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HAAVIKKO'S METHOD AND REFERENCE CENTILE CURVES FOR AGE ESTIMATION IN 4-15 YEAR OLD CHILDREN

E Nakaš¹, I Galic², A Hadzic-Selmanagic³, S Prohic³, H Brkic²

¹Orthodontic Department and ³School of Dental Medicine, University of Sarajevo, Bosnia and Herzegovina and ²Department of Dental Anthropology, School of Dental Medicine, University of Zagreb, Croatia

AIM: To evaluate Haavikko's (1974) method based on a Finnish sample for dental age estimation in Bosnian-Herzegovian children and to create reference centile curves with the LMS method for clinical, legal and forensic use.

MATERIALS AND METHOD: In cross-sectional, retrospective study, the dental pantomograms (DPTs) of from 805 girls and 636 boys, aged between 4 and 15 years, were studied. The method is based on scoring teeth, 41, 44, 46, and 47 up to 10 years of age and 13, 43, 44, and 47 in children over 10 years of age, with one of 12 mineralization stages. Dental age is then computed from Haavikko's tables as the mean of all four teeth. Kappa statistics and intraclass correlation coefficient (ICC) were used for testing intra- and interobserver repeatability of mineralization stages and observed dental age by assessment of 10 per cent (N = 144) of the DPTs. In addition, 1st, 3rd, 5th, 50th, 95th, 97th and 99th centile curves of chronological age against the dental age were constructed for girls and boys separately using the LMS method [Cole and Green (LMS ChartMaker Software, Medical Research Council, UK)].

RESULTS: Haavikko's method underestimated the dental age in Bosnian-Herzegovian children. The mean underestimation was -0.33 (SD 0.72) years in girls and -0.12 (SD 0.82) years in boys. Cohen kappa scores were 0.79 and 0.80 for intra- and interobserver agreement, respectively, for mineralization stages and average measures for ICC for dental age were 0.98 and 0.90 for intra- and interobserver agreement, respectively.