Dental Esthetics and Its Impact on Psycho-Social Well-Being and Dental Self Confidence: A Campus Based Survey of North Indian University Students

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Received: 19 March 2012 / Accepted: 29 December 2012 / Published online: 5 January 2013
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Abstract To evaluate the subjects perceived satisfaction of their dental appearance and to compare it with a various attitudes and practices which may affect social and psychological behavior and dental self confidence. This was a questionnaire based cross-sectional study done in the campus of Aligarh Muslim University, Aligarh (India). 426 students participated in the study. Questions were pooled in from various components of psychosocial impact of dental esthetics questionnaire (PIDAQ) for various attitudes and practices. Quantitative analysis was done using descriptive analysis and Chi square test using SPSS software. Majority of subjects (57.7 %) was highly satisfied with their smile, more than one-third (37.3 %) were satisfied and there were only 4.9 % subjects who were not satisfied with their smile. Tooth color was the most common (27.9 %) smile component causing dissatisfaction amongst the subjects. More than two-fifth (42.5 %) liked to show their teeth, one-half (49.5 %) liked to see their teeth in mirror, photographs and videos, almost one quarter (23.9 %) subjects used to hide their teeth while smiling. As compared to females, significantly higher proportion of males was conscious of opposite sex while smiling. The proportion of subjects which was highly satisfied with their smile was significantly higher for the item ‘like to show their teeth and who liked to see their teeth in mirror, photographs and video’ whereas for all the other items the proportion of respondents which was not satisfied with their smile was significantly higher. Self perceived satisfaction of dental esthetics has positive impact on person’s social and psychological behavior and dental self confidence.

Keywords Dental esthetics · Dental self confidence · Psychological well-being · Social impact · Tooth color

Introduction

A good face is a letter of recommendation. From years it has been conceptualized that the first impact a person makes is because of his appearance which lasts for long time. Media projected perfect appearance has a strong impact on the behavior and thinking of our beauty conscious society. And it has led to an increased demand for esthetic treatment from public [1]. The dental appearance is an integral component of facial beauty. The judgments, an individual makes concerning the personal characteristics of others, can be affected by dental appearance [2]. Good dental appearances are thought to be a requirement of prestigious occupations among some professional groups [3]. Established norms for dental and facial appearance do not vary widely among industrialized nations, and extreme deviations are viewed as unacceptable [4]. Placement of a restoration, which improves dental appearance, results in a positive effect on a patient’s self esteem and quality of life [5]. Oral health is not only the absence of oral disease and dysfunction but it include its influence on the subject’s social life and dento-facial self confidence. This is in accordance with the WHO’s definition of quality of life [6].

Subjects and Methods

This was a cross-sectional study done in the campus of Aligarh Muslim University where the subjects were the
young adults pursuing various courses in different educational streams except for the students from dental streams. 426 students participated in the study.

Various components of psychosocial impact of dental esthetics questionnaire (PIDAQ) were analyzed and questionnaire was designed to pool the questions from four measures namely dental self confidence, social impact, psychological impact and esthetic concern (Table 1) [7].

Firstly the subject’s self satisfaction of smile was evaluated by the questionnaire, where subjects were asked to rate their own smile satisfaction and to mention that component of smile which was causing dissatisfaction and then the subject’s satisfaction was related to the various attitudes and practices which have bearing on social and psychological behavior and confidence level. Quantitative analysis was done using descriptive analysis and Chi square test using SPSS software.

Results

Mean age of the participants was 22.09 ± 3.59 years. A total of 201 females (47.2 %) and 225 males (52.8 %) were included in the study. Majority of subjects (57.7 %) were highly satisfied by their smile, more than one-third (37.3 %) were satisfied and 4.9 % subjects were not satisfied with their smile.

Table 1 Questionnaire to evaluate dental esthetics and its impact on psycho-social well-being and dental self confidence (tick against the appropriate option)

|   |   |
|---|---|
| 1 | How much are you satisfied with your smile? |
|   | a. Highly satisfied |
|   | b. Satisfied |
|   | c. Not satisfied |
| 2 | What according to you is not satisfactory about your smile (more than one can be chosen) |
|   | a. Lip shape |
|   | b. Tooth colour |
|   | c. Tooth shape |
|   | d. Tooth size |
|   | e. Tooth position or arrangement |
|   | f. Gingival color and position |
| 3 | Have you noticed that you hide your teeth when u smile | Yes/No |
| 4 | Are you comfortable with showing your teeth while smiling | Yes/No |
| 5 | Do you like your teeth display in mirror, photographs and videos | Yes/No |
| 6 | Have you perceived notion about other people’s views of your smile | Yes/No |
| 7 | Does your smile makes you conscious in presence of opposite sex | Yes/No |
| 8 | Do you wish that your teeth looked better | Yes/No |
| 9 | Is your teeth the reason of your dissatisfaction with your looks | Yes/No |

Gender wise more number of females was highly satisfied (60.70 %) with their smile than males (55.11 %). The proportion of females who were not satisfied with their smile was also higher (5.97 %) as compared to males (4 %). However the gender wise distribution was not statistically significant (p = 0.219) (Table 2).

