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INTRODUCTION

Oral diseases, such as dental caries, are one of the main problems of child and juvenile health. Dental caries may be defined as a disease that causes the destruction of enamel, dentine and cement resulting from acid production by bacteria in dental plaque, ultimately leading to the formation of a cavity in the crown or root surface of the teeth. This study aimed to record the pattern and distribution of dental caries in a sample of schoolchildren living in the region of Coimbra, and report its prevalence according to gender, urbanization, food habits, oral hygiene practices, visits to the dentist and socioeconomic status of the parents.

- Altogether, 9,140 teeth were analyzed, 48.9% deciduous and 51.1% permanent; 6.2% were decayed and 2.0% filled
- The mean value of dmf-t (decayed/missing/filled deciduous teeth) was 1.67 ± 2.52 and DMF-T (decayed/missing/filled permanent teeth) 0.32 ± 0.83
- No significant differences were reported between males and females or rural versus urban children
- Deciduous dentition was significantly more affected by dental caries than permanent teeth (Chi-square test = 114.835; $p = 0.000$)
- DMF-T and dmf-t indices were higher for children who consumed potentially cariogenic food/drinks more often

SAMPLE AND METHODS

Between March and June 2009, dental caries was analyzed in a sample of 392 schoolchildren from both sexes (190 males and 202 females), aged 6-11 years old, living in the region of Coimbra and attending specifically three schools: EB1 São Martinho do Bispo, EB1 Quinta das Flores and EB1 Bairro Norton de Matos. The teeth of each child were analyzed carefully by the same oral hygienist, under good lighting conditions, using an intra-oral mirror and a dental explorer.

RESULTS

- Children whose parents had higher professional status presented lower dmf-t indices; on the other hand, DMF-T indices were significantly higher only for children whose mothers had lower professional status (One-Way Anova: 1.991; $p = 0.007$)
- Children whose parents had higher education levels showed lower dmf-t indices; but DMF-T indices were only significantly higher for children whose mothers had lower education levels (One-Way Anova: 3.253; $p = 0.001$)
- Oral hygiene practices revealed to be related to the socioeconomic status as well as to the level of education of the mother: employed and more educated mothers showed to be more careful with their children's oral hygiene (Chi-square test = 49.936; $p = 0.005$)

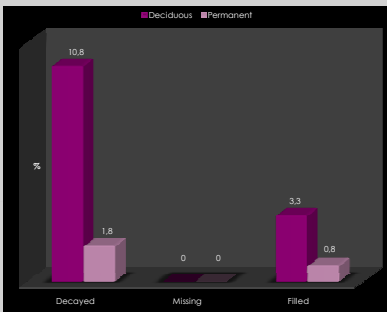


Fig. 1 Decayed, missing and filled teeth frequencies in deciduous and permanent dentition

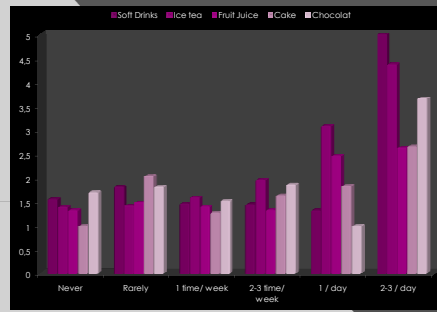


Fig. 2 dmf-t values according to potentially cariogenic food/drinks consumption.

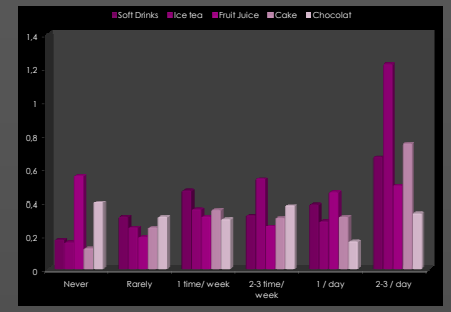


Fig. 3 DMF-T values according to potentially cariogenic food/drinks consumption.

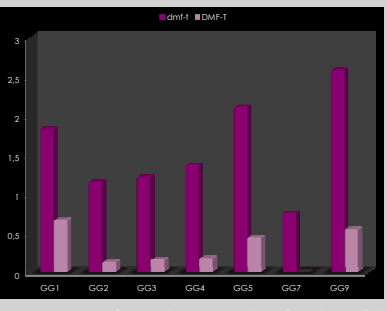


Fig. 4 DMF-T and dmf-t mean values according to the professional status of the mother.

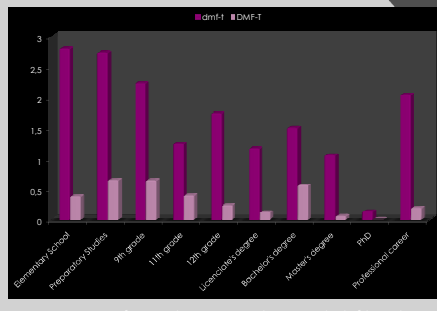


Fig. 5 DMF-T and dmf-t mean values according to the education level of the mother.

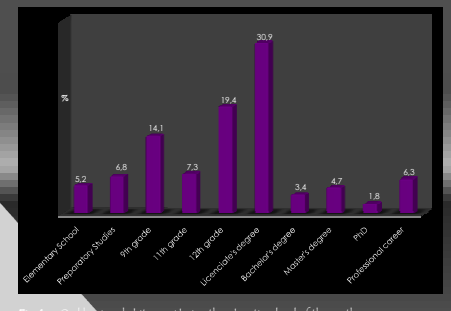


Fig. 6 Oral hygiene habits considering the education level of the mother.

DISCUSSION

Dental caries has a multifactorial etiology but of prime importance are the amount and type of carbohydrates in the diet as well as the availability and access to dental care, factors that are often intimately related to the socioeconomic condition of the individuals. In fact, lack of resources to pay for care, insufficient understanding of the importance of oral health and effective self-care practices, among others, represent common underlying reasons for a poor oral health. The responsibility for children's oral health belongs to adults, usually parents. In the last years, several studies conducted in different countries (David et al., 2006; Livny et al., 2007) tried to investigate how children's oral health was related to food consumption habits, oral hygiene practices, visits to the dentist and socioeconomic status of their parents, but relatively few investigations were made in Portugal (Almeida et al., 2008). By analyzing a sample of schoolchildren living in the region of Coimbra, Portugal, the present study found that children with the highest values of dmf-t and DMF-T were those who consumed potentially cariogenic drinks more frequently (2-3 times/day), such as soft drinks, fruit juice and ice tea. These drinks contain high levels of sugar, preservatives, flavors and other ingredients that cause enamel demineralization. This study also showed that oral hygiene practices were related to the socioeconomic status as well as to the level of education of the mother: employed and more educated mothers showed to be more careful with their children's oral hygiene. Unsurprisingly, the lower socioeconomic status of the mother and bad oral hygiene practices were associated to increased dmf-t and DMF-T indices. On the other hand, the lower professional status and educational level of the father were related to increased dmf-t indices only and not DMF-T. In sum, the present study confirms that beyond biological factors, socioeconomic conditions are very important in children's dental caries prevalence. Therefore, assessing parents' perceptions about how oral health problems and their treatment may affect their children's quality of life is important. Parents should be better informed about the importance of reducing sugars intake, and of the advantages of regular tooth brushing and visits to the dentist.

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