiology, Audiometry, Dental Prosthetics, Dialysis, Medical Documentation and Secretariat, Medical Laboratory, Radiodiagnostics and Opticianery) during the 2006-2007 academic year.

A total of 308 students (76.6%) (mean age 18.99±1.34), 238 females (mean age 18.71±0.99), and 70 males (mean age 19.95±1.88) were included in the study. The Research Ethics Committee of Medical Faculty, Ege University, approved the study (#06-3.1/5).

Questionnaire

Each student replied anonymously to a self-administered questionnaire composed of questions on habits regarding dental care methods (toothbrush and toothpaste, mouth-

električnom četkicom, zubnom četkicom+pastom+zubnim koncem+otopinom za ispiranje usta), koliko ih često peru na dan (jedanput, dva ili tri puta) te kakva im je percepcija o njihovu oralnom zdravlju. Bili su uključeni i opći podaci kao što su spol i dob.

Za percepciju stanja oranog zdravlja bili su mogući sljedeći odgovori: "vrlo dobro", "dobro", "ne tako dobro" i "loše". Za potrebe istraživanja odgovori "vrlo dobro" i "dobro" smatrali su se kao percepcija "dobroga" oralnog zdravlja, a odgovori "ne tako dobro" i "loše" kao "loše"stanje(21).

Klinički pregled

Intraoralni radiogrami nisu se snimali, nego su se primjenjivale osnovne metode i smjernice Svjetske zdravstvene organizacije za protokol pregleda (12). Oralni status svih zuba, osim trećih molara, bio je procijenjen kliničkim pregledom na stomatološkom stolcu, pod snažnom rasvjetom i s osnovnim dijagnostičkim setom - stomatološkom sondom, zrcalom i parodontnom sondom (WHO-621).

Zubni karijes bio je dijagnosticiran vizualno, korištenjem sonde i stomatološkog zrcala prema protokolu Svjetske zdravstvene organizacije, a podaci su zabilježeni na osnovi KEP- indeksa zuba i KEP-indeksa površine. Ako su manjkali prednji zubi, oni su bili zabilježeni kao četiri površine, a stražnji kao pet površina (12).

U pregled je bila uključena i procjena vrste ispuna i protetskih restauracija. Za to je bio je odabran Karlssonov (22) kriterij za procjenu.

Ocjenjivane su i protetske nadogradnje, kaviteti zbog karijesa i okluzija, a određene su bile i vrste potrebne terapije.

Oralna higijena bila je ocijenjena prema količini plaka na unutarnjim i vanjskim stranama zuba, a prema Silness-Löeovu kriteriju za indeks plaka (Pl-l) (23) - 0=nema plaka; 1=nema vidljivog plaka, plak na vršku kod sondiranja; 2=vidljiv plak i plak kod sondiranja; 3=raširen plak.

Bilježio se i opći dojam stomatologa, ali i studenata o njihovu oralnom stanju.

Analiza podataka

Podaci su se obrađivali deskriptivnom statistikom. Za usporedbu dvaju nezavisnih uzoraka korišteni su bili Mann-Whitneyev i U-test, za više njih Kruskal-Wallisov H test, a za kategorijske podatke Hi-kvadrat test (Windowsov SPSS 15,0; SPSS, Chicago, SAD). Stupanj statističke značajnosti bio je odabran i postavljen na 0,05.

Rezultati

Svi su studenti održavali oralnu higijenu. Procjenom o održavanju oralne higijene ustanovljeno da se 285 studenata (92,5 %) koristi samo zubnom pastom i četkicom, 11 (3,6 %) rabi otopine za ispiranje usta, njih osam (2,6 %) zubni konac, dvoje (0,6%) čačkalice, te po jedan (0,3%) električnu četkicu i (0,3 %) zubni konac te otopinu za ispiranje usne

wash, tooth floss, miswak, electric toothbrush, toothbrush + toothpaste + tooth floss + mouthwash), frequency (once a day, twicw a day, three times a day) and perception of the state of oral health. The general parameters were taken into account: age, gender.

