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Psihometrijska svojstva albanske verzije upitnika OHIP-ALB14 u Republici Kosovu

Psychometric Properties of the Albanian Version of the OHIP-ALB14 Questionnaire in the Republic of Kosovo

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Sažetak

Svrha: Željelo se upitnik *Oral Health Impact Profile* s 14 pitanja (OHIP 14 – kratka verzija) prevesti na albanski jezik i testirati njegova psihometrijska svojstva. **Ispitanici i postupci:** Upitnik OHIP 14 preveden je s izvorne engleske verzije na albanski (OHIP 14 – ALB.) u skladu s prihvaćenim tehnikama prevođenja naprijed-natrag. Zatim su ispitana njegova psihometrijska svojstva. Konvergentna valjanost testirana je na 450 ispitanika [opća populacija (n=125), mobilno-protetski pacijenti (n = 275) i studenti (n = 50)]. Diskriminativna valjanost ispitivala se između bezubih pacijenata s mobilnim protezama (CDWs) (n = 233) i onih bezubih bez ikakvih proteza (n=42). Test-retest pouzdanost testirana je na 50 studenata stomatologije koji su ispunili isti upitnik dva puta u razmaku od najmanje dva tjedna, a da u međuvremenu nisu imali oralnih problema. Unutarnja konzistentnost provjerena je kod 450 ispitanika izračunom koeficijenta *Cronbach alfa*. Primjerenost je testirana u skupini od 42 pacijenta kojima su bile potrebne nove proteze, a ispunili su OHIP 14-ALB prije nego što su ih dobili i mjesec dana nakon toga. **Rezultati:** Konvergentna valjanost potvrđena je značajnom povezanošću između zbroja bodova upitnika OHIP i samoprocijenjenog oralnog zdravlja (p <0,01). Diskriminativna valjanost potvrđena je znatno većim zbrojem bodova u OHIP-u u bezubih ispitanika bez ikakvih proteza u odnosu na one pacijente koji već imaju potpune proteze (p <0,01), kao što je i bilo predviđeno. Test-retest pouzdanost potvrđena je visokim koeficijentima *interclass* korelacije i time što nije bilo statistički značajnih razlika između zbroja bodova u upitniku OHIP 14-ALB. (p> 0,05) koji su studenti stomatologije ispunili dva puta, s tim da u intervalu od najmanje 14 dana nisu imali nikakvih orofacijalnih problema. Unutarnja konzistentnost potvrđena je visokim koeficijentom *Cronbach alfa* u općoj populaciji (0,86), kod protetskih pacijenata (0,81) i u skupini studenata (0,89). Primjerenost je potvrđena statistički značajnom razlikom između aritmetičkih sredina zbroja bodova u upitniku OHIP prije terapije i nakon nje (zbroj bodova značajno manji nakon terapije) (p <0,001) u slučaju pacijenata koji su dobili nove totalne proteze i visokog „*effect sizae*" (1,72 za zbroj bodova u OHIP-u). **Zaključak:** Psihometrijska svojstva upitnika OHIP 14-ALB. pokazale su da je to na Kosovu i na albanskom govornom području instrument prikladan za procjenu kvalitete života ovisne o oralnom zdravlju.

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Uvod

Kvaliteta života znači osobno zadovoljstvo ili nezadovoljstvo unutar kulturnih ili intelektualnih uvjeta u kojima živimo. U literaturi su navedeni različiti pristupi toj temi te mnoge definicije oralnog zdravlja i kvalitete života, a i mnogobrojni načini za procjenu tog koncepta (1). Svjetska zdravstvena organizacija (SZO) definira kvalitetu života pojedinca kao percepciju vlastita položaja u životu u kontekstu kulturnog i vrijednosnog sustava u kojem pojedinac živi te u odnosu na vlastite ciljeve, očekivanja, standarde i vrijednosti. To je vrlo širok pojam i podvrgnut je složenom utjecaju nečijega fizičkog zdravlja, psihološkog statusa, stupnja samostalnosti,

Introduction

Quality of life means personal satisfaction or dissatisfaction within cultural or intellectual conditions under which we live. There are many different approaches in the literature regarding the quality of life and there are many definitions on the subject of Oral Health and Quality of Life, and there are many ways of evaluation of the concept (1). The WHO defines the Quality of Life as individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health,

socijalnih odnosa te osobnih stajališta i odnosa prema uobičajenim obilježjima okoline (2). Postoji složnost da je kvaliteta života multidimenzijski konstrukt, a može se kategorizirati u nekoliko dimenzija kao što su emocionalna, fizička, socijalna i materijalna dobrobit, te aktivnost i razvoj.

Cilj suvremene stomatologije jest ne samo poboljšati oralno zdravlje, nego i unaprijediti sveukupnu kvalitetu života pacijenata. Pri procjeni ishoda nekog stomatološkog zahvata važno je uzeti u obzir gledište stomatologa, ali i pacijenta (3–10).

Kvaliteta života ovisi o oralnom zdravlju (OHRQoL) i multidimenzijski je konstrukt, a procjenjuje se različitim upitnicima kojima se prikupljaju podaci ne samo o oralnom zdravstvenom stanju, nego i o utjecaju oralnoga zdravlja na kvalitetu života. Treba istaknuti da je upitnik *Oral Health Impact Profile* (OHIP) prihvaćen kao jedan od najboljih instrumenata s odličnim psihometrijskim svojstvima u različitim kulturnim okružjima (8). Originalni upitnik na engleskom jeziku izvorno je razvijen u Australiji (3), a bio je oblikovan tako da mjeri samoprocijenjenu disfunkciju, neudobnost i nemogućnost te njihovu povezanost s oralnim problemima. OHIP se temelji na konceptualnom okviru Svjetske zdravstvene organizacije (11) i na modelu oralnoga zdravlja kako ga je opisao Locker (5). Izvorni upitnik sadržava 49 pitanja iz sedam područja – funkcionalnog ograničenja, fizičkih bolova, psihičkog nemira, fizičke nesposobnosti, psihološke i socijalne nesposobnosti te hendikepa. Upitnik OHIP 49 pokazuje dobru međukulturalnu konzistentnost (12–18). Jedini mu je nedostatak to što je potrebno razmjerno mnogo vremena da se ispuni, a mogući su i propusti te preskakanje nekih pitanja. Zato je razvijena i njegova kratka verzija.

