

What is Anaemia

1. Why anaemia rates are so high in our country, compared to many other developing as well as less developed countries?

Anaemia is very common in India because of inadequate iron, folate intake due to low vegetable consumption (not readily available and not tasty) and low flesh food consumption (affordability issues). Poor bioavailability of dietary iron from the fibre, phytate rich Indian diets (but this protects us from CVD and cancers!) and increased requirement of iron in growing children and during pregnancy and chronic blood loss due to parasitic infestations e.g malaria and hook worm.

There has not been any decline in the prevalence of anaemia or its adverse consequences on mother child dyad over the last six decades -

- Majority of Indians (over 50% of men 60 % of women in India) are anaemic.
- Anaemia begins in childhood, worsens during adolescence in girls and gets aggravated during pregnancy. Over 3/4th of pregnant women are anaemic.
- Prevalence of anaemia in children is high because of poor iron stores, low iron content of breast milk and complementary foods.
- There is thus an intergenerational self perpetuating vicious cycle of anaemia.
- Iron intake is low in all age groups; there has been no increase in iron intake over three decades

LEVEL OF ANAEMIA

Mild (10.0-10.9 g/dl)

Moderate (7.0-9.9 g/dl)

Severe (<7.0 g/dl)

Any anaemia (<11.0 g/dl)

2. Why the situation not improving inspite of all the attention, inputs as well as expertise available?

Task ahead is to -

- Improve the iron, folate and perhaps B12 intake of the entire population and reduce prevalence of anaemia.
- Screening, detection and treatment of anaemia especially in vulnerable groups to reduce health consequences of anaemia.

Anaemia Control Programme will have to include the following interventions -

HOW MDM HELPS IN REDUCING ANAEMIA

- Sustained improvement in dietary intake of iron, folate has to be achieved *across the whole population; when there is* sustained improvement over decades there will be a substantial improvement in Hb status and reduction in anaemia. Dietary diversification with increased vegetable intake and use of iron fortified iodised salt are low cost sustainable interventions which can improve iron intake, iron status, iron stores and will improve Hb levels across the whole population.
- Screening for anaemia (to begin within groups at high risk of adverse health consequences such as pregnant women) and appropriate treatment is most cost-effective in reducing the anaemia and associated adverse health effects in the next 10 years.

Best results will be achieved through a combination of population based prevention, screening and treatment of anaemic individuals, beginning with vulnerable groups at risk of high risk of adverse health consequences of anaemia. The Twelfth Plan period offers a major opportunity to energise and effectively implement all these strategies through appropriate convergences between related sectors.

Strategies for prevention of anaemia across age groups at family and community level -

- Health and nutrition education to improve over all dietary intakes and promote consumption of iron and folate-rich foodstuffs- possible through NRHM's health and nutrition days.
- Dietary diversification inclusion of iron folate rich foods as well as food items that promote iron absorption- possible with proper linkages with National Horticultural Mission.
- Introduction of iron and iodine-fortified salt universally to improve iron intake - possible with NIN technology.

Strategies for management of anaemia in school age children -

- Focus on Hb estimation for detection and treatment of anemia in adolescent school girls as a part of school health check-up – possible through school health system.
- Introduction of iron and iodine-fortified salt and vegetables in MDM
- Providing one tablet of IFA once a week through school health system to both school boys and girls all through school years - possible through National Rural Health Mission (NRHM).

Mid Day Meal also envisages supply of adequate quantities of micro nutrients such as Iron, Folic Acid, Zinc and other appropriate supplementation depending on common deficiencies found in the local areas to the target beneficiary group through convergence with the school health Programme of the National Rural Health Mission (NRHM) of the Ministry of Health and Family Welfare Regular health check ups and weekly distribution of iron and folic acid tablets (to prevent iron deficiency Anemia).

Effects of Anaemia on school children

Anaemia is associated with increased susceptibility to infections, reduction in work capacity and poor concentration. Anaemia in young children is a serious concern because it can result in impaired cognitive performance, behavioural and motor development, coordination, language development, and scholastic achievement, as well as increased morbidity from infectious diseases. One of the most vulnerable groups is children age 6-23 months and school going children.

How MDM helps in reducing Anaemia

Under the Scheme cooked mid day meal with 450 calories and 12 grams of protein is provided to every child at Primary level and 750 calories and 20 grams of protein at Upper Primary level. This energy and protein requirement for a primary child comes from cooking 100 gms of rice/flour, 20 gms pulses and 50 gms vegetables and for an upper primary child comes from 150 gms of rice/flour, 30 gms of pulses and 75 gms To address hunger in schools by serving hot cooked meal, with the following objectives.

It is well accepted that vegetables are a vital part of a balanced diet. They are good sources of a range of vitamins, minerals, phytochemicals and dietary fibre and they play an important role in preventing and controlling micronutrient deficiencies, including deficiencies in vitamin A, B (folate), C and E. Vegetables owing to their high natural vitamin C content, can also alleviate iron deficiency by boosting the absorption of non-haem iron food sources in plant foods, provided such vegetables are low in fibre. Yellow/orange fruits and vegetables, (e.g. carrots, pumpkin, papaya and ripe mangoes) and dark-green leafy vegetables, including indigenous vegetables, are rich in provitamin A carotenoids, which human body can convert into the active form of vitamin A provided there is adequate fat in the diet. As per MDM Guidelines Green leafy vegetables should be added in the Mid day meal menu so that the children should get the nutritional benefits and one portion of the iron of the day can be fulfilled.
