

Assessment of Current Status of Fluorosis in North-Western Districts of Tamil Nadu Using Community Index for Dental Fluorosis

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ABSTRACT India is one of the countries where hydrofluorosis is a major public health problem, affecting 18 of the 33 constituent States of the Country. Tamil Nadu is one of the Southern states having 10 of the 29 districts affected with fluorosis. Fluorosis is caused by ingestion of excess fluoride mainly through drinking water contamination. A cross sectional study was undertaken in 13 selected villages of five contiguous North western districts of Tamil Nadu viz: Vellore, Dharmapuri, Krishnagiri, Salem and Erode to assess the prevalence of fluorosis, adopting stratified random sampling procedure. A total of 8700 individuals, including 1745 children in the age group of 5-14 years were examined from 2800 Households for dental mottling. The study revealed that community bore wells formed the major source of drinking water among the villages. One hundred and twenty six drinking water samples were collected and the mean fluoride content was found to be more than WHO cut off level of 1.5 ppm in seven of the 13 villages surveyed. The prevalence of dental mottling (DM) was high among the total population in the districts of Dharmapuri (36%), Krishnagiri (24%) and Salem (33%), where the mean fluoride levels were 2.7, 2.2, and 1.2ppm respectively, however, the prevalence of skeletal deformities was low. The prevalence of DM was still high among the children (5-14 years) in the above three districts (53%, 43% and 42% respectively). Evaluation by Community Index for Dental fluorosis (CIDF) (>42% is considered as public health) suggested that the fluorosis is of public health importance in most of the villages. Such high prevalence of fluorosis requires community based interventions through supply of fluoride free surface water from a river, which is the most effective long-term strategy to control and prevent fluorosis.