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Osobno stajalište i odnos prema oralnom zdravlju studenata medicine u Grčkoj

Self-Reported Oral Health Attitude and Behaviour of Greek Medical Students

Odjel za maksilofacijalnu i oralnu kirurgiju 401 Glavne vojne bolnice u Ateni, Grčka
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Sažetak

Svrha: U ovom se istraživanju željelo ocijeniti odnos i navike prema oralnome zdravlju studenata medicine u Grčkoj i zatim rezultate usporediti sa stajalištem studenata na pretkliničkom stupnju studija i onih na kliničkom. **Materijali i metode:** U Ateni je 720 studenata Medicinskog fakulteta u dobi od 18 do 24 godine ispunilo upitnik Sveučilišta u Hirošimi – Dental Behavioural Inventory (HU-DBI) o oralnom zdravlju. Analiziran je rezultat svakoga njegova dijela te je izračunata srednja vrijednost rezultata za pretklinički i klinički obrazovane pacijente. Provedena je i statistička analiza chi-square testom, Mann-Whitneyjevim U-testom te modelom logističke regresijske analize. **Rezultati:** Od 720 studenata medicine, njih 400 (55,6 %) ispunilo je upitnik, od njih 188 muškaraca i 212 žena. Rezultat HU-DBI-ja za kliničke studente (6,03±1,65) bio je značajno viši ($P < 0,001$) od rezultata pretkliničkih (5,26±1,37). Značajno više ($P < 0,001$) pretkliničkih studenata u odnosu na kliničke, zabrinuti da bi im stomatolog mogao dijagnosticirati pokvarene zube, odgađaju odlazak liječniku dok ih zub ne zaboli. Smatrajući da je nemoguće prevenirati bolesti desni samo pranjem zuba, stomatolozi su im rekli da dobro peru zube. **Zaključak:** Općenito ni jedan od studenata medicine nije pokazao zavidno znanje o oralnom zdravlju. Ipak, odnos se popravljao kako su napredovali u kliničkom dijelu svojeg obrazovanja.

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Uvod

Danas je dobro poznata činjenica da je oralno zdravlje važno kao i opće zdravlje organizma (1). U skladu s tim i jedno i drugo zdravlje ovise o dinamičkoj interakciji mnogo čimbenika, kao što su osobne karakteristike, stajališta i percepcije (2). S druge strane, stajalište i odnos prema oralnom zdravlju ovise o utjecaju roditelja na dijete u djetinjstvu i utječu na buduću status zdravlja usne šupljine (3).

Najčešći su izvori informacija o oralnom zdravlju mediji, znanstvene publikacije i kampanje koje organiziraju stomatološke udruge i nacionalne zdravstvene ustanove te stomatolozi osobno (4). Istaknimo također da su programi izobrazbe o oralnom zdravlju nedavno organizirani u školama i na fakultetima pokazali pozitivan učinak (5).

Danas je premalo informacija o tome koliko je stanovništvo obaviješteno o bolestima usne šupljine i o njihovoj prevenciji. Zato se autori nekoliko novijih ispitivanja bave ponašanjem i stajalištem mladih odraslih ljudi prema oralnom zdravlju, te kako su ta stajališta i ponašanja povezana s njihovim dentalnim i oralnim statusom (6).

Od studenata medicine očekuje se, kao od budućih pružatelja medicinske skrbi, da budu uzor pacijentima, članovima obitelji i prijateljima u održavanju općeg zdravlja. No

Introduction

It is widely accepted that oral health is recognized to be equally important as general health (1). In addition, oral health and general health status depend on dynamic interplay of many factors, including the individual's personal characteristics, behaviours, attitudes and perceptions (2). On the other hand, oral health behaviour and attitudes are also influenced by parents in early years of life and they also predict the actual oral health status (3).

The most common sources for receiving oral health information are multi-media, scientific publications, campaigns organized by Dental Associations and National Health System and dentists (4). Furthermore, school-based and university-based oral health education programs were recently reported to have a positive effect on oral health behaviour (5).

Nowadays, information is limited regarding the public's knowledge and attitude about oral disease and their prevention. Several recent investigations concern the oral health attitudes and behaviours of young adults and the relation between their attitudes and behaviours and their dental or oral status (6).

Medical students as the future providers of medical care are expected to be a role model for their patients, family

studenti medicine nisu motivirani da bi održavali dobro oralno zdravlje, a studenti stomatologije jesu (7).

Iako postoje mnoga istraživanja o stajalištu studenata stomatologije prema oralnom zdravlju, samo je jedna studija obuhvatila populaciju studenata medicine (8). Osim toga malo se zna o učinku klinike i o nastavnim programima predmeta koje slušaju studenti medicine te kako to djeluje na njihovo stajalište i odnos prema oralnome zdravlju.

Stajalište studenata stomatologije prema svojem oralnom zdravlju utječe na njihove navike u održavanju zdravlja usne šupljine te isto tako može utjecati na poboljšanje oralnog zdravlja njihovih pacijenata (9). Slični podaci za studente medicine nisu zabilježeni.

Studenti medicine u Grčkoj obaviješteni su samo o preventivnim mjerama u održavanju oralnoga zdravlja. Prijašnja istraživanja u kojima su sudjelovali studenti stomatologije, a uspoređivalo se znanje na nižim i višim godinama, pokazala su da oni na završnim godinama znatno bolje održavaju oralnu higijenu te imaju bolji odnos prema oralnom zdravlju (8,10-14). Slična istraživanja na studentima pretkliničkog i kliničkog stupnja medicine nisu provedena.