For the perception of the state of oral health, possible answers were `very good`, `good`, `not so good`, and `bad`. For research purposes, the answers `very good` and `good` were combined and considered to indicate a `good` self-perceived assessment, and the answers `not so good` and `bad` indicated a `bad` self-perceived assessment for the perception of the state of oral health.[21]

Clinical Examination

No intra-oral radiography was taken. Basic methods of WHO were used as the examination protocol.[12] The oral cavity status of all teeth, except third molars, was estimated by clinical examination conducted by a dentist with the use of a dental chair, with artificial lighting by means of a basic diagnostic set: a dental probe, a dental mirror and a WHO periodontal probe (WHO-621).

Dental caries was diagnosed by visual examination, using a probe and a dental mirror utilizing the criteria recommended by the WHO, and documented using the tooth and surface description codes (DMFT and DMFS indices) for the dentition. Missing anterior teeth were counted as four surfaces, and missing posterior teeth as five surfaces (12). The estimation of kinds of fillings and the existing prosthetic restorations were included in the examination. Kinds and ages of the existing restorations were noted and Karlsson (22) criteria was used for the evaluation. The existing prosthesis of the students with prosthetic restorations, cavities of teeth lost due to caries and occlusal state were assessed, and the need for prosthetic treatment was noted.

Oral hygiene was evaluated by examining the dental plaque present on the inner and outer aspects of all teeth, using the criteria of the plaque index of Silness & Löe (Pl. l) (23). (0=No plaque, 1=No visible plaque, plaque at the tip with probing, 2=Visible plaque and plaque with probing, 3=Spread plaque)

The dentist's perception of the students' state of oral health, like that of the students, was recorded.

Data Analysis

For the assessment of data, descriptive statistics were used. For the comparison of the two independent groups, Mann-Whitney U, for the more populated group Kruskal-Wallis H, and for the categorical data Chi Square (SPSS 15.0 for Windows; SPSS, Chicago, Ill, USA) tests were utilized. Level of significance was chosen as 0.05.

Results

All the students performed oral health care. Evaluating the methods of oral health care, 285 students (92.5%) reported to use only toothbrush and toothpaste, 11 (3.6%) mouthwash, 8 (2.6%) tooth floss, 2 (0.6%) miswak, 1 (0.3%) electric toothbrush, 1 (0.3%) tooth floss and mouthwash, additionally to toothbrush and toothpaste. The fre-

šupljine, kao dodatak četkici i pasti. Učestalost mjera oralne higijene bila je sljedeća: 154 studenta (50 %) prali su zube jedanput na dan, 59 (19,2 %) dva puta, 75 (24,4 %) tri puta i 20 (6,4 %) rijetko.

Za KEP-Z prosječan broj bio je 1,54 (±1,60), za zube s netretiranim karijesom (DT-om) 0,56 (±0,86), za ekstrahirane zube zbog karijesa (MT-om) 0,52 (±0,92) i za zube s tretiranim karijesom (FT-om) 0,46 (±0,70). Prosječan broj mliječnih zuba iznosio je 0,01 (±0,16). Procjenom vrste terapije za tretirane zube dobio se prosječan broj 0,18 (±0.42) za zube ispunjene kompozitom (CFT-om), te 0,27 (±0.52) za one ispunjene amalgamom (AFT-om).

Prosječan broj zuba s protetskim restauracijama (P) bio je 0,06 (±0,46). Od 308 studenata 11 je imalo neki fiksno-protetski rad - osam (72,7 %) metal-keramiku, dva (18,2 %) metal-akril i jedan (9,1 %) vlaknom pojačan fiksno-protetski nadomjestak. Kriteriji za ocjenu radova su u Tablici 1. Procjenom restauracija kod studenata s fiksno-protetskim radom, zatim prostorom između zuba kod onih s izvađenim zubima te okluzija, uočeno je da 52 sudionika (16,9 %) trebaju fiksno-protetski rad.

quency of oral health care of the students was listed as 154 (50%) once a day, 59 (19.2%) twice a day, 75 (24.4%) three times a day, 20 (6.4%) rarely.

The average number was 1.54 (±1.60) for DMFT, 0.56 (±0.86) for teeth with untreated caries (DT), 0.52 (±0.92) for removed teeth because of caries (MT), and 0.46 (±0.70) for teeth with treated caries (FT). The average number of primary teeth was 0.01 (±0.16). Evaluating the treatment methods of the treated teeth, the average number was 0.18 (±0.42) for teeth treated with composite (CFT), and it was 0.27 (±0.52) for teeth treated with amalgam (AFT).

