



Factors Affecting Female Patient Satisfaction with Their Dental Aesthetics and Their Treatment Choice to Achieve the Most Desired Dental Appearance

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Authors' contributions

This work was carried out in collaboration between both authors. Author WA designed the study, performed the statistical analysis and wrote the first draft of the manuscript. Author SS managed the analyses of the study, wrote and revised the final draft of the manuscript. Both authors read and approved the final manuscript.

Article Information

DOI: 10.9734/BJMMR/2017/30455

Editor(s):

- (1) Rodrigo Crespo Mosca, Department of Biotechnology, Institute of Energetic and Nuclear Research (IPEN-CNEN), University of Sao Paulo (USP), Brazil.
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Complete Peer review History: <http://www.sciencedomain.org/review-history/17699>

Original Research Article

Received 10th November 2016

Accepted 26th January 2017

Published 2nd February 2017

ABSTRACT

Aim: Since aesthetics has become an important issue in dental treatment, it seems important to have a good communication between a patient and the dentist to understand the patient's concept regarding the dental aesthetics and to achieve the most desired dental treatment.

So, the aim of this study to investigate the significant predictors influencing a patient's decision to choose prosthetic, orthodontic, restorative or bleaching type of therapy.

Methods: A total of 165 female patients who attended dental clinics at Taibah University (2015-2016) participated in this cross sectional study (aged 18 years old and over). The study included a pre-structured questionnaire based on the degree of satisfaction with general dental appearance (yes or no questions) and type of treatment they desire to undergo. Collected data were analyzed using chi square test at a 95% level of significance.

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Results: This study recruited 165 female of whom 165 (100%) responded. 42.4% were not satisfied with dental appearance while 55.8% were not satisfied with tooth color. Percentage of people who prefer seeking orthodontic treatment was 22% and for dental bleaching was 41%. People who prefer undergoing prosthodontic treatment represents 19% of the sample and 18% for people who prefer tooth color fillings.

Conclusion: Dental female patients complained from their teeth color and believe that tooth whitening is the main concern for improvement of their aesthetic. Understanding patients' opinions in choosing type of dental treatment will help the dentists in treatment planning.

Keywords: Dental aesthetics; dental appearance; orthodontic; prosthetic; patient satisfaction; restorative; whitening.

1. INTRODUCTION

Interest in dental esthetics has increased rapidly among people [1]. In the past, mastication and speech were the main consideration in dental treatment. Today, the focus has shifted toward dental esthetics and to have Hollywood smile with pearly white teeth [2]. Untreated dental caries, non-aesthetic anterior teeth, discolored restorations or protruded anterior teeth usually lead to dissatisfaction with dental appearance [3].

There are many treatment modalities to improve dental appearance and are frequently demanded by patients such as; bleaching, anterior teeth restoration, labial veneers, crowns and orthodontic treatment [2]. For many people, dental appearance can be life changing and it gives back the confidence to smile. Factors that affect patients' decision regarding the choice of a particular type of therapy to improve dental aesthetics are still insufficiently explored [1]. Unfortunately, in some cases, dentists may develop an aesthetic appearance differing from the patient's concepts [4]. Therefore, the aim of this study was to investigate the factors influencing a patient's decision to choose prosthetic, orthodontic, restorative or bleaching type of treatment to improve dental aesthetics among adult patients who attended the dental clinics at Taibah University.

It was hypothesized in previous studies that significant predictors are age, gender, educational level, previous dental treatment and self-perceived dental appearance. Females are reported to be more sensitive than males for the appearance of teeth [5-7]. Educated older age patients, who are not satisfied with their dental appearance could be more prone to seek for teeth crowning especially for maxillary anterior teeth [1]. Tooth whitening was the treatment most desired by patients (48.1%) [8].

Understanding patients' perception of their dental appearance and type of treatment they desire are important aspects of patient management, which may assist dentists in planning treatments that are acceptable to the patient leading to higher level of patient satisfaction.

Therefore, this study was conducted to assess factors affecting female patient satisfaction with their dental aesthetics and their treatment choice to achieve the most desired dental appearance.

2. MATERIALS AND METHODS

This is an observational analytical cross sectional study among female patients (Saudi or resident) who visited dental clinics at Taibah University (2015-2016). A convenient sample of 165 patients recruited into the study to complete a pre-structured questionnaire. The sample size is according to a previous study [6]. This study was approved by the Ethics committee of Taibah University (TDU-REC). All the participants included in the study provided written informed consent before participation in this study.

