



**RAJIV GANDHI UNIVERSITY OF HEALTH SCIENCES, KARNATAKA,
BENGALURU**

**“AN EVALUATION OF THIRD MOLAR ERUPTION FOR ASSESSMENT
OF CHRONOLOGIC AGE: A PANORAMIC STUDY”**

By

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Dissertation

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ABSTRACT

Background and Objectives: Forensic age estimation in living subjects has gained increasing significance in recent years. In dental age estimation, tooth eruption is a parameter of developmental morphology that can be analyzed by either clinical examination or by evaluation of dental X-rays. The present study was aimed to evaluate the reliability of the third molar eruption stage as a parameter for forensic age estimation in living subjects.

Methods: In the present study, we determined the stage of wisdom tooth eruption in 77 male and 73 female Indian subjects aged between 12–26 years by subjecting them to conventional orthopantomograms. Following which, the radiographs were interpreted to assess the third molar eruption stages to evaluate the dental age by applying the guidelines suggested by **Olze et al (2008)**^{38,39}.

Results: Predicted minimum age and mean age of the study sample were found to be significant predictors ($P < 0.001$) of actual age. Minimum age was able to explain 58.3% of the variation in actual age and Mean age was able to explain 60.3% of variation in actual age. The correlation between predicted minimum age and actual age was found to be strong ($r = 0.765$) and statistically significant ($P < 0.001$). The correlation between mean age and actual age was found to be strong ($r = 0.777$) and statistically significant ($P < 0.001$). By this we arrived at the conclusion the assessment that third molar is fairly a reliable indicator for estimation of age in adolescents and young adults.

Interpretation and conclusion: With the study conducted, it was found that the third molar is fairly a reliable indicator of age estimation in adolescents and young adults and it can be used to evaluate the age of alveolar, gingival, and complete emergence of the third molars in the occlusal plane which can be utilized for forensic estimation of the minimum and most probable ages of investigated persons.

Keywords: Age estimation; Dental age; Tooth eruption; Third molar.