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## RESEARCH ARTICLE

### RELATIONSHIP BETWEEN LENGTH OF THE FACE AND THE LENGTH OF THE MAXILLARY CENTRAL INCISOR IN SAUDI POPULATION

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#### ABSTRACT

Esthetics is commonly thought as one of the fundamentals of oral rehabilitation. Thus, the selection of artificial teeth is one of the vital steps during prosthetic rehabilitation of edentulous patients particularly those with no available pre-extraction records (1,2). The proper choice of the maxillary incisor in terms of the size and form of the upper anterior teeth considering the patient's gender and age can contribute significantly to attaining greater facial harmony (3-5). Several methods have been used as guides for the replacement of incisors teeth including photographs, plaster cast and radiographs. However, there is no consensus in the literature regarding the best technique to be used for this purpose (3). Worldwide, a variety of population-based measures for replacement of upper incisors teeth for cosmetic appearance have been reported, however such data in Saudi population is lacking. Therefore, **Aim:** to identify **one** of the proper features for esthetic appearance of upper incisors through **studying** the relationship between length of the face and length of maxillary central incisors in Saudi population. **Material & methodology:** The data concerning facial length and upper central incisors were collected from 300 patients. Inclusion criteria: Saudi patient of age group between 20–35 years, healthy without systemic diseases. Exclusion criteria: patients with bad habits (Teeth grinding, or bruxism, chewing on pencils and nails), previous esthetic treatment (orthodontic, surgical, periodontal treatment). Facial length was the total length that was measured from the hair line to the tip of the nose, and from the tip of the nose to the tip of the chin. Central incisors were measured from zenith point to the incisal line. Digital caliper (IOS) was used for all candidates' measurements in a well-designed data sheet. The data were analyzed with SPSS software (version 21.0; SPSS, Chicago, IL). **Results:** 300 candidates were included in our study. 101 Male 198 Female. The facial length was (7.41 .62, meanSD), the length of both central incisors #11 and #21 was (.40 .12, meanSD). There was significant correlation between the facial length and central incisor #21 with Correlation Coefficient of 0.156 (P= 0.007). while there was borderline significant correlation between the facial length and central incisor #11 with Correlation Coefficient of 0.113 (P= 0.05). **Conclusion:** Our **results** revealed that there was positive correlation between the length of the central incisor and the Hight of the face in Saudi population that might indicate suitable esthetic appearance.

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## INTRODUCTION

Esthetics is commonly thought as one of the fundamentals of oral rehabilitation. Thus, the selection of artificial teeth is one of the vital steps during prosthetic rehabilitation of edentulous patients particularly those with no available pre-extraction records (Sellen, 1998; Sellen, 1999). The proper choice of the maxillary incisor in terms of the size and form of the upper anterior teeth considering the patient's gender and age can contribute significantly to attaining greater facial harmony (Sellen, 2002; Paranhos *et al.*, 2010; Qamar *et al.*, 2017). Several methods have been used as guides for the replacement of incisors teeth including photographs, plaster cast and radiographs.

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However, there is no consensus in the literature regarding the best technique to be used for this purpose (3). Worldwide, a variety of population-based measures for replacement of upper incisors teeth have been reported, however such data in Saudi population is lacking.

**Aim:** To identify the proper features of the artificial upper incisors through the relationship between length of the face and length of maxillary central incisors in Saudi population.

## MATERIALS AND METHODS

The data concerning facial length and upper central incisors were collected from 300 patients. Inclusion criteria: Saudi patient of age group between 20–35 years, healthy without

systemic diseases. Exclusion criteria: patients with bad habits (Teeth grinding, or bruxism, chewing on pencils and nails), previous esthetic treatment (orthodontic, surgical, periodontal treatment). Facial length was the total length that was measured from the hair line to the tip of the nose, and from the tip of the nose to the tip of the chin. Central incisors were measured from zenith point to the incisal line. Digital caliper (IOS) was used for all candidates' measurements in a well-designed data sheet. The correlation coefficient for the facial length and the upper central incisor length was estimated. P values of less than 0.05 are considered statistically significant in all analyses.

**Statistical analysis:** The data will be analyzed with SPSS software (version 21.0; SPSS, Chicago, IL). Continuous variable will be described as the mean  $\pm$  SD, and categorical variable will be presented as numbers and percentages. A  $\chi^2$  test will be used to compare the categorical variables, and independent student t-test will be used to compare the continuous variables.

## RESULTS

300 candidates were included in our study. 101 Male 198 Female. The facial length was (7.41 .62, meanSD), the length of both central incisors #11 and #21 was (.40 .12, meanSD). There was significant correlation between the facial length and central incisor #21 with Correlation Coefficient of 0.156 (P= 0.007). while there was borderline significant correlation between the facial length and central incisor #11 with Correlation Coefficient of 0.113 (P= 0.05).

## DISCUSSION

In this study, we evaluated the facial and dental profile in a cohort of Saudi population, and we found a significant correlation between the facial length and central incisors, and that might help in different dental treatments. In previous studies, different methods of measurements of the facial and dental profile have been described. Various correlations between the facial and dental length have been noted. For instance, Shaweesh *et al.* have found that there was no relationship between the face and maxillary arch outlines. While Qamar *et al.* have found no differences between facial profiles and length of maxillary central incisors (Shaweesh *et al.*, 2015; Ioi *et al.*, 2010). Dentists frequently encounter a great challenge of making functionally and esthetically pleasing dentures (Kumar, 2011).

Selection of the size of the maxillary anterior teeth is important not only for dental esthetics but for facial esthetics as well.9 And that consistent with our findings that have a potential theoretical goal for selection of the upper central incisors for dental prostheses and restorations.

## Conclusion

Our findings revealed there was a correlation between Length of The Face and The Length of the Maxillary central incisor Saudi population that might indicate suitable esthetic appearance.

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