SELECTED CEPHALOMETRIC ANGULAR NORMS IN SRI LANKAN SINHALESE CHILDREN

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Cephalometric analysis is used as an aid to accurate diagnosis in contemporary orthodontics. An accurate diagnostic evaluation of cephalometric data involves comparison of an individual's cephalometric findings with the norms for his or her ethnic and age group. As the cephalometric norms are not available for the Sri Lankan child population, a study was conducted to determine selected cephalometric angular norms for Sri Lankan Sinhalese children and to compare them with those of Sinhalese adults and other ethnic groups.

The sample was selected from a pool of 1700 records of patients who had been taken up by the second author for treatment between 1999 and 2003 at the Orthodontic Unit, University of Peradeniya. Sixty cephalometric radiographs, which satisfied the selection criteria, were included in the study. Soft tissue facial profiles of the sixty cases were traced on to cellulose acetate paper. Soft tissue profiles of sixty cases were shown to a group of four lay adults; two males and two females to evaluate the facial profile with regard to facial aesthetics. Thirty cases which include 15 females and 15 males were included in the final sample. Ten radiographs were traced two weeks later by the same author to assess the intra examiner variability. Selected angular measurements used in Steiner analysis (SNA, SNB, ANB, FMPA, MMA) and Downs analysis for skeletal assessment (FA, AOC ABF plane FMPA and Y-Axis) were taken.

Intra examiner variability was assessed using Spearmann correlation coefficient and found to be highly correlated.(R more than 0.96 in all measurements). Angle SNA and SNB was found to be significantly larger in males than in females with P value .009 and .023 respectively. The comparison of the means of cephalometric angles used in Steiner analysis with those of adults showed no significant difference (Z score < 1.96 at P .05 level). The comparison of mean values of the present study with the norms of Black Americans showed a significant difference only in the ANB angle (Z score =2.954 at 0.05 p level) Comparison of mean values of Downs analysis with those of North Indians, Caucasians, and Negroes showed no significant difference except in Angle of Convexity between Sinhalese and Negroes (Z score 4.536 at P 0.05 level). The skeletal base relationship of the Sri Lankan Sinhalese match closely with the norms of Caucasians and North Indians. Present study confirms the findings of the other studies that cephalometric data are group specific. Results of the present study also reveal the need for further research to determine group specific cephalometric norms for the present study populations for orthodontic diagnosis.

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