

Paediatric Dentistry: Causes of Tooth Erosion

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Commentary

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DESCRIPTION

The purpose of this cross-sectional experiment was to examine the prevalence and severity of tooth erosion in children aged 8 to 15 years old, as well as the predisposing variables that contribute to tooth erosion. A random sample of 10% of the Maltese population between the ages of 8 and 15 was chosen. Geographic areas, gender and kind of school attended were all represented in the sample (state, church and independent schools). A total of 439 (8-year-olds) and 555 (15-year-olds) individuals were tested in a systematic manner. The participants were asked to complete a questionnaire on their social, oral hygiene, dietary and medical histories.

The erosion scores were measured using the Basic Erosive Wear Examination Index (BEWE) and the obtained cumulative score values were then categorized into four risk groups according to the risk level guidance to clinical management. The analysis showed a substantial difference in erosion incidence between the two age groups, with the 8-year-old individuals experiencing greater levels of erosion than the 15-year-old subjects. The 8-year-olds also had a higher mean Basic Erosive Wear Examination (BEWE) of 4.6, indicating a higher risk of tooth wear than the 15-year-olds, who had a lower mean Basic Erosive Wear Examination (BEWE) of 3.2. The disparity can be attributed in part to the fact that the 8-year-old group's deciduous teeth were evaluated, which would have been exposed to acidic hazards for a longer amount of time than the permanent dentition investigated in the 15-year-old patients, as well as differences in tooth structure. Gender was also revealed to be a predisposing factor for erosion in both age groups, according to this investigation.

While the difference in erosion scores between 15-year-old male participants (44.6%) and female subjects (43.2%) was minor and not statistically significant, the 8-year-old individuals showed a larger discrepancy. In fact, within the 8-year-old group, the mean BEWE cumulative scores of females and boys revealed a statistically significant difference (Unpaired t-test: $p=0.0147$) between the gender groups, with males experiencing more erosion (58%) than girls (49.2%).

To avoid uncooperative subjects during dental examination, it is recommended that a concise questionnaire with additional completion guidance be drafted, follow-up dental examinations at schools be scheduled to reach unexamined subjects due to school absenteeism on the examination day and a short informative session about the examination procedure be held prior to the actual examination of subjects.

Examining at 15 years may not be suitable because the determinants of erosion have not acted for long and the participants are too young for the etiological factors to have fully exerted their effects; examining at 8 years may not be ideal because the participants are at a mixed dentition stage, causing the erosion analysis to be incompatible due to the presence of both primary dentition that have been revealed to erosion-contributing factors. Tooth erosion and attrition were apparently present in a substantial proportion of children aged 8 to 15. These findings confirm that tooth wear is a common dental problem for infants, with evident long-term consequences for their dentition and quality of life.

According to the findings, self-reporting symptoms are low, hence education on the signs and symptoms of tooth erosion should be implemented. This should be accompanied by enhanced instruction to begin using fluoride-containing adult toothpaste as soon as the permanent teeth sprout. Finally, patient monitoring following tooth wear diagnosis, elimination of causative elements, and uncomplicated dental treatments may allow the patient to avoid major restoration operations. To encourage a healthy lifestyle, more preventative interventions aimed at children and teens are needed.