Prediction of the canines and premolars size (Comparative study)

By

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Abstract

The dental casts are still considered a vital diagnostic tool. From the dental cast, one can analyze tooth size and shape, alignment and rotations of the teeth, presence or absence of teeth, arch form and symmetry, and arch width and occlusal relationship.

The main purpose of this study was to determine which sum or combination of sums of permanent teeth widths presented as the best predictors for accurately predicting widths of unerupted canines and premolars for Iraqi samples and to establish specific linear regression equations for them. The second objective of this study was to evaluate the applicability of Sofia's (1996) and Abdulrasool (2005).

Dental casts of 160 Iraqi subjects from Baghdad, 90 males and 70 females, were selected and used for study. Age ranged from 16 to 21 years old. Mesio-distal widths of all permanent teeth excluding second and third molars were measured and data was subjected to simple linear regression analysis.

Results showed sum of the left maxillary central incisor and first molar and mandibular lateral incisor was the best predictor for this sample. Gender differences were evident; four linear regression equations were calculated according to arch and gender. The coefficients of correlation

regarding gender and arch ranged from 0.74 to 0.85 found to be greater than most studies for males and females. The standard errors were 0.5 up to 0.7 mm. Prediction tables were prepared for both genders separately.

Statistically significant differences occurred between actual and predicted values in the formal studies, confirming that the new equations are the most reliable and accurate predictor for Iraqi children at the mixed dentition stage.