Skraćena verzija upitnika OHIP-a 14 dostupna je na više jezika u Europi i svijetu (Hrvatskoj, Sloveniji, Španjolskoj, Brazilu, Novom Zelandu, Velikoj Britaniji, Finskoj, Mađarskoj, Češkoj, Grčkoj, Turskoj, Iranu, itd.) (19 – 32). Prikladnija je za široke stomatološke zdravstvene procjene kada se postavljaju i mnoga druga pitanja te primjenjuju i ostali upitnici. Skraćena verzija znači da nema nekih pitanja uvrštenih u izvorni upitnik, ali je ipak moguće procijeniti osnovnu ukupnu mjeru utjecaja oralnog zdravlja. No skraćena verzija (OHIP 14) također treba biti podvrgnuta psihometrijskoj validaciji. Za njezino ispunjavanje potrebno je manje vremena i zato je praktičnija od prve. Mnoge studije pokazale su da je OHIP 14 pouzdan i valjan kao i izvorna verzija (7,12–32).

Svrha ovog istraživanja bila je razviti kratku verziju OHIP-a na albanskom i procijeniti njegova psihometrijska svojstva u novom kulturnom kontekstu kod tipičnog stanovništva u Republici Kosovu.

psychological status, level of independence, social relationships, personal beliefs and the relationship to salient features of their environment (2). A significant agreement exists that the quality of life is a multidimensional construct and may be categorized within several dimensions as emotional well-being, physical well-being, social and material well-being, activity and development.

The goal of modern dentistry is not only to improve oral health but also to promote the overall quality of patients' life. When assessing the outcomes of a dental treatment, it is important to consider clinicians' as well as patients' points of view (3-10).

The OHRQoL is a multidimensional construct and it has been assessed by various questionnaires that collect data not only decisive to oral health status, but also on how much oral health affects the quality of life. The questionnaire: "Oral Health Impact Profile (OHIP)" should be highlighted as one of the most widely accepted instruments with excellent psychometric properties cross-culturally (8). The English language version of the OHIP questionnaire was originally developed in Australia (3), and it was designed to measure a self-reported dysfunction, discomfort and disability attributed to oral conditions. It was, however, based on the conceptual framework proposed by the World Health Organization (11) and on the oral health model outlined by Locker (5). The original instrument of the OHIP consists of 49 items representing 7 domains: functional limitation, physical pain, psychological discomfort, physical disability, psychological disability, social disability, and handicap. The OHIP49 questionnaire exhibits a suitable cross-cultural consistency (12-18). The only disadvantage of the OHIP49 Questionnaire is relatively much time consumption for the subjects who fill it in and a consequent possibility of omission of some answers. Therefore, a short version of the OHIP questionnaire has been developed.

The shorter version – the OHIP-14 is available in several languages in Europe and worldwide (Croatia, Slovenia, Spain, Brazil, New Zealand, UK, Finland, Hungary, Czech Republic, Greece, Turkey, Persia, etc.) (19-32). The shortened scale of the questionnaire (OHIP-14) is more convenient for use in the perspective of the broad dental health assessment when many other questions/questionnaires also need to be answered. The decreased scale means that some of the entirety of the original OHIP scale is missing; however, it still allows a basic overall measure of the impact of oral health. However, the shorter version (OHIP14) also needs to be subjected to psychometric validation. The OHIP-14 questionnaire consumes less time and it is more practical than the long version. A wide range of studies have shown that the OHIP14 questionnaire has similar reliability and validity to the long version (7,12-32).

The aims of this study were to develop the Albanian short version of the OHIP instrument and to evaluate its psychometric properties in a new cultural context in a typical Kosovo population.

Ispitanici i postupci

Istraživanje je odobrio Etički odbor Stomatološkog fakulteta Sveučilišta u Prištini. Strategija odabira uzoraka bila je slična onoj kojom su se stručnjaci koristili u procjeni psihometrijskih svojstava OHIP-a u slovenskoj, hrvatskoj, grčkoj, njemačkoj i mađarskoj studiji (12–17) za koje su sudionici bili odabrani iz različitih populacija. Strategija odabira uzoraka u ovom istraživanju prikazana je u tablici 1. Ukupno je sudjelovalo 450 ispitanika. Albanska opća populacija izabrana je među namještenicima TEB banke u Prištini (n=125) (tablica 1, skupina 1) i svakom sudioniku bila je objašnjena svrha studije. Drugu skupinu činili su protetski pacijenti liječeni na Odjelu za stomatološku protetiku Stomatološkog fakulteta Sveučilišta u Prištini i Medicinskog obiteljskog centra – Protetske poliklinike u kosovskome glavnom gradu. Protetski pacijenti bili su podijeljeni u dvije podskupine: B1 – bezubi pacijenti s potpunim mobilnim protezama (n= 233) (CDWs) i B2 – bezubi pacijenti (n=42) bez ikakvih mobilnih proteza (tablica 1, skupina 2). Treću skupinu činili su studenti stomatologije Stomatološkog fakulteta Sveučilišta u Prištini (n= 50) (tablica 1, skupina 3). Nadalje, osim odgovora na pitanja u upitniku OHIP 14-Alb, ispitanici su također odgovorili i na jedno pitanje o samoprocjeni oralnoga zdravlja te su ocijenili svoje oralno zdravlje na analognoj ljestvici u rasponu od jedan do pet (1 = nezadovoljavajuće, 5 = odlično).

Participants and methods

The study was approved by the Institutional Ethics Committee (School of Dental Medicine, University of Prishtina). The sampling strategy was similar to the one used in evaluation of psychometric properties in Slovenian, Croatian, Greek, German and Hungarian studies (12-17), where the participants were selected from different populations. Sampling strategy of the present study is presented in Table 1. A total of 450 subjects were included.

The Albanian general population was selected from different profile workers in the TEB Bank, in Prishtina (n=125) (Table 1, Group 1). Each participant received a verbal explanation of the purpose of this study. The second group comprised prosthodontic patients from the Department of Prosthodontics, School of Dental Medicine, University of Prishtina, Kosovo and from the Medical Family Center – Prosthodontic Polyclinic in Prishtina. Prosthodontic patients were divided into two subgroups: B^1 edentulous patients (n=233) denture wearers (CDWs) and B^2 edentulous patients (n=42) without any previous dentures at all (Table 1, Group 2). The third group was selected among dental students, School of Dental Medicine, University of Prishtina, Kosovo (n=50) (Table 1, Group 3).

Furthermore, apart from the OHIP-ALB14 questionnaire, the subjects also answered one question referring to the self-reported oral health and they graded their oral health using analogue scale ranging from 1 to 5 (1 = unsatisfactory; 5 = excellent).