Zna se da samostalno ispunjavanje ankete nije pouzdan pokazatelj ponašanja. Zato su najadekvatniji načini procjene ispunjavanje ankete i kliničko ispitivanje. Ne postoji univerzalno prihvaćen ili preporučeni indeks ili popis kojim se mjeri stajalište i ponašanje prema oralnome zdravlju. HU-DBI sastoji se od 20 pitanja, uglavnom o tehnici pranja zuba. Sva pitanja imaju dvojne odgovore – *slažem se/ne slažem se*. Maksimalni mogući broj bodova je 12. Viši rezultati upućuju na pravilnije stajalište i ponašanje prema zdravlju usne šupljine (15).

Ova studija zapravo je prva formalna procjena učinka medicinskog obrazovanja na stajalište i odnos prema oralnom zdravlju studenata medicine u Grčkoj, a rađena je na temelju izvornog upitnika HU-DBI. Svrha istraživanja bila je procijeniti stajališta i odnose skupine studenata medicine prema oralnom zdravlju te ih usporediti s rezultatima studenata prvih triju godina (pretklinički stupanj) i posljednjih triju godina (klinički stupanj) Medicinskog fakulteta.

Materijali i metode

Uzorak

Istraživanje je provedeno na Medicinskom fakultetu u Ateni tijekom drugog semestra od siječnja do srpnja u akademskoj godini 2011. Sudjelovale su četiri stotine studenata medicine sa svih šest godina. Ispitanici su je prijavili dobrovoljno i svi su ispitani anonimno. Od 720 studenata medicine (388 pretkliničkih, 322 klinička), njih 584 (81 %) željelo je sudjelovati, no 400 je (68% – 203 pretklinička, 197 kliničkih) bilo uvršteno u istraživanje.

Svi sudionici znali su svrhu istraživanja i kako će ispuniti upitnik. Trebali su odgovoriti na sva pitanja i rečeno im je da nazočni ispitivač može objasniti sve dodatne nedoumice. Svaki predani upitnik pregledao je istraživač koji je upozorio na neodgovorena pitanja te su ona naknadno zaokružena.

members and friends and should ensure their awareness of general health maintenance. However, medical students are generally not motivated to maintain good oral health, whereas dental students are (7).

Although there is a lot of published information related to the oral health behaviour and attitudes of dental students and several population samples, only one study has dealt with the same aspects of medical students (8). Moreover, little is known about the influence of clinical training and course content on the development of oral health behaviour and attitudes of medical students.

Attitudes of dental students towards their own oral health affect their oral health habits and also have possible influence on the improvement of the oral health of their patients (9). Similar data regarding the medical students have not been recorded.

Greek medical students are only introduced to the preventive aspects of oral health. Previous studies on dental students, concerning the comparison of the first and advanced years of education, showed that the final year dental school students had significant improvements in oral hygiene practices, attitudes and behaviour (8,10-14). Similar investigations comparing preclinical and clinical medical students have not been carried out.

It is widely accepted that self-report is an imperfect predictor of behaviour. Therefore, the most adequate assessment includes both self-report and clinical indices. There is no universally accepted or recommended index or inventory to measure dental health behaviour and attitude. The HU-DBI consists of 20 items primarily associated with tooth-brushing behaviour. All items have a dichotomous response format (agree/disagree). The maximum possible score is 12. Higher scores indicate better oral health attitude and behaviour (15).

The current study is the first formal assessment of the impact of medical education progress on the oral health attitudes and behaviour of a group of Greek medical students using the original HU-DBI. Therefore, the aim of the present study was to assess self-reported oral health attitudes and behaviour among a group of Greek medical students and to compare the oral health attitudes and behaviour of preclinical and clinical students of medical school.

Materials and method

Subject population

The current study was carried out at the Medical School of Athens during the academic mid-year January-July 2011. Four hundred medical students from the 6 years of the Medical School participated in the study. Participation was voluntary and all the participants were queried anonymously. Among 720 medical students (388 preclinical, 332 clinical), 584 (81%) were willing to participate and 400 (68%) (203 preclinical, 197 clinical) of them were included in the study.

All participants were provided with a full explanation of the purpose of the study and how to score the test. They were asked to answer all the items of the inventory and were told that the investigator would be available in order to answer any enquiry regarding the inventory. Each returned in-

Kriterij odabira

Sudionici su morali odgovoriti na sva pitanja iz upitnika, navesti spol, datum rođenja te na kojoj su godini studija, kako bi se mogli razlikovati pretklinički od kliničkih studenata. Naime, prve tri godine studija medicine su pretkliničke, a ostale tri su kliničke.

Studenti upisani na Medicinski fakultet, uvršteni u posebne kategorije kao studenti sa zdravstvenim problemima, sportaši, studenti s već jednom diplomom, a žele još jednu itd., isključeni su iz istraživanja jer su svi bili stariji od 24 godine i vjerojatno su imali više znanja te jasnija stajališta i odnos prema oralnome zdravlju. Da ih se uvrstilo u istraživanje, to je moglo dati pogrešne rezultate HU-DBI-ja za pretkliničke i kliničke studente.

Upitnik

Izvorni upitnik napisan je na japanskom jeziku. Sadržava dvadeset pitanja uglavnom o odnosu prema oralnom zdravlju i načinu pranja zuba. Na sva se može odgovoriti sa – *slažem se ili ne slažem se*.

Upitnik HU-DBI preveden je na nekoliko jezika, što je omogućilo usporedbu kulturoloških razlika. Tako ga je za ovo istraživanje na grčki jezik preveo Grk koji je sudjelovao u sličnom istraživanju Komabayashija i njegovih suradnika (16).

