Nikola Petričević[1], Ksenija Rener-Sitar[2]

Kvaliteta života ovisna o oralnom zdravlju kod pacijenata s novim potpunim protezama

Oral Health Related Quality of Life in Patients With New Conventional Complete Dentures

[1] Zavod za stomatološku protetiku Stomatološkog fakulteta Sveučilišta u Zagrebu, Hrvatska
   Department of Prosthodontic, School of Dental Medicine University of Zagreb, Croatia
[2] Zavod za stomatološku protetiku Medicinskog fakulteta Sveučilišta u Ljubljani, Slovenija
   Department of Prosthodontic, School of Medicine University of Ljubljana, Slovenia

Sažetak

Posljednjih godina u Hrvatskoj se shvatilo koliko je nužno da pacijent sam procijeni vlastito zdravlje, što je istodobno dodatak dosadašnjem praćenju kliničkih indikatora oralnih bolesti. **Svrha rada:** Željelo se procijeniti OHRQoL koristeći se upitnikom za OHIP kod pacijenata uključenih u izradu novih potpunih proteza i to prije završene terapije i poslije nje, te ustanoviti postoji li razlika u spolu. Svrha rada također je bila procijeniti OHRQoL opće populacije te doznati ima li razlika prije terapije i poslije nje u odnosu prema pacijentima kojima su potrebne nove potpune proteze. **Ispitanici i postupci:** U istraživanju je sudjelovalo 130 ispitanika opće populacije i 70 pacijenata uključenih u protetsku terapiju izrade potpunih proteza. Svi su ispunili hrvatsku verziju upitnika za OHIP (OHIP-CRO49). **Rezultati:** U općoj populaciji nije bilo veće razlike u OHRQoL-u između muškaraca i žena (p>0,05). Kod pacijenata prije početka protetske terapije s potpunim protezama, OHRQoL je bio znatno lošiji kod žena negoli kod muškaraca (p<0,05), a takav je ostao i nakon terapije za ukupan zbroj bodova u OHIP-u i za zbroj bodova u podskupinama: psihička nelagodnost, socijalna onesposobljenost i hendikep. Prije terapije s potpunim protezama, OHRQoL je kod tih pacijenata bio mnogo niži nego kod opće populacije (p<0,05). **Zaključak:** Iako je OHRQoL kod svih pacijenata s protetskim radovima bio znatno poboljšan nakon što su se počeli koristiti novim potpunim protezama (p<0,05), ipak je ostao znatno niži u odnosu prema općoj populaciji za sljedeće podskupine iz upitnika za OHIP: psihička nelagodnost, fizička onesposobljenost i socijalna onesposobljenost (p>0,05).

Uvod

Oralno zdravlje smatra se vrlo važnim dijelom pacijentova općeg zdravlja. Zbog toga je glavni zadatak suvremene stomatološke skrbi stalno ga poboljšavati, a time i ukupnu kvalitetu života pacijenta. Uklanjanje oralne boli i problema vezanih za žvakanje i govor te poboljšanje estetike, pridonose kvalitetnijem životu pojedinca. Stomatolozi bi trebali posvetiti pozornost ne samo rješavanju oralnih

Introduction

Oral health is considered to be an important part of patients' general health. Therefore, the main goal of contemporary dentistry is not only to improve oral health but also to improve overall quality of patients' life. Elimination of oral pain and problems associated with chewing and speech and improving patients' aesthetics increase the quality of life. Therefore, dentists should pay attention not on-

problema, nego i analizi pacijentova stanja u cjelini kako bi mogli procijeniti kakav će biti utjecaj terapije na njegovo opće zdravlje i kvalitetu života.

Među upitnicima razvijenima kako bi se izmjerio utjecaj oralnoga zdravlja na kvalitetu života, treba istaknuti onaj za OHIP (Oral Health Impact Profile), kao jedan od najsofisticiranijih i najraširenijih instrumenata, a sadržava 49 pitanja podijeljenih u 7 podskupina (1,2). Upitnik se koriti u istraživanjima kvalitete života ovisne o oralnom zdravlju (Oral health-related quality of life – OHRQoL-u) kod pojedinaca različitog oralnog statusa i tijekom oralnih zahvata te kod pacijenata različite dobi, izobrazbe i socijalno-ekonomskog statusa. (3,4). Prema mišljenju Johna i suradnika, stanje proteze imalo je veći utjecaj na OHRQoL nego socijalno-demografske varijable (5). Upitnik za OHIP također se koristio u istraživanjima utjecaja različitih oralnih problema na kvalitetu života (6) te u istraživanju uspješnosti različitih vrsta protetskih (7-14) i implatoloških terapija (9,15-18).

Najvažnija odlika toga upitnika jest mogućnost mjerenja poboljšanja ili pogoršanja pacijentove percepcije oralnoga zdravlja (19). Dosadašnja tradicionalna mjerenja zanemarivala su percepciju pojedinca o utjecaju oralnih problema na njihovu dobrobit i mjerili su se samo pojedini aspekti stomatološke terapije (19,20). Posljednjih se godina u epidemiološkim, kliničkim i longitudinalnim studijama znatno povećala potreba za mjerenjem pacijentove procjene vlastita zdravlja, što je dodatak praćenju kliničkih indikatora oralnih bolesti ne samo u Hrvatskoj, nego i u drugim zemljama (21-25).

U Hrvatskoj su već u uporabi i neki upitnici za mjerenje pacijentova zadovoljstva nakon završetka stomatološke terapije (26-27). Tako su Čelebić i suradnici (22), koristeći se Likertovom ljestvicom (od 0 do 5), ustanovili da su nositelji potpunih proteza zadovoljniji govorom, žvakanjem i retencijom gornje proteze od pacijenata s djelomičnim protezama, a oni su, pak, bili zadovoljniji retencijom donje djelomične proteze i udobnošću nošenja. Među ispitivanim skupinama bilo je podjednako opće zadovoljstvo s protezama.

