

Thesis Title

A prediction of the width of cuspid and bicuspid from lower incisors among a selected Thai group.

Name Sinipun Kiatpongsan

Degree Master of Science (Orthodontics)

Thesis Supervisory Committee

Kitti Suphantavanich, D.D.S., Cert. in Periodont., Cert. in Orthod.

Jiraporn Chaiwat, D.D.S., Training in Ortho. (Bergen)

Surachai Dechkunakorn, B.Sc., D.D.S., Dip. in Ortho.

Date of Graduation 30 May B.E. 2532 (1989)

Abstract

The purpose of this study is to predict the sum of the width of cuspid, first bicuspid, and second bicuspid from the width of lower incisors among selected Thais. The study is based upon mesiodistal width measurements on stone casts taken from 204 subjects, half male and half female who have normal occlusion. The subjects were selected from 2,972 students in Bangkok. The age of subjects ranged from 11 years to 24 years. All measurements were taken with an electronic digital caliper with an accuracy of

0.01 m.m..

The results of this study show that the relationship of the sum of the mesiodistal width of the cuspid, first bicuspid, and second bicuspid to the lower incisors gave a correlation coefficient of $r = 0.63$, $r = 0.60$ for maxilla and mandible respectively. The regression equation based on this correlation is as follows :

$$Y = 9.84 + 0.50 x \quad (\text{mandible})$$

$$X = 11.12 + 0.48 x \quad (\text{maxilla})$$

where, Y = the sum of the mesiodistal width of the cuspid, first bicuspid, and second bicuspid.

x = the sum of mesiodistal width of the lower incisors.

On the basis of the above equation, a probability chart was tabulated and prediction is recommended at the 70 per cent level.