Kod izračunavanja rezultata HU-DBI-ja jedan bod dodjeluje se za svaki pozitivni odgovor, te po jedan za svaki negativni. Kvantitativna procjena ukupnog stajališta prema oralnom zdravlju temelji se na ukupnom broju odgovora *slažem se/ne slažem se*. Maksimalni broj bodova je 12. Viši iznosi krajnjeg rezultata upućuju na bolji odnos prema oralnom zdravlju.

Etičko razmatranje

Ovo istraživanje nije eksperimentalno. U Grčkoj samo takva istraživanja podliježu provjeri odgovarajućih etičkih odbora (Stomatološkog fakulteta, Grčke stomatološke udruge, Ministarstva zdravstva, itd.)

Statistička analiza

χ^2 test uporabljen je kako bi se odredile razlike u distribuciji svih pitanja iz upitnika prema razini obrazovanja (pretklinički, klinički), a Mann-Whitneyjev U-test korišten je za ostale podatke. Omjer izgleda s intervalom pouzdanosti od 95 posto (CI) primijenjen je kako bi se odredio odnos između dviju varijabli.

Nulta hipoteza glasila je da u ovom istraživanju nema razlika između stajališta i odnosa prema oralnom zdravlju pretkliničkih i kliničkih studenata. Univarijatna analiza, uspoređujući odgovore pretkliničkih i kliničkih studenata, postupno se pratila modelom nazadne selekcije s pretkliničkim/kliničkim studentima kao ovisnom varijablom. Statistikom Wald testirana je nulta hipoteza da je vrijednost regresijskih koeficijenata bila nula. Analiza podataka obavljena je sta-

ventory was checked by the investigator who was asked to score any missing response before he or she gave the inventory back.

Selection Criteria

The participants had to respond to all the questions of the inventory, to state their gender, date of birth and academic year of attendance in order to distinguish preclinical and clinical students. First 3 years of medical education were preclinical and last 3 years were clinical years.

Medical students who had enrolled to the Medical School and belonged to special categories, such as students with health problems, athletes, students who already had a degree and willing to acquire another degree, etc., were excluded from the study since the majority of them were over 24 years old and probably had more knowledge regarding oral health attitudes and behaviour. This factor could lead to overestimating the HU-DBI scores in preclinical and clinical medical students.

Questionnaire

The original questionnaire was written in Japanese. It consists of twenty items primarily associated with the oral health attitude and tooth-brushing behavior. All items have dichotomous responses format (agree/disagree).

The HU-DBI questionnaire has been translated into several languages and this has allowed for cross-cultural comparisons. Consequently, the HU-DBI questionnaire used in the present study was translated in Greek by a Greek author who participated in a similar study by Komabayashi et al. (16).

When calculating the HU-DBI scores, one point was given for each of agree (yes) responses to the item and one point was given for each of disagree (no) responses to the item. A quantitative estimate of overall oral health attitude and behaviour was provided by the total number of appropriate agree/disagree responses. The maximum possible score was 12, and higher scores indicated better oral health and behaviour.

Ethical consideration

The present study was not an experimental one. In Greece, only experimental studies must be reviewed and approved by authorized committees (Dental Schools, Greek Dental Association, Ministry of Health, etc.).

Statistical Analysis

Each individual was the statistical unit in order to analyse the data. Chi-square test was used to assess differences in the distribution of all items of the inventory by level of education (preclinical, clinical), whereas Mann-Whitney U test was used for ordinal level data. In addition, odds ratios with 95% confidence intervals (CI) were used to assess the bivariate relationships among the examined variables.

The null hypothesis in the current study was that there is no difference in oral health attitudes and behaviour between preclinical and clinical students. Univariate analyses, comparing answers given by preclinical and clinical students followed by a stepwise backward selection model with preclinical/clinical students as dependent variables. The Wald statistics was used to test the null hypothesis which stated

Tablica 1. Pitanja iz upitnika HU-DBI i postotak odgovora - slažem se/ne slažem se
Table 1 HU-DBI questionnaire items and percentage of agree/disagree response

