

Dental Erosion in a Cohort of Athletes: A Cross-Sectional Study



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Introduction

Dental erosion is the progressive and continuous loss of dental hard tissue caused by non-bacterial acids, a prevalent condition in populations exposed to dietary and environmental risk factors. Athletes, due to high consumption of isotonic drinks and specific diets, show increased susceptibility to dental erosion, which may compromise both oral health and athletic performance [1].

Objective

This study aimed to describe the prevalence of dental erosion in a cohort of adult athletes and to analyze the association between behavioral factors, dietary habits, and the risk of dental erosion.

Materials and methods

A cross-sectional study was conducted with 80 athletes (mean age: 24.2 ± 4.0 years; 70.0% male). Data collection involved a self-administered questionnaire and clinical examination, assessing the presence and severity of dental erosion using the Basic Erosive Wear Examination (BEWE) index, alongside participants’ dietary and behavioral habits.

Results

A dental erosion prevalence of 40.0% was observed. Participants who self-rated their oral health as “Good” or “Very Good” showed significantly lower erosion scores (p < 0.01). Uncertainty regarding meal frequency was associated with lower erosion scores, while irregular dental visits were linked to higher scores (p < 0.05). Consumption of isotonic drinks was reported by 31.2% of athletes, lower than data reported in elite athletes [3].

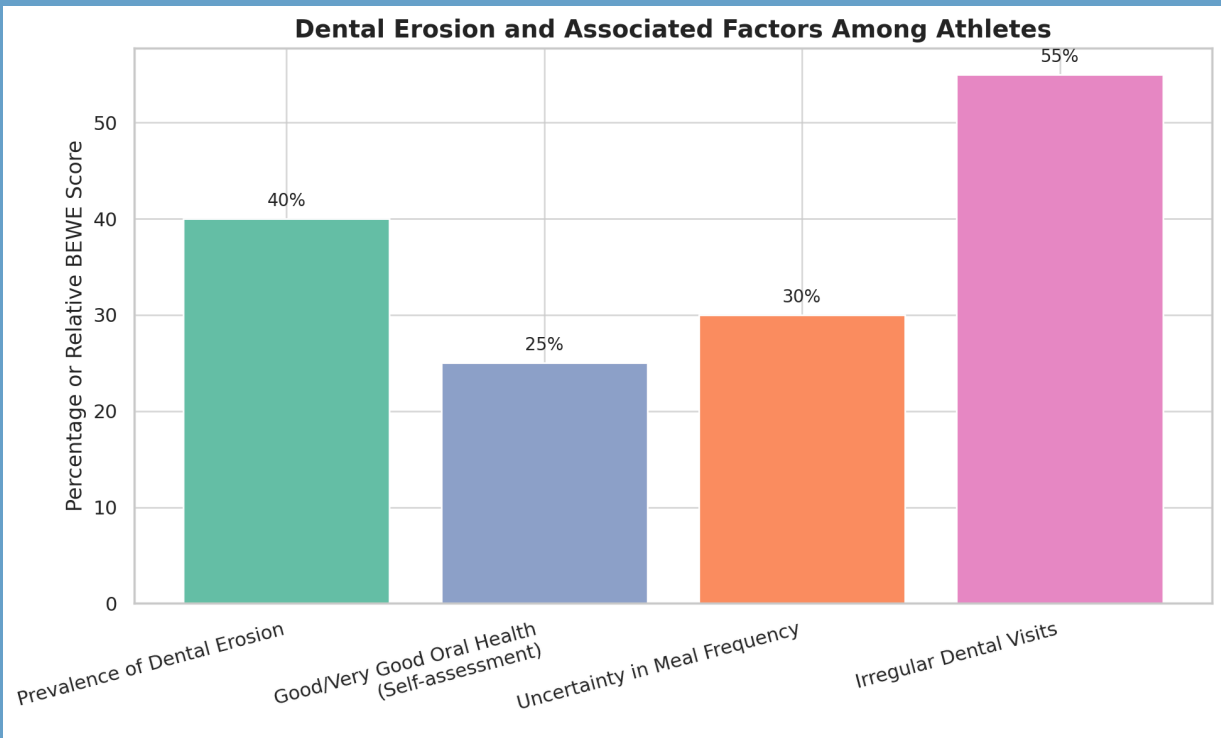


Table 1 - Results of Dental Erosion and Associated Factors Among Athletes

Discussion

The prevalence of dental erosion found in this cohort highlights the relevance of this condition among athletes. The lower consumption of isotonic drinks compared to elite athletes may reflect differences in dietary routines or level of competition, but still represents a significant risk factor given the acidic nature of these beverages [3]. Regular dental check-ups appear to be a protective factor, supporting the role of preventive dental care in reducing erosion severity. Moreover, the association between better self-rated oral health and lower erosion scores suggests awareness and positive oral health behaviors may mitigate erosion progression. However, the unexpected finding that uncertainty about meal frequency correlates with lower erosion scores warrants further investigation, as meal frequency and timing could influence acid exposure in the oral environment. Educational interventions focused on diet and oral hygiene remain critical to preserving oral health in this population [1,2].

Conclusion

These findings highlight the importance of educational interventions promoting proper dietary and oral health habits to reduce the risk of dental erosion in athletes. Awareness campaigns are essential given the recognized health risks associated with high sugar and acidic intake [2].

References

1. Nijakowski K, Lehmann A, Zdrojewski J, Surdacka A. Oral health condition and occurrence of erosive tooth wear in competitive athletes. Dent Med Probl. 2020;57(1):59–66.
2. World Health Organization. Sugars intake for adults and children: guideline. Geneva: WHO; 2015.
3. Gallagher J, Ashley P, Petrie A, Burnside G, Mulhern J, Needleman I. Development and evaluation of a behaviour change intervention to improve oral health in elite athletes: a feasibility study. Br J Sports Med. 2016;50(5):313–8.