

## Documents

Ismail, A.F.<sup>a</sup>, Adnan, N.H.<sup>a</sup>, Suhaidi, N.N.S.<sup>a</sup>, Mokhtar, I.W.<sup>b</sup>, Yusof, M.Y.P.M.<sup>b</sup>, Mallineni, S.K.<sup>c</sup>

**Accuracy of different dental age assessment methods to determine chronological age among children with special needs**

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<sup>a</sup> Department of Paediatric Dentistry and Dental Public Health, Kulliyah of Dentistry, International Islamic University Malaysia, Pahang, Kuantan, Malaysia

<sup>b</sup> Department Paediatric Dentistry and Special Care, Faculty of Dentistry, Universiti Teknologi Mara, Sungai Buloh Campus, Selangor, Malaysia

<sup>c</sup> Department of Pediatric Dentistry, Dr Sulaiman AlHabib Hospital, Riyadh, Saudi Arabia

**Abstract**

**Aim:** This study aimed to validate the accuracy of dental age (DA) based on the dental development of permanent teeth in children with special needs using Demirjian, Willems, and London Atlas methods and to correlate the dental and chronological age (CA) of children with special needs in Malaysia. **Materials and Methods:** The panoramic radiographic images belonging to children with special needs from the two teaching dental hospitals in Malaysia aged between 5 and 16 years were included in the study. The evaluation was performed by two observers using three methods (London Atlas, Demirjian, and Willems methods) to estimate the accurate DA. The outcome was determined by comparing the mean of the DA and CA. **Results:** A total of 52 panoramic radiographs were available for the analysis. The London Atlas and Demirjian methods overestimated the DA with a mean of 0.05 and 0.20 years, respectively, while the Willems method underestimated by 0.19 years. The London Atlas method was highly precise and accurate, while Demirjian and Willems methods were the least precise and accurate. **Conclusion:** The London Atlas method of DA estimation is highly accurate and valid for children with special needs in the Malaysian population, followed by the Willems and Demirjian methods. © 2024 Wolters Kluwer Medknow Publications. All rights reserved.

**Author Keywords**

Demirjian method; London Atlas method; Malaysia; special needs children; Willems method

**Index Keywords**

adolescent, child, dental age estimation, disabled child, human, panoramic radiography, preschool child; Adolescent, Age Determination by Teeth, Child, Child, Preschool, Disabled Children, Humans, Radiography, Panoramic

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**Correspondence Address**

Ismail A.F.; Kulliyah of Dentistry, Pahang, Malaysia; email: drfaisal@iium.edu.my

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