Anaemia remains India's no1 deficiency: Causes, consequences and concerns

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For the past six decades India has been a pioneer in defining

- the magnitude of anemia,
- causes and consequences of anaemia,
- evolving and implementing
  - national prophylaxis programme for anaemia
  - national programmes for control of mild moderate and severe anaemia
  - NHE for dietary diversification for preventing anaemia
- Developing iron fortified iodised salt for sustainable improvement in iron intake
STUDY GROUP ON IRON DEFICIENCY ANAEMIA

Geneva, 29 September-4 October 1958

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CONTROL OF NUTRITIONAL ANAEMIA WITH SPECIAL REFERENCE TO IRON DEFICIENCY

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Where have we reached?
# Prevalence of anaemia

<table>
<thead>
<tr>
<th></th>
<th>Global</th>
<th>Developed</th>
<th>Developing</th>
<th>India</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children&lt;5 yrs</td>
<td>43</td>
<td>12</td>
<td>51</td>
<td>60</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>Children &gt; 5yrs</td>
<td>37</td>
<td>7</td>
<td>46</td>
<td>50</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>18</td>
<td>3</td>
<td>26</td>
<td>35</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>35</td>
<td>11</td>
<td>47</td>
<td>50</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Pregnant Women</td>
<td>59</td>
<td>14</td>
<td>51</td>
<td>65</td>
<td>75</td>
<td></td>
</tr>
</tbody>
</table>

- Anaemia is the commonest nutritional deficiency in the world affecting one third of the global population.
- Prevalence of anaemia is higher in developing countries.
- Prevalence of anaemia in India is very high in all groups of the population.
- In the last six decades, there has been reduction in severe anaemia, but not in prevalence of anaemia in any group in India.
Figure 3.1a  Anaemia as a public health problem by country: Preschool-age children
Figure 3.1b  Anaemia as a public health problem by country: Pregnant women

Category of public health significance (anaemia prevalence)
- Normal (<6.0%)
- Mild (6.0-19.9%)
- Moderate (20.0-39.9%)
- Severe (>40.0%)
- No data
<table>
<thead>
<tr>
<th>Country</th>
<th>Children &lt; 5 years</th>
<th>Women 15-49 years</th>
<th>Pregnant women</th>
<th>Maternal deaths from anemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>65</td>
<td>61</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>55</td>
<td>36</td>
<td>74</td>
<td>2600</td>
</tr>
<tr>
<td>Bhutan</td>
<td>81</td>
<td>55</td>
<td>68</td>
<td>&lt;100</td>
</tr>
<tr>
<td>India</td>
<td>75</td>
<td>51</td>
<td>87</td>
<td>22000</td>
</tr>
<tr>
<td>Nepal</td>
<td>65</td>
<td>62</td>
<td>63</td>
<td>760</td>
</tr>
<tr>
<td>South Asia Region Total</td>
<td></td>
<td></td>
<td></td>
<td>25,560</td>
</tr>
<tr>
<td>World Total</td>
<td></td>
<td></td>
<td></td>
<td>50,000</td>
</tr>
</tbody>
</table>

About half the deaths from anaemia in the world occur in South Asian countries. India accounts for over 80% of deaths due to anaemia in South Asia.
Anaemia is easy to detect

Prevention and Treatment protocols have been in place for over five decades

In spite of all this, India’s POSITION AS GLOBAL No 1 in prevalence of anaemia and its adverse consequences has remained Unchanged in THE PAST six decades

This paradox has been troubling scientists, and programme managers
Progress is tardy because of bottle necks in diagnosis of anaemia, method used for diagnosis, grading of anaemia, protocols for treatment of anaemia, strategies for prevention of anaemia.
Diagnosis of anaemia
Clinical diagnosis of anaemia

**Symptoms**
easy fatigability, lethargy, poor attention, poor concentration
All these symptoms are non specific

**Signs**
Pallor develops very late; not easy to spot in dark individuals
Koilonychias: takes four months to develop and persists 4 months after correction
Edema feet - very nonspecific

As symptoms and signs are non specific - it is not possible to clinically diagnose anaemia. Diagnosis of anaemia is on the basis of Hb estimation WHO 1958
How do we estimate Hb?

