The analysis of the correlations of tooth dimension and dental arch dimension on the occurrence of mandibular third molar impaction. An epidemiological study on Buginese and Torajanese.

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ABSTRACT

The evolutionary reduction of human jaw size, is due to modern diet that does not require much effort on mastication, which causes stimulus loss of jaw growth. Therefore jaw becomes smaller resulting in higher incidence of mandibular third molar impaction. The purpose of this study was to evaluate the correlations of tooth dimension and dental arch dimension on the occurrence of mandibular third molar impaction. Type of study was epidemiological study with cross sectional approach. The sample consists of 115 Buginese and 115 Torajanese, age 20-25 years old with completed mandibular teeth of right second molar to left second molar. The casts were observed to match the tooth dimension was obtained by measuring mesio distal width of each tooth, and dimension of dental arch was obtained by measuring sagittal distance of left side to right side teeth, transversal dimension was measuring to obtain dental arch length. Date analysis statistic with Chi square tests, and logistic regression analysis with SPSS program for windows versi 10. The result tooth dimension of Torajanese in bigger the Buginese in value t 0.254 of male, t 0.724 of female. Dental arch dimension male is bigger than female.

The conclusions of this study were as follows: there was correlation between teeth and dental arch dimension on the occurrence of mandibular third molar impction; The teeth dimension of Torajanese is bigger than Buginese; where as dental arch dimension and male teeth is bigger than female.

Key words: Tooth dimension, dental arch dimension, impacted tooth