

DENTAL CALCIFICATION STAGES AND SKELETAL MATURITY INDICATORS IN MAHARASHTRIAN POPULATION

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ABSTRACT

Aim of the study was to search the co-relationship between the stages of calcification of various teeth and various skeletal maturity stages among maharashtrian individuals. The study of research consisted of 140 male & 225 female patients in age group of 8 years to 20 years. A total of 365 hand wrist & panoramic radiographs were obtained & assessed. The teeth development stages of the mandibular canines, first & second premolars, second and third molars were measured according to the Demirjian system. Skeletal age and skeletal maturity stages were determined from hand wrist radiographs by using the method outline in the atlas of Greulich and Pyle and the Fishman's system, respectively. The Spearman rank order correlation coefficient revealed significant relationships ($r=0.30-0.68$, $p<.01$) between dental calcification stages and skeletal maturity stages. The second premolar demonstrated the high correlation ($r=0.67$ in male patients, $r=0.68$ in female patients). The third molar demonstrated the poorest correlation ($r=0.48$ in male patients, $r=0.32$ in female patients.) The canine stage F for both sexes (63.1% for female patients 54.2% for male patients) coincided with the MP₃ stage. The second molar stage E for female subjects (51.5%) and stage G for male subjects (66.8%) were related to the S stage and the MP_{3cap} stage, respectively. This suggests that tooth clarification stages from panoramic radiographs might be clinically useful as a maturity indicator of the pubertal growth spurt period.

KEYWORDS: Hand and Wrist Radiograph, Tooth Calcification, Skeletal Maturation, Pubertal Growth Period