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POTENCIJALNI FAKTORI KOJI UTIČU NA PERCEPCIJU ESTETIKE OSMEHA KOD ODRASLIH PACIJENATA STOMATOLOŠKE KLINIKE UNIVERZITETA JAZAN

THE POTENTIAL FACTORS AFFECTING THE PERCEPTION OF AESTHETIC SMILE AMONG ADULT PATIENTS ATTENDING DENTAL CLINICS OF JAZAN UNIVERSITY

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Sažetak

Uvod: Lep osmeđe je važan deo izgleda svakog pacijenta, jer igra vitalnu ulogu u ličnosti, samopouzdanju i samopoštovanju osobe. **Cilj:** Proceniti odnos potencijalnih faktora koji utiču na percepciju lepote osmeđe kod odraslih pacijenata, zadovoljstvo pacijenata sopstvenim osmeđom, kao i otkrivanje najčešćih faktora za nezadovoljstvo svojim osmeđom.

Materijali i metode: 100 muškaraca i 100 žena su procenjivali prisustvo ili nedostatak lepote sopstvenog osmeđa. Kliničko ispitivanje se odnosilo na lične estetske faktore osmeđa. Goldsteinov upitnik od 15 pitanja je korišćen z a p r ocenu p a cijentove s a m oprocene i ličnog zadovoljstva. Prikupljeni podaci su analizirani, i smatrani statistički značajnim za $p < 0.05$.

Rezultati: Postoji razlika u paraleli interpupilarne linije koja se poklapa sa središnjom dentalnom i središnjom linijom lica kod estetski lepog i neestetskog osmeđa, kao i u simetriji maksilarnih centralnih i lateralnih sekutika i očnjaka sa njihovom akcijalnom inklinacijom ($p < 0.05$). U pojedinim grupama pitanja detektovana je značajna razlika u odgovirima ženskih i muških ispitanika. Neka pitanja su bila blizu statističke značajnosti, dok neka pitanja nisu pokazala značajne razlike između odgovora muškaraca i žena.

Zaključak: Dentalni i licejni faktori pokazuju izuzetno značajnu vezu sa estetskim osmeđom, tako da njih treba ispitivati od strane adekvatnog stomatologa kako bi se obezbedio pravilan plan lečenja u odnosu na potencijalne faktore percepcije lepote osmeđa merenjem ličnog zadovoljstva pacijenta svojim osmeđom.

Ključne reči: dentalna estetika, stomatološki stav, dentalna kozmetika

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Abstract

Introduction: Aesthetic smile is an important part for every patient since it plays a vital role in his personality, selfconfidence and self-esteem.

Aim: To assess the relationship between the potential factors affecting the perception of aesthetic smile among adult patients, to evaluate the patient's satisfaction toward their smile and to find the most common factors for their dissatisfaction caused by smile.

Materials and methods: A 100 males and 100 females were evaluated for the presence or absence of aesthetic smile. The clinical examination was included categories related to personal aesthetic factors of the smile. A questioner designed by Goldstein to measure the patient's self-perception and satisfaction of their smiles was used. The data were pooled for analysis, statistical significance was set to p -value > 0.05 .

Results: There was a significant differences in the parallel interpupillary line and coincided of dental midlines alone and with facial midlines in the aesthetic and non-aesthetic choices, also between the symmetry of maxillary central and lateralincisors, and canines with their axial inclinations choices ($p < 0.05$). Some group of questions showed significant differences among female and male subjects while, the male subjects Some questions were near to the statistical significant differences, while others showed no significace between males and females choices.

Conclusion: Dental and facial factors showed highly significant relationship with aesthetic smile. So, it should be observed by a dental specialist to provide a proper treatment plan with respect to the potential factors of the aesthetics to help for self-satisfaction measurement.

Key words: Dental aesthetics, Dental attitude, Dental cosmetic

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Uvod

Reč estetika potiče od grčke reči *aisthetikos*, što znači proučavanje lepote. Smatra se kombinacijom umetnosti i nauke gde je umetnost u funkciji nauke¹. Dentalna lepota je definisana kao dinamična percepcija koja se razlikuje u različitim populacijama, regionima, vremenima, zemljama, pa čak i kontinentima². Različite kulture na različite načine izražavaju brigu za lepotu svojih zuba. Drevni Azijati bojili su zube crnom bojom ili ih ukrašavali dragim kamenjem kao znak prestiža^{3,4}. U prvom veku, Rimljani su prali zube ureom, da bi im dali belju boju⁵. Od 1960-ih do 1970-ih dijastema se smatrala znakom lepote, dok danas većina pacijenata traži stomatološki tretman radi zatvaranja dijasteme⁶.

Svest o estetici pomaže stomatologu da dostigne prihvatlji zadovoljavajući izgled. Posmatranje i znanje pacijenta o estetskoj stomatologiji su poslednjih godina znatno povećani zbog ekspanzije u medijima. Danas bi ljudi voleli da imaju zube kao njihovi omiljeni glumci ili glumice, njihov popularni lider ili političar^{7,8}.

U skladu s tim, jasno razumevanje faktora koji utiču na privlačnost osmeha važno je u stvaranju atraktivog osmeha. Zbog toga je bolje razumevanje standarda i normi lepote od suštinske važnosti kako bi klinčari mogli stvoriti željeni „zlatni osmeh“ primenom ovih normi i standarda na osnovu dijagnoze kao i na plan estetskog lečenja⁴. Osnovna kontura prednjih maksilarnih zuba je centar vizuelne privlačnosti. Njihov položaj daje privid da su zubi u ustima najsvetlij i najveći, pa ih čine dominantnim u osmehu^{9,10}. Estetski prihvatljiv osmeh zavisi od položaja gornjih zuba i gornje usne, boje, veličine, oblika, vidljivosti zuba i dela gingive koja se prikazuje tokom osmeha¹¹. Ostali faktori koji utiču na izgled zuba uključuju i samopouzdanje, ličnu motivaciju, polne i kulturološke razlike^{12,13}. Iako se svaki faktor može posmatrati pojedinačno, sve komponente moraju delovati zajedno kako bi se stvorio konačan estetski efekat⁷.

Literarni podaci sugerisu da su različiti faktori uključeni u uspostavljanje estetskog osmeha⁹. Dunn i sar., zaključili su da je nijansa zuba najvažniji faktor u estetici osmeha, nakon čega sledi prisustvo prirodnih zuba bez restauracije i broj prikazanih zuba⁶.