Broj i opis • Item number and description		Prekl. stud. • Preclinical Stud.		Klin. stud. • Clinical Stud.		Ukupno • Total		p-vrijednost • P-value*	Omjer • OR	Interval pouzdanosti (IP) • CI
		n	(%)	n	(%)	n	(%)			
1. Ne brinem previše o posjetama doktoru dentalne medicine • I don't worry much about visiting the dentist.**	YES	142	(57)	109	(43)	251	(100)	0,002	1,879	1,246-
	NO	61	(41)	88	(59)	149	(100)	2,835		
2. Moja gingiva krvari kad četkam zube • My gums tend to bleed when I brush my teeth.(D)	YES	16	(55)	13	(45)	29	(100)	0,621	1,211	0,567-
	NO	187	(50)	184	(50)	371	(100)	2,588		
3. Nije me briga za boju mojih zuba • I worry about the colour of my teeth. **	YES	95	(61)	60	(39)	155	(100)	0,001	2,008	1,333-
	NO	108	(44)	137	(56)	244	(100)	3,026		
4. Primjetio sam ljepljive naslage na zubima • I have noticed some white sticky deposits on my teeth.(A) **	YES	81	(64)	46	(36)	147	(100)	0,000	2,179	1,413-
	NO	122	(45)	151	(55)	273	(100)	3,362		
5. Imam dječju četkicu • I use a child-sized tooth-brush.	YES	18	(58)	13	(42)	31	(100)	0,396	1,377	0,656-
	NO	185	(50)	184	(50)	369	(100)	2,892		
6. Ne mogu izbjeći umjetne zube u starosti • I think that I cannot help having false teeth when I am old.(D) **	YES	55	(43)	73	(57)	128	(100)	0,033	0,631	0,413-
	NO	148	(54)	124	(46)	272	(100)	0,964		
7. Brine me boja zubnog mesa • I am bothered by the colour of my gums.	YES	41	(58)	30	(42)	71	(100)	0,194	1,409	0,839-
	NO	162	(49)	167	(51)	329	(100)	2,365		
8. Mislim da su mi zubi sve lošiji usprkos četkanju • I think my teeth are getting worse despite my daily brushing.(D)	YES	119	(53)	105	(47)	224	(100)	0,284	1,241	0,836-
	NO	84	(48)	92	(52)	176	(100)	1,843		
9. Četkam sveki zub pažljivo • I brush each of my teeth carefully.(A)	YES	107	(47)	121	(53)	228	(100)	0,078	0,700	0,470-
	NO	96	(56)	76	(44)	172	(100)	1,042		
10. Nikad me nitko nije naučio kako prati zube • I have never been taught professionally how to brush.(D)	YES	23	(49)	24	(51)	47	(100)	0,791	0,921	0,501-
	NO	180	(51)	173	(49)	353	(100)	1,693		
11. Mislim da i bez paste mogu dobro četkati zube • I think I can clean my teeth well without using toothpaste.(A)	YES	22	(45)	27	(55)	49	(100)	0,382	0,765	0,420-
	NO	181	(52)	170	(48)	351	(100)	1,395		
12. Često provjeravam kako sam oprao zube • I often check my teeth in a mirror after brushing. (A) **	YES	55	(43)	72	(57)	127	(100)	0,042	0,645	0,422-
	NO	148	(54)	125	(46)	273	(100)	0,986		
13. Ne brinem se zbog zadaha • I worry about having bad breath. **	YES	113	(62)	66	(38)	179	(100)	0,000	2,492	1,662-
	NO	90	(41)	131	(59)	221	(100)	3,737		
14. Nemoguće je spriječiti bolest zubnog mesa četkanjem • It is impossible to prevent gum disease with tooth-brushing alone.(D) **	YES	163	(55)	136	(45)	299	(100)	0,010	1,828	1,155-
	NO	40	(40)	61	(60)	101	(100)	2,893		
15. Doktoru dentalne medicine idem tek kad me boli zub • I put off going to the dentist until I have tooth-ache.(D) **	YES	132	(64)	73	(36)	205	(100)	0,000	3,158	2,099-
	NO	71	(36)	124	(64)	195	(100)	4,751		
16. Obojao sam zube da provjerim četkanje • I have used a dye to see how clean my teeth are.(A) **	YES	56	(33)	116	(67)	172	(100)	0,000	0,266	0,175-
	NO	147	(64)	81	(33)	228	(100)	0,404		
17. Imam tvrdu četkicu • I use a toothbrush with hard bristles. **	YES	55	(76)	17	(24)	72	(100)	0,000	3,935	2,190-
	NO	148	(45)	180	(55)	328	(100)	7,068		
18. Nemam osjećaj da sam dobro četkao ako ne četkam dugim pokretima • I don't feel I've brushed well unless I brush with strong strokes. **	YES	38	(68)	18	(32)	56	(100)	0,006	2,290	1,258-
	NO	165	(48)	179	(52)	344	(100)	4,170		
19. Ponekad mi se čini da predugo četkam zube • I feel I sometimes take too much time to brush my teeth.(A)	YES	36	(43)	47	(57)	83	(100)	0,131	0,688	0,423-
	NO	167	(53)	150	(47)	317	(100)	1,120		
20. Moj doktor mi je rekao da veoma dobro četkam zube • I have had my dentist tell me that I brush very well. **	YES	96	(41)	137	(59)	233	(100)	0,000	0,393	0,261-
	NO	107	(64)	60	(36)	167	(100)	0,592		

Kalkulacija HU-DBI • In calculation of the HU-DBI:

A = jedan bod za svaki pozitivan odgovor • one point is given for each agreed response (YES: agree)

D = jedan bod za svaki negativan odgovor • one point is given for each disagreed response (NO: disagree)

*: Chi-square test, **: p<0.05

tističkim paketom SPSS ver. 17,0 (SPSS Inc, Chicago, IL, SAD). Kao statistički značajne uzete su p-vrijednosti manje od pet posto ($p < 0,05$).

Rezultati

Cjelokupni broj, postotak i analiza odgovora *da* (slažem se) i *ne* (ne slažem se) pretkliničkih i kliničkih studenata nalazi se u tablici 1.

Od 20 pitanja u 12 je zapažena statistički značajna razlika u odnosu na stupanj obrazovanja (pretklinički/klinički).

Pitanja o krvarenju tijekom pranja zuba (Q2), o korištenju četkice za djecu (Q5), o promjeni boje desni (Q7), o sve lošijim zubima unatoč svakodnevnom pranju (Q8), o pranju svakog zuba (Q9), o nedostatku profesionalne edukacije o pranju zuba (Q10), o mišljenju da se zubi mogu učinkovito prati bez zubne paste (Q11), o osjećaju da je katkad potrebno previše vremena da se zubi operu (Q19) – nisu pokazala znatnu razliku u razini obrazovanja.

Srednja vrijednost rezultata HU-DBI-ja kliničkih studenata ($6,03 \pm 1,65$) značajno je viša ($P < 0,001$) negoli je vrijednost za kliničke studente ($5,26 \pm 1,37$). Ukupna srednja vrijednost za sve studente iznosi $5,64 \pm 1,77$ (tablica 2).