The average number of teeth with prosthetic restoration (P) was 0.06 (±0.46). Of the 308 students, 11 had fixed prosthetic restoration, 8 (72.7%) ceramometal, 2 (18.2%) metal-acrylic, and 1 (9.1%) fiber reinforced fixed partial denture. The evaluation criteria concerning the existing fixed partial dentures can be seen in Table 1. Assessing the restorations of the students with fixed prosthetic restoration, the cavity length of the ones with missing teeth, and the occlusion, it was observed that 52 (16.9%) needed prosthetic treatment.

Tablica 1. Procjena fiksno-protetskih radova kod studenata
Table 1 Assessment of fixed prosthetic restorations of the students

		n	%
A	Dobro rubno zatvaranje • Good marginal adaptation	5	45.5
B	Rubovi prekontunirani • Margins overcontoured	3	27.3
C	Krunica/ritejner prekratak • The crown/retainer too short	2	18.2
D	Krunica/ritejner s otvorenim rubom, loše priljubljeno • The crown/retainer margin open and poorly adjusted	1	9.1
E	Labava krunica/ritejner • Loose crown/retainer	0	0

Srednja vrijednost KEP-indeksa površine bila je po osobi 7,62 (±7,85). Prosječan broj za netretirane karijese (DS) iznosio je 279 (±4,24), za izgubljene površine zbog karijesa 0,58 (±4,59) te za tretirane karijesne površine (FS) 2,25 (±3,40). Prosječan broj za površine tretirane kompozitnim ispunom bio je 0,86 (±1,97), a za površine tretirane amalgamom (AFS-om) 1,38 (±2,63). Na mliječnim zubima nije bilo nikakvih terapija ili restauracija.

Prevalencija karijesa (D) bila je 63,6 posto. Muškarci su imali nižu incidenciju karijesa nego žene (57,1 prema 65,5 %). Prevalencija ekstrahiranih zuba bila je 30,5% - kod muškaraca 31,4 posto, a kod žena 30,3 posto, a ispuna 46,4 posto – kod žena je iznosila 45,4 posto, a kod muškaraca 50 posto.

KEP-indeks zuba bio je niži kod žena negoli kod muškaraca, premda razlika statistički nije bila velika (Tablica 2.). Raspodjela vrste ispuna (amalgam, kompozit), protetskih radova i mliječnih zuba prema spolu može se vidjeti u Tablici 3. Protetske radove imale su isključivo studentice i nije bilo značajnih povezanosti između vrste ispuna i spola (pK=0,184; pA=0,212) (Tablica 3.).

Silness-Löeov indeks plaka (Pl.l) varirao je kod studenata između 0,11 i 2,98, a indeks plaka iznosio je 1,01 (±0,40).

Procjene odnosa KEP-indeksa zuba i plaka, načina i učestalosti održavanja oralne higijene te odnosa KEP-indeksa

The mean DMFS was 7.62 (±7.85) surface per person. The average number was 2.79 (±4.24) for surface with untreated caries (DS), 0.58 (±4.59) for removed surface because of caries (MS), and 2.25 (±3.40) for surface with treated caries (FS). The average number was 0.86 (±1.97) for surface treated with composite (CFS), and 1.38 (±2.63) for surface treated with amalgam (AFS). Primary teeth had no previous treatment or restoration.

The prevalence of caries (D) was 63.6%. Males had a lower prevalence of caries than females (57.1 vs 65.5%). The prevelance of missing teeth was 30.5%, with 31.4% in males and 30.3% in females, which were close to each other. The prevelance of fillings was 46.4%; 45.4% in females and 50 percent in males.

DMFT score was lower in females than males, however, these differences were not statistically significant. (Table 2). The distribution of filling types (amalgam, composite), prosthetic restoration and primary teeth according to gender can be seen in Table 3. All the students carrying prosthetic restorations comprised of females, and there was no significant relationship between the types of filling applied and the gender (pK=0.184; pA=0.212) (Table 3).

Silness & Löe plaque index of the students (Pl.l) varied between 0.11- 2.98, and the mean plaque index was 1.01 (±0.40).