Cyanmethaemoglobin method is the time tested gold standard method for Hb estimation since 1930s.

In sixties we did not have equipment and manpower for Hb estimation by Cyanmethaemoglobin method. Two simpler alternatives were tried: Tallquist colour scale graded in 2 gram – not accurate. Acid haematin estimation by Sahli’s haemoglobinometer - time consuming; not accurate.

These two methods continue to be used even today both in the hospital and in out reach settings.

Clinicians and people know that they are not getting accurate results needed for grading anaemia, providing treatment and monitoring response to therapy.

Therefore detection and treatment of anaemia is not getting the attention they deserve.
Latest and most expensive tests may not be the most accurate

In the last two decades several newer, seemingly simpler, easier tests providing instant results in community/survey conditions have been developed.

One such method is Haemocue which has been used in global DHS and in Indian NFHS.

Currently there are many who are marketing non-invasive methods of Hb estimation.

It is important to evaluate these methods against the gold standard.
Data from NFHS 2 showed that pregnant women are not more anaemic than non-pregnant women. Prevalence of anaemia in pregnancy was only 59%.

**Experience with haemacue method**

<table>
<thead>
<tr>
<th>Age groups</th>
<th>Prevalence of anaemia (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children (6–35 months)</td>
<td>79</td>
</tr>
<tr>
<td>Children (6–59 months)</td>
<td>69.5</td>
</tr>
<tr>
<td>All women (15–49 years)</td>
<td>55.3</td>
</tr>
<tr>
<td>Ever married women (15–49 years)</td>
<td>56</td>
</tr>
<tr>
<td>Pregnant women (15–49 years)</td>
<td>58.7</td>
</tr>
<tr>
<td>Lactating women (15–49 years)</td>
<td>63.2</td>
</tr>
</tbody>
</table>

Conclusion: This is the impact of India’s successful anaemia control programme in pregnant women.
NFHS adopted the newer more expensive Haemacue method for estimation of Hb because

- other DHS used the method;
- it can be done in the field by the survey personnel with no pipetting skills;
- results are immediately available and given to the surveyed person.

NFHS reported that only half of pregnant women are anaemic while three fourth of children were anaemic.

Earlier studies from India have never shown that prevalence of anaemia is higher in children as compared to pregnant women.

MOHFW requested NFI to undertake resurvey on prevalence of anaemia in pregnancy in the same villages surveyed under NFHS 2 in 10 states using cyanmethaemoglobin method. NFI study showed that more than three-fourths of the pregnant women were anaemic and there was no decline in prevalence of anaemia. DLHS 2 and NNMB micro nutrient surveys revealed that there has not been any reduction in anaemia in any group.
Clinicians and nutrition scientists did not feel that there was a decline in anaemia. Several Indian investigators had compared Haemacue and cyan methaemoglobin method for Hb estimation and published their results.


Haemacue over estimates Hb and underestimates anaemia; the relationship between Haemacue and cyanmethHb values is non linear and so correction factor cannot be used to correct the over estimation of Hb by Haemacue.

The conclusion: Do not use hemacue if you need accurate estimation of Hb.
Current guidelines for screening for anaemia

Screening of all pregnant women for anaemia at sub-centre/VHND/outreach/PHC level can be done by Sahli’s haemoglobinometer or by Standard Hb Colour Scale. Therapeutic dose of oral IFA supplementation can be initiated even on clinical signs and symptoms, however, such cases must be referred for confirmation of degree of anaemia through Hb testing and for further management as per Table 7.6.

