Original article:

Perception of facial appearance and profile among Bangladeshi Laypersons

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Abstract:

Background: Enlightening facial esthetic is reflecting as one of the main influences in orthodontic treatment during establishing of ideal occlusion. ***Method:*** In present study, a determination was made to subsidize to the existing pool of information on the soft-tissue profile and facial awareness. Main aim of the study is to investigate how the Bangladeshi laypersons are aware of their own faces by analyzing the data collected through a structured questionnaire. ***Result:*** This study involved total 200 Bangladeshi Individuals age ranged 19 to 23 years old. A validated structured questionnaire was used to assess subjects' evaluation of their own facial appearance. The mean awareness score for the subjects of Bangladeshi individuals ranged from 1.4 to 2.3 in male and from 1.7 to 1.9 in female for the overall impressions and from 1.3 to 2.1 in male and from 1.2 to 2.3 in female for the facial parts. Satisfaction score for the 9 items out of 24 items differed significantly between Bangladeshi female and male. An average profile of the jaw and lips are desired over more retrusive or protrusive profiles among Bangladeshi laypersons. ***Conclusion:*** It can be determined that Bangladeshi laypersons are adept to understand their own faces in the various commands and most of the peoples are worry about their profile in their everyday survives. We must evaluate our existing data to find orthodontic standards that are valid for specific ethnic groups.

Keywords: Facial awareness, Bangladeshi laypersons, Facial appearance.

Introduction:

Advanced civilization has engaged a resilient emphasis on physical appearance. However, appealing judgement varies among individuals and believed to be impulsive. Different researches on facial awareness showed cross-cultural agreement in appealing ratings of faces of differentbackgrounds.[1,2] Hence, self-perception of own facial appearance and profile are fundamental factors for a layperson seeking different dental treatment especially orthodontic treatment.

Now a day, people are more conscious about the facial outlook because of the unlimited open access of mass media. People with attractive facial profile were found to be more successful and competent in the society.[3,4] Even in the close circle, person with pleasant appearance were given more importance than the person with un-pleasant appearance.[4] Therefore, the perception of pleasing facial profile might be changing due to all these circumstances.

Improving facial esthetic is consider as one of the main factors in orthodontic treatment during establishment of ideal occlusion. However, attractive facial profile is vary among different factors which are not only related with facial profile, for instance the self-perception of facial part like nose, eyes, ears, lips, eyebrows, balanced facial proportion, front and side view etc. Orthodontists gave priority to the patient's choice of treatment plan, which may pursue orthognathic surgery, camouflage treatment based on professional judgment of their clinician. Nevertheless, awareness of an attractive profile may

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differ from patient's to clinician's.[5,7]

Previous study proved that, orthodontic patients and non- orthodontic patients demand to correct their profile focusing on lips mainly. Moreover, both groups misjudged the protrusiveness of the lips.[8] Thus, it was recommended that individuals were failed to appraise their own profiles. Furthermore, dissatisfaction of facial profile was associated with individuals' perceived extent of lip protrusiveness.

It would be an interesting assessment of consciousness about facial appearance of soft tissue outline, weather it is justified or not? Although the conception of beauty has altered over the times and fluctuates from one population to another, it has always been a subject of attention and importance to people of all cultures.[9]

In current study, an effort will be made to contribute to the existing pool of information on the soft-tissue profile andfacial awareness.This study aimed to investigate how the Bangladeshi laypersons are aware of their own faces by analyzing the data collected through a structured questionnaire. The precise aims of current study are as follows:

1. To determine the overall impression of self-facial appearance among Bangladeshi population
2. To determine the satisfaction score of facial part among Bangladeshi population
3. To determine the prevalence of acceptable profile of jaw (APJ) and best profile of jaw (BPJ) in Bangladeshi laypersons
4. To determine the prevalence of acceptable profile of lip (APL) and best profile of lip in Bangladeshi laypersons

Materials and Method

This study involved total 200 Bangladeshi Individuals aged 19 to 23 years old. They filled out a questionnaire, which had 5-degree criteria of satisfaction, (1: satisfied, 2: somewhat satisfied, 3: neither satisfied nor dissatisfied, 4: somewhat dissatisfied, and 5: dissatisfied) about the awareness of their own facial appearance describing the visual impression of 24 items.[10]Nine of the questions were about the overall impression such as the impression of the face and the outline of the face and fifteen were about facial parts such as eyelids, eyes, nose, cheeks, lips, teeth, chin and so on.

2 series of 8 profiles were developed for men and women (Fig 1). The average profile was in no: 4,[10] the lips (Fig 1 A) and chin (Fig 1 B) were protruded or retruded in 1 –mm increments from the average profile, and the lip and jaw position were changed parallel to the Frankfort horizontal plane. Profile 1 is the most retrusive, and Profile 8 is the most protrusive. Subjects were asked to pick the satisfactory and best profile of the lip and jaw respectively.

