Need for community water fluoridation in areas with suboptimal fluoride levels in India

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Need for community water fluoridation in areas with suboptimal fluoride levels in India

Dr Srinivas Sulugodu Ramachandra, Senior Lecturer at Kanti Devi Dental College, Dr Srikrishna Sulgodu Ramachandra, Assistant Professor at the Public Health Foundation of India, and Dr Mala Rao, Director of the Indian Institute of Public Health, argue that oral health is being neglected in the world's second most populous country

Dental caries is a multifactorial infectious and transmissible disease caused by bacteria colonizing the surfaces of the teeth leading to dissolution and destruction of the hard tissues of the teeth.[1] Unlike most infectious diseases affecting humans, dental caries is the result of an imbalance of the indigenous oral biota rather than a non-indigenous, exogenous pathogen. The introduction of refined sugar into the modern diet and changes in lifestyle have tipped the balance from health to disease.[1] Dental caries is also an established risk factor for cardiovascular disease.[2]

Fortunately, the incidence of caries has progressively decreased in the developed world. This decline in caries is also multifactorial, but has been attributed primarily to the introduction of community water fluoridation.[3] Water fluoridation has been identified by the Centers for Disease Control and Prevention as one of the 10 great public health achievements of the 20th century.[3] Studies in the US, the UK, Australia and New Zealand have demonstrated that water fluoridation reduces not only the overall prevalence and severity of caries, but also the disparities between socioeconomic status groups.[4] Community water fluoridation is an equitable and cost-effective method for delivering fluoride to the community.[4]

However, dental caries levels in developing countries such as India have remained high for many years.[5] The global distribution of caries remains skewed, with the poor and deprived carrying a disproportionate share of the disease burden.[5] Dental caries, like many other diseases, is associated with low socioeconomic status and consequently the levels of caries and tooth loss due to caries are high in the low socioeconomic group in India.[5]

India is a large country, many areas of which suffer from endemic fluorosis whereas others have suboptimal fluoride levels in drinking-water.[6] Since 1987 numerous programmes aimed at fully identifying the problem of fluorosis and developing fluoride removal techniques have been tried out but were not successfully implemented.[6]

In fact China, with similar characteristics to India (a large country with endemic fluorosis in many areas and suboptimal fluoride levels in drinking-water in others), was recommended by the World Health Organization (WHO) to implement differential fluoridation programmes as part of the WHO's Mega Country health promotion network initiative.[7]

Oral healthcare has not been given sufficient importance in India

Oral healthcare has not been given sufficient importance in India.[8] Currently, India is developing strategies for strengthening the prevention of chronic diseases, and this provides an excellent opportunity to integrate oral disease prevention into the overall non-communicable disease (NCD) prevention programmes.[8] An NCD prevention programme is not complete unless an oral healthcare promotion strategy is incorporated. There is an urgent need for policymakers in India to initiate public health policies incorporating various fluoridation programmes in *only* those areas that have suboptimal fluoride levels in drinking-water to reduce the overall caries burden in the Indian population. Exposure to fluoride needs to be regulated in order to obtain the benefits and avoid the adverse effects of fluoride, controlling enamel fluorosis without jeopardizing the prevention of dental caries.

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