Problems with the suggested procedure

Estimation of Hb by Sahli’s Hb meter
ANMs has to carry HCl and distilled water during out reach session; Hb estimation is time consuming and not accurate

Hb color scale
Optical matching of a blood drop on filter paper to the color strip has two problems: the amount of blood in the blood drop is not measured; it can vary and modify the color.
The color reference strip has 4, 6, 8, 10 12 and 14 grams. The cut-off points in pregnancy are 11, 10 and 7. This makes the task of screening and selecting the right treatment difficult.
Remedy is simple and easy

Primary, secondary and tertiary health care infrastructure is in position for two decades

Auto-analysers, spectrophotometers and colorimeters are there in all medical college and district hospitals

Colorimeters are there in FRUs

IPHA norms call for colorimeter in PHCs

Lab technicians are there in all levels of care

In hospital setting collect blood in Drabkin’s solution

In community settings collect blood on filter paper (dried blood spot method) and get it transported to labs.

Shift to Hb estimation using cyanmethaemoglobin method in all settings

Put in place simple but effective quality control measures to ensure accuracy of estimation.
Potential impact of such a change

We can provide accurate diagnosis of anaemia in all persons accessing all levels of care within all existing constraints without major inputs.

The clinicians and people will see that they get accurate results at affordable opportunity cost.

Clinicians will respond by following the treatment protocols and make treatment of anemia meaningful.

People will respond by adhering to treatment and follow up schedules and benefit.

Country will be happy losing global No 1 status in anaemia
Grading anaemia
In 1968 WHO defined the cut-off points for anaemia in different age and physiological groups but refrained from providing global cut off for different grades of anaemia.

WHO recommended that each country should define the cut-off levels depending upon functional de-compensation

India undertook numerous studies in all age and physiological groups to define the Hb cut-off points
Immune status of anaemic pregnant women

There is a fall in T and B cell count when maternal Hb falls below 11g/dL.
The fall in T and B cell counts are significant when Hb is <8g/dL.
There is no alterations in lymphocyte transformation or in cell mediated immunity.
Prevalence of morbidity due to infections including asymptomatic bacteriuria is higher in anaemic pregnant women.
Higher morbidity rates due to infections might contribute to the higher low birth-weight rates in anaemic pregnant women.
Consequences of anaemia in pregnancy

- 8-11 g/dL: easy fatigability, poor work capacity

- 5-7.9 g/dL: impaired immune function, increased morbidity due to infections and LBW

- <5 g/dL: compensated stage: increased morbidity and maternal mortality due to inability to withstand even small amount of bleeding during pregnancy/delivery and increased risk of infections

- <5 g/dL: decompensated stage: about 1/3rd develop severe congestive cardiac failure and many with congestive failure succumb either during pregnancy or during labour

There is 8 to 10 fold increase in ↑ MMR when the Hb is <5 g%.
Similar studies in preschool children showed functional de-compensation at 11, 8 and 5 g/dl.

In women functional de-compensation was seen at 12, 10 and 8 g/dl.

Therefore these cut-off points were used for grading anaemia and evolving treatment protocols for management of anaemia.
In 1997 WHO came up with cut-off points for Hb levels to be used for global comparisons. This classification does not reflect the cut-off points where functional decompensation occurs in India. If we use this cut-off there is a huge increase in moderate anaemia in the country.

Table 1.1: Haemoglobin levels to diagnose anaemia (g/dl)

<table>
<thead>
<tr>
<th>Age groups</th>
<th>No Anaemia</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children 6–59 months of age</td>
<td>≥11</td>
<td>10–10.9</td>
<td>7–9.9</td>
<td>&lt;7</td>
</tr>
<tr>
<td>Children 5–11 years of age</td>
<td>≥11.5</td>
<td>11–11.4</td>
<td>8–10.9</td>
<td>&lt;8</td>
</tr>
<tr>
<td>Children 12–14 years of age</td>
<td>≥12</td>
<td>11–11.9</td>
<td>8–10.9</td>
<td>&lt;8</td>
</tr>
<tr>
<td>Non-pregnant women (15 years of age and above)</td>
<td>≥12</td>
<td>11–11.9</td>
<td>8–10.9</td>
<td>&lt;8</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>≥11</td>
<td>10–10.9</td>
<td>7–9.9</td>
<td>&lt;7</td>
</tr>
<tr>
<td>Men</td>
<td>≥13</td>
<td>11–12.9</td>
<td>8–10.9</td>
<td>&lt;8</td>
</tr>
</tbody>
</table>