Time needed for executing research was three months from February to April. The inclusion criteria; patients aged 18 and over who have all anterior teeth present and have no clear evidence of mental retardation. The exclusion criteria; patients under 18 or who have missing anterior teeth, clear evidence of mental retardation and patients who cannot read or write.

A pre-structured closed ended questionnaire was used for data collection. It consisted of questions on socio-demographic items including sex, age and level of education. In addition, the patients were asked about their satisfaction with dental appearance and what type of aesthetic

treatment they wish to undergo. The questionnaires were prepared in English and translated to Arabic language for better understanding (the questionnaire was adapted from a previous study [6].

Data were collected, coded and entered using a Microsoft Excel software then transformed to Statistical Package for the social science (SPSS). Descriptive statistics frequencies and percentages of categorical variables were determined. For analytical statistics, the Chi-square test was used to compare differences between subjects choosing and refusing prosthetics, orthodontic, restorative or bleaching, the level of significance was 0.05.

3. RESULTS

This study recruited 165 female patients who attended dental clinics at Taibah University of whom 165 (100%) responded. The number of patients aged between 18-29 years was 114(69%), between 30-39 years was 36(22%), between 40-49 was 9(6%) and 6(4%) for the patients aged between 50-59 years, Fig. 1. The level of education was varied among the female patients who attended the clinics. Fig. 2 showed the patient's education level.

Figs. 3 and 4 show frequencies of patients who are not satisfied with their dental appearance and teeth color. Dental bleaching was the main

concern to improve the aesthetic of high percentage of younger age patients who are not satisfied with their tooth color and seek for tooth whitening even in presence of other dental problems such as; crowding, protrusion, or fractured teeth Table 1.

Percentages of patients who have crowded teeth, poorly aligned teeth, protruded teeth or other dental problems are presented in Table 2.

Table 1. Desired aesthetic dental treatments

Type of treatment	Frequency (%)
Orthodontic treatment	52(22)
Tooth whitening	95(41)
Dental crowns	45(19)
Tooth color fillings	42(18)

Table 2. Dental problems affecting aesthetics of teeth

Dental problem	Frequency (%)
Crowded teeth	23(13.9)
Poorly aligned teeth	72(43.6)
Protruded teeth	37(22.4)
Caries in front teeth	48(29.1)
Non-aesthetic filling in front teeth	31(18.8)
Fracture in front teeth	27(16.4)
Bad prosthesis in front teeth	21(12.7)
Hiding teeth during smile	55(33.3)

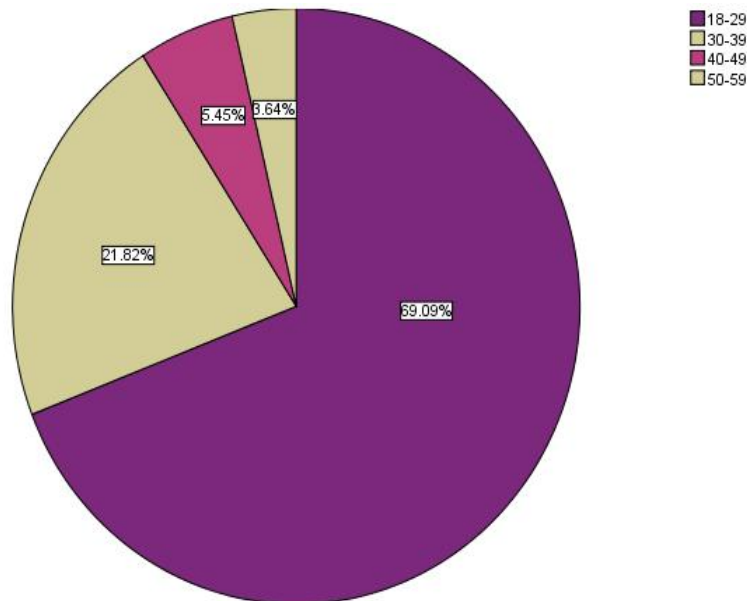


Fig. 1. Pie chart of proportions of female patients in different ages who attended dental clinics at TU

