Evaluation of Self Contentment with Dental Appearance and Preference to Treatment to Improve Esthetics

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Abstract

Introduction: Oral health not only comprises of mere absence of oral disease and dysfunction but also includes dental appearance for overall facial beauty as it has influence on person’s self confidence and social life. Dental aesthetic comprises of tooth color, shape, alignment and position of the teeth in the dental arches. For the rewarding outcome of the treatment, clinician need to understand the root of dissatisfaction with present aesthetic and desired treatment to enhance the aesthetic that will assist in development of treatment plan.

Materials and Methods: Pre-tested structured questionnaire was used in 349 subjects from previous studies with slight modification for data collection. The questionnaire was divided into three parts, first part recorded the demographic data, second part consisted of the patients’ view regarding satisfaction of the dental appearance and third part consist of the Likert scale where participants will rate the satisfaction level regarding their general appearance.

Results: A relationship between gender (P<0.05), education (P=0.006) and overall satisfaction of the general appearance of the teeth was seen. Males were found to be more satisfied than females and people with higher education were more satisfied with their general dental appearance. For majority of the participants, choice of treatment to improve the aesthetic was teeth whitening (37.25%) followed by orthodontic treatment (29.80%), then dental crown, veneers (27.29%). The least favoured treatment by the participants is denture (5.16%) to improve the aesthetic.

Conclusions: Dissatisfaction with the color, alignment, teeth appearance and condition are the main reasons for the patients to seek aesthetic treatment.

Key words: Dental Aesthetic; Personal Satisfaction; Preferred Treatment; Self-Perception.

Introduction

In last few decades people have become more concerned about their dental appearance, aesthetics and smile. Oral health not only comprises of mere absence of oral disease and dysfunction but also includes dental appearance for overall facial beauty as it has influence on person’s self confidence and social life.¹ Dental aesthetics plays a major role in overall beauty of the face.² The patients seeking treatment to the Prosthodontists and Orthodontists are mainly for the aesthetic purpose. There is remarkable effect on perceived oral health related quality of life due to minor inconsistencies in dental esthetics.³-⁵ Dental aesthetic comprises of tooth colour, shape, alignment and position of the teeth in the dental arches.²,⁶-⁷ These factors are influenced by individual’s personal choice, socio-demographic factors, cultural background, age, sex and education level. Female are reportedly more concerned about the dental aesthetics compared to male. Concern for dental aesthetics decreases with increase in age and education level.⁸ While restoring the
dental aesthetics, creating natural appearance is the prime task in all field of dentistry especially for Prosthodontists and restorative dentists.\textsuperscript{9} Advancement in technology and development of the dental materials has led to availability of numerous treatment options and excellent result fulfilling the aesthetic demand of the patients.\textsuperscript{10} To fulfil the aesthetic demand of the patient clinician should have knowledge about the dental aesthetic expectation of the patient. As there may be variation in perception of aesthetics between patient and clinician which could create differences during treatment if not properly recognized.\textsuperscript{11} Dental professionals should be familiar with the psychological spark of treatment demands, the effect of aesthetic treatment in patients’ satisfaction, and subsequently the impact of treatment in successful outcome.\textsuperscript{12}

Patients’ demand and preference for the specific type of treatment to improve the dental aesthetics are still not studied and explored sufficiently. Various studies have found varying level of satisfaction among different populations like 79.4\% in Nigeria,\textsuperscript{13} 71.1\% in Turkey,\textsuperscript{14} 67.6\% in Jordan,\textsuperscript{15} and 69.60\% in Iran.\textsuperscript{16} Therefore, for the rewarding outcome of the treatment, clinician need to understand the root of dissatisfaction with present aesthetic and desired treatment to enhance the aesthetics which will assist in development of treatment plan.\textsuperscript{17} The aim of this study was to evaluate the self-contentment with dental appearance and preference to treatment to improve esthetics in the people coming to Devdaha Medical College and Research Institute, Nepal.

