

# Medicine and Society

## National Iron-plus Initiative guidelines for control of iron deficiency anaemia in India, 2013

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### INTRODUCTION

The National Iron+ Initiative guidelines have been developed by the Adolescent Division of the Ministry of Health and Family Welfare (MoHFW), Government of India. Cognizance has been taken of the scientific evidence and several consultations have been held with experts in the domain while developing the guidelines. The guidelines build on past and continuing work on the prevention and control of anaemia in India, and have been developed in the context of the existing policies and strategies of the health, nutrition and population sectors. Comprehensive strategies and interventions have been identified for high-risk groups, in particular, infants and young children, adolescent girls, women of reproductive age, and pregnant and lactating women, and for the population as a whole. The National Iron+ Initiative guidelines have four objectives:

1. To bring to the attention of programme managers of health and health-related activities the serious consequences of anaemia on health and the physical, mental and economic productivity of individuals and populations
2. To develop protocols for iron folic acid (IFA) supplementation across the life cycle (preventive strategy)
3. To define a protocol for minimum standard treatment for facility-based management of mild, moderate and severe anaemia segregated by levels of care (curative strategy)
4. To broadly identify platforms for the delivery of services and indicate the roles of the service providers.

These guidelines are being published for wider dissemination to all stakeholders including scientists, health planners and administrators.

The prevalence of anaemia in India is higher than that in many countries of the world. Almost 58% of pregnant women are anaemic and it is estimated that anaemia is the underlying cause of 20%–40% of maternal deaths in India. Nutritional anaemia is a major public health problem in India and is primarily due to iron deficiency. The National Family Health Survey-3 (NFHS-3) data suggest that anaemia is widely prevalent among all age groups, and its prevalence is particularly high among the most vulnerable—nearly 58% among pregnant women, 50% among non-pregnant non-lactating women, 56% among adolescent girls (15–19 years of age), 30% among adolescent boys and around 80% among children under 3 years of age.<sup>1</sup>

### TRENDS IN PREVALENCE OF ANAEMIA

#### *Among under-5 children*

Seventy per cent of children of the age of 6–59 months in India are anaemic. While 3% are severely anaemic, 40% are moderately anaemic and 26% are mildly anaemic. In 24 states, more than half the young children have anaemia, while in 11 states more than two-thirds of the children are anaemic. The prevalence of anaemia ranges from 38% in Goa to 78% in Bihar.<sup>1</sup>

#### *Among adolescent girls and boys*

The prevalence of anaemia among adolescent girls (haemoglobin <12 g/dl) and boys (haemoglobin <13 g/dl) is alarmingly high, as per NFHS-3 and the National Nutrition Monitoring Bureau Survey.<sup>1,2</sup> Over 55% of adolescent girls are anaemic. The prevalence of anaemia among girls between 15 and 19 years of age and those between 20 and 29 years of age remains stagnant at 55.8% and 56.1%, respectively. On the other hand, the prevalence of anaemia among boys of 15–19 years of age is higher (30.2%) than that among men of 20–29 years of age (19.3%).<sup>1,3</sup>

#### *Among pregnant women, men and women of reproductive age*

Anaemia is a major health problem for adults as well, affecting 55% of women, 58% of pregnant women and 24% of men. The prevalence of anaemia among ever married women increased from 52% at the time of NFHS-2 to 56% at the time of NFHS-3.<sup>1,3</sup>

### STRATEGY OF THE NATIONAL IRON-PLUS INITIATIVE

Taking cognizance of the ground realities, the MoHFW took a policy decision to develop the National Iron+ Initiative.<sup>4</sup> This initiative will bring together the existing programmes for IFA supplementation for pregnant and lactating women and children in the age group of 6–60 months, and will introduce new age groups. Thus, the initiative will reach the following groups for supplementation or preventive programming, irrespective of their status with respect to anaemia.

1. 6 months to 5 years (pre-school children): bi-weekly iron supplementation (1 ml of IFA syrup containing 20 mg of elemental iron and 100 µg of folic acid)
2. Children studying in classes I to V in government and government-aided schools or children who do not go to school (5–10 years of age): weekly supplementation (tablet with 45 mg of elemental iron and 400 µg of folic acid)
3. Adolescents (10–19 years of age): weekly supplementation (tablet with 100 mg of elemental iron and 500 µg of folic acid)
4. Pregnant and lactating women: 100 days of supplementation (tablet with 100 mg of elemental iron and 500 µg of folic acid)
5. Women of reproductive age: weekly supplementation (tablet with 100 mg of elemental iron and 500 µg of folic acid)