Drugi su smatrali da stepen pomeranja srednje linije može uticati na privlačnost

Introduction

The word aesthetic is derived from the Greek root *aisthetikos*, which means the study of beauty. It is considered as a combination of art and science where art is in its form of science¹. Dental beauty is defined as a dynamic subject which differs across different populations, regions, times, countries and even continents². Different cultures express their concern about the beauty of their teeth in different ways. Ancient Asians stained their teeth with black or inlaid them with precious stones as a sign of nobility^{3,4}. In the first century, Romans used to brush their teeth with urea to give them a whiter color⁵. From the 1960s - 1970s, diastema was considered as a sign of beauty, while nowadays, the majority of patients want dental treatment for diastema closure⁶.

The awareness of aesthetics helps the dental practitioner to achieve an acceptable pleasing appearance. Patient's perception and knowledge about aesthetic dentistry have been markedly increased in recent years due to media exposure. Nowadays, people would like to have their teeth resemble those of their favorite actor or actress, their popular leader or politician^{7,8}.

Accordingly, a clear understanding of the factors that alter the attractiveness of a smile is important in creating attractive smile. Therefore, the better understanding of the standards and norms of beauty is essential to guarantee that clinicians can create the desirable “golden smile” by applying these norms and standards to the diagnosis as well as to the aesthetic treatment plans⁴. The basic contour of the anterior maxillary teeth is the center of visual attraction. Its position gives the illusion of being the lightest and largest teeth in the mouth, thus, making them the dominant teeth in the smile^{9,10}. The aesthetically pleasing smile was proposed to depend on the teeth and upper lip positions, color, size, shape, visibility of teeth and amount of part of gingiva displayed during smiling¹¹. Other factors influencing dental appearance include body and self-image, personal motivation, gender and cultural differences^{12,13}. Although each factor may be considered individually, all components must act together to create a final aesthetic effect⁷.

A study has suggested different factors to be involved in establishing an aesthetic smile⁹. Dunn et al., concluded that tooth shade was the most important factor for an aesthetic smile, followed in sequence by the presence of natural teeth without restorations and number of teeth displayed⁶.

osmeha, i da se on razlikuje u zavisnosti od stomatološke specijalnosti, stomatologa i njihovih pacijenata. Ortodonti, protetičari, ali i nestručne osobe imaju različitu percepciju estetike osmeha prilikom procene maksilarnih sekutića i izloženosti gingivе^{14,15}.

Pinho i sar, u svojoj studiji zapazili su da ortodont opaža pomak od samo 1 mm, protetičar opaža pomak od 3 mm, dok nestručna osoba ne primećuje pomak srednje linije do 4 mm¹⁶. Drugi važan faktor koji treba primeniti na dizajn osmeha je da širina maksilarnog bočnog sekutića, gledano sa prednje strane, treba da bude u „zlatnoj“ proporciji sa širinom centralnog sekutića maksile¹⁷. Mnogi kontradiktorni rezultati istraživanja pokazuju da većina lepih osmeha nije imala proporcije koje se podudaraju sa formulom „zlatne proporcije“^{7,18}. Kokich i sar¹⁹, zaključili su da asimetrične izmene čine zube neprivlačnijim i za stomatologe i za nestručne osobe. Lako se može primetiti i promena u percepciji estetike ako je udaljenost od gingive do linije usana 3 mm¹⁹. Rodrigues i sar, zaključili su da je linija obrnutog osmeha postigla najmanji stepen privlačnosti zbog odstupanja od estetskih principa jedinstva, sklada i ravnoteže⁴. Drugi navode da se osmeh sa osećajem jedinstva smatra važnijim i privlačnijim od ostalih estetskih principa u određivanju privlačnosti osmeha^{10,20,21}.

Nekoliko studija procenjivalo je percepciju lica, zuba i estetiku osmeha, privlačnost osmeha i odnos prema oralnoj estetici, među saudijskim stomatolozima, studentima stomatologije, nestručnim osobama oba pola i odraslim pacijentima u Rijadu^{3,22-24}, u Džazanu^{25,26}, u Džedi²⁷, Taifu²⁸ i Albahi²⁹.

Idealan osmeh ne postoji. Međutim, najvažniji estetski cilj je postizanje izbalansiranog osmeha, koji se može opisati kao adekvatno pozicioniranje zuba u odnosu na meka tkiva gingive^{17,30}. Zbog toga je ova studija sprovedena kako bi se procenila veza između potencijalnih faktora koji utiču na percepciju estetskog osmeha kod odraslih pacijenata koji dolaze na stomatološku kliniku Univerziteta Jazan. Analizirano je zadovoljstvo pacijenata prema njihovom osmehu i najčešći faktori njihovog nezadovoljstva.

Others considered the degree of the midline shift that can affect the smile attractiveness, which differs according to the dental specialty and between dentists and their patients. Orthodontist, prosthodontics, and layperson have different perceptions of smile esthetics when evaluating maxillary incisors and gingival exposure^{14,15}.

Pinho et al, in their study, found that as little as 1 mm shift is perceived by the orthodontist, a 3 mm shift is perceived by a prosthodontist, whereas layperson does not notice the midline shift when it is less than 4 mm¹⁶. Another important factor to be applied to smile design states that the width of the maxillary lateral incisor, as viewed from the front, should be in golden proportion to the width of the maxillary central incisor¹⁷. Many conflicting reports indicate that the majority of beautiful smiles did not have proportions coinciding with the golden proportion formula^{7,18}. Kokich et al¹⁹, concluded that asymmetric alterations make teeth more unattractive to both dental professionals and the lay people. They can easily notice the change in the perception of aesthetics if the distance from gingiva to lip line is 3 mm¹⁹. Rodrigues et al, concluded that the reverse smile line scored the least degree of attractiveness due to deviation from aesthetic principles of unity, harmony and balance⁴. Other report that a smile with a sense of unity is considered more important and attractive than other aesthetic principles in the determination of the attractiveness of a smile^{10,20,21}.

A group of local studies evaluated the perception of facial, dental, and smile aesthetics, smile attractiveness, and attitude to oral aesthetic among Saudi dentists, dental and non-dental students, lay people, and adult patients form both genders in Riyadh^{3,22-24}, in Jazan^{25,26}, in Jeddah²⁷, in Taif²⁸, and in Albaha²⁹.

