

HUBUNGAN LEBAR EMPAT INSISIF GIGI PERMANEN DENGAN  
PANJANG DAN LEBAR LENGKUNG GELIGI (pada Populasi Jawa di  
Surabaya)

RELATIONSHIP BETWEEN MESIODISTAL WIDTH OF FOUR INCISOR  
WITH ARCH LENGTH AND WIDTH (in Javanese Population in Surabaya)

**ABSTRACT**

**Background:** *The size of teeth must be in harmony with the size of dental arch to achieved normal occlusion. Study model are a vital diagnostic tool for orthodontic treatment. The size and arch dimension were 2 important factors in orthodontic treatment. The size of teeth and arch dimension can be vary in other ethnicity, age, gender, or environment. Purpose:* This study was to determine the relationship between mesiodistal width of four incisor with arch length and width in the Javanese population as measures from the study models in maxilla and mandible. **Method:** *This research was done in 43 university student in Airlangga University consist of 25 girls and 17 men with normal occlusion classification. Dental impressions were taken using dental tray and alginate and constructed into study models with gypsum. The mesiodistal width of four incisor were measured from distal lateral left incisor to distal lateral right incisor. The arch length were measured from the distance between the midpoint of the incisal edges of the bilateral central and lateral incisor and a line connecting the bilateral first molar buccal cusp. The arch width was determine by intermolar width and intercanine width. Intermolar width were measure from the distance between bilateral mesiobuccal cusp of the first molar. The intercanine width were measure from the distance between cusp tip of canine, all measure in maxilla and mandible. Result:* There were correlation in mesiodistal width of for incisor with intercanine width in maxilla ( $r = 0.600, p = 0.000 < 0.05$ ) and mandible ( $r = 0.651, p = 0.000 < 0.05$ ) and also there were correlation with arch length in maxilla ( $r = 0.579, p = 0.000 < 0.05$ ) and mandible ( $r = 0.661, p = 0.000 < 0.05$ ). There were no correlation with intermolar width in maxilla ( $r = 0.339, p = 0.028 > 0.05$ ) either mandible ( $r = 0.142, p = 0.370 > 0.05$ ). There were no different in both gender. **Conclusion:** *There were correlation between mesiodistal width of four incisor with intercanine width and arch legth.*

**Keywords:** *Mesiodistal width, arch length, intercanine width, intermolar width, Javanese population.*