Tablica 2. Zubni status i karijes kod studenata
Table 2 Dentition status and caries scores for students

	muškarci (arit.sred.±sd) • Male (mean±sd)	žene (arit.sred ±sd) • Female (mean±sd)	ukupno (arit.sred ±sd) • Total (mean±sd)
Karijes (K) • Decayed Teeth (D)	0.66 ±1.345	0.53±0.657	0.56±0.862
Ekstrahirani zubi (E) • Missing Teeth (M)	0.58±1.016	0.50±0.895	0.52±0.923
Ispuni (plombe) (P) • Filled Teeth (F)	0.54±0.821	0.43±0.662	0.46±0.701
Karijes, ekstrakcija i /ispun (KEP) • Decayed, missing & /filled teeth (DMFT)	1.79±2.028	1.47±1.443	1.54±1.600

Tablica 3. Raspodjela vrsta ispuna (amalgam, kompozit), protetske restauracije i mliječni zubi prema spolu
Table 3 Distribution of filling types (amalgam, composite), prosthetic restorations and primary teeth according to gender

	kompoziti n (ar.sred.±sd) • Composites n (mean±sd)	amalgami n (ar.sred.±sd) • Amalgams n (mean±sd)	protetske restauracije n (ar.sred.±sd) • Prosthetic Restoration n (ar.sred.±sd)	mliječni zubi n (ar.sred.±sd) • Primary Teeth n (ar.sred.±sd)
Žene • Female	64 (0.62±0.43)	77 (0.84±0.63)	7 (2.71±1.60)	4 (1.25±0.50)
Muškarci • Male	19 (0.92±0.82)	29 (0.71±5.62)	-	1 (1.00±0)
Ukupno • Total	83 (0.68±0.55)	106 (0.80±0.61)	7 (2.71±1.60)	5 (1.20±0.44)

zuba i provedbe oralne higijene (p=0,38), KEP- indeks zuba i čestoće obavljanja oralne higijene (p=0,75), plaka i provođenja oralne higijene (p=0,68), te plaka i učestalosti provođenja oralne higijene (p=0,10) nisu bile statistički značajne.

Procjenom odnosa između spola i KEP-indeksa zuba te plaka nije bila pronađena statistički veća povezanost između spola i KEP-indeksa zuba (p=0,79), ali je povezanost između spola i plaka bila statistički znatna (p=0,006) - studenti su imali više plaka negoli studentice.

Razlike između studentske percepcije oralnoga zdravlja i procjene stomatologa statistički su bile velike ($\chi^2(1)=20,29$, p=0,000) (Tablica 4.). Kod 52,3 posto studenata koji su svoje oralno zdravlje smatrali lošim, stomatolog ga je ocijenio dobrim, a lošu je ocjenu dobilo 22,8 posto studenata koji su svoje oralno zdravlje smatrali dobrim.

Evaluating the relationships between the indices of DMFT and plaque, and the method and frequency of oral health care, the relationships between DMFT and method of oral health care (p=0.38), DMFT and frequency of oral health care (p=0.75), plaque and method of oral health care (p=0.68), and plaque and frequency of oral health care (p=0.10) were found to be not significant. With the assessment of the relationships between gender and the indices of DMFT and plaque, no significance was observed between gender and DMFT (p=0.79), whereas the relationship between gender and plaque was found to be significant (p=0.006). Male students had more plaque than the female ones.

The relationship between the perception of oral health by the students and the evaluation of students' oral health by the dentists was observed to be significant ($\chi^2(1)=20.29$, p=0.000) (Table 4). The oral health of 52.3% of the students' perceiving their oral health to be bad was reported by the dentist as good, while it was noted as bad in 22.8% of the students perceiving it as good.