Svrha rada bila je procijeniti OHRQoL koristeći se upitnikom za OHIP kod pacijenata uključenih u izradu potpunih proteza prije terapije i poslije nje, te ustanoviti postoji li razlika prema spolu. Također se željelo procijeniti OHRQoL opće populacije u Republici Hrvatskoj i doznati postoji li razlika između muškaraca i žena. Želio se usporediti i OHRQoL između pacijenata s protetskim radovima i opće populacije.

ly to oral problems but should also observe the patient entirely, estimating the impact of therapy on the general health and the quality of life.

Among the questionnaires developed with the aim of measuring the impact of oral health related quality of life (OHRQoL), the questionnaire "Oral Health Impact Profile" (OHIP) should be highlighted as one of the most sophisticated and widely accepted instruments (1,2). It consists of 49 questions grouped into 7 subscales (1,2). The questionnaire has been used in research of the OHRQoL of individuals with different levels of oral health, subjected to various oral procedures, in individuals of different age, education and socioeconomic status (3,4).

John et al. stated that status of dentures had a greater impact on the OHRQoL than sociodemographic variables (5). The OHIP questionnaire has also been used to assess the influence of oral problems (6) and success of various prosthodontic treatments (7-14), including the implant therapy (9,15-18).

The most important feature of the OHIP is the possibility of measuring improvement or deterioration of the patient's perception of oral health (19). The traditional measurements of oral health have neglected individual perception of impact of oral problems on the well-being and have measured only certain aspects of dental therapy (19,20). In the last decades, the need for measurement of the patients' perceived oral health has been significantly increased in epidemiological, clinical and longitudinal studies, as addition to other clinical indicators monitoring oral diseases in Croatia and worldwide (21-25).

Some questionnaires for measuring patients' satisfaction with the outcome of dental treatment have been already used in Croatia (26-27). Čelebić et al. (22) used the five-points Likert's scale (scores from 1 to 5). The results showed that patients with complete dentures (CDs) were more satisfied with speech, chewing and retention of maxillary denture than patients with removable partial dentures (RPD), who were on contrary more satisfied with retention of mandibular RPD and with the comfort of wearing dentures. General satisfaction was equal between the both tested groups.

The aim of the present study was to assess the OHRQoL using the OHIP questionnaire in patients involved in CD therapy before and after the treatment and to compare male and female gender. The aim was also to assess the OHRQoL in general population in Croatia, to compare men and women, and to compare the OHRQoL between CD patients and general population.

Ispitanici i postupci

U istraživanju je sudjelovalo 130 ispitanika opće populacije iz grada Zagreba (61,5% žena; srednja dob ± SD = 33,28 ± 17,78; minimalna-maksimalna dob = 20 do 80 godina). Oni s fiksnim ili mobilnim protetskim radovima bili su isključeni. Ispitanici su bili odabrani u Zavodu za transfuzijsku medicinu, a sudjelovalo je i 70 pacijenata uključenih u protetsku terapiju izrade potpunih proteza u Zavodu za stomatološku protetiku Stomatološkog fakulteta Sveučilišta u Zagrebu (62,9% žena; srednja dob ± SD = 67,51 ± 9,09; minimalna-maksimalna dob = 59 do 93 godina)

Ispitanicima je bila potanko objašnjena svrha istraživanja. Svi su pristali dobrovoljno sudjelovati te su potpisali pristanak. Istraživanje je odobrilo Etičko povjerenstvo Stomatološkoga fakulteta Sveučilišta u Zagrebu.

Sudionici su ispunili hrvatsku verziju upitnika za OHIP (OHIP-CRO49) (28). Morali su odgovoriti na pitanja na temelju Likertove ljestvice 0 do 5 (0-nikad, 1-gotovo nikad, 2-ponekad, 3-često, 4-vrlo često) te procijeniti koliko su često u proteklih mjesec dana osjetili pojedini problem. Nula upućuje na odsutnost bilo kakvog problema, a viši rezultati upozoravaju na lošije oralno zdravlje.

Ispitanici opće populacije ispunjavali su upitnik za OHIP-CRO49 samo jedanput, a pacijenti s protetskim radovima dva puta - prije početka terapije i šest mjeseci nakon što su dobili nove potpune proteze.

Statistička analiza obavljena je u programu SPSS 16 for Windows (Chicago, Illinoiss, SAD) i MS Excel (Microsoft Office, Windows XP 2005, SAD). U dijelu istraživanja o procjeni OHRQoL-a koristila se deskriptivna statistika, Studentov T-test za ovisne i neovisne uzorke. P-vrijednosti manje od 0,05 smatrale su se statistički važnima.

Rezultati

U tablici 1. i na slici 1. predstavljena je deskriptivna statistika bodova iz upitnika za OHIP svih sedam podskupina i ukupan zbroj bodova za ispitanike opće populacije (50 žena i 80 muškaraca). U Tablici 1. nalaze se i rezultati testiranja značajnosti razlike između muškog i ženskog spola (T-test za neovisne uzorke). Nije bilo statistički velike razlike između spolova ni za koju podskupinu iz upitnika za OHIP, ni za ukupan zbroj bodova (p>0,5).

Subjects and Methods

The study included 130 participants from general population living in the city of Zagreb, Croatia (61.5% women; mean age ± SD = 33.28 ± 17.78; min-max age = 20 to 80 years). The individuals with fixed or removable dentures were excluded from the general population sample. The questionnaires were collected at the Croatian Institute of Transfusion Medicine in Zagreb. Seventy prosthodontic patients involved in CD therapy from the Department of Prosthodontics, School of Dental Medicine, University of Zagreb, Croatia were also included (62.9% women; mean age ± SD = 67.51 ± 9.09; min-max age = 51-93 years).

The purpose of this study has been explained to all participants in details. All respondents voluntarily participated in the research and gave the written consent. The study was approved by the Ethical Committee of the School of Dental Medicine, University of Zagreb.

All participants completed the Croatian version of the OHIP questionnaire (OHIP-CRO49) (28). They answered the questions assessing how often they felt a particular oral problem during the past month using the five points Likert's scale (0-never, 1-almost never, 2-sometimes, 3-often, 4-very often). Zero indicated the absence of any problems, while higher results indicated poorer oral health.

Individuals from the general population filled in the OHIP-CRO49 questionnaire only once. The prosthodontic patients filled in the questionnaire twice: the first time before the therapy had begun, and the second time six months after the new CDs had been delivered.

