

## ABSTRACT

The aim of this study was to compare the salivary vitamin C, A and E, dietary consumption, prevalence of dental caries and anthropometric data between two groups of children aged 12-16 years old, one group from an urban area and the other from a rural area of Thailand. A stratified random samples were taken by class from one school in each area. The 105 school children were born and resided in Bangkok metropolitan and 138 school children were born and lived in Ampur Nampong District, a rural area in Khon Kaen province, northeast Thailand. Anthropometric assessment was performed to investigate the nutritional status. Results of completed 24-hour dietary recall for three consecutive days examining the average nutrient intake were compared looking for difference, if any, between these two groups of children. Interviewing of the frequency of individual item of food intake was conducted. Dental examinations and whole salivary sampling were also undertaken and possible relationships between some nutrients and salivary vitamins were investigated.

The majority of the children had normal body mass index (BMI) except a large number of boys in Bangkok (61.9%) had BMI below the normal range. The prevalence of dental caries was found to be higher in the children living in the urban area. The children in the rural area consumed a higher intake of carbohydrate, which came mainly from sticky rice. There was no difference in the protein consumption between the two groups, although the children in the rural area consumed more protein from vegetable sources.

correlation between vitamin C intakes and salivary vitamin C concentrations. The correlation was found only in the frequency consumption of some vitamin C rich fruits and salivary vitamin C concentrations. Vitamin A and E concentrations in saliva were low comparable to the existing data of these two vitamins in serum. It is therefore postulated that saliva is not proper for the determination of vitamins A and E as the collection of large volume of saliva is difficult.