FACTOR INFLUENCING DENTAL CARIES OF PRIMARY SCHOOL CHILDREN AGE 6-7 AND 12 YEARS OLD IN BANGKOK METROPOLITAN

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ABSTRACT

Dental caries is a multifactorial disease which can be found in every age. Although there is high prevalence of caries in children but there is a small proportion of children having high caries. To date there are few studies about the risk factors of dental caries and the method of risk group identification risk group. Thereby the present study a cross-sectional study was conducted from January-February 1993 in order to investigate the sociodemographic risk factors and dental health behaviors related to dental caries in primary school children. 771 children from two primary schools in Bangkok Metropolitan, one is Bangkok Metropolitan Administration school which represents the children from low income families and the another is a private school which represents the children from high income

families, were purposively selected. Their dental caries status recorded as DMFS and dfs; severity of dental caries recorded as GSI; and oral hygiene status recorded as OHI-S were examined by two calibrated dentists. Self-administrated questionnaires were distributed among the children's parents to ascertain information on their socio-economic status; level of education, occupation and family income; oral health behaviors of their children in frequency of tooth-brushing, type of dentifrice use and the experience of fluoride supplement.

Results from the study show mean DMFS and dfs of children aged 6-7 children years old were 0.56 and 11.42 respectively. At age 12 years old the average of DMFS was 3.76. The mean caries intensity of children aged 6-7 years old were 17.74 in primary dentition and 1.28 in permanent dentition while the caries intensity of children age 12 years old was 2.53. The prevalence of dental caries was significantly higher in the Bangkok Metropolitan Administration school children especially in the permanent dentition of the age 6-7 yeras old (prevalence ratio= 3.74, $p < 0.001$). The univaiate and discriminant analysis of the data were performed for primary dentition and permanent dentition of age 6-7 years old and permanent dentition of age 12 years old separately. At age 6-7 years all three components of the parent's socio-economic status and the seeking for oral health care were significantly related to the caries intensity ($p < 0.01$). While at age 12 years old only the level of parent's education and children's birth order were significant ($p < 0.05$). The GSI score was significantly ($p < 0.001$) related to the caries intensity in every dentition of the children. The discriminant analysis was done separately for primary dentition, permanent dentition of age 6-7 years old and permanent dentition of 12 years old by

subdivided the subjects of each age group into three groups; caries free, low risk (1-4% caries intensity) and high risk (5% and over caries intensity). In the caries prediction model of each age group only the level of parents' education and the children's GSI score were illustrated as the significant predictors. At least 70% of children were correctly classified by these two predictors. However, the predictive value (59.53%) is lower in the model of primary dentition of children age 6-7 years old. The other factors included in the model failed to the evident as good predictors.

It is recommended that the precision of these two predictors in identifying caries risk in children should be further investigated. Moreover, the other potential caries factors which were not included in this study e.g. microbiological and salivary factors should also be further studied.