Statistical analysis was made using statistical package SPSS 16 for Windows (Chicago, Illinois, USA) and MS Excel (Microsoft Office, Windows XP, 2005, USA). The descriptive statistics and unpaired and paired two-sample Student's t-tests have been used. A significance was set at 95%.

Results

Table 1 and Figure 1 show descriptive statistics of the OHIP summary score and of the seven OHIP subscales of the general population (50 female and 80 male participants). Table 1 also presents the significance of the differences between genders in general population (unpaired Student's two-sample t-test). There were no statistically significant differences between genders, neither for the OHIP subscales, nor for the OHIP summary score (p>0.05).

Tablica 1. Deskriptivna statistika za OHIP bodove opće populacije te značajnost razlike između muškog i ženskog spola (stupanj slobode df = 128, = srednja vrijednost, SD = standardna devijacija, t = t vrijednost, p = p vrijednost)

Table 1 Descriptive statistics of the OHIP scores for the general population and the significance of the differences between gender (degrees of freedom df = 128, = mean value, SD = standard deviation, t = t value, p = p value)

OHIP	Spol • Gender		SD	Minimum	Maksimum • Maximum	t	p
Funkcijsko ograničenje • Functional limitation	muškarci • men	4,68	4,69	0	21	0,227	0,821
	žene • women	4,50	4,21	0	18		
	ukupno • total	4,57	4,39	0	21		
Fizička bol • Physical pain	muškarci • men	3,32	4,34	0	26	-1,203	0,231
	žene • women	4,24	4,16	0	17		
	ukupno • total	3,88	4,24	0	26		
Psihička nelagoda • Psychological discomfort	muškarci • men	3,80	4,45	0	14	-0,0264	0,792
	žene • women	4,00	40,03	0	19		
	ukupno • total	3,92	4,18	0	19		
Fizička nesposobnost • Physical disability	muškarci • men	1,40	2,77	0	16	-0,802	0,424
	žene • women	1,78	2,48	0	9		
	ukupno • total	1,63	2,59	0	16		
Psihička nesposobnost • Psychological disability	muškarci • men	2,04	2,77	0	8	0,553	0,581
	žene • women	1,76	2,79	0	12		
	ukupno • total	1,87	2,77	0	12		
Socijalna nesposobnost • Social disability	muškarci • men	0,46	1,33	0	6	-0,122	0,903
	žene • women	0,49	1,20	0	5		
	ukupno • total	0,48	1,25	0	6		
Hendikep • Handicap	muškarci • men	1,10	1,74	0	6	0,079	0,937
	žene • women	1,08	1,78	0	6		
	ukupno • total	1,08	1,76	0	6		
OHIP zbroj bodova • OHIP summary score	muškarci • men	16,80	17,91	0	85	-0,342	0,733
	žene • women	17,84	16,13	0	67		
	ukupno • total	17,44	16,78	0	85		
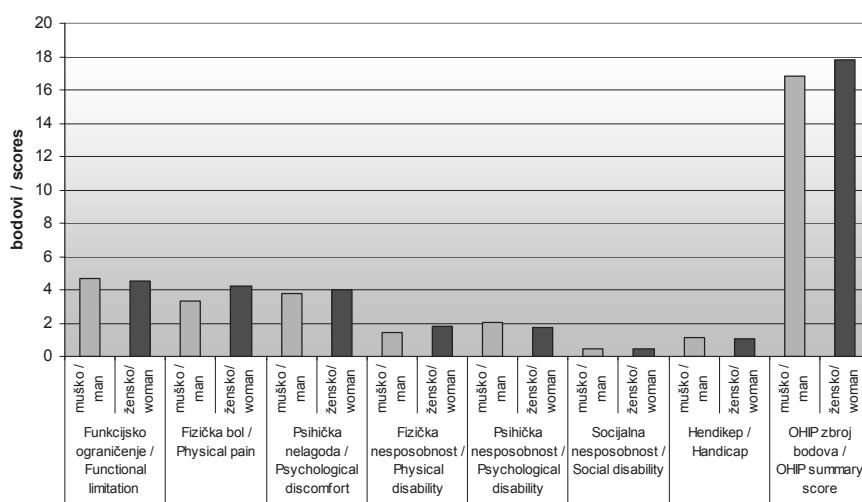
Slika 1. OHIP bodovi za 7 podskupina i ukupni zbroj bodova OHIP upitnika kod ženskih i muških ispitanika opće populacije

Figure 1 OHIP scores for the seven subscales and the summary score for men and women of general population.

U tablici 2. i na slici 2. prikazana je deskriptivna statistika ukupnog zbroja bodova za OHIP i zbroja bodova svake od sedam podskupina kod pacijenata prije terapije s potpunom protezom i poslije nje. U tablici 2. su i rezultati testiranja značajnosti razlike u bodovima prije terapije s potpunom protezom

Table 2 and Figure 2 show descriptive statistics of the OHIP summary score and seven subscores of prosthodontic patients before and after CD therapy. Table 2 also shows the significance of the differences between scores before and after the therapy (paired two-sample t-test). The OHIP summary

Tablica 2. Deskriptivna statistika za OHIP bodove protetskih pacijenata prije (1) i poslije (2) terapije potpunom protezom te značajnost razlike između OHIP bodova prije i poslije terapije potpunom protezom. (** = statistički značajna razlika između spolova, p≤0.001) (df = stupanj slobode = 69, = srednja vrijednost, SD = standardna devijacija, t = t vrijednost, p = p vrijednost)

Table 2 Descriptive statistics for the scores of the OHIP questionnaire before (1) and after (2) the CD therapy and the significance of the difference of OHIP scores before and after the therapy (** = statistically significant difference between gender, p≤0.001) (df = degrees of freedom = 69, = mean value, SD = standard deviation, t = t value, p = p value)