An ideal smile does not exist. However, the most important aesthetic objective is achieving a balanced smile, which can be described as an adequate positioning of the teeth with respect to gingival soft tissues^{17,30}. Therefore, this study was conducted to assess the relationship between the potential factors affecting the perception of an aesthetic smile among adult patients attending dental clinics of Jazan University. The patients' satisfaction toward their smile and the most common factors for their dissatisfaction were evaluated.

Materijal i metode

Sprovođenje ove studije je odobreno od strane Etičkog odbora Stomatološkog fakulteta Univerziteta u Jazanu. Izvedena je nakon potpisivanja obrasca saglasnosti onih pacijenata koji su ispunili uključujuće kriterijume za učešće u ovoj studiji. Izvedeni su interni i intra kalibracioni pregledi za ispitivanje kako bi se povećala pouzdanost studije. Veličina uzorka je bila 200 ispitanika (100 muškaraca i 100 žena).

Uključujući kriterijumi su : pacijenti starosti od 18-40 godina, prisutnost svih zuba u estetskoj zoni, zubi bez ikakvih restauracija, pacijenti bez ortodontske ili terapije maksilofacialne traume ili bilo koje operacije u regiji lica. Prisustvo gingivalne recesije, parodontalnog oboljenja, ozbiljne promene boje i nasledne mane u estetskoj zoni pacijenta bili su kriterijumi za isključivanje iz studije. Ispitanici su bili bez ikakvih kraniofacijalnih anomalija. Specijalista protetike ocenjivao je prisustvo ili odsustvo estetskog osmeha među svim ispitanicima.

Prvi klinički deo ispitivanja obuhvatio je tri dela koja se tiču ličnih podataka i svih estetskih faktora osmeha. Prva kategorija je uključivala interpupilarne linije i linije osmeha, idealnu liniju usana i podudaranje središnje linije zuba i lica. Druga kategorija obuhvatala je vidljivost gingivalne linije prilikom osmeha i vidljivost inciziva (u mirovanju 2-4 mm), incizalnu liniju, konveksnost incizalne ravni i Gullwing-ovu konfiguraciju. Treća kategorija odnosila se na simetriju maksilarnog centralnog sekutića (MCS), maksilarnih bočnih sekutića (MBS), maksilarnih očnjaka (MO) i aksijalnog nagiba MCS, MBS, MO. Drugi deo ispitivanja predstavljen je kao upitnik koji su dizajnirali Goldstein i sar. 1997. godine za merenje pacijentove percepcije i zadovoljstva u pogledu njihovih osmeha. Sačinjen je od 15 pitanja³¹.

Podaci prvog i drugog dela ispitivanja (merenja i upitnika) su analizirani Za statističku analizu korišćen je IBM statistički paket za društvene nauke V 20.1 (SPSS IBM, Inc., Chicago, Illinois, SAD). Deskriptivna analiza uključivala je učestalost i procenat za sve parametre. Pored toga, odgovori ispitanika iz svake grupe parametara uključivali su: (a) odnos i položaj interpupilarog osmeha, osmeh, liniju usana sa zubnim i zglobnim linijama lica; (b) vidljivost gingive i inciziva tokom funkcije, status incizalne ravni i (c) analizirana je i simetrija i nagib maksilarnih zuba u estetskom i neestetskom osmehu.

Material and methods

The present cross-sectional study was approved from Ethics Committee at College of Dentistry, Jazan University. It was taken after a signed consent form from those patients who satisfy the inclusion criteria of this study. Inter and intra examiner calibration training sessions were performed to maximize the reliability of the study. The sample size was 200 subjects (100 male and 100 female).

The inclusive criteria were; patients should be 18-40 years-old, all teeth in the aesthetic zone are present, the teeth of the subjects are without any restoration, and no history of orthodontic treatment or maxillofacial trauma and surgery. Also, patients should have absence of the gingival recession or advanced periodontal disease, severe discoloration or hereditary defect in the aesthetic zone. Respondents were without any craniofacial anomalies. A prosthodontist evaluated the presence or absence of esthetic smile among all study subjects.

The first clinical examination sheet included three parts regarding the personal data and all aesthetic factors of the smile. The first category included interpupillary and smile lines, ideal lip line, and coincident of dental and facial midlines. The second category included gingival display during smile and incisal displays at rest (2-4 mm), incisal embrasure form, convexity of the incisal plane and Gullwing configuration. The third category was about the symmetry of maxillary central incisor (MCI), maxillary lateral incisors (MLI), maxillary canine (MC) and the axial inclination of MCI, MLI, MC. The second part was introduced as a questionnaire designed by Goldstein et al 1997, to measure the patients' self-perception and satisfaction regarding their smiles. It consisted of 15 questions³¹.

Data from the examination sheet and questionnaire were pooled for analysis. IBM Statistical Package for the Social Sciences V 20.1 (SPSS IBM, Inc., Chicago, Illinois, USA) was used for statistical analysis. Descriptive analysis included frequency and percentage were calculated for all parameters. In addition, responses of respondents from each group of parameters included (a), relationship and position of interpupillary, smile, lip lines with dental and facial midlines, (b), amount of gingival and incisal display during function, status of incisal plane, and (c), symmetry and inclination of the maxillary teeth in the aesthetic and non-aesthetic choices were analyzed.

Upitnik koji su dizajnirali Goldstein i sar.³¹ iz 1997. godine rađen je radi procene ispitanika i upoređivan između različitih parametara koristeći Chi-kvadrat test. Statistička značajnost je smatrana za $p>0,05$.

Rezultati

I-Procena odnosa između potencijalnih faktora koji utiču na percepciju estetskog osmeha

Prisustvo paralelizma između interpupilarne linije i jedne ili obe frontalne incizalne ravni i gornje maksilarne frontalne ivice gingive iznosilo 81,6% kod slučajeva sa estetskim osmehom i 61,9 % kod slučajeva sa neestetskim osmehom. P-vrednost je bila izuzetno značajna ($p<0,002$). Linija osmeha predstavljena je kao „paralela sa unutrašnjom zakrivljeničcu donje usne“, i bila je prisustna u 91,3% slučajeva sa estetskim osmehom i u 87,6% slučajeva sa neestetskim osmehom. P-vrednost nije bila značajna $p<0,402$.

Procenat slučajeva estetskog i neestetskog osmeha podudarnih srednjih linija zuba i lica zabeležen je u 80,6% slučajeva sa estetskim osmehom i 61,9% slučajeva sa neestetskim osmehom. Pored toga, bio je izuzetno visok u parametru „podudaranje srednjih linija zuba i lica“ i predstavljen je u 90,3% slučajeva sa estetskim osmehom i 82,5% slučajeva sa neestetskim osmehom (Tabela 1).