**Materials and Methods**

A descriptive cross-sectional study was conducted on the patients and attendant attending dental OPD of Devdaha Medical College and Research Institute over a period of 10 months (September 2019-July 2020). The sample size was 384, which was determined using the formula:

\[
\frac{z^2}{n} = \frac{p(1-p)}{d^2}
\]

with

\[z = 1.96, \ d = 0.05 \text{ and } p = 0.5.\]

The participants who were 18 years or older with no history of medical conditions or diseases and received no dental treatment for last six months were included in the study. The study was approved by Institutional Review Committee of Devdaha Medical College and Research Institute. Brief explanation of study was given to each participant and verbal and written consent was obtained before commencing the study.

The pre-tested structured questionnaire was used from previous studies by Tin-Oo et al\textsuperscript{7} with slight modification for data collection. The questionnaire was divided into three parts, first part recorded the demographic details of the participants (name, age, sex, marital status, education), second part recorded participants’ view regarding satisfaction of the dental appearance, colour, crowding, teeth alignment, protrusion, caries in front teeth, unaesthetic filling, fracture in front teeth and patient’s desire to undergo treatment to improve appearance of the teeth and third part consisted of the Likert scale where the participants will rate the satisfaction level regarding general appearance. The questionnaires were administered to the participants and the investigators were available all the time to resolve any queries. The response time to complete the questionnaire was approximately ten minutes. This process continued until the desired sample size was achieved.

After completing the questionnaire, the data was coded, enter into the excel sheet and statistical analysis was done using SPSS version 21. The descriptive statistics (mean, median, standard
deviation, frequency, percentage frequency) and chi square test at the significant level of \( p<0.05 \) were analyzed. During the data collection phase, participants were ensured about the confidentiality about their identity and response. The incomplete questionnaires were excluded from the final Performa during the data entry phase that led to total number of participants 349 in the study.

**Results**

Among the 349 participants who have completely filled the questionnaires, 162 (46.42%) were males and 187 (53.58%) were females with male: female ratio 1:1.15. The participants were of the age 18-65 with majority in the age group 18-25 years 128 (36.67%) and majority of the respondent have education till bachelor level 176 (50.43%). The demographic information of the participants is presented in Table 1. The responses given by the participants regarding their self assessment of the anterior teeth aesthetic is shown in Figure 1. The result shows 182 (52.15%) of the participants were satisfied with the general appearance of their teeth, 63.32% were satisfied with the color of their teeth whereas 11.74% have unaesthetic filling and 20.64% have fracture in their anterior teeth. Correlation between the satisfaction with dental appearance and the satisfaction with tooth color with demographic variables are depicted in Table 2.

A significant relationship between gender (\( P<0.05 \)), education (\( P=0.006 \)) and overall satisfaction of the general appearance of the teeth was seen. Male are more satisfied than female with their general appearance of teeth and people with higher education are more satisfied. There is also a significant relationship between satisfaction of the teeth color and education level (\( P<0.05 \)) and age group (\( P<0.05 \)). Higher the education more satisfaction with the teeth color where as older the age less satisfied with the teeth color. Older people have more fracture in their anterior teeth that are statistically significant (\( P<0.05 \)).

Majority of the participants, choice of treatment to improve the aesthetic is teeth whitening (37.25%) followed by orthodontic treatment (29.80%), then dental crown, veneers (27.29%). The least favored treatment by the participants is denture (5.16%) to improve the aesthetic of their anterior dental aesthetic. In Likert scale ratings, 19.77% were very satisfied, 33.52% were satisfied, 16.33% were unsure, 24.07% were dissatisfied and 6.31% were very dissatisfied with their anterior dental aesthetic.