OHIP		SD	Minimum	Maksimum • Maximum	t	p
Funkcijsko ograničenje1 • Functional limitation1	14,07	7,17	1	33	10,96	0,001**
Funkcijsko ograničenje2 • Functional limitation2	4,56	4,05	0	17		
Fizička bol1 • Physical pain1	13,09	8,24	0	36	8,307	0,001**
Fizička bol2 • Physical pain2	4,67	5,02	0	19		
Psihička nelagodnost1 • Psychological Discomfort1	9,59	6,28	0	20	10,059	0,001**
Psihička nelagodnost2 • Psychological Discomfort2	2,49	3,26	0	13		
Fizička nesposobnost1 • Physical disability1	13,81	9,42	0	34	8,855	0,001**
Fizička nesposobnost2 • Physical disability2	3,86	4,67	0	18		
Psihička nesposobnost1 • Psychological disability1	8,93	6,87	0	24	9,252	0,001**
Psihička nesposobnost2 • Psychological disability2	1,83	3,47	0	16		
Socijalna nesposobnost1 • Social disability1	3,70	4,84	0	19	4,718	0,001**
Socijalna nesposobnost2 • Social disability2	1,23	2,49	0	11		
Hendikep1 • Handicap1	5,67	5,98	0	23	6,99	0,001**
Hendikep2 • Handicap2	1,00	2,11	0	10		
OHIP zbroj bodova1 • OHIP summary score1	68,86	43,04	1	169	10,035	0,001**
OHIP zbroj bodova2 • OHIP summary score2	19,63	22,75	0	90		
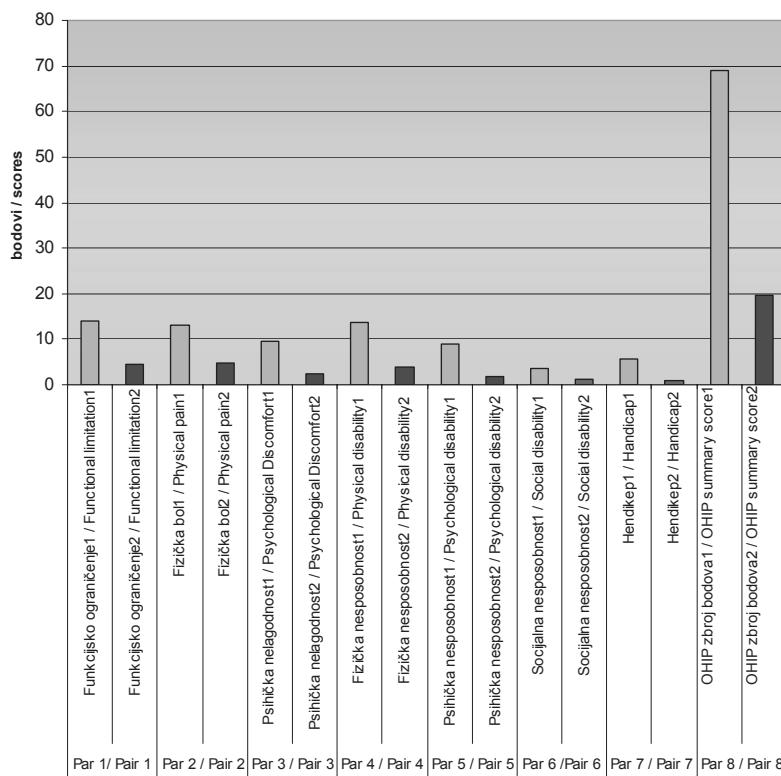
Slika 2. OHIP bodovi za sedam podskupina i za ukupni zbroj bodova kod pacijenata prije i poslije terapije potpunom protezom

Figure 2 The OHIP scores of the seven OHIP subscales and the OHIP summary scores in prosthodontic patients before and after the complete denture therapy

i poslije nje (T-test za ovisne uzorke). Rezultati su pokazali da su nakon završene terapije vrijednosti bodova iz upitnika za OHIP i za ukupan zbroj bodova statistički (p<0,05) dosta niže za svaku od sedam podskupina.

score and all seven subscores were significanty lower 6-month after the new CDs had been delivered (p<0.05).

U tablici 3. je deskriptivna statistika za 44 pacijentice i 26 pacijenata prije terapije s potpunim protezama i poslije nje. Također su prikazani rezultati testiranja značajnosti razlike između muškog i ženskog spola (T-test za neovisne uzorke). Vrijednosti prije protetske terapije bile su statistički znatno veće kod žena za sve podskupine i za ukupan zbroj bodova prema OHIP-u (p<0,05) (tablica 3). Vrijednosti bodova iz upitnika za OHIP nakon protetske terapije ostale su statistički znatno veće kod žena i to za podskupine: psihička nelagodnost, socijalna onesposobljenost i hendikep te za ukupan zbroj bodova poslije terapije (p<0,05).

Table 3 shows descriptive statistics for the 26 male and 46 female patients before and after the CD treatment. The significance of the differences between genders is also presented (unpaired two-sample t-test). The OHIP summary score and all seven subscale scores were significantly higher in females than in males before the therapy had begun (p<0.05). The OHIP summary scores remained significantly higher in females after the therapy in the following domains: Psychological discomfort, Social disability, Handicap, and the OHIP summary score after the therapy (p<0.05).

Tablica 3. Deskriptivna statistika za OHIP bodove protetskih pacijenata prije (1) i poslije (2) terapije te značajnost razlike između muškog i ženskog spola za OHIP bodove prije i poslije protetske terapije (* = statistički značajna razlika između spolova, p<0.05) (stupanj slobode = df = 68, = srednja vrijednost, SD = standardna devijacija, t = t vrijednost, p = p vrijednost)

Table 3 Descriptive statistics of the OHIP scores in prosthodontic patients before (1) and after (2) the complete denture therapy and the significance of the difference between gender for the results before and after the therapy (* = statistically significant difference between gender, p<0.05). (degree of freedom = df = 68, = mean value, SD = standard deviation, t = t value, p = p value)