U tablici broj 3 procijenjeni su koeficijenti, statistika i model logističke regresije koji predviđa smjer i izvor informacija. Dobiveni rezultati mogu se tumačiti na sljedeći način: studenti na pretkliničkoj razini nisu bili zabrinuti u vezi s posjetom stomatologu (Q1), zabrinjavali su se zbog boje zuba (Q3), zabrinjavali su ih pokvareni zubi (Q13), mišljenja

that the regression coefficients were zero. The data analysis was performed using the statistical package of SPSS ver.17.0 (SPSS Inc, Chicago, IL, USA). A p value less than 5% ($p < 0.05$) was considered to be statistically significant.

Results

Total number, percentages and analysis of yes (agree) and no (disagree) responses according to preclinical and clinical medical students of the study are shown in Table 1.

Out of 20 questions, 12 questions showed statistically significant differences by level of education (preclinical/clinical).

No significant differences were observed by level of education concerning bleeding while brushing (Q2), using a child-sized toothbrush (Q5), worrying about the colour of gums (Q7), thinking that teeth are getting worse despite daily brushing (Q8), brushing each tooth carefully (Q9), having never been taught professional brushing method (Q10), thinking that teeth can be cleaned well without using toothpaste (Q11) and a feeling that sometimes it takes too much time to brush teeth (Q19).

The mean HU-DBI score of the clinical students (6.03 ± 1.65) was significantly higher ($P < 0.001$) than that of the preclinical students (5.26 ± 1.37). The overall mean score of the students was 5.64 ± 1.77 (Table 2).

Table 3 shows the estimated coefficients and related statistics and the logistic regression model that predicts the course of the origin. The interpretation of this analysis is as follows: preclinical students were more likely not to worry

Tablica 2. Usporedba rezultata HU-DBI-ja između pretkliničkih i kliničkih studenata medicine
Table 2 Comparison of the HU-DBI scores between preclinical and clinical medical students

	Pretkl. • Preclinical (mean ± SD)	Klin. • Clinical (mean ± SD)	Ukupno • Total (mean ± SD)	p- vrijednost • P-value*
HU-DBI vrijednost • HU-DBI score	5.26±1.37	6.03±1.65	5.64±1.77	0.000

* : Mann Whitney U Test ($P \leq 0.05$ statistički značajno • statistically significant)

Tablica 3. Rezultati modela regresijske analize za stupanj obrazovanja
Table 3 Results of the logistic regression analysis model for the level of education.

Broj i opis • Item number and description	B	SE	P	Exp (B)	95% CI for Exp(B)
1. Ne brinem previše o posjetama doktoru dentalne medicine • I don't worry much about visiting the dentist.**	1,339	0,313	<0,001	3,814	2,066-7,043
3. Nije me briga za boju mojih zuba • I worry about the colour of my teeth. **	0,793	0,316	0,012	2,209	1,190-4,100
13. Ne brinem se zbog zadaha • I worry about having bad breath. **	1,295	0,330	<0,001	3,650	1,911-6,972
14. Nemoguće je spriječiti bolest zubnog mesa četkanjem • It is impossible to prevent gum disease with tooth-brushing alone.(D) **	1,642	0,352	<0,001	5,167	2,591-10,303
15. Doktoru dentalne medicine idem tek kad me boli zub • I put off going to the dentist until I have tooth-ache.(D) **	1,401	0,289	<0,001	4,060	2,302-7,159
16. Obojao sam zube da provjerim četkanje • I have used a dye to see how clean my teeth are.(A) **	-2,413	0,341	<0,001	0,090	0,046-0,175
17. Imam tvrdi četkicu • I use a toothbrush with hard bristles. **	2,650	0,421	<0,001	14,160	6,200-32,337
18. Nemam osjećaj da sam dobro četkao ako ne četkam dugim pokretima • I don't feel I've brushed well unless I brush with strong strokes. **	1,365	0,431	0,002	3,915	1,681-9,117
20. Moj doktor mi je rekao da veoma dobro četkam zube • I have had my dentist tell me that I brush very well. **	1,998	0,353	<0,001	7,377	3,694-9,117
Konstanta • Constant	-6,013	0,792	<0,001	0,002	

su da je nemoguće spriječiti bolesti parodonta koristeći se samo četkicom i pastom (Q14), odgađaju odlazak stomatologu dok se ne pojavi zubobolja (Q15), koriste se četkicom s tvrdim vlaknima (Q17), peru zube snažnim pokretima (Q18) stomatolog im je rekao da dobro peru zube (Q20). Studenti na kliničkom stupnju obrazovanja skloniji su korištenju boja kao indikatora čistoće zuba (Q16).

Rasprava

Stajalište i odnos stomatologa i studenata stomatologije prema oralnom zdravlju, na temelju upitnika HU-DBI, ocijenjeni su dosad u nekoliko studija u različitim zemljama (7–10,12,13,17–19). Zbog premalo istraživanja o stajalištu i odnosu studenata medicine u Grčkoj prema oralnome zdravlju, ovo je istraživanje prva formalna procjena utjecaja medicinskog obrazovanja na stajalište i odnos prema oralnom zdravlju u odabranoj skupini studenata medicine na temelju obrasca HU-DBI. U Grčkoj su obavljena samo dva istraživanja koja se odnose na stajalište studenata stomatologije prema zdravlju usne šupljine (19,20). S druge strane mnogo je objavljenih rezultata iz nekoliko zemalja u vezi sa stajalištem i odnosom studenata stomatologije prema oralnom zdravlju. Većina upućuje na podatak da je ukupni prosječni rezultat HU-DBI-ja studenata stomatologije mnogo viši nego rezultat koji su postigli studenti medicine u ovom istraživanju.

