

FLUORIDE INGESTION, THE PRIMARY CAUSE FOR HIGH PREVALENCE OF ANEMIA IN PREGNANT WOMEN AND LOW BIRTH WEIGHT BABIES: SIMPLE AND EASY TO PRACTICE INTERVENTIONS FOR IMPROVING MATERNAL AND INFANT HEALTH

A.K. Susheela , N.K. Mondal , Rashmi Gupta,
Fluorosis Foundation of India, 34 , I. P. Extension, Delhi, 110092, India

Kamala Ganesh, Former Director- Professor and Head, Dept of OBGY, Maulana Azad Medical College, New Delhi -110002

Sammi Bhasin, Head, Department of OBGY, Deen Dayal Upadhyay Hospital, Delhi -110064 and Amita Saxena, Head, Department of OBGY, Lal Bahadur Shastri Hospital, Delhi - 110092

SUMMARY: Anemia in pregnancy and low birth weight babies is a problem prevalent in India and other nations. This communication reports the results of a novel initiative to address the issue. The uniqueness of the strategy lies in withdrawal of fluoride, consumed through a variety of sources including water. The study was conducted in 2 Delhi Government hospitals; screened 3262 pregnant women visiting Antenatal Clinics (ANCs). Women upto 20 week pregnancy with hemoglobin (Hb) 11.0 – 5.0 g/dl; with urine fluoride level (UFL) > 1.0 mg/L and not suffering from any ailment(s) selected. Total 481 pregnant women, grouped into sample (n=234) and control (n=247), through a computerized random sampling procedure. The sample group introduced to, two interventions (1) removal of fluoride from ingestion (2) counseling based intake of essential nutrients through dairy products, vegetables and fruits. No intervention was introduced to control group. Both groups received supply of iron and folic acid (100 mg iron + 500 µg folic acid) through ANCs. Both groups monitored for UFL and Hb until delivery during their visits to ANC. BMI recorded initially and prior to delivery. Birth weight of babies and other details recorded from Labour room register. Results reveal in sample group women, UFL decreased in 152/234 (65.0%). An increase in Hb upon practise of interventions recorded in 182/234 (77.7%). Body Mass Index enhanced. The percentage of pre-term deliveries (<34 weeks) decreased to 1% and foetal wastage 0.4%. Normal birth weight babies (≥ 2.5 kg) born are 193/234 (82.5%); reducing low birth weight babies to 41/234 (17.5%). In contrast to, in control group UFL reduced in 49%; rise in Hb in 56.7%; normal birth weight babies born 59% with low birth weight babies 41%. Pre-term deliveries were 5% and foetal wastage 2.4%. The overall benefits accrued through interventions have been extraordinary and that is the major finding announced. The innovative procedure has undoubtedly proven for the first time that anemia in pregnancy is mainly due to non-absorption of nutrients including iron and folic acid supplemented due to adverse reactions of fluoride on gastro intestinal mucosa. Withdrawal of F⁻ rectifying the damages, absorption of nutrients lead to correction of anemia.

Keywords: Fluoride toxicity, anemia, pregnancy, low birth weight babies

A.K. Susheela, Fluorosis Foundation of India, B-1 Saransh, 34 I.P. Extension, Delhi – 110092, India.
Email: FRnRDF@gmail.com