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<th>Variables</th>
<th>Numbers</th>
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<tr>
<td></td>
<td>Female</td>
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<tr>
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</tr>
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<td></td>
<td>26-40</td>
<td>125</td>
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<td>41-65</td>
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<td>Post Graduate</td>
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</table>

**Table 1: Demographic variables of the participants**
### Table 2: Distribution of participants regarding their satisfaction with general dental appearance, teeth color, unesthetic filling and fracture in anterior teeth based on demographic variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>General satisfaction with teeth</th>
<th>P</th>
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<th>P</th>
<th>Unesthetic filling</th>
<th>P</th>
<th>Presence of fracture in anterior teeth</th>
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</table>

*P<0.05 – Statistically significant response

**Figure 1:** Frequency distribution of participants according to their self assessment of anterior aesthetic

**Figure 2:** Frequency distribution of choice of treatment participants want to undergo to improve aesthetics
Discussion

For many years, function, alleviation of pain and preserving the biology of the teeth were considered to be more important than the aesthetic. However, with the time aesthetic has become one of the major concern and the treatment plan, without including aesthetic view of patient, may bring disastrous outcome. The concept of aesthetics and perception towards the dental aesthetics vary from population to population and among the individuals in the population.

In this study, 52.15% of the participants were satisfied with their general teeth appearance, among them 29.51% were male and 22.64% were female. This study is consistent with the study done by Al-Shahrani et al and Al-Omiri et al where females were more dissatisfied with their anterior esthetics and contrast to the study done by Afshar et al. Various studies conducted in India (40.9%), Malaysia (47.2%) and Saudi Arabia (50%) of the population satisfied with their anterior esthetic which was lower than our study whereas the study done in Turkey (57.3%), Palestine (65%), Jordan (65.5%) and United Kingdom (76%) shows the higher level of satisfaction. This study shows that satisfaction with dental appearance is influenced by many factors among which most relevant are personal preference, socioeconomic status and the cultural background.

Tooth colour is one of the prime factors that determined the satisfaction of overall dental appearance. In this study, 63.32% of the participants were satisfied with their teeth colour which is consistent with the study done by Maghaireh et al where 66.3% were satisfied with their tooth colour. In this study, 37.25% of the participants wanted tooth whitening treatment to improve their aesthetics. In this study dissatisfaction with tooth colour was statistically significant (P<0.05) in 41-65 years age group. This was found to be contrasting from the study by Afshar et al in which participant aged 21-25 years were more dissatisfied with their teeth colour. People with higher education are more satisfied with their teeth colour which is similar to the study done by Vallitu et al and Xiao et al. Higher the education more the satisfaction with the teeth colour may attributed to higher confidence level and higher self-esteem level.

Malocclusion has prominent role in the anterior aesthetic. In this study, 25.21% of the participants felt their teeth are crowded. This finding is similar to that of Tin-Oo (26.4%), Afshar et al (22.9%) and Al-Zarea. Of the total participant 16.91% felt that their teeth are protruded which were close to the result of the study done by Al-Zarea (17.7%) and Afshar et al (18.2%).

Less than quarter of the participants claimed to have caries in front teeth (19.19%), unaesthetic filling (11.74%) and fracture in their anterior teeth (20.64%) which were similar to the study done in Nigeria where caries in front teeth account for 19.7%, unaesthetic filling 7.4% and fracture in front teeth 21.3%.

The most preferred treatment in this study to improve aesthetics is tooth whitening which is the finding similar to the most preferred cosmetic dental treatment in Malaysia and Riyadh. This suggests that satisfaction of anterior teeth aesthetics has strong co-relation with teeth color. The second most preferred treatment is orthodontic treatment followed by crown and veneers to improve the aesthetics. The least preferred treatment is denture; this may be lesser subjects in higher age group and preference of fixed treatment rather than removable prosthesis. In this study satisfaction with the general appearance evaluated by the patient in Likert scale has direct correlation with the satisfaction with the anterior teeth appearance. This result is persistent with the idea that teeth appearance has impact on general appearance and contrast to the study where
there is no relationship between the general appearance and teeth. Different in sample size, cultural background, personal preference and psychological impact might explain this conflict in result.

Conclusions

Aesthetics is subjective idea and it is the combination of various qualities. It cannot be defined in any one dimension. Tooth shade play major role in the satisfaction with the anterior aesthetics followed by position and alignment of teeth in the arch. Dissatisfaction with the colour, alignment, teeth appearance and condition are the main reason for the patients to seek aesthetic treatment.

Acknowledgement

I would like to acknowledge all the participants of this study and Institutional Review Committee (IRC) of Devdaha Medical College and Research Institute for their input in this study.

References

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