

General and erosive tooth wear of 16-year-old adolescents in Kuantan, Malaysia: prevalence and association with dental caries

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Abstract

Background: The objective of this study was to determine the prevalence and severity of general tooth wear (GTW), i.e. tooth wear irrespective of etiology and erosive tooth wear (ETW), i.e. tooth wear predominantly due to erosion; and also to investigate the relationship between ETW and dental caries experience in 16-year-old adolescents in Kuantan, Malaysia.

Methods: A multi-staged cluster sampling method was employed. A total of 598 16-year-old adolescents participated in this study. Participants' demographic profile was assessed through a self-administered questionnaire. Clinical examinations were carried out under standardized conditions by a single examiner. The level of GTW was recorded using the modified Smith and Knight's Tooth Wear Index (TWI) whilst ETW were recorded using the Basic Erosive Wear Examination (BEWE) index. This index was developed to record clinical findings and assist in the decision-making process for the management of erosive tooth wear. Dental caries was recorded using the D3MFT index whereby D-3 denotes obvious dental decay into dentine detected visually.


Results: The prevalence of GTW, ETW and dental caries, i.e. percentage of individuals found to have at least one lesion, was 99.8%, 45.0% and 27.8% respectively. Two thirds of affected teeth with GTW were observed to have a TWI score of 1 whereas almost all of the affected teeth with ETW had a BEWE score of 2. The mean D3MFT was 0.62 (95% CI 0.50, 0.73) with Decayed (D) teeth being the largest component, mean D3T was 0.36 (95% CI 0.30, 0.43). There was no significant association between socio-demographic factors and prevalence of ETW. Logistic regression analysis also showed no significant relationship between the prevalence of ETW and D3MFT ($p > 0.05$).

Conclusions: Almost all adolescents examined had GTW but they were mainly early lesions. However, nearly half were found to have ETW of moderate severity (BEWE score 2). No significant relationship between the occurrence of erosive tooth wear and caries was observed in this population.


Keywords

Author Keywords: [BEWE](#); [Erosive tooth wear](#); [Dental caries experience](#)
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