OHIP	spol • gender		SD	t	p
Funkcijsko ograničenje1 • Functional limitation1	muškarci • men	11,85	6,31	-2,040	0,045*
	žene • women	15,39	7,39		
Funkcijsko ograničenje2 • Functional limitation2	muškarci • men	3,58	3,23	-1,574	0,120
	žene • women	5,14	4,40		
Fizička bol1 • Physical pain1	muškarci • men	10,23	6,55	-2,296	0,025*
	žene • women	14,77	8,73		
Fizička bol2 • Physical pain2	muškarci • men	3,19	3,86	-1,933	0,057
	žene • women	5,55	5,45		
Psihička nelagodnost1 • Psychological Discomfort1	muškarci • men	7,08	5,43	-2,682	0,009*
	žene • women	11,07	6,33		
Psihička nelagodnost2 • Psychological Discomfort2	muškarci • men	1,23	2,25	-2,578	0,012*
	žene • women	3,23	3,54		
Fizička nesposobnost1 • Physical disability1	muškarci • men	10,85	6,47	-2,074	0,042*
	žene • women	15,57	10,47		
Fizička nesposobnost2 • Physical disability2	muškarci • men	2,58	2,82	-1,790	0,078
	žene • women	4,61	5,37		
Psihička nesposobnost1 • Psychological disability1	muškarci • men	5,46	4,56	-3,503	0,001*
	žene • women	10,98	7,21		
Psihička nesposobnost2 • Psychological disability2	muškarci • men	0,85	1,95	-1,854	0,068
	žene • women	2,41	4,02		
Socijalna nesposobnost1 • Social disability1	muškarci • men	1,88	3,33	-2,501	0,015*
	žene • women	4,77	5,30		
Socijalna nesposobnost2 • Social disability2	muškarci • men	0,46	1,10	-2,029	0,046*
	žene • women	1,68	2,94		
Hendikep1 • Handicap1	muškarci • men	2,69	3,31	-3,449	0,001*
	žene • women	7,43	6,51		
Hendikep2 • Handicap2	muškarci • men	0,23	0,43	-2,431	0,018*
	žene • women	1,45	2,54		
OHIP zbroj bodova1 • OHIP summary score1	muškarci • men	50,04	30,49	-2,967	0,004*
	žene • women	79,98	45,73		
OHIP zbroj bodova2 • OHIP summary score2	muškarci • men	12,12	14,18	-2,181	0,031*
	žene • women	24,07	25,68		

U tablici 4. predstavljeni su rezultati testiranja razlike između bodova iz upitnika za OHIP za opću populaciju i bodova prije terapije s potpunom protezom (T-test za neovisne uzorke). Također su prikazani rezultati testiranja značajnosti razlike između tih bodova u upitniku za OHIP za opću populaciju i pacijenata s protetskim radovima nakon završene terapije s potpunom protezom (T-test za neovisne uzorke). Rezultati su pokazali da postoji statistički velika razlika u bodovima između opće populacije (znatno niže vrijednosti) i pacijenata prije terapije s potpunom protezom (p<0,05). Ali šest mjeseci nakon terapije s potpunom protezom, više nije bilo statistički velike razlike između opće populacije i pacijenata s novim protezama u zbroju bodova iz upitnika za OHIP i u zbroju bodova četiriju podskupina (p>0,05). Kod pacijenata s novim potpunim protezama ostale su statistički mnogo veće vrijednosti kod podskupina: psihička nelagodnost, fizička onesposobljenost i socijalna onesposobljenost (p<0,05).

Rasprava

Upitnik za OHIP ubraja se među najsofisticiranije načine u procjeni OHRQoL-a. Dosad je preveden na više od 20 jezika (12). Zbog navedenih od-

Table 4 shows the significance of the difference between the OHIP scores in general population and the OHIP scores in prosthodontic patients before the CD therapy (unpaired two-sample t-test). Table 4 also shows the significance of the differences between the OHIP scores in general population and the OHIP scores in prosthodontic patients six month after the new CDs delivery (unpaired two-sample t-test). The OHIP scores were significantly higher in prosthodontic patients before the therapy than in general population (p<0.05). After the CDs treatment there was no statistically significant differences for the OHIP summary score between the general population and patients having new CDs (p>0.05). There was also no significant difference for the four subscale scores between the general population and patients having new CDs (p>0.05). The following subscale scores: Psychological discomfort, Physical disability, and Social disability remained significantly higher in prosthodontic patients (p<0.05).

Discussion

The OHIP questionnaire is one of the most sophisticated instruments for the assessment of the OHRQoL and has been translated into more than 20

Tablica 4. Značajnost razlike OHIP bodova između opće populacije i pacijenata s potpunom protezom (prije i nakon terapije). (* = statistički značajna razlika između spolova, p≤0,001) (stupanj slobode = df = 198, = srednja vrijednost, t = t vrijednost, p = p vrijednost, OHIP-O = OHIP bodovi opće populacije, OHIP-P1 = OHIP bodovi protetskih pacijenata prije izrade potpunih proteza, OHIP-P2 = OHIP bodovi protetskih pacijenata 6 mjeseci poslije predaje potpunih proteza

Table 4 Significance of the differences for the OHIP scores between general population and the patients with complete dentures before the therapy and after the therapy (* = statistically significant difference between gender, p≤0,001) (degrees of freedom = df = 198, = mean value, t = t value, p = p value, OHIP-O = OHIP scores of the general population, OHIP-P1 = OHIP scores of the prosthodontic patients before the complete denture therapy had begun, OHIP-P2 = OHIP scores of the prosthodontic patients 6 months after the new complete denture delivery

OHIP	1	2	1-2	t	p
Funkcijsko ograničenje • Functional limitation	OHIP-O	OHIP-P1	-9,50	-11,612	<0,001*
	OHIP-O	OHIP-P2	0,01	0,019	0,985
Fizička bol • Physical pain	OHIP-O	OHIP-P1	-9,20	-10,438	<0,001*
	OHIP-O	OHIP-P2	-0,79	-1,173	0,242
Psihička nelagoda • Psychological discomfort	OHIP-O	OHIP-P1	-5,66	-7,621	<0,001*
	OHIP-O	OHIP-P2	1,44	2,497	0,013*
Fizička nesposobnost • Physical disability	OHIP-O	OHIP-P1	-12,18	-13,833	<0,001*
	OHIP-O	OHIP-P2	-2,23	-4,338	<0,001*
Psihička nesposobnost • Psychological disability	OHIP-O	OHIP-P1	-7,06	-10,284	<0,001*
	OHIP-O	OHIP-P2	0,04	0,090	0,928
Socijalna nesposobnost • Social disability	OHIP-O	OHIP-P1	-3,22	-7,173	<0,001*
	OHIP-O	OHIP-P2	-0,75	-2,850	0,005*
Hendikep • Handicap	OHIP-O	OHIP-P1	-4,59	-8,136	<0,001*
	OHIP-O	OHIP-P2	0,08	-0,303	0,762
OHIP zbroj bodova • OHIP summary score	OHIP-O	OHIP-P1	-51,42	-12,046	<0,001*
	OHIP-O	OHIP-P2	-2,19	-0,775	0,440

lika uporabljen je i u ovom istraživanju. Svrha rada bila je procijeniti OHRQoL kod pacijenata prije terapije s novim potpunim protezama i usporediti ga s općom populacijom u Hrvatskoj.

