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FLUORIDE CONTENT IN COMMONLY CONSUMED FOOD ITEMS IN A HIGH FLUORIDE AREA (EPPAWALA)

MALKANTHI S. CHANDRASEKERA, DEEPTHI NANAYAKKARA, W.R. WIMALASIRI*, G. WIJERATNE AND S. R. MASAKORALE

*Department of Anatomy, Faculty of Medicine and *Department of Basic Sciences, Faculty of Dental Sciences, University of Peradeniya, Sri Lanka*

In Sri Lanka endemic dental fluorosis has been reported especially in the North Central Province (Seneviratne et al 1974). Dental fluorosis in these regions has been attributed to water-borne fluorides. Possible sources of fluorides that may cause dental fluorosis include drinking water, excessive consumption of tea and fluoridated tooth paste.

The present study was undertaken to analyse the fluoride levels in samples of food items commonly consumed by the residents of Eppawala.

Food items, such as different kinds of leafy vegetables, cereals and pulses including rice grown in their home gardens and drinking water samples, were collected from 100 households in Eppawala. The analysis of fluoride was done in triplicate using the ionometer means were calculated in µg/100 g of edible portions of food.

All leafy vegetables from Eppawala showed higher fluoride values when compared with those from Kandy which is considered as an area where fluorosis is not endemic. Commonly consumed leafy vegetables such as Manioc and Kankun showed higher values (1.57µg /100 mg and 1.26µg /100mg) when compared with values in Kandy (0.62µg /100mg) and 0.64 /100g). Brinjals and Lentils from Eppawala had fluoride values (0.55µg /100mg and 0.37µg /100 mg) similar to those from Kandy (0.52 µg /100mg and 0.38µg /100mg).

All other leafy vegetables from Eppawala showed higher fluoride values than those from Kandy. All cereals and pulses from both Eppawala and Kandy showed similar fluoride values.

From this study it suggests that of the causative factors for endemic fluorosis, in addition to water borne fluorides, are commonly consumed food items with high fluoride content.