Tablica 1. Pregled uzoraka (broj, dob, spol), strategija uzorkovanja, metode prikupljanja podataka i svrha istraživanja
Table 1 Overview of samples (number, age, gender), sampling strategies, data-collection methods and research purpose

Uzorak • Sample	Vrsta uzorka • Sample type	Skupljanje podataka • Data collection	N	Dob • Age Aritmetička sredina (sd) • Mean (SD)	Dob raspon • Age range	% žena • % women	Vrsta istraživanja • Type of investigation
(A) opća populacija • (A) General population	Slučajan • Random	Ispunjavanje upitnika[c] • Questionnaire[c]	125	31.34 (7.3)	20-61	42.4	Konvergentna valjanost, unutarnja konzistentnost • Convergent validity, internal consistency
(B) Bezubi ispitanici • Edentulous: (B1) Nositelji potpunih proteza (n=233) • Complete denture wearers (n=233) (B2) Bezubi ispitanici kojima je potrebno izraditi proteze (n=42) • Without dentures with a treatment demand (n=42)	Prikladan (dirigiran) • Convenience	Ispunjavanje upitnika[c] • Questionnaire[c]	275	64.22 (8.72)	42-88	43.3	Konvergentna valjanost Divergentna valjanost, Unutarnja konzistentnost, Primjerenost (n=42) • Convergent validity Discriminate validity, internal consistency, Responsiveness (n=42)
(C) Studenti i[b] (N=50) • Students I[b] (n=50)	Konzekutivan • Consecutive	Ispunjavanje upitnika[c] • Questionnaire[c]	50	23.26 (0.96)	21-25	58	Konvergentna valjanost, Unutarnja konzistentnost Test-retest pouzdanost • Convergent validity, Internal consistency Test-retest reliability

[a] Opća populacija, TEB banka – Priština • [a] General population, TEB Bank – Prishtina
[b] Zavod za protetiku Stomatološkog fakulteta Sveučilišta u Prištini, Kosovo i Medicinski obiteljski centar – Poliklinika za stomatološku protetiku, Priština, Kosovo • [b] Deparment of Prosthodontics, School of Dental Medicine, University of Prishtina, Kosovo and Medical Family Center – Prosthodontic Polyclinic in Prishtina
[c] Studenti stomatologije Stomatološkog fakulteta Sveučilišta u Prištini, intervju ili nadzirano, upitnik koji su ispitanici samostalno ispunjavali • [c] Dental Students - School of Dental Medicine, University of Prishtina interview-supervised, self-administered questionnaire

Prijevod

Prema prihvaćenim standardima prevedena je Sladeova verzija upitnika OHIP 14 s engleskoga na albanski jezik (u Sladeovu verziju izvornog OHIP-a 14 uvrštena su pitanja iz originalne verzije OHIP 49 pod rednim brojevima 2,6,10,16, 20,23,29,32,35,38,42,43,46 i 48). OHIP 14 najprije je preveo stručni prevoditelj koji poznaje dentalnu terminologiju. No kako bi se uspjeli prevesti neki izrazi bez točnog značenja na albanskome (self – svjesno, bolno bolan) u taj je posao bio uključen i stomatolog s izvrsnim znanjem engleskoga. Verziju je zatim revidiralo četvero stomatologa s odličnim znanjem engleskog jezika (Zavod za stomatološku protetiku Stomatološkog fakulteta Sveučilišta u Prištini). Svi prevoditelji radili su samostalno i na kraju su četiri verzije spojene u konačnu. Ta je verzija ponovno bila prevedena na engleski, što je učinio neovisni profesionalni prevoditelj koji je radio s jednim stomatologom s izvrsnim znanjem engleskoga. Zatim su tu ponovno prevedenu verziju dodatno procijenili izvorni govornik engleskoga i još dvoje profesora Stomatološkog fakulteta s odličnim znanjem engleskog jezika. Zadatak im je bio usporediti je s izvornom. Nije bilo veće razlike ili promjene značenja između ponovno prevedene i izvorne verzije upitnika OHIP 14. Nakon toga je provedeno eksperimentalno istraživanje u kojem je sudjelovalo 30 ispitanika kako bi se testiralo razumijevanje pitanja na albanskom jeziku. Prevedena verzija bila je spremna za daljnji korak – za validaciju upitnika OHIP 14 - Alb, tj. za ispitivanje njegovih psihometrijskih svojstava.

Od psihometrijskih svojstava ispitane su i procijenjene valjanost, pouzdanost i primjerenost.

OHIP-ALB 14

OHIP 14-Alb sadržava 14 pitanja. U svakom odgovoru ispitanici su procijenili koliko često su nešto doživjeli u posljednjih mjesec dana. Koristili su se ljestvicom od pet stupnjeva (0 = ne, 1 = rijetko, 2 = povremeno, 3 = često, 4 = vrlo često, tj. gotovo uvijek). Viši rezultati znače smanjene vrijednosti oralnog zdravlja, a nula pokazuje da problema nema. Regularno vrijeme potrebno za ispunjavanje upitnika OHIP 14-Alb kraće je od 10 minuta. U istraživanju su svi sudionici bili pod nadzorom, tako da je upitnik bio popunjen 100 posto, odnosno ni jedan podatak nije nedostajao.

Valjanost

Konvergentna valjanost testirana je u trima skupinama ispitanika (ukupno 450) (tablica 1). Pokazala je da je mjerenje povezano s onim s čim bi teoretski i trebalo biti, tj. s rezultatima dobivenima sličnim mjerenjima ili drugačijim mjernim ljestvicama (12–17, 19–30). Osim toga, te korelacije trebaju se moći predvidjeti kako bi se uspostavila adekvatna konvergentna valjanost. Konvergentna valjanost ispitana je stavljajući u korelaciju odnos između samoprocijenjenog oralnog zdravlja na analognoj ljestvici u rasponu od jedan do pet (1 = nezadovoljavajuće, 2 = dovoljno, 3 = dobro, 4 = vrlo dobro i 5 = odlično) i zbroja bodova iz OHIP-a (0–56) s pomoću Spearmanove rang-korelacije. Skupina stomatologa postavi-

Translation

According to the accepted standards, the Slade's version of the OHIP-14 (19) was translated from English into the Albanian language (Slade's version of the original OHIP-14 includes questions from the original version of the OHIP-49 with ordinal numbers: 2,6,10,16,20,23,29,32,35,38,42,43,46 and 48). The OHIP-14 questionnaire was first translated by a professional translator, familiar with dental terminology. However, to manage to translate some expressions with no exact meaning in the Albanian language (self-conscious, painful aching) a dentist with an excellent knowledge of English was also included. The version was revised by other four dentists, with an excellent knowledge of English (Department of Prosthodontics, School of Dental Medicine University of Prishtina). All translators worked independently and, in the end, four versions were merged into one final version. Then the final version was translated back into the English language by an additional independent professional translator who worked together with another dentist with an excellent proficiency in English. The version that was translated back into the English language was further evaluated by a native English speaker and two other professors from the School of Dentistry with an excellent proficiency of the English language. They compared back the translated version with the original version. There were no considerable differences or changes of meanings from the original version. Then a pilot study was performed with 30 patients to test understanding of the items in the Albanian language. The last final version was considered to be adequate for the further step which included validation of the OHIP-14Alb questionnaire's psychometric properties.