Ispitanici opće populacije bili su donatori krvi te predstavljaju zdravu populaciju (barem bez kliničkih znakova bolesti ili njezinih posljedica). Pojedinci s fiksnim i mobilnim protetskim radovima bili su isključeni, kako potencijalni protetski problemi ne bi utjecali na procjenu OHRQoL-a. Procjena OHRQoL-a za opću populaciju u Hrvatskoj pokazala je da nema velike razlike između spolova (p>0,05, tablica 1., slika 1.).

Upitnik za OHIP prihvaćen je diljem svijeta i prilagođen svakoj kulturološkoj sredini koja ga primjenjuje, pa se mogu usporediti podaci iz različitih sredina (12). Prema rezultatima ovog istraživanja, zbroj bodova u upitniku za OHIP za opću populaciju u Hrvatskoj iznosio je 17,44, a u Sloveniji 25,5 (25). Razlika je nastala zato što iz slovenske opće populacije nisu bili isključeni ispitanici s fiksnim protetskim radovima, što je vjerojatno utjecalo na procjenu OHRQoL-a. Slade i suradnici objavili su usporedbe subjektivnog stajališta o vlastitu oralnom zdravlju između tih dviju populacija. Oni smatraju da je socijalno-kulturološka razlika među populacijama važan čimbenik koji utječe na razliku njihovih OHRQoL-a (29). S obzirom na to da su u slovensku opću populaciju bili uključeni ispitanici s fiksnim protetskim radovima te da ispitanike nisu pregledali stomatolozi ni u Hrvatskoj, ni u Sloveniji, teško je zaključiti postoji li razlika u OHRQoL-u između populacija tih dviju zemalja. Bodovi u upitniku za OHIP daju subjektivnu sliku pacijentova stajališta o oralnom zdravlju, a potpune informacije mogu se dobiti ako se uključe i klinički parametri.

Kod pacijenata kojima su bile potrebne nove potpune proteze, procjenjujući OHRQoL, bodovi za OHIP bili su znatno veći kod žena nego kod muškaraca (p<0,05, tablica 3.), odnosno kod žena je bila lošija samoprocjena oralnoga zdravlja. Rezultati su slični istraživanju Sampogna i suradnika (30) te istraživanju McGrathove i njezinih kolega (31). Lošije procijenjen OHRQoL kod žena prije terapije s potpunim protezama, moguće je objasniti činjenicom da žene posvećuju više pozornosti problemima u usnoj šupljini. Zato ih bilo kakvo narušavanje oralnoga zdravlja više zabrinjava nego muškarce.

Zbroj bodova u upitniku za OHIP i bodovi za podskupine: psihička nelagodnost, socijalna onesposobljenost i hendikep (p<0,05, tablica 3.) bili su znatno niži nakon završene terapije s potpunim protezama

languages (12). Therefore it was used in this study. We aimed to assess the OHRQoL in the group of patients involved in the complete dentures therapy and to compare it with general population in Croatia.

Individuals from the Croatian general population were blood donors, since they represent a healthy population (at least without any clinical signs of illness or its consequences). All fixed and removable denture wearers were excluded to prevent the potential influence of the prosthodontic problems on the assessment of OHRQoL. The results showed no significant difference between genders considering OHRQoL in the general population in Croatia (p>0.05, Table 1, Figure 1).

Since the questionnaire was worldwide adapted to each country's cultural environment, the data collected in different countries can be compared (12). According to the results of this study the OHIP summary score in general population in Croatia was 17.44, while in the Slovenian general population it was 25.5 (25). This could be attributed to the fact that fixed partial denture (FPD) patients were not excluded from the Slovenian sample, which could certainly influence the OHRQoL of the general population. Comparison of subjective opinion about oral health between two different populations has been published by Slade et al., who considered that socio-cultural differences among populations were important factors for the difference of the OHRQoL (29). Since the Croatian and Slovenian samples were different considering FPDs and have not been checked up by a dentist in Croatia or in Slovenia, it is not possible to arrive to any relevant conclusion about the difference of the OHRQoL between the two countries. We can conclude that the OHIP scores provide a subjective overview of patients' attitude towards oral health but complete information can be obtained only by inclusion of objective clinical parameters.

Assessment of the OHRQoL in patients with a need for CD prosthodontic therapy showed higher OHIP scores than in general population (Table 4). In patients with a need for CD therapy higher OHIP scores were registered in females than in males (p<0.05, Table 3), which ment a lower self-estimated oral health in women. The results are similar to the study of Sampogna et al. (30) and McGrath et al. (31). Lower OHRQoL in women prior to CD prosthodontic therapy is probably due to the fact that they devote more attention to problems in the oral cavity, and therefore any deterioration of the oral health concerns them more.

kod žena u odnosu prema muškarcima; nakon terapije nije bilo razlike među spolovima za podskupine: funkcijsko ograničenje, fizička bol, fizička onesposobljenost i psihička onesposobljenost. Rezultate je moguće objasniti činjenicom da uklanjanje ili smanjenje oralnih problema te poboljšanje oralnoga zdravlja neće znatno utjecati na žene tako što će smanjiti njihovu zabrinutost. Baš suprotno, žene vjerojatno smatraju potpune proteze hendikepom koji remeti socijalizaciju i rezultira osjećajem nelagode u društvu. Razlike u OHRQoL-u između spolova nakon terapije ne spominju se u radu Johna i suradnika (8), iako su uspoređivali različite skupine pacijenata s protetskim radovima.