Tooth color was the most common (27.9 %) smile component causing dissatisfaction amongst the subjects followed by tooth size (19.2 %), tooth position (16.2 %), tooth shape (15.0 %) and lip shape (11.2 %). Gingival color and position was the least common component causing dissatisfaction amongst the subjects (9.6 %). No significant gender wise difference was observed for any of the smile components except for gingival color and position which was observed to be significantly higher amongst the males than the females (p = 0.016) (Table 3).

When the subjects were evaluated on the basis of various components of PIDAQ more than two-fifth (42.5 %) liked to show their teeth, one-half (49.5 %) liked to see their teeth in mirror, photographs and videos, almost one quarter (23.9 %) subjects used to hide their teeth while smiling. More than one quarter (28.6 %) used to worry about what others may think of their teeth. Almost one-third (32.9 %) were conscious of opposite sex while smiling. A great majority (81 %) subjects wished to have better teeth, while 26.3 % were dissatisfied with their looks owing to appearance of teeth (Fig. 1).

As compared to females, significantly higher proportions of males were conscious of opposite sex while smiling (Table 4). For none of the other attitude and practice related items a significant difference between two genders was observed. For the items ‘wish to have better teeth’ and ‘unhappy with looks owing to teeth’ the proportion of males was higher as compared to females whereas for the items ‘hiding teeth while smiling, like to show teeth, like to see one’s teeth in mirror and perceived notion about other people’s views’ the proportion of females was higher as compared to males (Fig. 2).

The proportion of subjects who were highly satisfied with their smile was significantly higher for the item like to show their teeth and who liked to see their teeth in mirror, photographs and video whereas for all the other items the proportion of respondents who were not satisfied with their smile was significantly higher than the other two groups (Table 5). For all the items, statistically significant differences among persons with different perceptions regarding their smile was observed (p < 0.05).

Discussion

Aim of the study was to evaluate the subjects perceived satisfaction of their dental appearance and to compare it
with various attitudes and practices which may have social and psychological impact, may affect individual’s confidence and his/her desire to have good appearance, and to further evaluate the component of dental esthetics which is causing most dissatisfaction among subjects. The subjects who were selected were young university students who were pursuing higher education. Dental students were excluded because the literature shows difference in perception of esthetics among dentists, dental students and laypeople [8, 9]. So the study population was a group which is more concerned with their looks, as majority of them is in a stage of seeking job opportunities, looking for suitable partners and are more stable in their thoughts and desires.

Majority subjects were highly satisfied with their smile and the tooth color was the major reason of their dissatisfaction. Gingival color was the least common cause of concern for the subjects. This is in accordance with some studies where patient’s opinion of their smile was significantly higher than the clinician’s assessments and the patients were most dissatisfied with their tooth color and least concern with gingival color [10, 11].

There is a positive effect of the individual’s self satisfaction and his attitudes and practices as suggested by the findings. Significantly higher percentage of the subjects who were highly satisfied with their smile liked to show their teeth while smiling and liked to see their teeth in the mirror, videos and photographs. This is pertinent to the fact that high self esteem is related to practices which reflect self confidence. One study revealed strongest effect of dental esthetics on dental self confidence scale, which comprised positively phrased formulations closely related to dental appearance and indicating a sense of well-being and self-assertion with regards to one’s own dental appearance. When an individual sees his/her image in the mirror or is being photographed, a feeling of being observed or evaluated might arise, and the individual becomes self-aware [12].

Self satisfaction, social behavior and psychological well-being are inter-related. This fact is reflected by the findings that significant number of subjects who are not satisfied with their dental appearance have answered positively for the queries hold myself back when smile so that teeth donot show so much and sometimes worry about

| SN | Gender | Highly satisfied | Satisfied | Not satisfied |
|----|--------|-----------------|-----------|--------------|
|    |        | \((n = 246)\)    | \((n = 159)\) | \((n = 21)\)  |
|    | No.   | %    | No.  | %    | No.  | %    |
| 1. | Female | 122  | 60.70 | 67.00 | 33.33 | 12.00 | 5.97 |
| 2. | Male   | 124  | 55.11 | 92.00 | 40.89 | 9.00  | 4.00 |