U Tabeli 2 prikazan je broj i procenat vidljivosti gingive tokom osmeha (1-2 mm), koji su bili su izuzetno visoki i predstavljeni u 87,4% slučajeva sa estetskim osmehom i 82,5% slučajeva sa neestetskim osmehom. Vidljivost inciziva u mirovanju (2-4 mm) takođe je bila prilično visoka i registrovana u 86,4% slučajeva sa estetskim osmehom i 81,4% slučajeva sa neestetskim osmehom. Učestalost i procenat incizalne zakrivljenosti i konveksitet incizalne ravni zabeleženi su kao 90,3% kod estetskih i 86,6% kod neestetskih osmeha, ali konveksitet incizalne ravni bila je 91,3% za estetske i 71,1% za neestetske osmehe. Konačno, oblik galebovih krila zasnovan je u manjem broju i frekvenciji 65% kod estetskog osmeha i 41,2% kod neestetskog osmeha. Sve promenljive p vrednosti su bile neznatne $p<0,05$.

Tabela 3 prikazuje odnos prednjih zuba maksile u odnosu na njihovu simetriju i aksijalne nagibe.

The questionnaire designed by Goldstein et al³¹ 1997 was followed to evaluate the subjects and compared between the different parameters using the Chi-Square test. Statistical significance was set to the p-value of $p> 0.05$.

Results

I -Assessment of the relationship between the potential factors affecting the perception of aesthetic smile

The presence of parallelism between interpupillary line and one or both of anterior Incisal plane and maxillary anterior gingival margin was 81.6% among the cases with aesthetic smile and 61.9% among cases with non-aesthetic smile. The p-value was highly significant $P < .002$. The smile line was presented 'Parallel with inner curvature of lower lip in was 91.3% of cases with aesthetic smile and 87.6% in cases with non-aesthetic smile. The p-value was not significant $p < 0.402$.

The percentages of aesthetic and non-aesthetic smile cases of coincided dental and facial midlines were recorded in 80.6% and 61.9% among cases with aesthetic and non-aesthetic smile respectively. In addition, it was extremely high in the "Coincided of dental and facial midlines" parameter and presented in 90.3% and 82.5% cases among the aesthetic and non-aesthetic choices, respectively (Table 1).

Table 2, showed the number and percentage of the gingival display during smile (1-2mm.) were extremely high and represented in 87.4%, and 82.5% cases, also the incisal display at rest (2-4 mm) was quite high and registered in 86.4%, and 81.4% cases in the aesthetic and non-aesthetic choices, respectively. The frequency and percentage of the incisal embrasure form and convexity of the incisal plane were recorded as 90.3% and 86.6%, in the esthetic and non-aesthetic choices, but convexity of the incisal plane was 91.3% and 71.1% for the aesthetic and non-aesthetic choices, respectively. Finally, the gull-wing configurations were founded in less number and frequency 65% among the aesthetic and 41.2% in the non-aesthetic zone. All the variable p-values were non-significant $p < 0.05$.

Table 3 shows the relation of the maxillary anterior teeth in relation to their symmetry and axial inclinations.

Simetrija MCS, MLS i MO bila je velika, kao i njena zastupljenost u visokom broju i procentu kod pacijenata sa estetskim osmehom i zastupljena je u 81,6%, 84,5% i 94,2%. Procenti i broj nagiba MCS, MLS i MO bili su izuzetno visoki kod pacijenata sa estetskim osmehom i zabeleženi su 95,1%, 97,1% i 96; 93,2%. Svi parametri su bili značajni sa p-vrednostima ($p<0,05$; $p<0,05$, osim u osovinskom nagibu MO koji nije bio značajan i zabeležen ($p<0,304$).

The symmetry of MCI, MLI and MC was high as well as presented in high number and percentage among aesthetic patients and represented in 81.6%, 84.5%, and 94.2%, respectively. The percentages and numbers of the inclinations of MCI, MLI, and MC were extremely high in patients with aesthetic choice and recorded as 95.1%, 97.1%, and 93.2%, respectively. All the parameters were significant with p-values $p <0.05$, except in the axial inclination of MC which was non-significant and recorded ($p <0.304$).

Tabela 1. Frekvecija i procenat intrapupilarne , linije osmeha i linije usana, središnje dentalne i facijalne linije, i njihov uticaj naizbor estetskog i neestetskog osmeha

Table 1. The frequency and percentage of interpupillary, smile, lip lines, dental and facial midlines and its relation to aesthetic and non-aesthetic choices

| Parameters/ Parametri | Aesthetic/Estetski N (%) | Non-aesthetic/Neestetski | Total/Ukupno N % | P value/ P vrednost |
|---|-----------------------------|--------------------------|---------------------|---------------------|
| Interpupillary line / Intrepupilarna linija | | | | |
| Absent / Odsutna | 4 (3.9) | 9 (9.3) | 13 (6.5) | P <0.002* |
| Parallel with anterior Incisal plane/Paralelna sa prednjom incizalnom ravnim | 3 (2.9) | 0 (0.00) | 3 (1.5) | |
| Parallel with maxillary anterior gingival margin/Paralelna sa maksilarnom frontalnom ivicom gingive | 12 (11.7) | 28 (28.9) | 40 (20) | |
| Both / Oba | 84 (81.6) | 60 (61.9) | 144 (72) | |
| The smile line / Linija osmeha | | | | |
| Parallel with inner curvature of lower lip/ Paralelna sa sa unutrašnjom zakrivljenošću donje usne | 94 (91.3) | 85 (87.6) | 179 (89.5) | P <0.402 |
| Not parallel with inner curvature of lower lip/Nema paralele sa unutrašnjom zakrivljenošću donje usne | 9 (8.7) | 12 (12.4) | 21 (10.5) | |
| Ideal lip line (75-100%) of MAT) / Idealna linija usana(75-100%) MPZ | | | | |
| Present / Prisutna | 77 (74.8) | 70 (72.2) | 147 (73.5) | P <0.727 |
| Absent / Odsutna | 26 (25.2) | 27 (27.8) | 53 (26.5) | |
| Coincidence of dental midlines / Poklapanje sa sredinom zuba | | | | |
| Present / Prisutna | 83 (80.6) | 60 (61.9) | 143 (71.5) | P <0.003* |
| Absent / Odsutna | 20 (19.4) | 37 (38.1) | 57 (28.5) | |
| Coincidence of dental and facial midlines / Poklapanje sa sredinom zuba i sredinom lica | | | | |
| Present / Prisutna | 93 (90.3) | 80 (82.5) | 173 (86.5) | P <0.047* |
| Absent / Odsutna | 10 (9.7) | 17 (17.5) | 27 (13.5) | |