Statistical analysis

The data were analyzed statistically using IBM SPSS Statistics Version 22.0 (Chicago, USA) with confidence level set at 95% (P <0.05) to test for significance. Descriptive statistics were calculated for each parameter, and the significance of the differences between genders was studied with the Mann-Whitney U test.

Result

Facial awareness score

(1) The mean awareness score for the subjects of Bangladeshi individuals ranged from 1.4 to 2.3 in male and from 1.7 to 1.9 in female for the overall impressions (Fig 2) and from 1.3 to 2.1 in male and from 1.2 to 2.3 in female for the facial parts (Fig 3).

(2) Satisfaction score for the 9 items out of 24 items differed significantly between Bangladeshi female and male (* p < .05 and ** p < .01). The evaluations were made using Mann-Whitney U test(Table 1 & 2).

(3) From the series of 8 profile most of the subjects choose no: 3 and no: 4 as acceptable and best profile of the jaw respectively (Fig 4 & 5).

(4) From the series of 8 profile most of the subjects choose no: 3 and no: 4 as acceptable and best profile of the lip respectively (Fig 6&7).

Discussion

Several questionnaire-based studies have explored the self-perception of attractiveness in the eyes of the laypeople is a difficult task as the awareness of facial profiles may vary according to several factors such as age, sex, socioeconomic status, educational level, and cultural pressure.[11,13] Moreover, some studies surveyed the self-perception of attractiveness based on before and after photographs or silhouettes.[14-16]

Tufekci et al[17] determined the differences in self-awareness and perception of an individual's own profile among laypeople, dental students, orthodontic patients and concluded that orthodontic patients show more awareness about their teeth and facial profile. Dental students showed increased consciousness of their profile and about half of the lay population cannot characterize their own profile.

A study on self-perception of dentofacial attractiveness before and after exposure to facial photographs revealed that laypeople are not mostly conscious of their facial profiles except exposed to photographs. Moreover, pretreatment photograph

acquaintance can rise profile self-awareness, a vital factor in reducing the inconsistency between orthodontists' and patients' visual prominence on dentofacial esthetics.[18]

There must be a difference in explaining of perfect facial profile between lay people and orthodontists with different races. Hall D et al.[19] conducted a study to assess the apparent ideal profiles of African Americans versus white Americans and concluded that white laypersons and orthodontists carefully chosen profiles more acceptable than did African American orthodontists and laypersons. Moreover, African American orthodontists chose more prominent upper and lower lips for the African American sample than for the white sample.

Comparing different questionnaire-based study, the mean evaluation score for both overall impression and facial parts of our study were lower than that among Japanese-Brazilian female laypersons, Japanese laypersons, Thai laypersons and Malaysian laypersons suggesting a higher satisfaction among Bangladeshi populations; on the other hand higher when compared to Indian subcontinent laypersons.[10]

In our study, we found mean facial awareness score for 200 adult Bangladeshi subjects 1.4 to 2.3 in male and from 1.7 to 1.9 in female for the overall impressions, and from 1.3 to 2.1 in male and from 1.2 to 2.3 in female for the facial parts that show the facial awareness differ from race to race. Regarding satisfaction for each facial element, the items that most subjects are least and most satisfied with were "nose" and "eyes" respectively for both male and female. No statistically significant difference was noted between male and female for both mean satisfaction score of overall impression and facial parts.

To assess the facial profile attractiveness, different studies used facial photographs and imagings,[20, 21] drawings[22] and silhouettes.[23-25] Adopted from other silhouettes study, our study revealed that the average profile for jaw was chosen as the best profile of jaw and 1 mm retruded than the average profile considered as the acceptable profile of jaw by the male and female. According to Polk et al.[24] African American male and female preferred the more retruded jaw profile than the average. Mantzikos et al.[26] found that straight profile was graded the most eye-catching while mandibular retrognathic and prognathic profiles had poor grades. Another similar study exhibited that the greater the retrusion or prominence of the chin, the lesser the score of the perceived appeal.[27]

Similar conclusions we obtained for the lip profile from the silhouettes study as we got for the jaw profile. Altered study using silhouette profiles with changed lip positions reported that males preferred retruded lip profiles compared to females.[23, 28-30]

From the present study, it can be determined that Bangladeshi laypersons are skillful to comprehend their own faces in the various commands and most of the peoples are concern about their profile in their daily lives. We must assess our available data to find orthodontic standards that are valid for specific ethnic groups. It would be much more suitable to evaluate the nose, the chin and the lips separately and then establish a correlation between them.