Za takav rezultat može biti zaslužno nekoliko čimbenika. Kao prvo, studenti medicine imali su nisku razinu svijesti i loše znanje o oralnom zdravlju na početku studija. Uzrok je možda nedostatak učinkovitih edukacijskih programa na nacionalnoj razini koji bi školsku djecu podučili tomu kako se održava oralno zdravlje (21).

U Grčkoj nema programa koji se tijekom osnovne i srednje škole bave oralnim zdravljem i preventivnom stomatologijom. Na temelju spoznaja da studenti medicine pri upisu na fakultet nemaju znanje o pravilnom održavanju oralne higijene, trebalo bi u pretklinički nastavni program uvrstiti predmete o oralnom zdravlju zbog toga što je dobro znano da je zdravlje usne šupljine važno kao i opće zdravlje organizma (1).

Najvažnije je da status oralnog i općeg zdravlja ovisi o uzajamnom dinamičkom djelovanju mnogo čimbenika u koje se ubrajaju individualne karakteristike svakog pojedinca, njegovo ponašanje, stajališta i percepcije. Ti su čimbenici pod utjecajem kulturološkog i obiteljskog okruženja. Na preventivne aktivnosti jako utječu tri čimbenika: razmišljanje (vjerovanja, vrijednosti i očekivanja), socijalno okruženje (međusobne interakcije) te osobne sposobnosti. Kako bi se slijedili savjeti liječnika pacijenti moraju vjerovati da su izloženi čimbenicima povezanim s bolešću, da je bolest ozbiljna i da im mogu koristiti pokušaji liječnika ili stomatologa (2, 22).

Još jedan važan čimbenik jest razlika između edukacijskih programa na stomatološkim i medicinskim fakultetima. Na grčkim medicinskim fakultetima preventivni stomatološki predmeti nisu zastupljeni u pretkliničkom dijelu obrazovanja, tako da studenti o tome ne uče dok se ne upišu na kli-

much about visiting the dentist (Q1), to worry about the colour of their teeth (Q3), to worry about having bad breath (Q13), to think that it is impossible to prevent gum disease with tooth brushing alone (Q14), to put off going to the dentist until having toothache (Q15), to use a hard bristle toothbrush (Q17), to brush with strong strokes (Q18) and being told by their dentists that they carried out accurate tooth brushing (Q20). Clinical medical students were more likely to use a dye to see how clean their teeth were (Q16).

Discussion

Oral health behaviour and attitudes among oral health professionals and students were estimated by using HU-DBI questionnaire worldwide in several studies, which were carried out in different countries (7-10,12,13,17-19). Due to lack of studies on oral health behaviour and attitudes among Greek medical students, the current study is the first formal assessment of the impact of medical education progress on the oral health attitude and behaviour of a group of Greek medical students using the original HU-DBI. In Greece, only two studies have been carried out regarding the oral self-care behaviours among dental students (19,20). On the other hand, there is a lot of published data related to the oral health behaviour and attitudes of dental students in several countries, as mentioned. The majority of those studies showed that the overall mean HU-DBI score of the dental students was significantly higher than that of medical ones in the present study.

This finding might be due to several factors. First, medical students had low oral health awareness and poor knowledge when they started their medical education. A probable cause of this is the lack of effective school-based oral health promotion programs at a national level that could help schoolchildren improve and maintain their oral health (21).

In Greece, there are no similar programs regarding dental health care and preventive dentistry during primary, middle and high school education. Based on the mentioned observation that medical students do not acquire knowledge regarding their oral hygiene before they enter medical school, oral health programs should be included in the preclinical curriculum, as for dental students, to promote oral health awareness and knowledge, since it is well-known that oral health is recognized to be equally important as general health (1).

The most important factor is that oral health and general health statuses depend on dynamic interplay of many factors, including the individual's personal characteristics, behaviours, attitudes and perceptions. These factors are affected by cultural influences and the family environment. In particular, preventive activities are influenced by three factors: thoughts (beliefs, values, expectations), social environment (inter-personal interactions) and individual ability. Moreover, to follow directions given by the doctor or the dentist, patients have to believe that they are exposed to factors which are associated with the disease, that the disease is serious and that they could take advantage from the doctor's or dentist's efforts (2,22).

The difference between educational programs in Dental and Medical schools is another important factor. In Greek

nički stupanj.

Sudeći prema dosadašnjim zapažanjima, očito je da svaki pokušaj usporedbe ponašanja i stajališta prema oralnom zdravlju studenata medicine i stomatologije vodi prema pogrešnim zaključcima.

Studenti medicine koji su sudjelovali u ovom istraživanju uče preventivnu medicinu na trećoj godini. Unatoč svemu znanje o aspektima preventivne stomatologije loše je, pa zato i ne može utjecati na stajalište o oralnom zdravlju studenata koji se upisuju na medicinske fakultete.

U literaturi postoji samo jedno istraživanje – autor je Rong sa suradnicima (8) – u kojemu se analiziraju moguće razlike u stajalištu i ponašanju studenata medicine i stomatologije na prvoj i posljednjoj godini studija. Očito je da je spomenuto istraživanje imalo za uzorak istu populaciju studenata, a ova se studija fokusira na studente pretkliničkog i kliničkog stupnja.

Unatoč tomu nije pronađena znatna razlika u stajalištu i ponašanju prema oralnom zdravlju između studenata prve i posljednje godine medicine. S druge strane, u ovom istraživanju zabilježene su razlike u ponašanju prema oralnom zdravlju između studenata na različitim stupnjevima obrazovanja. Prema regresijskom analitičkom modelu pronađena je značajna statistička razlika u devet od 20 pitanja, te se može zaključiti da su poboljšani i stajalište i odnos prema oralnom zdravlju kod kliničkih studenata u odnosu na pretkliničke.