Tablica 4. Odnos između samopercepcije oralnog zdravlja i nalaza stomatologa ($\chi^2(1)= 20,29$, p= 0,000)
Table 4 Relationship between the students' self-perception of their oral health and the dentist's perception ($\chi^2(1)= 20.29$, p= 0.000)

mišljenje studenata • Students' Perception	nalaz stomatologa • Dentist's Perception		ukupno • Total
	loše (%) • Bad (%)	dobro (%) • Good (%)	
loše • Bad	53 (47.7)	58 (52.3)	111
dobro • Good	45 (22.8)	152 (77.2)	197

Rasprava

Preporuka je Američkoga stomatološkog društva da se zubi četkaju najmanje dva puta na dan (24), a zubni konac rabi barem jedanput tijekom dana (25). U ovom istraživanju od svih studenata koji su provodili mjere oralne higijene, njih 43,6 posto tvrdilo je da to čini dva ili više puta na dan. To je nešto manje nego što su Kirtiloglu i suradnici - 68 posto (26) dobili u istraživanju provedenom na studentima ne-stomatoloških fakulteta u Turskoj te prema podacima Rimondinija i

Discussion

It is advised by the American Dental Association that the teeth should be brushed at least twice a day (24) and tooth floss should be used at least once a day (25). In this study, of all the students, observed to perform oral care, the rate of the ones stating to perform it twice or more a day was 43.6%. The rate was observed to be lower than that of Kirtiloglu et al. (26) (68%) obtained in a study carried out on non-dental university students in Turkey, and that of Rimondini et

njegovih kolega - 92,1 posto (27). Korištenje zubnog konca (2,6%) bilo je rjeđe nego što je objavljeno u nekim istraživanjima u Kanadi - 22,3 posto u 1992. (28), SAD-u - 31,6 posto u 1989. (29) i Singapuru -35,0 posto (30).

Cortes i suradnici (31) izvijestili su da je srednja vrijednost KEP-indeksa kod studenata stomatologije bila 5,91. Cevenjev i njegovi kolege (32) ustanovili su kod mongolskih studenata stomatologije veći KEP-indeks zuba (4,1) negoli kod studenata prve godine stomatologije u Velikoj Britaniji (2,8) i malo manji od finskih studenata istog fakulteta (5,8). Bou i suradnici (33) izvijestili su o KEP-indeksu zuba od 4,4 (± 3,72) kod studenata u Francuskoj, a Peltolia (34) je ustanovio da ta vrijednost kod finskih studenata iznosi 8,4 (±5,0). U ovom istraživanju srednja vrijednost KEP-indeksa zuba od 1,54 bila je dosta niža od već spomenutih vrijednosti kod studenata stomatologije i studenata ne-stomatoloških fakulteta. I srednja vrijednost KEP-indeksa zuba u ovom je istraživanju bila niža nego što su ustanovili (12,97) Kulak-Ozkana i suradnici (35). Oni su podatke prikupili u Istambulu od stotinu i pedeset adolescenata u dobi od 15 do 18 godina. Razlog za nizak KEP-indeks zuba u ovom istraživanju može biti ne samo navika da se održava oralna higijena nego i mediteranska prehrana. Zato bi se etiološki čimbenici trebali odrediti u daljnjim prospektivnim istraživanjima, a potrebna je i daljnja analiza unosa šećera te analiza sline studenata.

U istraživanju Boua i suradnika (33) istaknuto je da je FT (P-ispun) (3,454) bio dominantna komponenta KEP-indeksa zuba, a DT (K karijes)=1 i MT (E ekstrakcija)=0,042. Premda je ukupna aritmetička sredina KEP-indeksa zuba bila niža negoli u ostalim istraživanjima - suprotno tim rezultatima - vrijednosti su bile slične, a komponenta ispuna (P) od 0,46, bila je samo neznatno niža od onih u ostalim studijama. Premda nešto više vrijednosti DT-a (K- karijes 0,56) i MT-a (E-ekstrakcija 0,52) pokazuju potrebu za terapijom karijesa i to što je prije moguće, nužna je i kontrola tijekom visokoškolskog obrazovanja.

Kulak-Ozkan i suradnici (35) ustanovili su da žene imaju neznatno manju incidenciju karijesa od muškaraca (85 % prema 80 %). U ovom istraživanju - suprotno rezultatima u drugim istraživanjima - stopa karijesa kod studentica bila je malo viša negoli kod studenata (57,1 prema 65,5 %), premda statistički nije bilo veće razlike.

