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Accuracy of Different Dental Age Assessment Methods to Determine Chronological Age among Malay Children

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Abstract

Willems method is the most common method used for dental age assessment among Malaysian children. London Atlas method was recently introduced in 2010 and there was no study conducted using this method for Malaysian children. This study was conducted retrospectively by analyzing 150 digital dental panoramic tomograms of 5-, 10- and 15-year-old healthy Malay children attending Faculty of Dentistry, International Islamic University Malaysia within the period from 2012 to 2016. The mean age estimated using Willems method and London Atlas method were compared to the mean chronological age. All data were analysed using RStudio software. The results of the study showed that infra- and interexaminer reliability were 0.75 and 0.82, respectively. The mean chronological age for 5-, 10- and 15-year-old groups were 5.49, 10.22 and 15.39, respectively. Significant differences were observed for 5- and 10-year-old groups between London Atlas method ($P < 0.05$) and Willems method ($P < 0.05$) when compared to chronological age. However, no significant difference was observed for 15-year-old group ($P > 0.05$). Willems method is more accurate in determining chronological age for the 5- and 10-year-old groups compared to London Atlas method.

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