

Familial Correlations for Finger and Palmar Quantitative Dermatoglyphic Features Among the Khurkhul of Manipur

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ABSTRACT The present study examines the heritability of finger and palmar quantitative dermatoglyphic traits by calculating Karl Pearson's coefficient of correlation 'r' and regression equation between the actual parents and children and unrelated pairings. The sample is made up of 50 couples and their 135 children (66 sons and 69 daughters) belonging to the Khurkhul community of Manipur. The traits included in the study are: total finger ridge count, absolute finger ridge count, pattern intensity index, palmar main line index, atd-angle and palmar a-b, b-c, c-d ridge counts. Highly significant correlation values higher than the theoretical value of 0.5 of parent-child were observed in the studied quantitative feature, except palmar b-c and c-d ridge counts. The estimated values of correlation coefficient 'r' found in parent (x)-child (y) relationship for total finger ridge count (TFRC), absolute finger ridge count (AFRC) and finger pattern intensity index (PII) agree with the theoretical value of coefficient of correlation between mid-parent and the child i.e. $1/\sqrt{2}$ or 0.71. In all the studied quantitative dermatoglyphic features, randomly paired unrelated ones show very low correlation values when compared with those of the related parents and children's correlation values, except father-child correlation value of palmar b-c ridge count. Higher correlation coefficient values of 'r' were observed in finger than in palmar. This indicates that environmental factors exert greater effect on the palmar region in early prenatal life than do on the finger.