The psychometric properties were tested by the assessment of validity, reliability and responsiveness.

OHIP-ALB14

The OHIP-ALB14 consists of 14 questions (items). In each question, subjects were asked how often they experienced the impact in the last month. They used the five-point scale for answers (0 = never, 1 = rarely, 2 = occasionally, 3 = often, and 4 = very often). The higher scores indicated impaired oral health and zero indicated absence of any problems. The regular time utilization for completing the OHIP-ALB14 was under 10 minutes. All participants were supervised, and the participation rate was 100%, and there was no missing data.

Validity

Convergent validity was tested in three groups comprising 450 subjects (Table 1). Convergent validity shows that the measurement is related to what it should theoretically be related, i.e. to the scores collected from similar or different investigation (12-17, 19-30). In addition, these correlations should be predictable in order to establish convergent validity. The convergent validity was tested by investigating the relation between self-reported oral health on an analogue scale ranging from 1 to 5 (1= unsatisfactory, 2 = fair, 3 = good, 4 = very good, and 5=excellent) and the OHIP summary score (0 – 56) using Spearman rank correlation. A group of dental professionals set up the hypothesis that subjects with bet-

la je hipotezu da će ispitanici s boljom samoprocjenom oralnoga zdravlja (više bodova) imati niži zbroj bodova u upitniku OHIP-Alb.

Diskriminativnom valjanošću testira se jesu li konstrukti za koje se smatra da ne bi trebali biti povezani doista nepovezani. Skupina stomatologa postavila je hipotezu da bi bezubi pacijenti bez potpunih proteza trebali imati veći zbroj bodova u upitniku OHIP-Alb u usporedbi s bezubim ispitanicima s potpunim protezama (CDWs). Prediktivna valjanost ispitana je između 233 nositelja potpunih proteza (B1, tablica 1.) i 42 potpuno bezuba ispitanika bez proteza koji su bili upućeni u Zavod za stomatološku protetiku Stomatološkog fakulteta Sveučilišta u Prištini ili u tamošnji Medicinski obiteljski centar – Polikliniku za stomatološku protetiku (B2, tablica 1.).

Pouzdanost

Procijenjene su dvije vrste pouzdanosti – unutarnja konzistentnost (homogenost upitnika) i test-retest pouzdanost (stabilnost rezultata u razumnom razdoblju).

Test-retest pouzdanost – Sudjelovala je skupina od 50 studenata (skupina C, tablica 1.) koji su ispunili upitnik OHIP 14-Alb dva puta u razmaku od najmanje 14 dana. Nitko nije bio liječen i nije imao problema s dentalnim i/ili oralnim stanjem tijekom ta dva navedena tjedna. Pretpostavljalo se da se OHRQoL neće promijeniti u tom razdoblju ako nema dentalnih ili oralnih problema i/ili liječenja. Izračunati su i koeficijenti korelacije (ICC – *interclass*-koeficijenti).

Unutarnja konzistentnost definira konzistentnost rezultata testa i osigurava da različita pitanja daju konzistentne rezultate. Testirana je u svim trima skupinama ispitanika (skupina A, B i C, tablica 1) izračunavanjem prosječnih *inter-item* korelacija i koeficijenta *Cronbach alfa*. Taj koeficijent određuje unutarnju konzistentnost ili prosječnu korelaciju pitanja u instrumentu (upitniku). Vrijednosti od <0,40 smatraju se lošom pouzdanošću, vrijednosti od 0,40 do 0,75 smatraju se dovoljnom do dobrom pouzdanošću i vrijednosti *Cronbach alfa* > 0,75 upućuju na izvrstan rezultat (33).

Primjerenost

Primjerenost upitnika OHIP 14-Alb testirana je u skupini od 42 pacijenta – bili su bezubi i trebali su nove potpune proteze (CDW-a) (skupina B2, tablica 1.). Dakle, oni su ispunili OHIP dva puta – prvi put prije liječenja i drugi put mjesec dana poslije kada su dobili svoje nove potpune proteze. Postavljena je hipoteza da će bezubi pacijenti prije izrade potpunih proteza imati veće vrijednosti zbroja bodova u upitniku OHIP 14-Alb, da bi se OHRQoL trebao poboljšati nakon tretmana (izrade proteza) i da bi se zbroj bodova u upitniku trebao smanjiti nakon terapije. Razdoblje od mjesec dana nakon izrade proteza bilo je dovoljno za prilagodbu na nove potpune proteze (CDWs). Značajnost razlike u zbroju bodova u upitniku OHIP-Alb između početnog stanja i nakon izrade proteza bila je testirana parnim *t*-testom i izračunom *size effecta* i *standardized response meana* (33). Prema Cohenu, *size effect* od 0,20 smatra se malim, umjeren je iznad 0,50, a velik iznad 0,80 (35).

ter self-reported oral health (higher scores) would have lower OHIP-ALB summary score.

Discriminative validity tests whether believed unrelated constructs are, in fact, unrelated. The dental professional group set up the hypothesis that edentulous patients without complete dentures would have higher OHIP-Alb summary scores in comparison with edentulous subjects already wearing complete dentures (CDWs). Predictive validity was tested between 233 CDWs (B1, Table 1) and 42 edentulous patients referred at the Department of Prosthodontics, School of Dental Medicine, University of Prishtina and Medical Family Center – Prosthodontic Polyclinic in Prishtina (B2, Table 1).

Reliability

The two types of reliability were evaluated: the internal consistency (the homogeneity of the items) and the test–retest reliability (the stability of scores over a reasonable period of time).

Test-retest reliability – The group of 50 students participated (Group C, Table 1) and filled-in the OHIP14_Alb Questionnaire twice. None of them was treated for any dental and/or oral problems within the interval of two weeks. It was assumed that the OHRQoL would not change during the period of two weeks without any dental and/or oral treatment. The ICC (Interclass correlation coefficient) was calculated.

Internal consistency - defines the consistency of the results obtained in a test, ensuring that the various items lead to consistent scores. It has been tested in all three groups (Group A, B and C, Table 1) by using the average inter-item correlation and Cronbach's alpha coefficient. Cronbach's alpha determines the internal consistency or average correlation of items in a survey instrument. The value <0.40 is considered as poor reliability, 0.40 - 0.75 is considered as fair to good reliability, and Cronbach's alpha values > 0.75 indicate the excellent result (33).