Pretraživanjem baze Medline nisu pronađeni podaci o istraživanjima mliječnih zuba kod studenata i o protetskim radovima. U ovoj studiji ustanovljeno je da su jedan pacijent i četiri pacijentice imali gornje mliječne očnjake, no nisu zbog toga imali tegobe. Čak nisu bili svjesni da se radi o mliječnim zubima. Od 308 pregledanih studenata, sedam studentica je imalo protetske radove, pa zadovoljava činjenica da je ustanovljena niska (0,06) aritmetička sredina zuba s protetskim radom (P).

No, podatak da su kod 52 studenta (16,9 %) potrebni protetski radovi zahtijeva procjenu nužnih zahvata u sklopu njihova oralnog statusa i podizanja samosvijesti o tom pitanju.

Time bi se u budućnosti smanjio pritisak na protetsku rehabilitaciju i zdravstveno osiguranje, jer bi se prevenirali problemi s okluzijom i poremećaji temporomaksilarnog zgloba.

al.(27) (92.1%). The rate for daily flossing (2.6%) was lower than those reported in other studies from Canada (28) (22.3% in 1992), the USA (29) (31.6% in 1989), and Singaporen (30) (35.0%).

Cortes et al. (31) reported that the mean DMFT in dental students was 5.91. In Tseveenjav et al. (32) study, the mean value of DMFT index among Mongolian dental students (4.1) was greater than that among UK first-year dental students (2.8), and just below that of Finnish dental students (5.8). Bou et al. (33) reported the mean value of DMFT index of university students in France as 4.4 (± 3.72), while Peltolia (34) reported it to be 8.4 (±5.0) among Finnish university students. In this study, university students' mean value of DMFT index determined as 1.54 was quite lower than the above-mentioned values of dental or non-dental university students. Again, the mean value of DMFT index observed in this study was lower than that of Kulak-Ozkan et al. (35) reported as 12.97, obtained from one hundred and fifty teenagers of age 15-18 in Istanbul. The reason for low DMFT mean value in this study may be due to oral hygiene and diet habits (Mediterranean diet). Therefore, these etiological reasons should be tested and confirmed with prospective studies. Sugar consumption and saliva analyses of students should also be needed. In their study, Bou et al. (33) reported that FT (3.454) was the dominant component of DMFT, and DT=1 and MT=0.042 followed this. Although the total mean of DMFT index was found to be lower than that of the researcher, contrary to their result, all values were found to be close to each other, and the F value was observed as 0.46, a little lower than the others. However, a little higher values of DT and MT (0.56 and 0.52 respectively) emphasize the need for the treatment of students' caries on a desired scale and on time, and hence, for the necessary check-ups to be performed during university education.

Kulak-Ozkan et al. (35) reported that females had a slightly lower prevalence of caries than males (85 vs 80%). In this study, contrary to the result of the researcher, the rate of caries in female students was observed to be a little higher than that of the males (57.1 vs 65.5 %), though statistically not significant.

In a Medline search, no published studies describing the trend in the prevalence of primary teeth and prosthetic rehabilitation of university students were found. In this study, it was observed that 5 students, 4 of whom were female, had upper primary canines, that the students had no complaints about these teeth, and that they were even unaware of their presence. Of the 308 students, 7, all female, had fixed prosthetic restorations, and the fact that quite a low value of 0.06 was observed for the average number of teeth with prosthetic restoration (P) was satisfactory. However, determination of the need for prosthetic treatment in 52 students (16.9%) in this age group necessiates the assessment of prosthetic state of the students within the content of their oral health status, and the need for raising awareness. Thus, the burden of future prosthetic rehabilitation on health insurance will be reduced, and the problems of occlusion problems and temporomandibular joint disorders will be relatively prevented.

Istraživanja u zemljama u razvoju pokazuju da gingivitis počinje zbog velikih nakupina plaka i kamenca (36). Dakle, s razvojem te bolesti povezana je loša oralna higijena. Istaknimo da povezanost loše oralne higijene i razvoja parodontitisa nije do kraja razjašnjena te da samo poneka mjesta s kroničnim gingivitisom progradiraju u parodontitis (37, 38). Pretraživanjem baze Medline nisu pronađeni podaci o prevalenciji indeksa plaka kod studenata. U ovom istraživanju taj je plak iznosio između 0,11 i 2,98, a aritmetička sredina bila je 1,01 (±0,40). Nije ustanovljena statistički znatna povezanost između indeksa plaka te metode i učestalosti održavanja oralne higijene.