*Significant MAT; maxillary anterior teeth

*Značajnost MPZ, maksilarni prednji zubi

Tabela 2. Broj i procenat vidljivosti gingive i inciziva tokom osmeha, stanje incizalne ravni u mirovanju i njihov uticaj na izbor estetskog i neestetskog osmeha

Table 2. The frequency and percentage of the amount of gingival & incisal display during function, status of incisal plane and its relation to present or absent of aesthetic and non-aesthetic choices

| Parameters / Parametri | Aesthetic / estetski N % | Non Aesthetic / neestetski N % | Total / Ukupno N % | P value / P vrednost |
|---|-----------------------------|-----------------------------------|-----------------------|----------------------|
| Gingival display during smile (1-2mm) / Vidljivost gingive prilikom osmeha (1-2mm) | | | | |
| Present / Prisutna | 90 (87.4) | 80 (82.5) | 170 (85) | P <0.434 |
| Absent / Odsutna | 13 (12.6) | 17 (17.5) | 30 (15) | |
| Incisal display during rest (2-4mm) / Vidljivost inciziva u pauzi osmeha (2-4mm) | | | | |
| Present / Prisutna | 89 (86.4) | 79 (81.4) | 168 (84) | P <0.077 |
| Absent / Odsutna | 14 (13.6) | 18 (18.6) | 32 (16) | |
| Incisal embrasure form / Forma incizalne krivine | | | | |
| Present / Prisutna | 93 (90.3) | 84 (86.6) | 177 (88.5) | P <0.367 |
| Absent / Odsutna | 10 (9.7) | 13 (13.4) | 23 (11.5) | |
| Convexity of Incisal plane / Konveksitet incizalne ravni | | | | |
| Present / Prisutna | 94 (91.3) | 69 (71.1) | 163 (81.5) | P <0.001 |
| Absent / Odsutna | 9 (8.7) | 28 (28.9) | 37 (18.5) | |
| Gull-wing configuration / Izgled galebovih krila | | | | |
| Present / Prisutna | 67 (65) | 40 (41.2) | 107 (53.5) | P <0.001 |
| Absent / Odsutna | 36 (35) | 57 (58.8) | 93 (46.5) | |

Tabela 3. Učestalost i procenat prisustva i odsustva simetrije i aksijalne inklinacije prednjih zuba i povezanost sa estetskim i neestetskim osmehom

Table 3. The frequency and percentage of the presence and absence of symmetry and axial inclination of maxillary anterior teeth in relation to aesthetic and non-aesthetic choice

| Parameters / Parametri | Aesthetic/ Estetski N % | Non Aesthetic/ Neestetski N % | Total /Ukupno N % | P value / P vrednost |
|--|-------------------------------|-------------------------------------|----------------------|-------------------------|
| Symmetry of MCI / Simetrija maksilarnih centralnih sekutića MCS | | | | |
| Present/ Prisutna | 84 (81.6) | 46 (47.4) | 130 (65) | P <0.000* |
| Absent / Odsutna | 19 (18.4) | 51 (52.6) | 70 (35) | |
| Symmetry of MLI / Simetrija maksilarnih lateralnih sekutića MLS | | | | |
| Present / Prisutna | 87 (84.5) | 60 (61.9) | 147 (73.5) | P <0.000* |
| Absent / Odsutna | 16 (15.5) | 37 (38.1) | 53 (26.5) | |
| Symmetry of MC / Simetrija maksilarnih očnjaka MO | | | | |
| Present / Prisutna | 97 (94.2) | 72 (74.2) | 169 (84.5) | P <0.000* |
| Absent / Odsutna | 6 (5.8) | 25 (25.8) | 31 (15.5) | |
| Axial inclination MCI / Aksijalna inklinacija MCS | | | | |
| Present / Prisutna | 98 (95.1) | 77 (79.4) | 175 (87.5) | P <0.001* |
| Absent / Odsutna | 5 (4.9) | 20 (20.6) | 25 (12.5) | |
| Axial inclination MLI / Aksijalna inklinacija MLS | | | | |
| Present / Prisutna | 100 (97.1) | 82 (84.5) | 182 (91) | P <0.002* |
| Absent / Odsutna | 3 (2.9) | 15 (15.5) | 18 (9) | |
| Axial inclination MC / Aksijalna inklinacija MO | | | | |
| Present / Prisutna | 96 (93.2) | 85 (87.7) | 181 (90.5) | P <0.304 |
| Absent / Odsutna | 7 (6.8) | 12 (12.3) | 19 (9.5) | |

*Significant (MCI); maxillary central incisor (MLI); maxillary lateral incisors (MC); maxillary canine

*Značajnost (MCS) maksilarni centralni sekutići (MLS) maksilarni lateralni sekutići (MO) maksiliarni očnjaci

II - Procena zadovoljstva pacijenta prema njegovom osmehu i najčešći faktori za njihovo nezadovoljstvo

Analiza odgovora iz upitnika na koje su odgovorili učesnici koji su učestvovali u ovoj studiji pokazala je veliku varijaciju. Neka pitanja su pokazala izuzetno značajnu razliku u odgovorima, dok su druga pokazala malu značajnu razliku, dok većina pitanja nije pokazala statistički značajnu razliku između odgovora. Pitanja sa najvećom značajnom razlikom bila su : „Da li, kada listate časopis, poželite da imate lep osmeh kao i modeli?“ gde je većina ispitanika odgovorila pozitivno 79%, a ostalih 21% je odgovorilo ne; na drugo pitanje: „Kada čitate modni časopis da li su vam oči uperene u osmeh modela?“, 83% žena odgovorilo je sa „da“; a samo 17% sa „ne“. Rezultati muških ispitanika pokazuju najveći procenat pozitivnih odgovora na pitanje „Da li su vam zubi preširoki ili suviše uski?“, 17% je odgovorilo sa da; i 15% sa ne; 83% i 85%. P-vrednosti su bile 0,000. Odgovori sa malom značajnom razlikom; 77% muškaraca i 90% žena u ovoj studiji bili su na pitanju: „Da li mislite da neko ima bolji osmeh od vas?“ i „Da li želite da vaši zubi budu beliji?“ sa p-vrednostima jednakim $p<0,011$ i $p<0,001$. Pored toga, procenat muških i ženskih negativnih odgovora na pitanje „Da li su vam zubi previše kockasti ili previše okrugli?“ bili su 87% i 71%, sa p-vrednostima od $p<0,008$. Sva preostala pitanja (7,12,10,3) bila su blizu značajnih razlika, dok odgovori na pitanja (1,2,9,11) nisu pokazala značajnu razliku između muškaraca i žena sa p-vrednostima jednakim ili manjim od $p<0,05$ (Tabela 4).