Responsiveness

Responsiveness of the OHIP-Alb 14 was tested including 42 edentulous patients with a treatment demand – they were completely edentulous and needed complete dentures (CDW's) (group B2, Table 1). Therefore, they have completed the OHIP questionnaire twice, first time prior to the treatment and the second time one month later after receiving their complete dentures. The hypothesis was set that edentulous patients without complete dentures would have higher OHIP-Alb14 summary scores before treatment, and that the OHRQoL should improve after the treatment and the OHIP-Alb14 summary score should decrease. One month period was considered sufficient for adapting to new complete dentures (CDWs). The difference in the OHIP-Alb summary score between the baseline and the follow up was tested using the paired t-test and by calculating the effect size and the standardized response mean (33). According to Cohen, the effect size of 0.20 is considered small, 0.50 moderate and > 0.80 large (35).

Analiza podataka

Statistička obrada podataka obavljena je u programu SPSS 19 for Windows (SPSS Inc, Chicago, Illinoiss, SAD) i MS Excel (Microsoft Office, Windows 2007, SAD).

Rezultati

Valjanost

Konvergentna valjanost potvrđena je značajnom povezanošću između zbroja bodova u upitniku OHIP i samoprocijenjenoga oralnog zdravlja u općoj populaciji, kod protetskih pacijenata te u skupini studenata (p <0,01, tablica 2.).

Diskriminativna valjanost potvrđena je znatno nižim zbrojem bodova u OHIP-u za bezube ispitanike koji nose totalne proteze u odnosu na bezube ispitanike bez ikakvih proteza (p <0,01, tablica 3.), kao što je i bilo predviđeno.

Pouzdanost

Test-retest pouzdanost ispitana je u skupini studenata stomatologije (C, tablica 1.). Prošla su najmanje dva tjedna između ispunjavanja istog upitnika OHIP14-Alb. U tom razdoblju nitko od sudionika nije bio podvrgnut stomatološkom i/ili oralnom postupku i nije imao/la nikakvih dentalnih/oralnih problema. Dobri rezultati *test-retest pouzdanosti* potvrđeni su jer nije bilo statistički značajne razlike između rezultata dobivenih ispunjavanjem istog upitnika u dvama razdobljima (p>0,05). Visoki korelacijski koeficijenti (ICC) upućuju na odlične rezultate (tablica 4.).

Unutarnja konzistentnost testirana je u svim trima skupinama ispitanika – u općoj populaciji, kod protetskih pa-

Data analysis

Statistical analysis was made using the SPSS 19 for Windows (SPSS Inc., Chicago, Illinoiss, USA) and MS Excel (Microsoft Office, Windows 2007, USA).

Results

Validity

The *convergent validity* was verified by the significant association between the OHIP summary score and the self-reported oral health in general population, in prosthodontic patients, as well as in the group of students (p<0.01, Table 2).

The *discriminative validity* was verified by the significantly higher OHIP summary scores in edentulous subjects wearing complete dentures compared to edentulous subjects without any dentures (p<0.01, Table 3), as it was predicted.

Reliability

The test-retest reliability was tested in the group of dental students (C, Table 1). It took approximately two weeks between the administrations of the same OHIP-ALB14 questionnaire. None of the participants had been subjected to any dental and/or oral treatment procedures during those two weeks. The test-retest reliability was confirmed by no significant difference between the two administrations of the same questionnaire (P>0.05). The high intraclass correlation coefficients (ICC) indicated excellent results (Table 4).

The internal consistency was tested in all three groups; general population, prosthodontic patients and students (A, B and C, Table 1), by calculating the average inter-item cor-

Tablica 2. Konvergentna valjanost: povezanost između samoprocijenjenog oralnog zdravlja i zbroja bodova u albanskoj verziji *oral health impact profila* s 14 pitanja (ohip-alb 14)
Table 2 convergent validity: association between self-reported oral health and albanian version of the oral health impact profile with 14 items (ohip-alb14).

Varijabla • Variable	N	Ohip(0 –56) zbroj bodova: Aritmetička sredina (sd) • OHIP(0-56) summary score: mean (SD)	Koeficijent korelacije i razina značajnosti • Correlation coefficient and level of significance
Opća populacija (n=125) • General population (n=125)			
Odlično • Excellent	55	2.4 (1.91)	0.815 **
Vrlo dobro • Very good	60	9.66 (4.71)	
Dobro • Good	10	20.04 (5.22)	
Dovoljno • Fair	0		
Nezadovoljavajuće • Unsatisfactory	0		
Protetski pacijenti b1 + b2 (n=275) • Prosthodontic patients B1 + B2 (n=275)			
Odlično • Excellent	23	7.47 (2.81)	0.662**
Vrlo dobro • Very good	65	11.33 (5.62)	
Dobro • Good	169	18.79 (5.31)	
Dovoljno • Fair	17	24.7 (6.10)	
Nezadovoljavajuće • Unsatisfactory	1	31.0	
Studenti (n=50) • Students (n=50)			
Odlično • Excellent	28	0.57 (0.96)	0.779**
Vrlo dobro • Very good	18	6.0 (2.76)	
Dobro • Good	4	7.5 (8.69)	
Dovoljno • Fair	0		
Nezadovoljavajuće • Unsatisfactory	0		

**P<0.001.

Tablica 3. Prediktivna (diskriminativna) valjanost albanske verzije upitnika *oral health impact profila* s 14 pitanja (ohip alb) između bezubih ispitanika s totalnim protezama (**n=233**) i bezubih ispitanika bez ikakvih proteza (n=42)
Table 3 Predictive (discriminative) validity for the scores of albanian 14-item version of the oral health impact profile (ohip-alb) questionnaire between edentulous patients with dentures (**n=233**) and edentulous patients without dentures (n=42)

Podskupina • Scale	Potpuna proteza • Complete denture	x	SD	T	P
Funkcijska ograničenost • Functional limitation	Ne • No	1.31	1.91	-6.46	<0.001**
	Da • Yes	2.79	1.24		
Fizička bol • Physical pain	Ne • No	3.47	0.99	8.3	<0.001**
	Da • Yes	1.76	1.27		
Psihološka nelagodnost • Psychological discomfort	Ne • No	2.14	0.89	-7.11	<0.001**
	Da • Yes	4.2	1.84		
Fizička nemogućnost • Physical disability	Ne • No	2.26	2.14	7.48	<0.001**
	Da • Yes	0.77	1.23		
Psihološka nemogućnost • Psychological disability	Ne • No	4.09	1.36	4.95	<0.001**
	Da • Yes	2.52	1.98		
Socijalna nemogućnost • Social disability	Ne • No	3.12	1.19	6.3	<0.001**
	Da • Yes	1.54	1.54		
Hendikep • Handicap	Ne • No	4.38	1.48	10.07	<0.001**
	Da • Yes	1.8	1.53		
Zbroj bodova u OHIP-u • OHIP summary score	Ne • No	20.28	4.68	4.93	<0.001**
	Da • Yes	15.38	6.81		