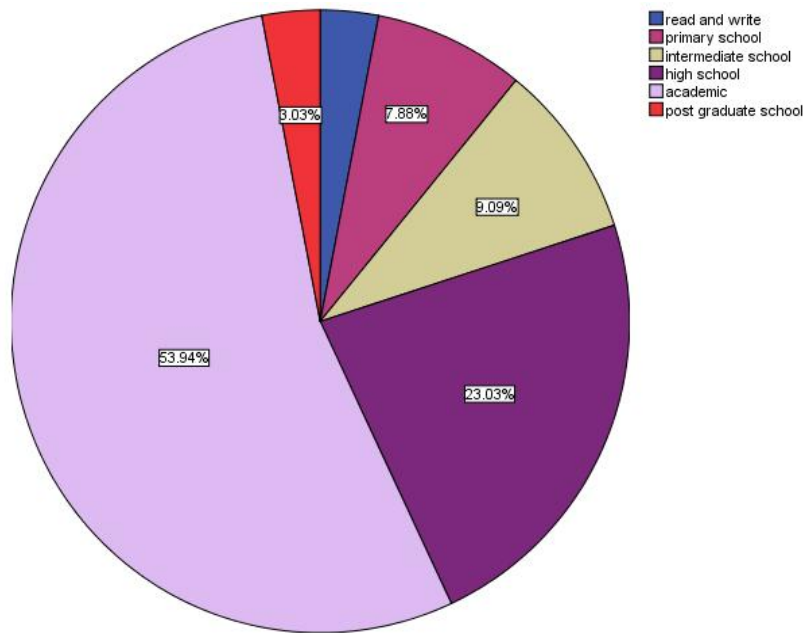


Fig. 2. Pie chart of proportions of female patients in different levels of education who attended dental clinics at TU

Chi square test was used to compare differences between female patients choosing and refusing prosthetic, orthodontic, restorative or bleaching.

The results of analysis considering choosing orthodontic therapy for improvement of dental aesthetics are presented in Table 3.