Source: Haemoglobin concentration for the diagnosis of anaemia and assessment of severity. WHO
To overcome this problem it was suggested that a dual system of grading (similar to the dual system for LBW for last five decades) be adapted; for reporting prevalence use WHO cut-offs; for management of anaemia use Indian cut-offs. But multiple cut-offs can create confusion. For eg in the recent anaemia guideline cut-offs defined in the text of guideline for adolescents and women is 12, 10 & 8 g/dl. Cut-off used in the figure above (from the same guidelines) are different.
Implications of using multiple cut-off points in treatment of pregnancy anaemia
Tenth Plan Strategy for management of anaemia in pregnancy

Screen all pregnant women for anaemia and provide appropriate treatment depending upon Hb levels

Anaemia prophylaxis (Hb >11 g/dl)
For women who are not anaemic one tablet of iron 100mg and 500 μg folic acid once a day to prevent any deterioration in Hb levels

Oral iron therapy for mild anaemia (8-10.9g/dl)
Majority of anaemic women in pregnancy have mild anaemia. Oral iron folate therapy (one tablet of iron 100mg and 500 μg twice a day/or maximum tolerated dose) regularly to improve their Hb;
Most women will tolerate the mild side effects if they are counseled.
Management of anaemia in pregnancy

**Moderate anaemia:** Hb 5 to 7.9g/dL
- Seen in 10 to 20% of anaemic women,
- Screen for systemic/obstetric problems and infections,
- If she has no other systemic or obstetric problems give her IM iron therapy

**Severe anaemia** (Hb <5 g/dL)
- Seen in 5-10% of anaemic women
- Admission and intensive care preferably in secondary or tertiary care institutions to ensure maternal and fetal salvage
Current GOI guidelines

Fig. 6.1: IFA supplementation programme

- **6–60 months:** 1 ml of IFA syrup containing 20 mg of elemental iron and 100 mcg of folic acid biweekly
- **5–10 years:** Tablet containing 45 mg elemental iron and 400 micrograms of folic acid weekly

**CHILDREN**

**ADOLESCENTS**

- **10–19 years:** 100 mg elemental iron and 500 mcg of folic acid weekly

**PREGNANT AND LACTATING WOMEN**

- **at least** 100 mg elemental iron and 500 mcg of folic acid daily for 100 days in pregnancy
- Followed by similar dose of IFA supplementation for 100 days in post-partum period

**WOMEN OF REPRODUCTIVE AGE**

- **100 mg elemental iron and 500 mcg of folic acid weekly**
### Hb in Pregnant women taking Iron Supplementation (ICMR 2000)

<table>
<thead>
<tr>
<th>No of tablets ingested</th>
<th>No.</th>
<th>Hb (g/dL)</th>
<th>Mean</th>
<th>S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-15</td>
<td>310</td>
<td>8.8</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>16-30</td>
<td>251</td>
<td>9.2</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>31-60</td>
<td>196</td>
<td>9.3</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>61-90</td>
<td>99</td>
<td>9.2</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>&gt;90</td>
<td>74</td>
<td>9.1</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>A.Total who had IFA</td>
<td>930</td>
<td>9.1</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>B.Not known</td>
<td>16</td>
<td>9.1</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>C.Not had IFA</td>
<td>3829</td>
<td>9.1</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>A+B+C</td>
<td>4775</td>
<td>9.1</td>
<td>3.5</td>
<td></td>
</tr>
</tbody>
</table>

ICMR study confirmed that most women did not receive 90 tablets of IFA. Many did not take tablets regularly.

Even among small number of women who took over 90 tablets, the rise in Hb was low and majority continued to be anaemic.
The universal IFA supplementation was a prophylaxis programme to ensure that there is no further deterioration in Hb levels during pregnancy.

