

MICROBIAL AND BEHAVIORAL DETERMINANTS OF DENTAL CARIES IN PERMANENT DENTITION AMONG THAI SCHOOLCHILDREN

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Abstract. Identifying the causes of dental caries is important to develop effective prevention strategies. This study aimed to identify factors associated with dental caries in permanent dentition of Thai schoolchildren. We conducted a cross section study to evaluate the microbial and behavioral factors associated with caries by comparing children with and without caries. We randomly selected study subjects to determine their surface-specific dental caries counts using the decayed, missing and filled surfaces (DMFS) index: socio-demographic data, snacking and oral care behaviors were determined using a self-administered questionnaire. The saliva of each subject was examined and tested for buffer capacity and level of salivary cariogenic bacteria [*Streptococcus mutans* (SM) and Lactobacilli (LB)]. Multiple linear regression analysis was used to determine the potential determinants of the DMFS score. A total of 139 subjects were included in the study. The mean [\pm standard deviation (SD)] age of subjects was 13.4 (\pm 0.93) years. The study subjects had different brushing and snacking behaviors. The average (\pm SD) DMFS score was 7.65 (\pm 5.46). The factors significantly associated with caries were buffering capacity, level of salivary cariogenic bacteria and some oral care behaviors (brushing after lunch, brushing before bed and using fluoride toothpaste) ($p < 0.001$). Caries prevention education in the study population should include education about quality of tooth brushing. Further studies are needed to determine if these prevention control measures can be effective.

Keywords: caries, determinants, DMFS, schoolchildren, Lactobacilli, *Streptococcus mutans*

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