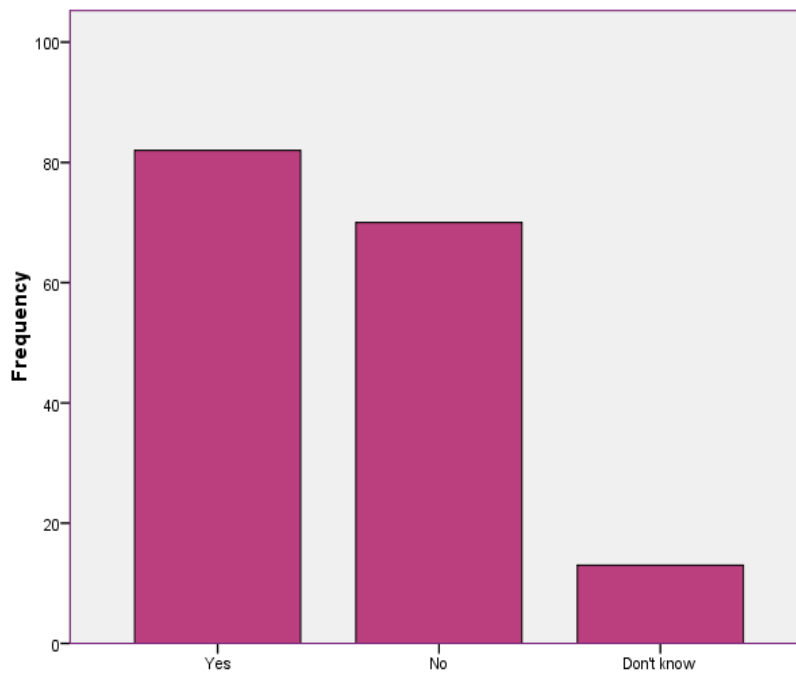


Fig. 3. Satisfaction with dental appearance

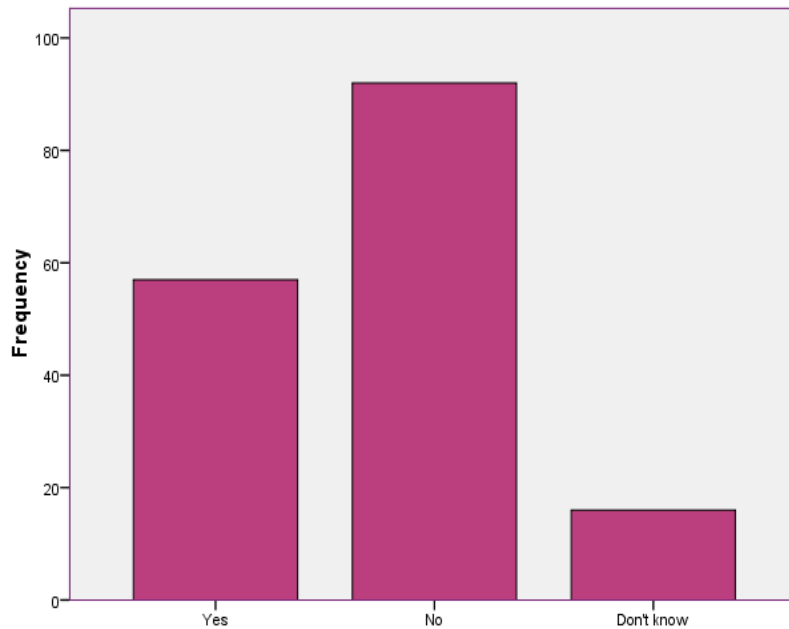


Fig. 4. Satisfaction with tooth color

Table 3. Differences in variable between orthodontic therapy seeking and non-seeking population

Variables	Seeking orthodontic therapy		Significance
	Yes	No	
Age			
18-39	51(34%)	99(66%)	0.030
40-60	1(7%)	14(93%)	
Education			
Pre-academic	22(31%)	49(69%)	0.899
Academic	30(32%)	64(68%)	
Satisfaction with dental appearance			
Yes	17(21%)	65(79%)	0.012
No	29(41%)	41(59%)	
Crowded teeth	8(35%)	15(65%)	0.134
Protruded teeth	26(70%)	11(30%)	0.000
Poorly aligned teeth	28(39%)	44(61%)	0.018
Hiding teeth during smile	21(38%)	34(61.8%)	0.360

4. DISCUSSION

A patient's satisfaction has become an important factor in dental treatment. Aesthetic objectives should be included in any dental treatment plan to achieve patient satisfaction. Such planning rely on several dental disciplines (orthodontic, restorative, prosthodontics...ect) [2].

The results of the present study reported that 49.7% of adults attending the dental clinics at Taibah University were satisfied with the appearance of their teeth. This result was in

accordance with a study conducted at a dental school in Ankara, Turkey who found that 57.3% were satisfied with their dental appearance [3]. In general, older people (age 55 and above) were more likely than younger people to be satisfied with their dental appearance [3,9] suggesting that the appearance of their teeth is not the prime concern at this age group [5].

A study conducted by Grzić R et al. [1] hypothesized that older patients would prefer prosthetic restoration compared to younger age patients who prefer bleaching and orthodontics.

Female patients would more concern about dental aesthetics than males. Searching for improvement of dental appearance is strongly related to previous dental therapy. The result of this study showed that, choosing prosthetic solution was significantly related to older age group, patients with dental caries, non-aesthetic filling in front teeth and the main predictors were fracture in front teeth and previous bad fixed prosthesis. Many female patients do not like the alignment of their teeth and logically, orthodontic treatment will be the treatment of choice to correct that problem. Caries and non-aesthetic filling in front teeth increase the chance to seek restorative therapy to improve the dental aesthetics [10].

Tooth color is a critical factor influencing satisfaction with smile appearance [11]. Kershaw S et al. [12] found that the general public were dissatisfied with relatively mildly discolored teeth indicating their concern about the color of their teeth. This result was in accordance of our finding where high percentage of female patients preferred dental bleaching to improve their smile even with presence of other dental problems such as crowding, dental caries, or malpositioned teeth. It is known that with increasing age central incisors become darker, more reddish and more yellow, but we found that the older female patients are less concerned about bleaching than the younger ones.

Patients recruited in this study prefer tooth whitening as a desired treatment option for improvement of dental aesthetics believe that this procedure is not invasive, painless and less time consuming compared to the prosthetic options to improve their appearance.

A variety of factors, including socio-economic background, education level, age, gender, and self-esteem have been suggested as factors affecting orthodontic treatment [13-15]. It is reported that there was no significant association between the desire for orthodontic treatment and the variables gender and age. In our study the younger female patients are more concerned about orthodontic treatment especially if they have protruded or poorly aligned teeth.