Diskusija

Ljudi su još u dalekoj istoriji tragali za savršenim osmehom. Na pitanje estetskog osmeha utiču mnogi kulturni, obrazovni i socioekonomski faktori. Poslednjih godina, mediji su stavljali veliki akcenat na važnost lepog estetskog osmeha, a filmske zvezde su postale uzori za estetski osmeh^{32,33}.

Procena odnosa između potencijalnih faktora koji utiču na percepciju estetskog osmeha

Osnovno i vitalno pitanje postoji, a to je ko bi trebao da sudi o stomatološkoj estetici, kliničar ili pacijent, kada se njihovi stavovi često razilaze^{34,35}. Zbog ovih različitih stavova, pacijenti i stomatolozi zajedno, kao i Zubni tehničari, trebalo bi da budu zajedno uključeni u bilo koji estetski rad.

II - Evaluation of the patient's satisfaction toward their smile and the most common factors for their dissatisfaction

Analysis of the results of the questionnaire answered by the subjects participating in the present study showed great variation. Some questions showed a highly significant difference in the answers whereas others showed a low significant difference, yet more questions showed no statistically significant differences between the answers. Of the questions with the highest significant difference is the question about “Do you look at magazines and wish you had a smile as pretty as the models?” where most of the female subjects answered yes 79% and only 21% answered No. The second question was “When you read a fashion magazine, are your eyes drawn to the model’s smile?” with 83% female having the answer Yes; and only 17% scored NO. Male subjects results show the highest percentages when asked “if they think that their teeth are too long or too short, too wide or too narrow”, 17% scored Yes; and 15 % scored No; 83% and 85%, respectively. The p-values were 0.000. Questions with a low level of significant differences; 77% of males and 90% of females subjects in this study answered Yes when asked “Is there someone you believe has a better smile than you? “ or “Do you wish your teeth were whiter?” with p-value equal to 0.011 and 0.001, respectively. In addition, the percentage of both male and female subjects in relation to the answer No for the question “Are your teeth too square or too round”? were 87% and 71%, respectively, with p-value equal to 0.008. All the remaining questions (7,12,10,3) were near to the significant differences, while questions (1,2,9,11) showed no significant differences between males and females with p values equal to or less than 0.05 (Table 4).

Discussion

Since the early years of history, humans have been looking for what they consider as the perfect smile. The issues of the aesthetic smile are influenced by many cultural, educational and socioeconomic factors. In recent years, the media has put great stress in the importance of having a beautiful aesthetic smile and movie stars have become the role models for an aesthetic smile^{32,33}.

Ova studija dizajnjirana je tako da sveobuhvatno ispita potencijalni faktor koji može imati ulogu u prikazu takozvanog estetskog osmeha. Ukupno je 16 faktora podeljeno u tri kategorije kako bi se istražila percepcija pacijenata, a zatim su rezultati statistički analizirani. Značajna razlika u ovoj studiji zabeležena je u prvoj kategoriji iz prvog dela koja je uključivala, podudaranje srednje linije zuba i simetriju maksilarnih zuba. Isti nalazi zabeleženi su studiji koju su sproveli Alhammadi i sar.²⁶, uključujući muškarce i žene . Pored toga, rezultati ove studije bili su slični i sa rezultatima koje su zabeležili Aamassi i sar.²⁴ i Mokhtar i sar.²⁷ u istraživanjima koja su ispitivala 130 stomatologa i studenata stomatologije završne godine. Međutim, pronađena je mala značajna razlika prilikom ispitivanja podudaranja srednjih linija lica u estetskom i neestetskom osmehu. Ostali faktori nisu pokazali značajnu razliku (linija osmeha, linija gornje usne, vidljivost gingive i inciziva, incizalni oblik embrasure i aksijalni nagib maksilarnog očnjaka). Ovi rezultati su u suprotnosti s onima koje su ranije izvestili Vander i sar.¹¹, koji su istakli važnost linije gornjih usana i vidljivosti inciziva.

U ovoj studiji, nivo zadovoljstva bio je visok u pogledu vidljivosti gingive, širine i dužine krunice zuba, kao i broja zuba koji su se videli tokom osmeha i kod estetskog i kod neestetskog. Ovi rezultati bili su u suprotnosti sa rezultatima Alharthi i sar.²⁸, koji su se mogli objasniti iz ispitivanja njihovih izabranih grupa studenata medicine i stomatologije. Ove grupe su uvek zabrinute zbog svog izgleda. Rezultati iz ovog istraživanja su se takođe poklopili sa rezultatima koje su prikazali Talic i sar.²² u odnosu na drugu kategoriju prvog dela koji su uključivali vidljivost gingive tokom osmeha (1-2 mm) i tokom odmora (2-4 mm), kao i incizalni oblici embrasure. Svi parametri nisu značajni u obe istraživačke studije ($p>0.077$ i $p>0.367$).

U ovoj studiji , treća kategorija prvog dela obuhvatala je promenljive koje su pokazale najveću statistički značajnu razliku između ispitanika sa estetskim osmehom u odnosu na one sa neestetskim osmehom, a koje su se odnosile na simetriju MCI, MLI i MO gde je $p<0.000$ (Tabela 3). Slični rezultati prijavljeni su u studijama Talic i sar., Rosenstiel i sar., i Goncalges i sar.^{22,36,37}.

Assessment of the relationship between the potential factors affecting the perception of aesthetic smile

An essential and vital question does exist, that is who should be the judge of dental aesthetics, the clinician or the patient when their views diverge frequently^{34,35}. So patients and dentists together, as well as dental technicians, should be involved during any aesthetic work.