Ista zapažanja zabilježena su u prijašnjim istraživanjima u kojima su sudjelovali studenti stomatologije, kod kojih su se stajalište i odnos prema oralnom zdravlju poboljšavali kako su završavali više godine studija (7,8, 14, 17, 23-26). Takav rezultat može se objasniti činjenicom da na višim godinama studija studenti postaju zabrinutiji za svoju denticiju i svjesniji posljedica u vezi s funkcijom i estetikom u slučaju gubitka zuba (25).

Slična istraživanja koja se odnose na ponašanje grčkih studenata medicine prema oralnom zdravlju dosad nisu bila provedena. Ipak, u studiji Polychronopoulou i njegovih kolega (19) uočene su značajne razlike s obzirom na stupanj obrazovanja u pitanjima o pažljivom pranju zuba (Q9), pranju zuba bez zubne paste (Q11) i stajalištu da se zubi kvare iako se peru svaki dan (Q8).

Ta opažanja nisu u skladu s rezultatima iz trenutnog istraživanja. Suprotno tome, u samo dva pitanja – Q14 i Q15, rezultati u oba istraživanja bili su isti. I jedno i drugo istraživanje pokazalo je da se stajalište i ponašanje prema oralnom zdravlju razlikuje prema stupnju edukacije i kliničkog iskustva. Polychronopoulou i Kawamura (20) otkrili su da grčki studenti mnogo češće zahtijevaju od svojeg stomatologa da prekontrolira kako peru zube (Q10), kontroliraju svoje zube u zrcalu nakon pranja (Q12), zabrinjava ih loš zadrž (Q13) i vjeruju da je moguće prevenirati bolesti parodontita samo pranjem zuba (Q14). Samo dva postavljena pitanja – Q13 i Q14, bila su u skladu s trenutnom studijom. Rezultati iz upitnika u tom istraživanju (20) bili su viši nego u trenutnom istraživanju (6,86 prema 5,64).

Rezultati ovog istraživanja pokazuju da studenti na kliničkom stupnju studija imaju bolje stajalište i odnos prema oralnom zdravlju u usporedbi s pretkliničkima, osobito ka-

medical schools, preventive dentistry courses are not given in preclinical semesters and consequently, medical students do not come in contact with patients in clinical ones.

Based on the mentioned observations, it is obvious that any effort to compare the oral behaviour and attitudes between medical and dental students would lead to false associations and conclusions.

The medical students who participated in the current study learn preventive medicine during year 3 according to the university curriculum. However, the knowledge concerning aspects of preventive dentistry is poor and consequently cannot influence the oral health attitudes of students entering medical school.

In the literature, only one study by Rong et al. (8) investigated the possible differences in attitude to oral health behaviour amongst medical and dental students when they were in first and final years of University study, respectively. It is obvious that the mentioned study concerned the same sample of students while in the present investigation the study sample consisted of students who attended clinical and pre-clinical courses.

However, no difference was found to be significant in the sample of medical students regarding an improvement in oral health attitudes and behaviour in final year medical students when compared with the time they were entrants. On the contrary, in the current study differences in oral health behaviour and attitudes among these students in different levels of academic education were observed. According to logistic regression analysis model, significant differences were found for 9 of 20 items, reflecting an improvement in oral health attitudes and behaviour in clinical medical students when compared with the pre-clinical ones.

The same observations were recorded in previous studies regarding dental students in whom oral health behaviour and attitudes improved with increasing level of dental education (7,8,14,17,23-26). This finding could be explained by the fact that with increased levels of education, students become more concerned about their dentition and more aware of the limitations and the impact of the loss of teeth on their dental function and aesthetics (25).

Similar studies regarding the oral health behaviours and attitudes in Greek medical students have not been carried out as mentioned. However, in a study by Polychronopoulou et al. (19), significant differences were observed regarding the level of education for careful brushing of the teeth (Q9), cleaning teeth well without the use of toothpaste (Q11) and thinking that teeth are getting worse despite daily brushing (Q8).

These observations were not in agreement with the ones recorded in the current study. On the contrary, only in two questions items, Q14 and Q15, both studies showed the same findings. Both studies also showed that oral health behaviours and attitudes appear to reflect the variation in the students' educational training experience. Polychronopoulou and Kawamura (20) found that Greek students were required by their dentists to evaluate their brushing technique significantly more often (Q10), checked their teeth in the mirror after brushing (Q12), worried about bad breath (Q13), and believed that gum disease is preventable by tooth brush-

da se analiziraju pitanja Q14, Q15 i Q16 zbog toga što se za njih daje jedan bod za svaki odgovor *slažem se/ne slažem* i ti se bodovi uključuju u srednju vijednost rezultata HU-DBI-ja za kliničke studente.

Slično tomu više kliničkih studenata nije bilo zabrinuto zbog posjeta stomatologu (Q1), zabrinjavala ih je boja zuba (Q3), nisu se koristili četkicom s tvrdim vlaknima (Q17), nisu četkali zube snažnim pokretima (Q18) i njihov stomatolog potvrdio je da vrlo dobro peru zube, što nije bio slučaj s pretkliničkim studentima. Ta je razlika bila statistički značajna.

Rezultati ovog istraživanja upućuju na relativno loš pristup oralnome zdravlju studenata medicine u Grčkoj, i to bi se trebalo popraviti kako bi bili uzor svojim pacijentima, obitelji i prijateljima.