Table 3 Association of gender with smile component of concern

| SN | Smile component | Females \( (n = 201) \) | Males \( (n = 225) \) | Significance of difference |
|----|-----------------|--------------------------|----------------------|----------------------------|
|    | No.  | %    | No.  | %    | \( \chi^2 \) | \( p \) |
| 1. | Lip shape       | 26  | 12.9 | 24  | 10.7 | 0.527 | 0.468 |
| 2. | Tooth colour    | 56  | 27.9 | 63  | 28.0 | 0.001 | 0.974 |
| 3. | Tooth shape     | 31  | 15.4 | 33  | 14.7 | 0.048 | 0.827 |
| 4. | Tooth size      | 37  | 18.4 | 45  | 20.0 | 0.173 | 0.677 |
| 5. | Tooth position  | 32  | 15.9 | 39  | 17.3 | 0.153 | 0.696 |
| 6. | Gingival colour and position | 12 | 6.0 | 29 | 12.9 | 5.842 | 0.016 |

Fig. 1 Attitude and practices related with smile posture
what members of opposite sex think of their teeth and
concerned about other people’s views and remarks about
my teeth. Hiding teeth while smiling is a reflection of
dissatisfaction, further the major goal of dental treatment
should be to restore esthetics as well as enable patients to
feel confident about smiling instead of hiding their teeth
[10]. Comparison with others may lead to dissatisfaction
which may have negative effect on the psychological well-
being. Significant numbers of subjects who are not satisfied
with their smile also wish to have their teeth better and
responded positively for the query ‘sometimes I am somewhat unhappy about the appearance of my teeth’.

In one study participants associated the presence of
decayed and discolored teeth with lower levels of social
and psychological adjustment. They suggested that indi-
viduals, for whom oral health has some importance, are
more likely to use dental appearance as a basis for making
judgment of psychological adjustment and intellectual
competence [2]. Self perceived minor irregularities in
dental esthetics might have a considerable impact on
OHRQoL [12]. It has been observed that self assessments
of dental appearance appeared to be more negative for
participants with a depressive state compared with the
other groups, depressive illness is associated with low self
evaluation, low self confidence and low self esteem
[13–15].

A very interesting finding is that significantly higher
number of male subject is found conscious of opposite sex
while smiling. This may be a reflection of changing society
where previously beauty was the domain of females, now
males are not second to females. This is also reflected in
the marketing, where more number of male beauty com-
modities are being introduced.

Previous studies [2, 5, 13–15] have suggested that dental
esthetics can have remarkable impact on subject’s social
and psychological well-being which is reflected in their
behavior and can affect their self confidence. Our study has
shown similar results. But there are certain limitations in
the form that firstly the subjects were young adults so the
relevance of our findings cannot be applied on elderly
people which has more stable job situations and relation-
ship status and may not have a strong desire for perfect
appearance. The needs and desires may change at various

| Table 4: Association of attitude and practices with gender |
|---|
| SN | Attitude and practices | Females | Males | Significance of difference |
|---|---|---|---|---|
| 1. | Hiding teeth while smiling | 52 25.9 | 50 22.2 | 0.766 0.378 |
| 2. | Like to show teeth | 87 43.3 | 94 41.8 | 0.099 0.754 |
| 3. | Like to see one’s teeth in mirror, photographs and videos | 101 50.2 | 110 48.9 | 0.689 0.406 |
| 4. | Perceived notion about other people’s views | 62 30.8 | 60 26.7 | 0.907 0.341 |
| 5. | Conscious of opposite sex | 57 28.4 | 102 45.3 | 13.077 <0.001 |
| 6. | Wish to have better teeth | 155 77.1 | 190 84.4 | 3.704 0.054 |
| 7. | Dissatisfaction with looks owing to teeth | 50 24.9 | 62 27.6 | 0.393 0.530 |

Fig. 2: Associations of attitude and practices with gender
stages of life and with various conditions also. Secondly all the subjects were pursuing higher education so they are not representative of general population comprising of less educated subjects also. Age, sex and level of education may influence a person’s satisfaction with his or her appearance [16, 17]. It is shown that patients self perceived needs and expressed desires are essential parts of an evidence-based model of prosthodontic treatment planning [18]. Esthetics and discomfort are mentioned as major benefit and risk related to prosthodontics [19].

One of the classic study which was done on the finalists of a beauty pageant for a period of 2 years revealed that 80 % subjects felt the need for improvement in their mouth appearance and 28 % felt that their teeth detracted from their smile [20]. Long term longitudinal studies are required to conclude to what extent the age, level of education and different conditions (physical and psychological) may influence the effect of esthetics on social and psychological well-being as well as self confidence.

### Conclusion

On the basis of the findings of the current study it can be concluded that self perceived image of dental esthetics can remarkably affect an individual’s social and psychological well-being which is reflected in their behavior and can affect their self confidence. However there are certain limitations of the present study. This study was conducted on young cohort of subjects so the possibility of few subjects, having received some dental treatment for esthetic correction in the past, exists. This could have resulted in the discrepancy in the final results of overall satisfaction with dental appearance and the satisfaction with the various components of smile. Further study can be designed where the subjects receiving some kind of esthetic correction of their smile can form a separate cohort and their satisfaction can be compared to those who have never received any esthetic correction of smile.

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