The current study was designed to comprehensively examine the potential factor which might play a role in projecting and influencing the so-called aesthetic smile. A total of 16 factors were divided into three categories to investigate the patients' perception, and then the results were subjected to both descriptive and analytical analysis. A significant difference was recorded in the current study in the first category from the first part which included, coincided of dental midlines and symmetry of maxillary teeth, there were the same findings in a study carried by Alhammadi et al²⁶, including male and female subjects in their study. In addition, our finding was near and on the border to the finding recorded by Aamassi et al²⁴ and Mokhtar et al²⁷ in a study examining 130 dentists and final year dental students. However, a low significant difference was detected when examining the coincidence of dental facial midlines in both aesthetic and non-aesthetic smiles. The rest of the factors showed no significant difference (the smile line, maxillary lip line, gingival display, incisal display, incisal embrasure form and axial inclination of the maxillary canine). These results are in contrast to those reported earlier by Vander et al¹¹, who stressed the importance of the maxillary lip line and incisal display.

In our study, the level of satisfaction was high in term of gingival display, crown width and length, and the number of teeth showed during smiling in both aesthetic and non-aesthetic area. This finding was in contrast with the finding of Alharthi et al²⁸, which could be explained by his selected groups which were from medical fields, and dental students. These groups of subjects are always concerned about their look. Also, our findings agreed with the results mentioned by Talic et al²² in relation to the categories of the second parts which involved the amount of gingival displays during smile (1-2mm) and during rest (2-4mm), as well as incisal embrasure forms. All parameters were not significant in both research studies($p>0.077$ and $p>0.367$).

Zadovoljstvo pacijenata njihovim osmehom i najčešći faktori za njihovo nezadovoljstvo

Varijacije u veličini zuba i njihovom odnosu prema licu mogu uticati na estetski izgled. Stoga zubi moraju biti u proporciji jedan s drugim i biti proporcionalni veličini i obliku lica kako bi se postigao estetski ugodan osmeh^{11,36}. Potreba za razumevanjem pacijentovog mišljenja o njihovoj estetici može poboljšati komunikaciju između stomatologa i samih pacijenata tokom stomatološkog lečenja, što može pozitivno uticati na estetski ishod³⁸.

U drugom delu studije koji se sastojao od ocene zadovoljstva pacijenata zbog njihovog osmeha (Tabela 4), pitanje sa najvećom značajnom razlikom bilo je : „Da li, kada listate časopis, poželite da imate lep osmeh kao i modeli?“ ($p<0.000$). Na pitanje: "Kada čitate modni časopis, da li su vam oči uperene u osmeh modela?" 83% žena odgovorilo je pozitivno, a samo 17% negativno. Slične nalaze zabeležili su Silva i sar.³⁹, koji su sproveli opservacionu studiju među studentima stomatologije u Brazilu. Ova studija imala je za cilj da potvrdi estetsku samopercepciju u pogledu njihovih osmeha. Generalno, rezultati ove studije bili su u skladu sa njihovim nalazima da su žene bile više nezadovoljne svojim osmehom nego muškarci. Rezultati ove studije poklopili su se s njihovim rezultatima vezanim za vrlo značajne razlike u pitanju broj 5: „Da li, kada listate časopis, poželite da imate lep osmeh kao i modeli? i pitanje broj 6: „Kada čitate modni časopis, da li su vam oči uperene u osmeh modela?“ Međutim, rezultati ove studije nisu bili u skladu sa njihovim rezultatima sa pitanjem broj 3: „Da li na fotografiji bolje izgledate slikani s jedne strane lica?“, što se može objasniti činjenicom da je samosvest kod žena uvek veća od muškaraca . Pored toga, rezultati ove studije bili su podudarni sa njihovim rezultatima za pitanja (1,2,9,11) sa nesignifikantnom razlikom i za pitanja (3,7,10,12) koja su bila blizu značajne razlike.

Na osnovu rezultata ove studije jasno je da su registrovani procenti neznatno veći od rezultata koje su spomenuli Alharthi i sar.²⁸, u studiji izvedenoj među studentima univerzitetskih medicinskih fakulteta na Univerzitetu Taif. Međutim, rezultati ove studije u vezi sa pitanjima koja su bila blizu značajne razlike (pitanje br. 3:

In the current study, the third category of the first part which involved the variables which showed the highest statistically significant difference between subjects with aesthetic smile against those with non-aesthetic smile included the symmetry of MCI, MLI and MC where $p<0.000$ (Table 3). Similar results were reported in studies by Talic et al, Rosenstiel et al, and Goncalges et al^{22,36,37}.

Patients' satisfaction with their smile and the most common factors for their dissatisfaction

Variation in the size of the teeth and their relation to the face may affect the aesthetic appearance. Therefore, the teeth must be in proportion to one another and be in proportion to the size and shape of the face to achieve an aesthetically pleasant smile^{11,36}. The need for understanding patients' opinion regarding their aesthetics might improve the communication between dentist and patients during dental treatment which may have a positive effect on the aesthetic outcome³⁸.

In the second part of the study comprising the patients' satisfaction for their smile (Table 4), the question with highest significant difference was the question about "Do you look at magazines and wish you had a smile as pretty as the models?" having p -value 0.000. In the question "When you read a fashion magazine, are your eyes drawn to the model's smile?" 83% female scored Yes; and only 17% scored NO. Similar findings were recorded by Silva et al³⁹, who conducted a cross-sectional observational study among undergraduate dental students in Brazil. This study was aimed to verify the aesthetic self-perception regarding their smiles. In general, our result was in agreement with their findings in that, females were more dissatisfied about their own smiles than males. The results of the current study coincided with their results regarding highly significant differences in question number 5 "Do you look at magazines and wish you had a smile as pretty as the models? and question number 6 "When you read a fashion magazine, are your eyes drawn to the model's smile? However, our finding was not in agreement with their finding in the question number 3" Do you photograph better from one side of your face?, which can be explained by the fact that self-awareness among females is always higher than male. In addition, our findings were parallel to their recorded results in the questions with non-significant difference 1,2,9,11, and in questions which were near to the significant (3,7,10,12).

