INTRODUCTION:

Natural wellbeing involves those parts of human wellbeing including personal satisfaction that are dictated by physical, organic, social and mental factors in the earth. Water is a basic common asset for maintaining life and a critical piece of our condition. Some elements are essential in trace amount for human being while higher concentration of the same can cause toxic effects. Fluoride is one of them. Due to rapid urbanization and growth of modern industries as well as geo chemical dissolution of fluoride bearing minerals, fluoride concentration is increasing in the environment including water resources. Around 200 million individuals from 25 countries have wellbeing dangers in view of high fluoride in ground water.

AIM:

To assess the prevalence of dental fluorosis, dental caries experience and it’s relation to fluoride in drinking water among 13-15 year old school going children in Melur block of Madurai district, Tamil Nadu.

MATERIALS AND METHODS:

A cross sectional study was conducted among 13-15 year old school going children in Melur block of Madurai district. Based on fluoride concentration the study population was primarily categorized into three groups that is Group- I (fluoride level in drinking water less than 1ppm), Group –II (fluoride level in drinking water between 1-1.5ppm) and Group –III (fluoride level in drinking water above 1.5ppm) and 270 students were selected in each group. Dental caries experience was assessed using Dentition status and treatment needs based on WHO Oral Health assessment form 1997 and dental fluorosis using Dean's Index modified criteria 1942.
RESULTS

Among the total study population of 810, 711 (87.7%) of the study subjects were affected with dental fluorosis. Prevalence and severity of dental fluorosis increased from Group–I to Group–III with increase in fluoride concentration of drinking water from below 1ppm to above 1.5 ppm. A total of 350 (43.2%) of study subjects in the age group of 13 -15 years had dental caries. Prevalence of dental caries and mean DMFT was found to decrease with increase in fluoride concentration of drinking water. a negative correlation ( -0.991) was observed between fluoride concentration in drinking water and mean DMFT score. But it was not statistically significant (p>0.05) The Community Fluorosis Index for the entire study population was found to be 2.3 which reveals that dental fluorosis is of marked public health significance in Melur block and significant moderate positive correlation (r= 0.510) was found to exist between fluoride concentration in drinking water and community fluorosis index score and mean CFI score was correlated with mean DMFT score, negative correlation (-0.995) was observed between mean CFI score and mean DMFT score. But it was found to be statistically not significant (p>0.05).

CONCLUSION

The present study showed that there was an increase in dental fluorosis severity and decrease in dental caries experience with increase in fluoride levels in drinking water.

KEY WORDS

Dental fluorosis, Dental caries, CFI.