Fluoride toxicity manifestations in pregnant women and children in India and the way forward

Fluoride in ground water has wide variations and consumption led to devastating health problems in 20 States of the 35 States and Union territories in India. Besides drinking water, fluoride has also found its passage to cooked food, homemade beverages, packaged snacks and spices through use of calcium fluorite (CaF2). The mineral popularly known as Black Rock Salt or “Sandha namak/Vratka namak” is a concentrate of fluoride with 157 ppm. The salt is added to enrich the food/beverages with aroma and tangy taste. Consumption of fluoride through a variety of sources is a problem both in urban and rural India. Fluoride toxicity manifestations have devastating effects on pregnant women by causing anaemia, leading to premature delivery and new born with low birth weight (<2.5 kg); new born and infant mortality besides maternal mortality have rocked the nation for almost 2 decades without having any beneficial effects on iron and folic acid supplementation. India is unable to achieve MDG 5 and 4 by 2015. Our studies and results have paved the way forward to address anaemia and prevent infant and maternal mortality to a large extent through interventions, primarily addressing elimination of fluoride and promotion of a nutritive diet. The crux of the problem lies in fluoride deranging the GI mucosa resulting in non-absorption of nutrients. Upon fluoride withdrawal, mucosa regenerates and enhances haemoglobin production.

Biography

A K Susheela after obtaining her Doctorate degree from an Indian University had Post Doctoral Training in UK, USA and Canada. She has then joined the Faculty of the prestigious All India Institute of Medical Sciences in 1970; continued to serve the Institution through teaching, research and patient care services until superannuation in 1997. Then, she took the reins of the Foundation as the Executive Director which she continues till date. The Foundation is a National and Global Consultation Centre on all aspects of Fluoride and Fluorosis, besides a Training Centre for Doctors, Water Supply Personnel and Diet Counsellors including other Health Functionaries.