

Early childhood caries: prevention through knowledge

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Summary

Objective. The purpose of this study is to establish the degree of affected teeth and the parental knowledge regarding the causes of this type of caries.

Material and method. A clinical study combined with a questionnaire for mothers was carried out on 115 children aged 1 to 6 years. The questionnaires were composed by questions regarding their personal oral health status and questions concerning the preventive methods for infants.

Results. Half of the mothers believe that the pregnancy may cause dental caries, 50% think that heredity is a harmful factor, for 90% of the mothers the night bottle liquid was milk or breastfeeding upon demand and 80% stated that they received oral health information from TV, magazines and 29% from pediatricians.

Conclusion. The level of oral health knowledge was unsatisfactory but a promising approach toward primary prevention of ECC is to develop strategies that target the infectious component of this disease.

Keywords: early childhood caries, dietary habits, prevention.

Introduction

ECC is an infectious disease with *S. mutans*; the major reservoir from which infants acquire it is their mother [1,2] and is it associated with unusual dietary practices [3,4,5]. ECC initially presents with smooth-surface carious lesions affecting the primary maxillary incisors; as the disease progresses, decay appears on the occlusal surfaces of the primary maxillary first molars, with subsequent spread to other primary teeth, resulting in the eventual destruction of the primary dentition.

Objectives

The purpose of this study is to assess oral health knowledge and behavior among mothers of children with ECC. This analysis was made by a longitudinal retrospective study.

Material and method

Between 2004-2005, a clinical study combined with a questionnaire for mothers was carried out on 115 children aged 1 to 6 years.

The questionnaires were composed of 4 questions about their personal oral health status and 6 questions about preventive methods for infants: alimentary habits, teeth brushing, fluoridation, etc.

Results

Out of the 115 children, 35 children were with a mean of 1 to 3 years and 80 between 4 to 6 years of age. (*Figure 1*)

Of the first group (1 to 3 years), 15 children presented white or brown spots, 10 children cavitated lesions, 4 children complicated caries and 1 case with chronologi-

cal enamel hypoplasia complicated with caries. (Figure 2)

Of the second group (4 to 6 years) 60 children presented simple caries and 20 children complicated caries. (Figure 3)

Among the different items, several points are extremely revealing: half of the mothers believe that the pregnancy may cause dental caries, 50% think that heredity is a harmful factor. The night bottle liquid first cited by 90% of the mothers was milk or breastfeeding upon demand.

80% stated that they received oral health information from TV, magazines and 20% from pediatricians.

Figure 1. Distribution of children related to age

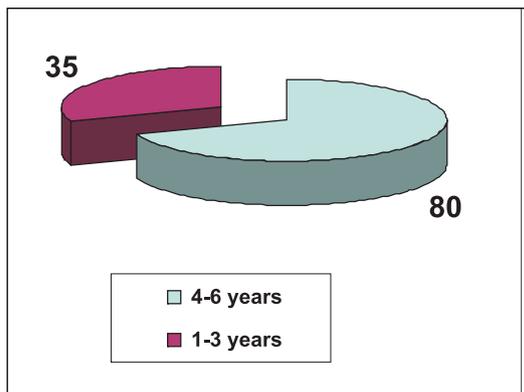


Figure 2. Prevalence of ECC and the degree of the affected teeth in children aged between 1 to 3 years

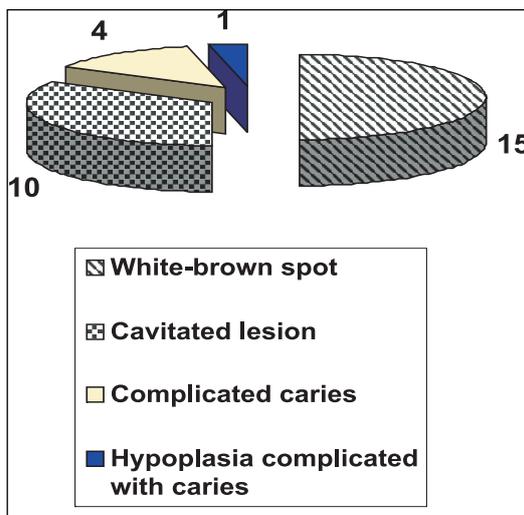
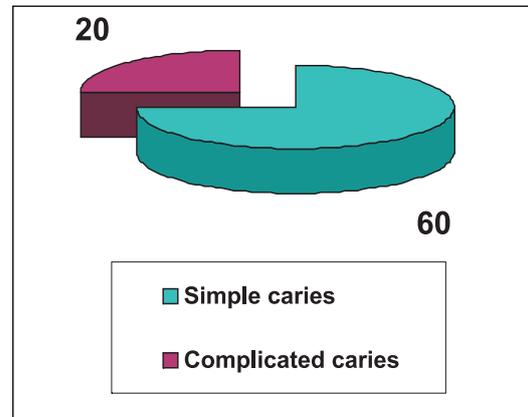


Figure 3. Prevalence of ECC and the degree of the affected teeth in children aged between 4 to 6 years



Discussion

These results bring to the fore a real need for information about alimentary habits, because the level of oral health knowledge was unsatisfactory. Prevention of ECC begins with intervention in the prenatal and perinatal periods. [6] Women should be advised to optimize nutrition during the third trimester and the infant's first year, when enamel is undergoing maturation. Prevention of cariogenic feeding behaviors is one approach to preventing ECC.

Results from other epidemiological studies show that educating parents about this risk factor has had minimal success [7,8]. However, given the high prevalence of ECC in certain groups, it appears that information and knowledge do not always translate into appropriate parenting practices. The parents of children with ECC are frequently aware of the dietary practices associated with the development of the disease, but they may not implement changes in feeding behaviors [5].

Conclusions

A promising approach toward primary prevention of ECC is to develop strategies that target the infectious component of this dis-

ease, for example by preventing or delaying primary acquisition of *S. mutans* at an early age through suppression of maternal reservoirs of the organism. Another approach is

to prevent *S. mutans* from accumulating to pathological levels through topical application of antimicrobial agents [2,6,9].

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