**P<0.001; x = aritmetička sredina • mean value

Tablica 4. *Test-retest pouzdanost* za zbroj bodova u upitniku ohip, mjereno *intraclass* korelacijskim koeficijentom (ICC) za albansku verziju od 14 pitanja (OHIP-Alb)
Table 4 Test-retest reliability for ohip summary score measured by intraclass correlation coefficients (ICC) for albanian 14 items version (OHIP-Alb)

Uzorak • Sample	ICC	Aritmetička sredina razlike • Mean difference	95% Interval pouzdanosti • 95% confidence interval	*P*
Studenti • Students group (n=50)	0.955	0.14	-0.09-0.37	0.241 NS

Tablica 5. Unutarnja konzistentnost za zbroj bodova u upitniku ohip testirana izračunom koeficijenta *cronbach alfa* i prosječnih *inter-item* korelacija za albansku verziju ohip-a s 14 pitanja (OHIP-Alb)
Table 5 internal consistency for ohip summary score measured by cronbach's alpha and average inter-item correlation for albanian 14 items version (OHIP-Alb)

Uzorci • Samples	n	Cronbach α	Prosječna *inter-item* korelacija • Average inter-item correlation
Opća populacija (n=125) • General population (n=125)	125	0.86	0.26
Studenti (n=50) • Students (n=50)	50	0.89	0.37
Protetski pacijenti b(b1+b2) (n=275) • Prosthodontic patients B(B1+B2) (n=275)	275	0.81	0.23

cijenata i studenata (A, B i C, tablica 1.) i to tako da su se izračunale prosječne *inter-item* korelacije sa zbrojem bodova u upitniku OHIP-Alb, a također je izračunat i koeficijent *Cronbach alfa*. Njegove visoke vrijednosti pokazuju veliku unutarnju homogenost upitnika (tablica 5.). *Cronbach alfa* vrijednosti > 0,80 pokazuju da je upitnik potpuno pouzdan, iako su prihvatljive i vrijednosti > 0,70.

Primjerenost

Za testiranje primjerenosti upitnika OHIP 14-Alb izabrana je skupina pacijenata kojima je bilo potrebno liječenje (izrada potpunih proteza) (n = 42, B2, tablica 1.). Odabrani bezubi pacijenti ispunili su upitnik prije negoli su dobili nove totalne proteze. Proteze su morale biti nošene najmanje mjesec dana. Nakon jednomjesečne prilagodbe na njih

relation for the OHIP-ALB summary scores and the Cronbach's alpha coefficient. The high Cronbach's alpha values indicated high internal homogeneity (Table 5). The Cronbach's alpha values >0.80 indicate a reliable scale, although the values > 0.70, can be acceptable.

Responsiveness

To test the responsiveness of the OHIP-ALB14 questionnaire, the group of patients with a treatment demand was selected (n=42, B2, Table 1). The selected group of edentulous patients received new complete dentures and had to wear them at least one month. After the period of one month of adaptation to new dentures, the OHIP14 was again ad-

ponovno su ispunili OHIP 14. Primjerenost je verificirana značajno nižim zbrojem bodova u pojedinim podskupinama upitnika te znatno nižim ukupnim zbrojem bodova nakon izrade potpunih proteza u odnosu na početne vrijednosti (prije izrade proteza) (p <0,01). Aritmetička sredina promjene zbroja bodova u OHIP-u bila je 9,68 (tablica 6.). Statistički značajno manji zbroj bodova zabilježen je nakon izrade proteza i u svim podskupinama upitnika OHIP-ALB (osim za podskupinu funkcionalna ograničenost, gdje je broj bodova bio manji, ali nije pokazivao statistički značajnu razliku, tablica 6.) (p <0,001). Time je potvrđena dobra primjenjivost upitnika OHIP-ALB 14 i izračun *standardized response meana* i *standardized effect sizea* (tablica 6.).

ministrated. The responsiveness was verified by a significantly lower OHIP subscores and the OHIP summary score after the treatment in comparison to the baseline results (p<0.01). The mean change score was 9.68 for the OHIP summery score (Table 6). The statistically significant lower post-treatment scores (apart from the Functional Limitation subscore, which was lower, but showed no significant difference, Table 6) (p<0.001) verified adequate responsiveness of the OHIP-ALB, which was also confirmed by calculating the standardized effect size and the standardized response mean (Table 6).

Tablica 6. Primjerenost albanske verzije upitnika oral health impact profila s 14 pitanja (OHIP ALB) testirana u skupini protetskih pacijenata koji su dobili potpune proteze (n=42)
Table 6 Responsiveness of albanian 14 item version of the oral health impact profile (OHIP-ALB) questionnaire tested in prosthodontic patients who received new complete dentures (n=42)

OHIP-ALB14	Aritmetička sredina bodova prije terapije – aritmetička sredina bodova nakon terapije • Mean baseline score – mean follow-up score	95% interval pouzdanosti • 95% confidence interval	Standardizirani *effect size* prema Cohenu • Standardized effect size according to Cohen	Standardizirani *response mean* • Standardized response mean	*P*
Funkcijsko ograničenje • Functional limitation	2.15 – 1.89	-0.77 – 1.30	0.21	0.26	0.601 NS
Fizička bol • Physical pain	3.47 – 1.52	1.22 – 2.67	1.79	1.95	0.000 **
Psihološka nelagodnost • Psychological discomfort	2.63 – 1.89	0.04 – 1.43	0.77	0.81	0.040 *
Fizička nemogućnost • Physical disability	2.57 – 1.42	0.33 - 1.98	0.49	1.16	0.008 **
Psihološka nemogućnost • Psychological disability	3.84 – 1.68	0.90 – 3.41	1.08	1.46	0.002 **
Socijalna nemogućnost • Social disability	3.21 – 1.42	0.68 – 2.89	1.04	1.29	0.003 **
Hendikep • Handicap	3.63 – 2.00	0.70 – 2.55	0.94	1.16	0.002 **
Zbroj bodova • Summary score	21.52 – 11.84	5.89 – 13.47	1.72	2.02	0.000**

NS=nije značajno • not significant; *=značajno pri 95% vjerojatnosti • significant at 95% probability: **=značajno pri 99% vjerojatnosti • significant at 99% probability