No, ipak treba napomenuti da je ovo istraživanje provedeno na jednom od sedam medicinskih fakulteta u Grčkoj, što uvelike ograničava generalizaciju rezultata i zaključaka. Trebalo bi se obaviti istraživanje na razini države koje bi obuhvatilo sve studente medicine u zemlji i pokazalo njihovo stajalište i odnos prema oralnom zdravlju. Rezultati su dobiveni longitudinalano, a ne poprečno, te se zato promatrane promjene ne mogu pripisati nastavnom programu.

Postoji i mogućnost pogreške u mjerenju kada se radi o anketiranju, a ne promatranju ponašanja osobne njege. Zato su potrebna daljnja istraživanja kako bi se odredila povezanost između oralnih bolesti kao što su karijes i zdravlje parodonta, te osobno prijavljenog stajališta i ponašanja prema oralnome zdravlju studenata na različitim stupnjevima akademskog obrazovanja te kako bi se istražile kulturne i socijalno-ekonomske razlike između studenata medicine u Grčkoj i onih iz drugih zemalja.

Trebalo bi staviti naglasak na održavanje i poboljšavanje oralnog zdravlja na početku školovanja (predškolske i školske djece) kako bi se poboljšalo ponašanje odraslih ljudi prema oralnom zdravlju. Ovi rezultati pokazuju da su potrebna nova istraživanja o stajalištu i ponašanju grčke populacije prema oralnome zdravlju te da je prijeko potrebno poboljšati izobrazbu o zdravlju usne šupljine.

Zaključak

Studenti medicine u Grčkoj pokazali su na početku edukacije nisku razinu svijesti o oralnom zdravlju. Njihova su se stajališta i odnos prema toj temi jako promijenili na posljednjoj akademskoj godini. Zato bi se u pretkliničko obrazovanje trebali uvrstiti kolegiji o oralnom zdravlju kako bi se poboljšalo znanje i svijest studenata. Daljnja istraživanja potrebna su da bi se odredila povezanost između osobnog stanja i intraoralnog kliničkog statusa studenata medicine u Grčkoj.

ing alone (Q14). Only two of the mentioned question items, Q13 and Q14 were in agreement with those of the current study. In addition, the mean question score of the Greek students in the mentioned study (20) was greater than that of the present study (6.86 vs 5.64).

The results of the present study showed that clinical students had better oral behaviours and attitudes compared to pre-clinical students regarding the question items Q14, Q15, Q16, because for these question items one point was given for each agree/disagree response and these points were included in the mean HU-DBI score of clinical students.

Similarly, more clinical students did not worry about visiting the dentist (Q1), worried about the colour of their teeth (Q3), did not use a toothbrush with hard bristles (Q17), did not brush with strong strokes (Q18) and their dentist confirmed that they brushed their teeth very well, compared to pre-clinical students, and those differences were statistically significant.

The findings of the present study highlight the relatively poor oral health behaviour of Greek medical students which should improve in order to serve as a positive model for their patients, family and friends.

However, it should be noted that the current study was carried out in one of the 7 medical schools in Greece, limiting the generalizability of the results and conclusions. A nationally representative study should be planned to assess the oral health behaviours and attitudes of all Greek medical students. Data were not derived longitudinally but rather cross-sectionally; thus, observed changes cannot be attributed to the curriculum with certainty.

In addition, there might be a certain amount of measurement error when handling reported instead of observed self-care behaviours. Thus, further studies are necessary to estimate the relationships among oral diseases such as caries experience, periodontal health and self-reported oral health behaviour and attitudes between students at different academic levels and to examine the cultural and socio-economic differences between Greek medical students and those in other countries.

Emphasis on dental health care should be made and maintained during early education (pre-school children, school children) in order to improve dental health behaviour of adults later on. These findings highlight the need to carry out more research on Greek's oral health attitudes and behaviour as well as to improve their oral health care education system.

Conclusion

Greek medical students showed a low degree of oral health awareness in the beginning of their medical education. In addition, oral health behaviour and attitudes improved significantly in the last academic years of their medical education. Therefore, oral health programs should be included in the preclinical curriculum to promote oral health awareness and knowledge. Further clinical studies are needed to determine the correlation between the self report and the intraoral clinical status of the Greek medical students.

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Abstract

Aim: The aim of the present study was to assess self-reported oral health attitudes and behaviour among a group of Greek medical students and to compare the oral health attitudes and behaviours of preclinical and clinical students of medical school. **Materials and Methods:** A self-administered questionnaire based on the Hiroshima University-Dental Behavioural Inventory (HU-DBI) was distributed among 720 Medical students at the Medical School in Athens, 18 to 24 years of age. The score of each item of the questionnaire was analysed and then a mean score was calculated for pre-clinically and clinically educated students. Statistical analysis of the questionnaire items was performed using chi-square test, Mann Whitney U Test and logistic regression analysis model. **Results:** From a total of 720 medical students, 400 (55.6%) completed the questionnaire, of which 188 were males and 212 females. The HU-DBI score of clinical students (6.03 ± 1.65) was significantly higher ($P < 0.001$) than that of preclinical students (5.26 ± 1.37). Significantly higher ($P < 0.001$) percentage of the preclinical students, compared to clinical students, worry about visiting the dentist and having bad breath, put off going to the dentist until they have a toothache; consider that it is impossible to prevent gum disease with tooth brushing alone and have had their dentist tell them that they brush very well. **Conclusion:** Among medical students in general, the overall knowledge of dental and oral health was not good. However, the oral health behaviour and attitudes of medical students improved with increasing levels of education.

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Key words

Dental Health Surveys; Students,
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