The lack of reduction in anaemia in pregnancy is not because the programme failed to improve the situation.

To correct mild anaemia there is a need to provide higher dose of iron folic acid daily until Hb improves.
Current guidelines recommend two different treatment regimens for moderate anaemia (7-9g/dl)

**Hb level between 8–9 gm/dl**
- Before starting the treatment, the woman should be investigated to detect the cause of anaemia.
- Oral IFA supplementation as for Hb level 9–11 gm/dl. Hb testing to be done every month.
- Depending on the response to treatment, same course of action as prescribed for Hb level between 9–11 gm/dl.

**Hb level between 7–8 gm/dl**
- Before starting the treatment, the woman should be investigated to diagnose the cause of anaemia.
- Injectable IM iron preparations (parenteral iron) should be given if iron deficiency is found to be the cause of anaemia.
- IM iron therapy in divided doses along with oral folic acid daily if women do not have any obstetric or systemic complication; repeat Hb after 8 weeks. If the woman has become non-anaemic, no further medication is required: if Hb level is between 9–11 gm/dl, same regimen of oral IFA prescribed for this range.
- If woman with Hb between 7–8 gm/dl comes to PHC/CHC in the third trimester of pregnancy, refer to FRU/MC for management.

For 8-9g/dl oral iron therapy

For 7-8g IM iron therapy
Current guidelines recommend two different treatment regimens for severe anaemia (<7 g/dl)

For 7-8g/dl IM iron therapy

For <5 g/dl immediate hospitalisation

Hb level between 5-7 gm/dl
- Continue parenteral iron therapy as for Hb level between 7–8 gm/dl. Hb testing to be done after 8 weeks
- If the woman becomes non-anaemic, no further medication is required: if Hb level is between 9–11 gm/dl, same regimen of oral IFA prescribed for this range
- Depending on the further response to treatment, same course of action as prescribed for Hb level between 9–11 gm/dl

Hb level less than 5 gm/dl
- Evidence for injectable IV sucrose preparation: under Randomised Control Trial of GOI
- Immediate hospitalisation irrespective of period of gestation in hospitals where round-the-clock specialist care is available for intensive personalised care and decision for blood transfusion (packed cell transfusion)
How well this compromise of

- Using WHO criteria for reporting grades of anaemia

&

- Using national criteria for treatment protocols

Works in practice has to be seen in the next few years
Strategy for prevention of anaemia
also provided valuable information on the etiology of anaemia. It has become clear that iron deficiency is by far the commonest nutritional disorder and the commonest cause of anaemia. The second most common cause of nutritional anaemia is folate deficiency \(^a\) (20–22). Other nutritional deficiencies that play a less important role in the pathogenesis of anaemia are vitamin \(B_{12}\) deficiency (23, 24) and possibly protein deficiency (25, 26).

Source: WHO technical report 580
Major causes of anaemia in India

- Inadequate iron, folate intake due to low vegetable consumption and perhaps low B12 intake
- Poor bioavailability of dietary iron from the fibre, phytate rich Indian diets
- Increased requirement of iron during childhood growth and pregnancy
- None of these have changed over decades
- Chronic blood loss due to malaria and hook worm infestations
- There has been some decline in blood loss due to infections
DISTRIBUTION OF MICRONUTRIENT INTAKES IN CHILDREN - % RDI

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>&lt;50% RDA</th>
<th>50-70% RDA</th>
<th>&gt;=70% RDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riboflavin</td>
<td>76.1</td>
<td>11.4</td>
<td>2.6</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>87.4</td>
<td>3.8</td>
<td>8.8</td>
</tr>
<tr>
<td>Iron</td>
<td>71.4</td>
<td>13.4</td>
<td>15.2</td>
</tr>
<tr>
<td>F.F. Acid</td>
<td>31.5</td>
<td>24.2</td>
<td>44.3</td>
</tr>
</tbody>
</table>
Food fortification:
Salt fortification with iron
When fortifying common salt (NaCl) with iron(II) sulfate, the National Institute of Nutrition, Hyderabad, India, recommends the preparation of a formula of containing, per kg of salt, 2500 mg of FeSO₄, 1000–2500 mg of (NaPO₃)₆ (sodium hexametaphosphate) as complexing agent, and 500–1500 mg of NaHSO₄ (sodium hydrogen sulfate) to avoid discoloration (158, 159). The additives do not influence the absorbability of the iron. In Guatemala it is planned to use sodium hexametaphosphate and disodium hydrogen phosphate (Na₂HPO₄) for the same purpose (150). Under field conditions, iron fortification is difficult.