Rasprava

Ovim istraživanjem procjenjuju se psihometrijska svojstva albanskog prijevoda kratke verzije upitnika OHIP s 14 pitanja. Kratka engleska izvorna verzija prevedena je na albanski prihvaćenom tehnikom prevođenja i prilagodbe instrumenta u novim kulturnim sredinama. To je učinjeno jer nedostaju slični instrumenti za procjenu kvalitete života koja se odnosi na oralno zdravlje (OHRQoL) u kulturnom okružju u kojem se govori albanski. Međukulturalna prilagodba društveno-dentalnih pokazatelja i razvoj albanske verzije OHIP-a 14 činili su se razumnima jer se upitnik već pokazao u cijelom svijetu kao jedan od sofisticiranih instrumenata za mjerenje učinka oralnih bolesti i profesionalnih intervencija (12–38). Informacije dobivene ispunjavanjem upitnika OHIP 14-ALB trebale bi pomoći stomatolozima u planiranju određenog tretmana kako bi se poboljšalo pacijentovo oralno i opće zdravlje. OHIP je već prihvaćen u mnogim zemljama diljem svijeta, uključujući i države jugoistočne Europe (12–32). OHIP 14-ALB trebao bi u budućnosti omogućiti usporedbu OHRQoL-a specifičnih skupina pacijenata sa zemljama u regiji i svijetu. Zbog toga treba imati odgovara-

Discussion

This study evaluated psychometric properties of the Albanian translation of the short 14-items OHIP questionnaire. The short OHIP-14 English version was translated into the Albanian language using the accepted technique of translating and adapting the instrument into a new cultural environment. It was done due to the lack of similar instruments for the assessment of the oral health related quality of life (OHRQoL) in the cultural environment where the Albanian language is spoken. A cross-cultural adaptation of socio-dental indicators and the development of the Albanian version of the OHIP-14 instrument seemed reasonable since the OHIP questionnaire had been proved widely as one of the sophisticated instruments for the measurement of the impact of oral diseases and professional interventions (12-38). Information collected by filling-in the OHIP-ALB14 questionnaire should help dentists in planning a particular treatment in order to improve patients' oral and general health. The OHIP instrument has already been accepted in many countries worldwide including the south-east countries of Europe (12-32). The OHIP14 instrument should in future allow comparison of

juća psihometrijska svojstva kao što su valjanost, pouzdanost i primjerenost.

U razvoju albanske verzije odabrani su dizajn i strategija kao i u razvoju hrvatske, slovenske i mađarske inačice (10, 21–31). U ovom istraživanju upitnik je primijenjen u obliku intervjua, nastojeći uključiti reprezentativni uzorak s obzirom na sve društveno-kulturne raznolikosti. Stomatolog je intervjuirao pacijente ili im je pomagao pri ispunjavanju upitnika, pa je zato stopa sudjelovanja iznosila 100 posto i nije bilo podataka koji nedostaju.

Konvergentna valjanost višedimenzijskog upitnika OHIP 14-ALB testirana je tako da se napravila korelacija između zbroja bodova u upitniku i jednog pitanja postavljenog simultano, a odnosi se na procjenu oralnog zdravlja. Izračunat je Spearmanov koeficijent korelacije. Konvergentna valjanost upitnika OHIP 14 ALB potvrđena je velikom korelacijom između zbroja bodova i samoprocijenjenog oralnog zdravlja (ocjene su bile u rasponu od 1 do 5; 1 = nezadovoljavajuće, 5 = odlično). Značajna povezanost (p <0,01) između zbroja bodova u OHIP-u i samoprocjene oralnog zdravlja pojavila se u svim ispitivanim skupinama – u općoj populaciji, kod protetskih pacijenata i u skupini studenata. Ljestvica od jedan do pet za procjenu oralnog zdravlja rabila se zato što se ista takva primjenjuje u osnovnim i srednjim školama na Kosovu: u rasponu od 1 (nezadovoljavajuće) do 5 (izvrsno). Kao što se i očekivalo, ispitanici s boljom samoprocjenom oralnoga zdravlja (procjena na ljestvici od 1 do 5) imali su niže vrijednosti zbroja bodova u upitniku OHIP-ALB.

Osim toga *diskriminativna valjanost* potvrđena je i znatnom razlikom između zbroja bodova u upitniku OHIP 14-ALB u slučaju bezubih pacijenata bez ikakvih totalnih proteza i onih bezubih pacijenata koji već nose potpune proteze (CDWs) (p <0,01, tablica 3.). Kao što je predviđeno, bezubi pojedinci bez ikakvih totalnih proteza imali su značajno veći zbroj bodova u upitniku od bezubih pacijenata koji već nose nadomjestke (p <0,01).

Test-retest pouzdanosti bio je također zadovoljavajući u ispitivanom uzorku (studenti). Dobra test-retest pouzdanost za zbroj bodova u upitniku OHIP 14-ALB potvrđena je visokim *interclass* koeficijentima korelacije (ICC) i nepostojanjem statistički značajne razlike između dvaju ispunjavanja istog testa, a bez ikakve promjene u ustima (postojao je razmak od najmanje dva tjedna između ispunjavanja istog upitnika). Tijekom promatranog razdoblja nije bilo promjena i nije bilo problema vezanih za orofacijalni sustav. Pouzdanost upitnika potvrđena je i visokim koeficijentom korelacije *Cronbach alfa*. Taj je koeficijent pokazao zadovoljavajuće vrijednosti za potvrdu dobre unutarnje konzistentnosti upitnika OHIP 14-ALB. Njegove vrijednosti bile su veće od 0,80 u svim trima skupinama, što pokazuje da su dobiveni izvrsni rezultati (33).

Primjerenost upitnika testirana je u skupini pacijenata kojima je bila potrebna terapija. Svi su trebali dobiti totalne proteze. Smatralo se da bi se kvaliteta života ovisna o oralnom zdravlju (OHRQoL) trebala poboljšati, (tj. zbroj bodova u upitniku OHIP 14-ALB trebao bi biti manji) nakon što dobiju nove proteze i prođe jednomjesečno razdoblje prilagodbe. Prvi put su upitnik ispunili prije početka terapije

the OHRQoL of specific groups of patients with neighboring countries and worldwide. For that reason, the OHIP-ALB14 questionnaire needs to show adequate psychometric properties such as validity, reliability and responsiveness.

The same design and strategy as in the Slovenian, Croatian and Hungarian model was used in the development of the Albanian version (10, 21-31). In this study, the questionnaire was applied as an interview trying to incorporate all diversities considering the social culture of the representative sample. The dentist assisted the patient to fill-in the questionnaire and therefore the participation rate was 100%, without any missing data.