Conclusion

In summary, we found that

- The mean awareness score for the subjects of Bangladeshi individuals ranged from 1.4 to 2.3 in male and from 1.7 to 1.9 in female for the overall impressions and from 1.3 to 2.1 in male and from 1.2 to 2.3 in female for the facial parts.
- Satisfaction score for the 9 items out of 24 items differed significantly between Bangladeshi female and male.
- An average profile of the jaw and lips are desired over more retrusive or protrusive profiles among Bangladeshi laypersons.

Conflict of Interest: The authors have declared that no COI exist.

Table 1. Facial awareness scores for theBangladeshi maleand female for the overall impression

Variables	Male		Female		95% CI		p value
	Mean	SD	Mean	SD	Lower	Upper	
Facial Frontal view	1.43	0.69	1.69	0.91	-0.484	-0.036	0.027*
Facial Oblique view	1.66	0.92	1.82	1.02	-0.431	0.111	0.222
Profile	1.73	0.79	1.82	0.96	-0.335	0.155	0.759
Outline of the facial frontal view	1.70	0.97	1.95	1.01	-0.526	0.026	0.035*
Outline of the profile	1.98	1.01	1.89	1.08	-0.202	0.382	0.381
Balance among the different facial portion	2.02	0.94	1.96	1.13	-0.230	0.350	0.265
Balance of the facial right and left side	1.51	0.98	1.86	1.04	-0.632	-0.068	0.001**
Mouth and its surroundings	2.05	1.28	1.96	1.21	-0.257	0.437	0.666
Overall impression of the lips	2.27	1.49	1.75	1.06	0.160	0.880	0.029*

*p < .05, ** *p < .01.*

Table 2. Facial awareness scores for theBangladeshi maleand female for the facial parts

| Variables	Male		Female		95% CI		p value
	Mean	SD	Mean	SD	Lower	Upper	
Eyebrows	1.67	1.27	1.53	0.88	-0.165	0.445	0.752
Eyelids	1.42	1.18	1.63	0.96	-0.510	0.090	0.000**
Eyes	1.30	0.80	1.65	0.86	-0.581	-0.119	0.000**
Forehead	1.33	0.85	1.79	1.05	-0.726	-0.194	0.000**
Nose	2.08	1.41	2.32	1.45	-0.639	0.159	0.254
Ears	1.58	1.07	1.24	0.57	0.100	0.580	0.009**
Cheeks	1.45	0.73	1.96	1.21	-0.789	-0.230	0.002**
Upper lip	1.67	1.22	1.76	1.13	-0.418	0.238	0.178
Lower lip	2.00	1.44	1.69	1.13	-0.050	0.670	0.286
Teeth	2.57	1.63	2.34	1.31	-0.183	0.643	0.541
Dentition	2.04	1.27	2.10	1.27	-0.414	0.294	0.599
Bite (anterior)	1.99	1.00	2.01	1.31	-0.344	0.304	0.356
Bite (back)	1.91	1.32	1.71	1.05	-0.132	0.532	0.631
Chin	1.40	0.65	1.61	1.02	-0.449	0.029	0.365
Angle of the jaw	1.65	1.16	1.60	1.04	-0.258	0.358	0.686

* p < .05, ** p < .01
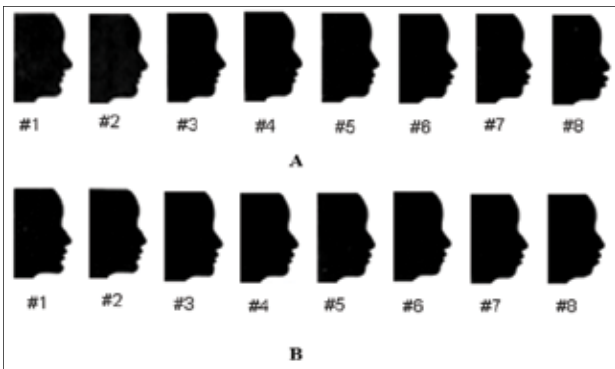
Figure 1:Series of 8 profiles. A, changes in the lip; B, changes in the jaw
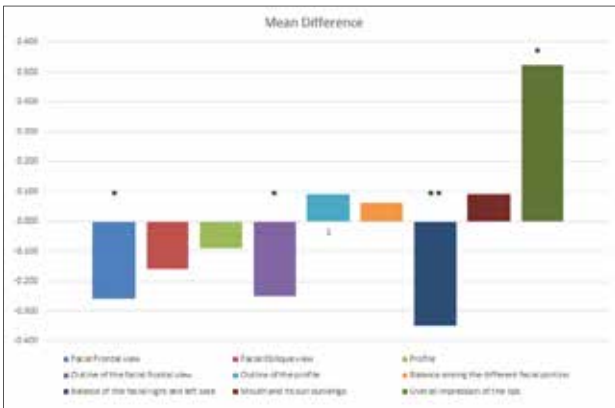