Kao što se i očekivalo, zbroj bodova u upitniku za OHIP i bodovi svih podskupina znatno su se smanjili nakon korištenja novih potpunih proteza (tablica 2.), što je slično rezulatatima Johna i suradnika (8). Kod njih se ističe znatno poboljšanje OHRQoL-a nakon završene protetske terapije.

I rezultati usporedbe pacijenata s protetskim radovima te opće populacije, pokazali su znatno niže bodove u upitniku za OHIP u općoj populaciji, nego kod pacijenata s protetskim radovima prije početka terapije (tablica 4.). Bodovi u upitniku za OHIP gotovo su se izjednačili s bodovima opće populacije nakon završene terapije s potpunim protezama (p>0,05), osim za podskupine: psihička nelagodnost, fizička onesposobljenost i socijalna onesposobljenost (p<0,05, tablica 4.). Ti rezultati pokazuju da pacijenti s novim potpunim protezama ipak ne mogu žvakati kao sa svojim zubima (fizička onesposobljenost), zbog čega se osjećaju nelagodno u društvu (socijalna onesposobljenost), a imaju i psihološke probleme. Rezultati istraživanja u skladu su s istraživanjima ostalih autora (8,12,32). John (8) također ističe da veliki bodovi u upitniku za OHIP kod pacijenata s novim potpunim protezama mogu upućivati na moguće bolje rezultate terapije, ako se primijene pokrovne proteze na implantatima.

Zaključci

U općoj populaciji u Republici Hrvatskoj nije bilo znatne razlike u OHRQoL-u između muškaraca i žena (p>0,05); Kod pacijenata s protetskim radovima prije izrade novih proteza OHRQoL je bio znatno niži kod žena nego kod muškaraca (p<0,05). Kod žena je OHRQoL ostao niži i nakon završetka terapije s potpunim protezama za ukupan zbroj bodova u upitniku za OHIP i za zbroj bodova u podskupinama: psihička nelagodnost, socijalna onesposobljenost i hendikep; OHRQoL je bio znatno bolji kod

The OHIP summary score and the following OHIP subscale scores: Psychological discomfort, Social disability and Handicap (p<0.05, Table 3) were significantly higher after the CD therapy in women compared to men, while there were no significant differences between genders after the therapy for the Functional limitation, Physical Pain, Physical Disability and Psychological disability. This can be explained by the fact that removal or reduction of oral problems and the improvement of oral health will not significantly affect women by reducing all their concerns. Instead, they will still consider complete denture as a handicap that disturbs socialization, and ultimately results in discomfort in the company of others. The existence of the differences in the OHRQoL after treatment between sexes was not mentioned by John et al. (8), who also compared different groups of prosthodontic patients.

As expected, in prosthodontic patients the OHIP summary score and all seven subscale scores significantly decreased after the new CDs had been delivered (Table 2), which is similar to the study of John et al. (8), indicating that the OHRQoL had been improved by prosthodontic treatment. As expected, the results of this study showed significantly lower OHIP scores in general population than in prosthodontic patients before the therapy (Table 4). Also the OHIP scores became almost equal as in general population after the CD therapy, except for the subscales: Psychological discomfort, Physical disability and Social disability (Table 4). That result indicates that patients with new CDs can not chew as good as with their own teeth (Physical disability), and therefore feel discomfort in the company of others (Social disability) and have psychological problems. The results are in accordance with other authors (8,12,32). Moreover, John (8) believed that high OHIP summary score in patients with new CDs could indicate the possibility of better treatment outcome with implant supported overdentures.

Conclusion

There were no significant differences in the OHRQoL between male and female gender (p>0.05) in general healthy population in Croatia. In prosthodontic patients before complete denture therapy the OHRQoL was significantly lower in females than in males (p<0.05). It remained lower in women even after the CD therapy had been finished for OHIP summary score and some subscales (Psychological discomfort, Social disability and Handicap); The

pacijenata nakon izrade novih potpunih proteza (p<0,05). U usporedbi s općom populacijom pacijenti s novim potpunim protezama imali su znatno veće bodove za sljedeće podskupine iz upitnika za OHIP: psihička nelagodnost, fizička onesposobljenost i socijalna onesposobljenost. Ostale podskupine gotovo su se izjednačile s bodovima opće populacije (p>0,05).

OHRQoL was significantly improved in all prosthodontic patients after the therapy with new complete dentures had been completed (p<0.05). However, in comparison with general population, patients with new CDs had significantly lower following OHIP subscales: Psychological discomfort, Physical and Social disability. Other subscales of the OHIP questionnaire reached almost the same level as in general population (p>0.05).

Abstract

In addition to already existing monitoring of clinical indicators of oral diseases a need was recognized for a standardized measure of patients' assessment of their own health in Croatia. **Purpose:** The aim of this study was to assess the OHRQoL before and after prosthodontic complete denture therapy and to examine possible differences between male and female gender. The aim was also to assess the OHRQoL of general population in Croatia and to compare the OHIP scores with the group of complete denture (CD) prosthodontic patients. **Material and Methods:** The study included 130 individuals from general population in Croatia and 70 patients involved in CD therapy. Participants filled in the Croatian version of the OHIP questionnaire (OHIP-CRO49). **Results:** In the general population there were no statistically significant differences considering the OHRQoL between male and female gender (p>0.05). In the group of prosthodontic patients the OHRQoL was significantly lower in females before the beginning of CD therapy than in men (p<0.05) and remained lower even six months after the therapy had been finished, which was proved by higher OHIP summary score and the scores of the following OHIP subscales: Psychological discomfort, Social disability and Handicap. Before CD therapy had begun the OHRQoL was significantly lower in patients with a need for CD therapy in relation to general population (p<0.05). **Conclusion:** Although the OHRQoL was significantly improved by the insertion of new CDs in all prosthodontic patients (p<0.05), in comparison with general population it remained significantly lower even after the CD treatment had been finished for the following OHIP subscales: Psychological discomfort, Physical disability and Social disability (p>0.05).

