5 - Dental Anatomy

OC-036 - (23755) - DENTAL AGE ESTIMATION USING CAMERIERE'S METHODOLOGIES IN A SELECT KWAZULU-NATAL POPULATION OF SOUTH AFRICA

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A key aspect of forensic odontology is age estimation. Literary reports have shown that the effectiveness of the Cameriere method for age estimation varies across different population groups. Therefore, the aim of this study was to assess the applicability of the Cameriere method to a select South African population in the KwaZulu-Natal (KZN) province.

This cross-sectional retrospective study was conducted on 840 digital panoramic radiographs (South African Black = 420 and South African Indian = 420) aged between 5.00 to 25.99 years. Dental maturity was assessed through morphometric analysis of the 7 left permanent maxillary and mandibular dentition, following the methodology outlined by Cameriere et al. (2006), and the South African Black Bayesian formula of the Cameriere method, as proposed by Angelakopoulos et al. (2019). Statistical tests were used to evaluate any differences between the chronological and dental ages for the various formulas. A p-value of <0.05 was considered statistically significant.

The Cameriere et al. (2006) Italian formula and the South African Black Bayesian formula of the Cameriere method by Angelakopoulos et al. (2019) under-estimated and over-estimated age in the South African Black and Indian populations of the KZN province, respectively. As a result, the authors developed a novel, population-specific regression formula (both including and excluding third molars) using stepwise regression analysis and a best-fit model tailored for the selected South African population groups.

To improve the accuracy of dental age estimation, the population-specific formulae generated in this study may be used within the KZN region.

Palavras-chave : Dental age estimation, Cameriere methodology, Panoramic radiographs