Figure 2: Mean difference of awareness score of overall impressions among male and female
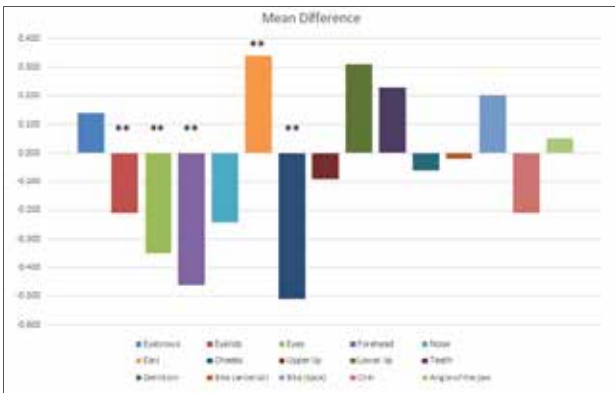

Figure 3: Mean difference of awareness score for the facial parts among male and female
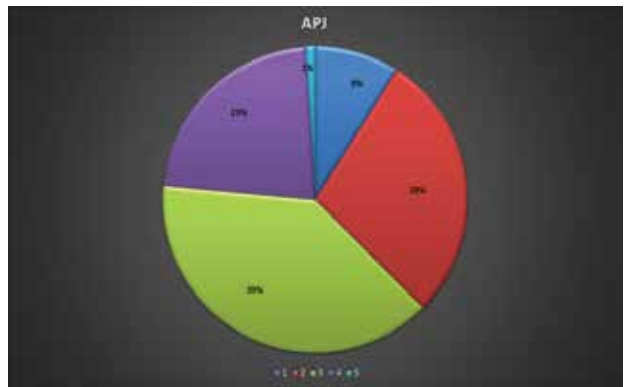

Figure 4: Prevalence of acceptable profile of jaw (APJ)
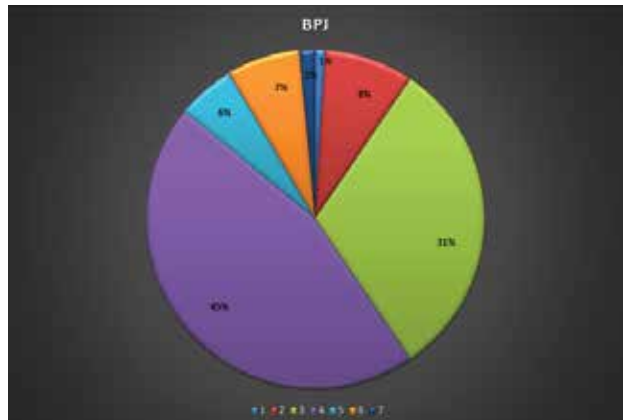

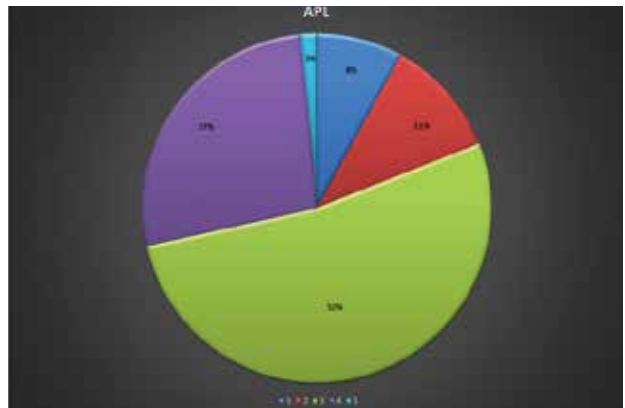
Figure 5: Prevalence of best profile of jaw (BPJ)

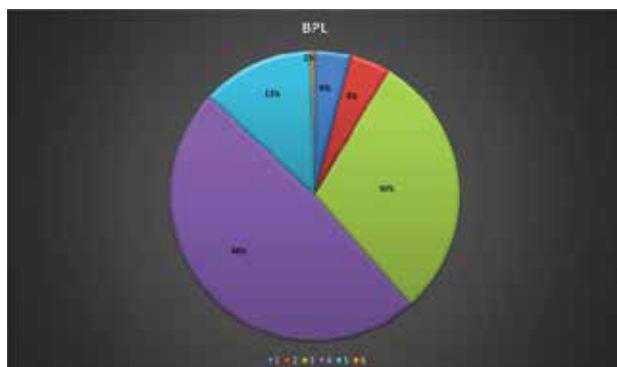Figure 6: Prevalence of acceptable profile of lip (APL)

Figure 7: Prevalence of best profile of lip (BPL)

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