References

1. Slade GD, Strauss RP, Atchison KA, Kressin NR, Locker D, Reisine ST. Conference summary: assessing oral health outcomes--measuring health status and quality of life. Community Dent Health. 1998;15(1):3-7.
2. Slade GD, Spencer AJ. Development and evaluation of the Oral Health Impact Profile. Community Dent Health. 1994;11(1):3-11.
3. Biazevic MG, Rissotto RR, Michel-Crosato E, Mendes LA, Mendes MO. Relationship between oral health and its impact on quality of life among adolescents. Braz Oral Res. 2008;22(1):36-42.
4. Jensen PM, Saunders RL, Thierer T, Friedman B. Factors associated with oral health-related quality of life in community-dwelling elderly persons with disabilities. J Am Geriatr Soc. 2008;56(4):711-7.
5. John MT, Koepsell TD, Hujoel P, Miglioretti DL, LeResche L, Micheelis W. Demographic factors, denture status and oral health-related quality of life. Community Dent Oral Epidemiol. 2004;32(2):125-32.
6. Slade GD, Foy SP, Shugars DA, Phillips C, White RP Jr. The impact of third molar symptoms, pain, and swelling on oral health-related quality of life. J Oral Maxillofac Surg. 2004;62(9):1118-24.
7. Allen PF, McMillan AS, Walshaw D. A patient-based assessment of implant-stabilized and conventional complete dentures. J Prosthet Dent. 2001;85(2):141-7.

8. John MT, Slade GD, Szentpétery A, Setz JM. Oral health-related quality of life in patients treated with fixed, removable, and complete dentures 1 month and 6 to 12 months after treatment. Int J Prosthodont. 2004;17(5):503-11.
9. Allen PF, McMillan AS. A longitudinal study of quality of life outcomes in older adults requesting implant prostheses and complete removable dentures. Clin Oral Implants Res. 2003;14(2):173-9.
10. Awad MA, Feine JS. Measuring patient satisfaction with mandibular prostheses. Community Dent Oral Epidemiol. 1998;26(6):400-5.
11. Szentpétery AG, John MT, Slade GD, Setz JM. Problems reported by patients before and after prosthodontic treatment. Int J Prosthodont. 2005;18(2):124-31.
12. Forgie AH, Scott BJ, Davis DM. A study to compare the oral health impact profile and satisfaction before and after having replacement complete dentures in England and Scotland. Gerodontology. 2005;22(3):137-42.
13. Ellis JS, Pelekis ND, Thomason JM. Conventional rehabilitation of edentulous patients: the impact on oral health-related quality of life and patient satisfaction. J Prosthodont. 2007;16(1):37-42.
14. Kende D, Szabó G, Marada G, Szentpétery A. Impact of prosthetic care on oral health related quality of life. Fogorv Sz. 2008;101(2):49-57.

15. Awad MA, Locker D, Korner-Bitensky N, Feine JS. Measuring the effect of intra-oral implant rehabilitation on health-related quality of life in a randomized controlled clinical trial. J Dent Res. 2000;79(9):1659-63.

16. Klages U, Esch M, Wehrbein H. Oral health impact in patients wearing removable prostheses: relations to somatization, pain sensitivity, and body consciousness. Int J Prosthodont. 2005;18(2):106-11.

17. Heydecke G, Penrod JR, Takanashi Y, Lund JP, Feine JS, Thomason JM. Cost-effectiveness of mandibular two-implant overdentures and conventional dentures in the edentulous elderly. J Dent Res. 2005;84(9):794-9.

18. Hegarty AM, McGrath C, Hodgson TA, Porter SR. Patient-centred outcome measures in oral medicine: are they valid and reliable? Int J Oral Maxillofac Surg. 2002;31(6):670-4.

19. Slade GD. Assessing change in quality of life using the Oral Health Impact Profile. Community Dent Oral Epidemiol. 1998;26(1):52-61.

20. Robinson PG, Gibson B, Khan FA, Birnbaum W. Validity of two oral health-related quality of life measures. Community Dent Oral Epidemiol. 2003;31(2):90-9.

21. Zlatarić DK, Celebić A. Factors related to patients' general satisfaction with removable partial dentures: a stepwise multiple regression analysis. Int J Prosthodont. 2008;21(1):86-8.

22. Celebić A, Knezović-Zlatarić D, Papić M, Carek V, Baucić I, Stipetić J. Factors related to patient satisfaction with complete denture therapy. J Gerontol A Biol Sci Med Sci. 2003;58(10):M948-53.

23. Celebić A, Knezović-Zlatarić D. A comparison of patient's satisfaction between complete and partial removable denture wearers. J Dent. 2003;31(7):445-51.

24. Nemcić N, Novak S, Marić L, Novosel I, Kronja O, Hren D, et al. Development and validation of questionnaire measuring attitudes towards sexual health among university students. Croat Med J. 2005;46(1):52-7.

25. Rener-Sitar K, Celebić A, Stipetić J, Marion L, Petricević N, Zaletel-Kragelj L. Oral health related quality of life in Slovenian patients with craniomandibular disorders. Coll Antropol. 2008;32(2):513-7.

26. Knezović Zlatarić D, Celebić A, Valentić-Peruzović M, Jerolimov V, Pandurić J. A survey of treatment outcomes with removable partial dentures. J Oral Rehabil. 2003;30(8):847-54.

27. Rener-Sitar K, Petricević N, Celebić A, Marion L. Psychometric properties of Croatian and Slovenian short form of oral health impact profile questionnaires. Croat Med J. 2008;49(4):536-44.

28. Slade GD, Nuttall N, Sanders AE, Steele JG, Allen PF, Lahti S. Impacts of oral disorders in the United Kingdom and Australia. Br Dent J. 2005;198(8):489-93.

29. Sampogna F, Johansson V, Axtelius B, Abeni D, Söderfeldt B. A multilevel analysis of factors affecting the difference in dental patients' and caregivers' evaluation of oral quality of life. Eur J Oral Sci. 2008;116(6):531-7.

30. Mc Grath C, Bedi R. Gender variations in the social impact of oral health. J Ir Dent Assoc. 2000;46(3):87-91.

31. Szentpétery AG, John MT, Slade GD, Setz JM. Problems reported by patients before and after prosthodontic treatment. Int J Prosthodont. 2005;18(2):124-31.

32. Adam RZ, Geerts GA, Lalloo R. The impact of new complete dentures on oral health-related quality of life. SADJ. 2007;62(6):264-6.