Cortes i suradnici (32) izvijestili su da je percepcija o stanju oralnog zdravlja (dobro/vrlo dobro) bila pozitivnija među studentima stomatologije negoli među njihovim kolegama s Medicinskog fakulteta. Slično tom istraživanju i u ovoj je studiji 197 studenata smatralo svoje oralnog zdravlje dobrim (dobro/vrlo dobro), a kod 152 (77,2 %) to su potvrdili i stomatolozi. Rezultati su također pokazali da studenti imaju visoku svijest o oralnom zdravlju te da su njihova samosvijest i motivacija vrlo pozitivne.

Zaključci

Na osnovi ovog istraživanja može se zaključiti sljedeće: svi studenti obavljali su oralnu higijenu i često su se koristili četkicom i pastom za zube; Srednji KEP-indeks zuba za studente bio je 1,54, KEP-indeks površina 7,62, a indeks plaka 1,01; KEP indeks zuba bio je niži kod žena negoli muškaraca, premda statistički razlika nije bila velika; broj amalgamskih ispuna bio je veći nego kompozitnih; sedam studentica imalo je fiksno-protetske radove; zaključeno je da su studenti koji su sudjelovali u istraživanju snažno motivirani za higijenu i da im je zato oralno zdravlje dobro, ali bi trebali tijekom studija biti pod nadzorom stomatologa i dobivati obavijesti o svojem oralnom zdravlju.

Studies among various populations in developing countries demonstrate that gingivitis results from the accumulation of extensive plaque and calculus deposits (36). Poor oral hygiene is associated with the development of gingivitis. However, the relationship between the individual oral hygiene level and the development of periodontitis is not clear, and only relatively few sites with persistent gingivitis may progress to periodontitis (37,38). In a Medline search, no published studies describing the trend in the prevalence of plaque index of university students were found. In this study, plaque index values of the students varied between 0.11-2.98, and the mean value was determined as 1.01 (±0.40). No relationship was observed between the plaque index value and the methods and frequencies of oral health care.

Cortes et al. (32) reported that the perception of the state of oral health (good/very good) was more positive among dental students than among their medical peers. Similar to the results of the researchers, in this study, 197 students reported the perception of their oral health as good (good/very good), and the oral health of 152 (77.2%) of these were determined as good by the dentist. The results also show that students possessed a very high oral health care level, and their motivations and perceptions were very positive.

Conclusions

Within the content of this study, the following conclusions were drawn:

All the students performed oral care and frequently used toothbrush and toothpaste for care.

For the students, the mean index was 1.54 for DMFT, 7.62 for DMFS and 1.01 for the plaque. DMFT score was lower in females than males, however, these differences were not statistically significant. The number of amalgam fillings was higher than that of composite ones, and 7 students had fixed prosthetic restorations.

It has been concluded by the researchers of this study that vocational training school students are highly motivated about maintaining their oral health and they have a good oral health status. However, it is believed that their oral health status should be evaluated and they should be informed during their education.

Abstract

Objectives: The aim of this study was to analyse the oral health status, and dental plaque with that of non-dental students. **Methods:** 308 university students were included in this study (238 females and 70 males). A questionnaire was used to collect information on oral hygiene habits and self-reported perception of oral health status of the students. Dental caries status was evaluated using the World Health Organization caries diagnostic criteria for decayed, missing, and filled teeth and surface. For the evaluation of plaque status, Silness&Löe plaque index was utilized. Besides these, material of restorations worn by the students were recorded and clinically evaluated. **Results:** It was observed that all the students performed oral care, 92.3% used toothbrush and toothpaste for care, and the frequency of brushing the teeth twice or more a day was 43.3%. The mean DMFT index was 1.54 (±1.60), the mean DMFS index was 7.62 (±7.85) for the students. The mean plaque index of the students was 1.01 (±0.40). DMFT score was lower in females than males, however, these differences were not statistically significant. The relationship between gender and plaque was observed to be significant (p=0.006). Male students had more plaque than the female ones. **Conclusions:** Although DMFT and plaque indices of the students were relatively low and their perception of oral health was good, they had to be evaluated and informed about oral health status and needs of prosthetic rehabilitation during their education.

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DMF Index; Students; Oral Health; Dental Plaque Index

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