The *convergent validity* of the multidimensional OHIP-ALB14 questionnaire was tested by comparison of the OHIP-ALB14 summary score with one question related to oral satisfaction (oral well-being) applied consecutively. The Spearman's coefficient of correlation was calculated. The convergent validity of the OHIP-ALB14 was confirmed by strong correlation between the OHIP summary scores and the self-reported oral health (scores ranging from 1-5; 1=unsatisfactory, 5=excellent). The significant association (p<0.01) was found in all groups of tested subjects: in general population, in prosthodontic patients, as well as in the group of students. The scale from 1 to 5 for the assessment of oral health has been applied since the grades in primary and secondary schools in Kosovo traditionally range from 1 (unsatisfactory) to 5 (excellent). As expected, the subjects with a better self-reported oral health, (assessed on the scale from 1 to 5) had lower OHIP-ALB summary scores.

Additionally, the *discriminative validity* was also confirmed by a significant difference between the OHIP-ALB14 summary scores of the edentulous patients without any previous complete dentures and those edentulous patients already wearing complete dentures (CDWs) (p<0.01, Table 3). As predicted, edentulous individuals without removable complete dentures had significantly higher OHIP-ALB14 summary scores than edentulous patients already wearing dentures (p<0.01).

The *test-retest reliability* was satisfactory in the tested sample (students). The test-retest reliability for the OHIP-ALB14 summary score showed high interclass correlation coefficients (ICC) and no significant differences between the 2 administrations of the same test (at least 2 week interval between completion of the same test). However, during the observed period, there had been no changes and no problems related to the participants' orofacial system.

The *reliability* of the OHIP-ALB14 was also confirmed by calculating the Cronbach's alfa coefficient. The Cronbach's alpha showed satisfactory results for the internal consistency of the OHIP-ALB. Values of all three sample groups were higher than 0.80, which revealed acceptable and excellent results (33).

The *responsiveness* was tested in the group of patients with a treatment demand. The group of patients who needed to receive complete dentures was chosen. It was considered that the OHRQoL would improve, (ie. the OHIP-ALB14 summary score should be lower) after fabrication of new dentures and one month period of adaptation to new dentures. The

(izrade potpunih proteza), a drugi put oko mjesec dana nakon što su dobili potpune proteze i na njih se prilagodili. Rezultati su pokazali da im je OHRQoL znatno poboljšan, kao što se i očekivalo (p <0,01), odnosno da je zbroj bodova u upitniku OHIP 14-ALB znatno smanjen nakon terapije. Štoviše, sve podskupine, osim podskupine f*unkcijska ograničenost,* također su imale značajno manji broj bodova nakon terapije (p <0,01). Bodovi za podskupinu f*unkcijska ograničenost* također su smanjeni, ali nisu dosegnuli razinu značajnosti od 95 posto. *Size effect* je, prema Cohenu, također pokazao zadovoljavajuću promjenu u odnosu na smanjenje zbroja bodova u upitniku.

Rezultati dobiveni za psihometrijska svojstva upitnika OHIP 14ALB vrlo su slični OHIP-ovoj verziji 14 na izvornom engleskom jeziku (OHIP 14-SVN, OHIP 14-CRO i OHIP 14-H).

Zaključak

Ovo istraživanje potvrdilo je da albanska verzija OHIP-a 14 ima izvrsna psihometrijska svojstva te je zato pouzdan instrument. Izvrsna psihometrijska svojstva upitnika OHIP 14-ALB omogućit će uporabu upitnika za dijagnostičke postupke i procjenu liječenja te za međukulturalna i longitudinalna istraživanja.

Zahvale

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Nema sukoba interesa.

first time the questionnaire was completed prior the treatment and the second time about one month after receiving complete dentures. The results showed that the OHRQoL was significantly improved, as expected (p<0.01), ie. the OHIP-ALB14 summary score significantly decreased after the therapy. Moreover, all subscores apart from the subscore for functional limitation were also significantly decreased after the therapy (p<0,01). The scores of the subscale were as follows: functional limitation was also reduced, but it did not reach the significant level of probability of 95%. The Cohen effect size also showed satisfactory changes of the post-treatment OHIP-score.

The obtained results for the psychometric properties of the OHIP-ALB14 were very similar to the original English language OHIP-14 version, the OHIP-SVN14, the OHIP-CRO14 and the OHIP-H14.

Conclusion

The study confirmed that the Albanian version of the OHIP14 has excellent psychometric properties and that it should be considered a reliable instrument. The excellent psychometric properties of the OHIP-ALB14 will allow the use of the questionnaire in diagnostic and treatment procedures, as well as in cross-sectional and longitudinal studies.

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Conflict of interest

No conflict of interest.

Abstract

Aim: To translate into the Albanian language the 14-item Oral Health Impact Profile (OHIP) Questionnaire (short version) and to measure its psychometric properties. **Methods:** The OHIP14 questionnaire was translated from the original English version, into Albanian (OHIP –ALB14), according to the accepted techniques of forward-backward translation. The psychometric properties of the OHIP- ALB14 were then tested. The convergent validity was tested in 450 subjects [general population (n=125), removable prosthodontic patients (n=275) and students (n=50)]. The discriminative validity was tested between edentulous patients wearing dentures (CDWs) (n=233) and edentulous patients without any dentures (n=42). The test-retest reliability was tested on 50 dental students who completed the questionnaire twice within at least 2-weeks interval, without any oral problems in the meantime. The internal consistency was tested in 450 subjects by calculating Cronbach alfa coefficient. The responsiveness was tested in a group of 42 patients with a treatment demand who completed the OHIP- ALB14 before treatment and one month after receiving their new dentures. **Results:** The convergent validity was confirmed by significant association between the OHIP summary scores and the self-reported oral health (p<0.01). The discriminative validity was confirmed by significantly higher OHIP scores in edentulous subjects without any dentures compared to those wearing complete dentures (p<0.01), as predicted. The test-retest reliability was confirmed by high interclass correlation coefficients and no significant differences between the two administrations of the OHIP- ALB14 questionnaire (p>0.05) to dental students, who had no orofacial problems during the observed period. The internal consistency was confirmed by a high Cronbach's alpha coefficient in general population (0.86), in prosthodontic patients (0.81), as well as in the student group (0.89). The responsiveness was confirmed by a statistically significant difference between the mean OHIP baseline score and the mean OHIP follow-up score (p<0.001) in patients who received new complete dentures, and by the high effect size (1.72 for the OHIP Summary Score). **Conclusion:** The psychometric properties of the OHIP-ALB14 proved that the instrument is appropriate for the assessment of the Oral Health Related Quality of Life in Kosovo and the Albanian language speaking countries.

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