(b) Salt

Salt is universally consumed in reasonable quantities by all population groups, but its use as a fortification vehicle involves considerable technical difficulties. Iron(II) salts and powdered iron both discolor salt, particularly the cruder cooking varieties (92, 94), and the discoloration process is accelerated in hot humid environments. Deterioration in bioavailability has also been noted with the passage of time (Narasingha Rao, unpublished observations, 1974). Iron(III) orthophosphate has proved to be a more satisfactory form of iron for fortifying salt and has been reported to have reasonable absorbability provided ascorbic acid or sodium hydrogen sulfate (Narasingha Rao, unpublished observations, 1974) is also present.
Iron fortified iodised salt - A CATCH 22 SITUATION

Iron fortified iodised salt can reduce further deterioration in iron status and also to achieve some improvement in Hb (a shift to the right of the Hb values and rise in Hb by about 0.5 g/dl/year). DFS is likely increase iron intake by a third in all those who consume salt. Potentially all 1.2 billion can get the benefit consistently over the next several decades at an affordable cost without changing the dietary habits.

NIN’s DFS technology has needed technical approval. NIN provides technology transfer free of cost. BUT industry is hesitant to invest in plants for large scale production in the absence of assured off take.

DFS was being provided through PDS – at a subsidised cost in Chattisgarh, and was provided through to the ICDS in Uttarakhand. Central Guidelines for MDM provide for DFS as a part of MDM. But these are not implemented due to lack of bidders who can provide assured supply of DFS at competitive rates.
Dietary diversification
<table>
<thead>
<tr>
<th>Chickpea</th>
<th>Spinach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chana Sag</td>
<td>Palak</td>
</tr>
<tr>
<td>Amaranth</td>
<td>Onion Stalks</td>
</tr>
<tr>
<td>Kantewali Chaulai</td>
<td>Pyaz ki kali</td>
</tr>
<tr>
<td>Mustard Leaves</td>
<td>Fenugreek Leaves</td>
</tr>
<tr>
<td>Sarson ka sag</td>
<td>Methi</td>
</tr>
<tr>
<td>Mint</td>
<td>Colocasia leaves</td>
</tr>
<tr>
<td>Pudina</td>
<td>Arvi Ka Sag</td>
</tr>
</tbody>
</table>

The greens are nutritionally the best choice for improving iron, folate intake in our population. But they are expensive, not easy to cook and are not tasty.

All leaves including those which are considered waste (eg mooli and gobi) can be processed and powdered. They can be made available at affordable cost. They can be sprinkled on many Indian dishes. They add to the flavour and provide micronutrients.
These are tasty fragrant food stuffs rich in micronutrients including Vit C.
We can grow more of these, make them affordable all through the year and improve iron absorption
With such rich vegetable and fruit availability we can surely combat micronutrient deficiencies.
Eat adequate amounts of balanced meal

Rich in vitamins

Rich in iron & vitamins

Iodine & iron fortified salt
The country should take this current plan period as an opportunity to show case how it has the capacity to:

- ensure accurate diagnosis of anaemia at all levels of health care;
- sort out the small problems in grading of anemia;
- implement guidelines issued by GOI on prevention and treatment of anaemia in different groups;
- rapidly improve access to iron fortified iodised salt and enable the population to consume adequate amounts of micronutrient rich vegetables through out the year at affordable cost.

We can easily lose the global No 1 status in anemia in a short time.
Thank You