F32 Investigation of Relationship Between Tooth, Face, and Arch Form in a Sample of Turkish Population

Feryal Karaman, PhD, Istanbul University Institute of Forensic Sciences, Cerrahpasa, Istanbul, 34303, Turkey; and Olcay Sakar, PhD, Istanbul University Faculty of Dentistry, Capa, Istanbul, 34370, Turkey*

The goal of this presentation is to determine the possible association or correlation between the accepted esthetic parameters of tooth, face, arch form and tooth, facial profiles by means of computer analyses and studying dental casts, and facial anthropometry of living people, as well as the influence of sex upon such associations. The second goal is, to research the usability of these relations on facial reconstruction studies.

This presentation will impact the forensic community and/or humanity by researching the usability of these relations on facial recon- struction studies.

The relationship between facial shape and dental arch has not been studied and considered seriously by the forensic odontologists and forensic anthropologists. The relationship between the face and width of dental arch is individualistic.

The necessary information for the restoration of the facial contours is obtained from the data collected from the normal and full teeth subjects in facial reconstruction studies. In this study, which takes these aspects into consideration, the similarity of teeth and face dimensions with teeth and ridge shape in the Turkish population was investigated. Additionally, the relation between sex and tooth form was investigated.

One Hundred Fifty subjects (77 female, 73 male) were studied. Photographs of tooth form, facial and profile features, and intra oral models were taken from these subjects. Measurements of tooth, facial and arch forms were made, and the type of tooth form, that is, whether angulated or rounded, was assessed from the photographs and study models. The facial and profile as well as tooth forms were traced from portrait and profile photographs. The arch forms were traced from models. The tracings were projected to the same dimensions on mm. ruled paper and the coordinates recorded for computer analyses. The computed data were compared statistically to evaluate associations or correlations between the various esthetic parameters and to determine whether tooth form and sex were associated. It was found that there was no association could be established between frontal tooth form and arch form or between frontal tooth form and facial form. Even though there is a close relation between sex and teeth sizes, there has been no relation found between sex and teeth shapes. But on the other hand, strong correlations, 88% and 76% respectively, were found only between the facial and dental profiles and between the anterior facial form and arch form.

By having such a correlation, these data should be taken into the consideration especially for facial reconstruction studies. Otherwise, to presume the face shape only by adding artificial tissues may provide a platform for mistakes.

Forensic Odontology, Dental Arch Form, Facial Reconstruction

 ** Presenting Author*