Many of the patients in this study reported having dental caries and non-aesthetic restorations in their front teeth, with and some reported having tooth fractures. All of these conditions will undoubtedly affect the appearance of teeth,

presumably leading to patient dissatisfaction with general dental appearance. Although our patients in this study were not significantly affected by any of those conditions.

5. LIMITATIONS OF STUDY

We did not attempt to correlate patient self-assessments of their dental problems and their dental records or to compare patients' desired aesthetic treatments and professional assessments of their needs. Furthermore, the number of patient involved in this study was limited in number and concerned only female patients which present the main limitation of this study.

6. CONCLUSION

Dental female patients complained from their teeth color and believe that tooth whitening is the main concern for improvement of their aesthetic. Understanding patients' opinions in choosing type of dental treatment will help the dentists in treatment planning.

7. RECOMMENDATIONS

We recommend that the future studies need to include a larger number of patients especially the older ones, to compare between male and female patients and to include patients from different Arabian countries.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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APPENDIX 1

Kingdom of
Saudi Arabia
Ministry of Higher
Education
Taibah University
College of Dentistry



المملكة العربية السعودية
وزارة التعليم العالي
جامعة طيبة
كلية طب الأسنان

عزيزتي الزائرة..

هذا الاستبيان جزء من بحث يدرس العوامل المؤثرة على اختيار المريض لنوع العلاج لتحسين مظهر الأسنان.
يرجى الإجابة على الأسئلة بدون استثناء و نشكرك مسبقا على حسن تعاونك:

(1) العمر:

29-18

39-30

49-40

59-50

أكبر من أو يساوي 60 سنة

- (2) المستوى التعليمي: تقرأ و تكتب ابتدائي متوسط ثانوي جامعي دراسات عليا
- (3) هل تشعرين بالرضا من مظهر أسنانك العام نعم لا لا أعلم
- (4) هل تشعرين بالرضا من لون أسنانك نعم لا لا أعلم
- (5) هل تشعرين أن أسنانك مزدهمة نعم لا لا أعلم
- (6) هل تشعرين أن أسنانك غير مرتبة نعم لا لا أعلم
- (7) هل لديك بروز زائد في أسنانك نعم لا لا أعلم
- (8) هل لديك تسوس (نخر) في أسنانك الأمامية نعم لا لا أعلم
- (9) هل لديك حشوة أمامية غير راضية عنها نعم لا لا أعلم
- (10) هل يوجد كسر في أسنانك الأمامية نعم لا لا أعلم
- (11) هل لديك تلبسة جمالية في أسنانك الأمامية غير راضية عنها نعم لا لا أعلم
- (12) هل تخبئين أسنانك عندما تبتسمين نعم لا لا أعلم

(13) ما هو نوع العلاج الذي ترغبين فيه لتحسين مظهر أسنانك (يمكنك اختيار أكثر من إجابة):

تقويم الأسنان.

تبييض الأسنان.

تلبس الأسنان.

حشوة جمالية.

Kingdom of
Saudi Arabia
Ministry of Higher
Education
Taibah University
College of Dentistry



المملكة العربية السعودية
وزارة التعليم العالي
جامعة طيبة
كلية طب الأسنان

This questionnaire is a part of study aiming to assess factors influencing a patient's treatment planning decision to improve dental esthetics.

Please answer all the questions and thank you for your help:

1. Age:
 - 18-29
 - 30-39
 - 40-49
 - 50-59
 - equal or more than 60
2. Education level: write and read primary school intermediate school
 high school academic post graduate school
3. Are you satisfied with the general appearance of your teeth? Yes No Don't know
4. Are you satisfied with your tooth color? Yes No Don't know
5. Do you feel your teeth are crowded? Yes No Don't know
6. Do you feel your teeth are poorly aligned? Yes No Don't know
7. Do you feel your teeth are protruding? Yes No Don't know
8. Do you have dental caries in your front teeth? Yes No Don't know
9. Do you have non-aesthetic fillings in your front teeth? Yes No Don't know
10. Do you have fractures in your front teeth? Yes No Don't know
11. Do you have bad fixed prosthesis in your front teeth? Yes No Don't know
12. Do you hide your teeth during smile? Yes No Don't know
13. What type of treatment do you wish to undergo to improve the appearance of your teeth?
(you can select more than one answer)
 - Orthodontic treatment to realign teeth
 - Tooth whitening
 - Dental crowns
 - Tooth coloured fillings

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