Tabla 4. Zadovoljstvo pacijenata svojim osmehom i najčešći uzroci njihovog nezadovoljstva

Table 4. Patients' satisfaction toward their smile and the most common factors for their dissatisfaction

| Questions / Pitanja | Descriptive Results / Deskriptivni rezultati | | | | Analytical Results /Analitički rezultati | |
|--|--|----------------------|---------------------|----------------------|---|--|
| | Male / Muškarci | | Female / Žene | | | |
| | Yes / Da | No/Ne | Yes / Da | No /Ne | | |
| 1. Are you self-confident about smiling? / Da li ste zadovoljni svojim osmehom? | 79% | 21% | 73% | 27% | P<0.204 | |
| 2. Do you ever put your hand over your mouth when you smile? / Da li nekada stavljate ruku preko usta kada se smejete? | 42% | 58% | 37% | 63% | P<0.282 | |
| 3. Do you photograph better from one side of your face / Da li se radije slikate sa jedne ili druge strane? | 56% | 44% | 45% | 55% | P<0.079 | |
| 4. Is there someone you believe has a better smile than you / Da li postoji neko čiji vam se osmeh više dopada od vašeg? | 77% | 23% | 90% | 10% | P<0.011 | |
| 5. Do you look at magazines and wish you had a smile as pretty as the models / Da li gledate u novine i želite da imate osmeh kao neko od zgodnih modела iz časopisa? | 46% | 54% | 79% | 21% | P<0.000 | |
| 6. When you read a fashion magazine, are your eyes drawn to the model's smile / Kada čitate modne magazine, da li su vaše oči uperene u osmeh modela? | 48% | 52% | 83% | 17% | P<0.000 | |
| 7. When you look at your smile in the mirror, do you see any defects in your teeth or gums Kada gledate u svoj osmeh u ogledalu, da li vidite ikakve defekte na desnima ili na zubima? | 45% | 55% | 58% | 42% | P<0.045 | |
| 8. Do you wish your teeth were whiter / Da li bi ste voleli da su vam zubi belji? | 89% | 11% | 71% | 29% | P<0.001 | |
| 9. Are you satisfied with the way your gums look / Da li ste zadovoljni izgledom vasih desni? | 74% | 26% | 77% | 22% | P<0.498 | |
| 10. Do you like the way your teeth are shaped / Da li vam se dopada oblik vasih zuba? | 70% | 30% | 80% | 20% | P<0.071 | |
| 11. Do you show too many or too few teeth when you smiled / Da li vam se vidi previše ili premalo zuba dok se sмеjete? | Many/ Mnogo | Few/ Malo | Many/ Mnogo | Few/ Malo | P<0.335 | |
| | 61% | 38% | 54% | 46% | | |
| 12. Do you show too much or too little gum when you smile / Da li vam se previše ili premalo vide desni dok se sмеjete? | Much/ Mnogo | Little/ Malo | Much/ Mnogo | Little/ Malo | P<0.070 | |
| | 8% | 91% | 18% | 82% | | |
| 13. Are your teeth too long or too short / Da li su vam zubi prekratki ili predug? | Long/Dugi | Short/ Kratki | Long/ Dugi | Short/ Kratki | P<0.000 | |
| | 17% | 83% | 43% | 57% | | |
| 14. Are your teeth too wide or too narrow / Da li su vam zubi previše široki ili uzani? | Wide/ Široki | Narrow/ Uzani | Wide/ Široki | Narrow/ Uzani | P<0.000 | |
| | 15% | 85% | 68% | 32% | | |
| 15. Are your teeth too square or too round / Da li su vam zubi previše zaobljeni? | Round/ Zaobljeni | Square/ Četrvasti | Round/ Zaobljeni | Square/ Četrvasti | P<0.008 | |
| | 12% | 87% | 29% | 71% | | |

„Da li na fotografiji bolje izgledate slikani s jedne strane lica?“, pitanje br. 7: „Kada se osmehnete i pogledate u ogledalo, da li vidite nedostatke na vašim zubima ili desnima?“ i pitanje br. 9: „Da li ste zadovoljni izgledom vaših desni?“ ($p<0.079$, $p<0.045$, $p<0.049$), su u potpunoj suprotnosti sa njihovim rezultatima ($p<0.037$, $p<0.0001$, $p<0.008$) koje su bile veće od njihovih p-vrednosti za ista pitanja bez signifikantne razlike. Sva pitanja koja se odnose na oblik, veličinu i dužinu zuba ili izgled desni tokom osmeha (pitanja od broja 12 do broja 15) pokazala su podudarne rezultate sa rezultatima ovog istraživanja, ali nisu bili podudarni sa rezultatima koje su zabeležili Silva i sar.³⁹. To bi moglo biti zbog njihovih ispitanika koji su studenti.

Zabeleženi rezultati u ovoj studiji su u saglasnosti sa rezultatima koje su prikazali Al Moaleem i sar.²⁵, Maghaireh i sar.⁴⁰, ali nisu u saglasnosti sa rezultatima istraživanja Alghamdi ASA²⁹, koji su izvestili da je većina stomatoloških pacijenata u gradu Albaha nezadovoljna izgledom njihovih zuba, koji može biti povezan sa godinama starosti nezadovoljnih pregledanih pacijenata.

Zaključak

Na osnovu rezultata ove studije može se zaključiti da dentalni i facialni faktori koji pokazuju visoko signifikantnu vezu sa estetskim izgledom pacijenata treba da budu sagledavani od strane protetičara, ortodonata i zubnih tehničara istovremeno u cilju određivanja pravilnog terapijskog plana u pogledu potencijalnih faktora percepcije estetskog osmeha uz pomoć samoprocene pacijentovog zadovoljstva.

From our results, it is clear that the registered percentages were slightly higher than the results mentioned by Alharthi et al²⁸, in a study among university medical colleges students at Taif University. However, we totally disagree with their results in relation to questions that were near to the significant difference (Question # 3 “Do you photograph better from one side of your face”, Question # 7 “When you look at your smile in the mirror, do you see any defects. difference which were questions numbers (3,7,10,12). in your teeth or gums? and Question # 9 “Are you satisfied with the way your gums look? with p values 0.079, 0.045, 0.049, respectively which were higher than their p values for the same questions 0.037, 0.0001, 0.008 in non-significant questions. All questions related to the shape, size and length of teeth or appearance of gum during smiling (Questions from # 12 to 15) showed coinciding results with the results in our research, but were not parallel to the results recorded by Silva et al³⁹. This might be due to their subjects who were all university students.

Overall our recorded results agreed with the results mentioned by Al Moaleem et al²⁵, Maghaireh et al⁴⁰, but disagreed with Alghamdi ASA²⁹, those reported that majority of the dental patients in Albaha city were dissatisfied with their dental appearance, which may be related to the elder age of the dissatisfied examined patients.

Conclusion

Based on results of the present study it could be concluded that dental and facial factors which showed high significance relationship with aesthetic smile should be observed by prosthodontists, orthodontists and laboratory technicians to provide a proper treatment plan in respect of the potential factors of the aesthetics smile perception with the help of self-satisfaction measurement.

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