D 1029

ABSTRACT

Early childhood caries has now been recognised as a health problem in many countries. The objective of this study was to determine the prevalence of early childhood caries and assess the risk factors associated with early childhood caries among children below five years in a selected district in Sri Lanka. Further the treatment needs for early childhood caries and the impact of early childhood caries on mothers was also assessed.

This study was carried out in two phases. A cross sectional descriptive design was adapted to determine the prevalence of early childhood caries and the association of selected risk factors to early childhood caries. This was followed subsequently by a case control study which was adapted to assess the risk of significantly associated factors in the descriptive phase. A logistic regression model was fitted to significant risk factors. Removal of confounding effects was carried out in this manner and risk factors that were significantly associated with early childhood caries was determined.

A total of 830 children below five years and their mothers/caregivers participated in the cross sectional descriptive study. The case control was carried out among 188 cases and 188 controls. A total of 20 clusters were selected by multistage stratified random sampling techniques. A cluster was a PHM area, and a minimum of 40 children from the selected PHM area participated in the study.

All data collection was carried out by the Principal Investigator, assisted by the recorder. Saliva analysis for *Streptococcus mutans* was carried out at the Microbiology Department of the Faculty of Medicine, Colombo. All data were collected with the aid of an interviewer administered questionnaire, a three day food diary, clinical examination of the teeth of the children and their mothers/caregivers and salivary *Streptococcus mutans* counts of both child and mother/caregiver. Verbal consent of the mother was obtained from the mother/caregiver.

The prevalence of early childhood caries among children below five years was 63%. The prevalence rose sharply after one year from 23.3% to 76.1% during the fifth year. The severity of the disease was found to be high with the severe component of early childhood caries being high up to three years. The mean *dmft* for children below five years was 4.65. A large proportion of the decay was untreated. A large proportion of caries was non cavitated, thereby the need for caries arresting care was high.

Significant associations of several factors with ECC were found in the descriptive study. Level of education of mother and father, family income, time spent with the father, presence of childhood diseases, age of eruption of tooth, prolonged breastfeeding, duration of breastfeeding, long term use of feeding bottle, average total consumption of sugar per day, time of commencement of brushing and biting or chewing child's food before feeding showed significant associations.

The prevalence of *Streptococcus mutans* in children below five years was 63%, but the strength of counts was low. All mothers were colonised with *Streptococcus mutans* of which 8.2% of mothers had high counts (>10^6 cfu).

Case control and logistic analysis revealed that long hours of time spent with father, prolonged breastfeeding, not brushing teeth of the child and delay in commencement to brush teeth after eruption proved to be significant risk factors.

ECC should be recognised as a priority health problem and dental services for children should be planned and organised to be made available and accessible to children below five years. Early screening of all children, screening of pregnant mothers and health education programmes integrated into the existing MCH services would be an effective method in reducing the prevalence of ECC in Sri Lanka.