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The specific details of IFA supplementation for the prevention and treatment of iron deficiency anaemia in the age groups of 6–60 months (pre-school children), 5–10 years (school-age children), 10–19 years (adolescents), pregnant and lactating women, and women of reproductive age is available at [http://www.unicef.org/india/10.\\_National\\_Iron\\_Plus\\_Initiative\\_Guidelines\\_for\\_Control\\_of\\_IDA.pdf](http://www.unicef.org/india/10._National_Iron_Plus_Initiative_Guidelines_for_Control_of_IDA.pdf).<sup>4</sup>

Since anaemia is not just about medical interventions but, to a great extent, also about changing behaviour (both in terms of dietary habits and compliance), there are plans to develop an extensive communication campaign. A comprehensive strategy emphasizing dietary diversification, IFA supplementation and food fortification is required to control the problem of nutritional anaemia.

Dietary diversification entails encouraging the consumption of micronutrient-rich foods—dark green leafy vegetables, lentils and fruits rich in vitamin C—which may be available but underutilized by the deficient population.

Food fortification refers to the addition of micronutrients to processed foods. In many situations, this strategy can lead to relatively rapid improvements in the micronutrient status of a population, and at a reasonable cost, especially if use is made of the existing technology and local distribution networks.

## PLAN FOR IMPLEMENTATION

### *Supplementation for children of 6–60 months of age*

For all children between the ages of 6 and 60 months, it is proposed that the IFA supplement will be administered on fixed days on a bi-weekly basis, under the direct supervision of an accredited social health activist (ASHA). The supplement will not be administered in case of acute illness (fever, acute diarrhoea, pneumonia, etc.) and severe acute malnutrition, as well as in known cases of haemoglobinopathy/history of repeated blood transfusion.

The ASHA could give mothers the bottles of IFA syrup for safe storage and to get around the logistic problem of carrying the bottles with her. However, the syrup will be administered only under her direct supervision. During her visits, the ASHA will also advise/inform the caregiver about the following issues.

- Time of administration: half an hour after food if the child has been breastfed (in low birth weight [LBW] infants) fed semi-solid or solid food
- Benefits of taking IFA syrup regularly: Physical and cognitive development of the child, e.g. improvement in well-being, attentiveness in studies and intelligence
- Minor side-effects associated with the administration of IFA, such as blackening of stools
- Storage of the IFA bottle: in a cool and dark place, away from the reach of children, with the lid tightly closed after each use, etc.

The details of the IFA supplementation provided will be noted down in the mother and child protection card. ASHAs will be suitably incentivized for undertaking this activity.

### *Supplementation for children between 5 (61 months onward) and 10 years of age*

Schools and *anganwadi* centres (AWCs) would be used as platforms to provide IFA supplementation and de-worming tablets to children in the age group of 5–10 years. The effort would be implemented with the help of teachers and *anganwadi* workers (AWWs). The ASHA would be involved in mobilizing these children at the community level. Teachers, AWWs and ASHAs could be incentivized to undertake this activity.

*Other measures to prevent anaemia among children (<10 years)*  
Besides the provision of micronutrient supplements, the following initiatives will be taken simultaneously as long-term measures to prevent iron deficiency anaemia in children.

- Promotion of exclusive breastfeeding for first 6 months of life
- Appropriate and adequate complementary feeding with iron-rich foods till 2 years of age
- Dietary diversification to include foods rich in absorbable vitamins and minerals
- Diagnosis, control and treatment of parasitic infections

### *Weekly IFA supplementation for adolescent girls and boys (10–19 years of age)*

For adolescent boys and girls in school (10–19 years of age), the programme will be implemented in urban and rural areas through government/government-aided/municipal schools. Through AWCs, it will also reach girls who do not go to school and are in the age group of 10–19 years.<sup>5</sup>

The strategy involves a ‘fixed day—Monday’ approach for the distribution of the IFA supplement. Teachers and AWWs will supervise the ingestion of the IFA tablet. A conscious effort has already been made to promote the supplementation to reach out both to boys and girls and ensure compliance. The IFA tablet for children is blue (*iron ki nili goli*) so that it can be distinguished from the red IFA tablet for pregnant and lactating women.

### *Pregnant women and lactating mothers*

Pregnant women will be given IFA tablets during routine antenatal visits to the sub-centre/primary health centre/community health centre/district hospital.

The ASHAs will make home visits to ensure that pregnant women who are unable to go for regular antenatal check-ups receive IFA supplements. They will also monitor compliance, i.e. keep track of the actual consumption of IFA tablets, through weekly house visits. ASHAs could be incentivized suitably for undertaking this task.

### *Women of reproductive age (15–45 years)*

ASHAs will provide IFA supplements to women in the reproductive age group during doorstep distribution of contraceptives. All health facilities would have an adequate supply of IFA supplements for such women.

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