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Correlation between dental caries and diet, oral hygiene habits, and other indicators among elementary students in Xiulin-township, Hualien-county, Taiwan

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Background & Aim: To analyze the correlations between oral health status and eating habits, oral hygiene habits, and other indicators by dental healthcare oral examination and questionnaires. The target population was elementary school children in Xiulin-township and the aim was the identification of possible factors causing tooth decay.

Methods: A stratified purposive sampling approach was used. First and fourth grade students from eleven elementary schools in Xiulin-township during the academic year 2012 were selected as the subjects for an oral health examination and were also asked to fill in a questionnaire. The survey response rate was 86.8%. Statistical analysis was used to evaluate the correlation between the student's oral health status and the content of questionnaire.

Results: Subjects from Xiulin-township have a high prevalence of dental caries as well as high deft (decayed, extracted and filled teeth in primary dentition), DMFT (decayed, missing and filled teeth in permanent dentition) and deft+DMFT indices, which may be related to the fact that most of these children like to eat sweets, have poor oral hygiene habits, and have extremely low rates of dental healthcare utilization. Mouth cleaning after eating sweets, brushing after eating, and brushing for at least 3 minutes each time is able to effectively predict the deft+DMFT index of school children in Xiulin Township ($R^2=0.218$, $p<0.0001$).

Conclusion: These findings provide information to the relevant health authorities in Taiwan regarding ensuring an adequate distribution of dental care resources in mountainous townships and remote areas. The findings also indicate that there is a need for improved access to dental healthcare in these areas by means of the presence of professional dental hygienists at every school who can educate and supervise the school children to have good oral hygiene habits.