Abstract

Introduction: healthy dietary habits are considered to improve oral health and tooth quality. Caries treatment comprises tooth restoration with dental composites and sealants, almost all (> 90%) of which contain bisphenol A (BPA). Study hypotheses were: a) breakfast and oral hygiene habits are important factors in dental caries development; and b) dental caries treatment with epoxy-resins entails a risk of oral exposure to monomers migrating from the polymeric material. We evaluated caries in the teeth of a Spanish school population and determined the percentage treated with dental composites. Objective: to relate consumption of breakfast components and oral hygiene habits to dental caries and determine the presence of sealants/composites as potential sources of BPA exposure. Methods: subjects: 582 schoolchildren from Granada city (Southern Spain) aged 7 yrs; mean (SD) of 7.55 (0.64) yrs. Results: caries was detected in 21.7% of their teeth. Mean breakfast quality index (BQI) score, based on nutritional questionnaires, was 5.18 (1.29). Breakfast with foods rich in simple sugars representing > 5% of total daily energy was consumed by 24% of the population and was significantly associated with caries frequency in binary logistic regression analysis. Biscuit consumption was reported by 35.8% and significantly associated with caries frequency. Breakfast intake of bakery products/cereals and of dairy products showed a significant inverse association with caries frequency. No significant relationship was observed between caries and BQI score or oral hygiene factors. Conclusion: further research is required to elucidate the role of diet in caries and the associated risk of exposure to estrogenic xenobiotics such as BPA.

Keywords
Dental caries, School dietary, Breakfast, Dental composites.