

## **ABSTRACT AND KEYWORDS**

### **DISSERTATION TITLE**

**To evaluate and correlate the esthetic perception of orthodontists and laypersons on variations of smile arc and buccal corridor sizes in different facial forms.**

### **ABSTRACT**

There are many factors that affect an esthetic smile such as gingival display, arch form, tooth shade, incisal exposure. In smile esthetics, buccal corridor and smile arc have seized the clinician's attention. The correlation between facial characteristics and various parameters of smile could be useful in treatment planning. Past studies have shown that there is a wide range of discrepancy in opinion of orthodontists and non-orthodontists on acceptable smile arc and buccal corridors sizes, also there are few studies of smile characteristics with a full-face perspective.

**Aims and Objective:** To evaluate and correlate the esthetic perception of orthodontists and laypersons on variations in smile arc and buccal corridor sizes in different facial forms.

- 1) To evaluate the esthetic perception of laypersons on variations of smile arc and buccal corridor spaces in different facial forms using visual analog scale (VAS).
- 2) To evaluate the esthetic perception of orthodontists on variations in smile arc and buccal corridor spaces in different facial forms using visual analog scale (VAS).
- 3) To correlate the esthetic perception on variations in smile arc and buccal corridor spaces in different facial forms among orthodontists and laypersons.

**Materials and methods:** A standardized frontal facial photograph of a female was selected and manipulated to different facial forms round face, normal face and long face with varying levels of buccal corridor and smile arc using ADOBE PHOTOSHOP 7.0 (San Jose, California). The

buccal corridors were altered to the following percentages; 0%, 15% and 30%. The smile arc was altered to have a change in degree of smile arc; flat, ideal and excessive. The smile attractiveness was assessed by 50 orthodontists and 50 lay persons. A visual analog scale score sheet, with 50mm scale was used for rating the smile attractiveness.

**Statistical analysis:** One way-ANOVA was used to test significance between the mean VAS scores of different sizes of buccal corridor and smile arc in different facial types among laypersons and orthodontists. As the comparisons of mean scores, showed highly statistically significant differences, the Post hoc bonferroni was used for multiple comparisons. T-test was used to compare and correlate the perceptions of orthodontists and laypersons for different buccal corridor sizes and smile arc in different facial forms with  $P < 0.05$ .

**Conclusion:** There was no significant difference in the perception of orthodontists and laypersons in all the three facial types when there was large variations in the buccal corridor and smile arc. In round and long face, both orthodontist and layperson scored less for smiles with excessive smile arc but the layperson were less critical in judging excessive buccal corridor with excessive smile arc. For normal face, both laypersons and orthodontists scored less for smiles with excessive smile arc, but in 15% buccal corridor with flat smile arc, laypersons scored significantly higher than the orthodontists, indicating that laypersons preferred flat smile arc in normal faces.

**Keywords:** Smile aesthetics, Buccal corridor, Layperson, Orthodontist.