Management of moderate and severe anemia in pregnancy

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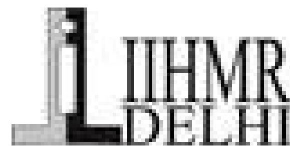


Prophylactic Iron and Folic Acid (IFA) supplementation

2018

- Pregnant women will be provided services under the strategy through antenatal care contacts (ANC clinics/VHND/ PMSMA),
  - receipt of IFA and Folic Acid tablets
  - screening and point-of-care treatment of anemia
  - screening and prevention of malaria

2019

- Daily, one IFA starting from the fourth month of pregnancy (that is from the second trimester)
- Continued throughout pregnancy (minimum 180 days during pregnancy).
- Each tablet containing 60 mg of elemental iron + 500 mcg of folic acid, sugar-coated, red-coloured

Any update on :

Screening and

Prevention of malaria?

Deworming

2018

- Pregnant women will be provided services under the strategy through antenatal care contacts (ANC clinics/ VHND) for deworming (in the second trimester)
- Deworming of pregnant women in the second trimester

2019

- One dose of 400 mg albendazole (1 tablet), after the first trimester, preferably during the second trimester

Evidence

The World Health Organization (WHO, 2016) recommended deworming or preventive chemotherapy for pregnant women after the first trimester, using a single dose of mebendazole (500 mg) or albendazole (400 mg) in areas where there is 40% or higher anemia prevalence among pregnant women and the prevalence of *T. Trichiura* and hookworm is 20% and above

Testing for anemia

2018

- SAHLI's method needs to be replaced with newer advanced technologies for the available haemoglobin estimation
- Testing at all ANC contact points.
- At all high case load facilities at the block level and above, haemoglobin level estimation will be done using Semi-Auto Analyzers.
- Good diagnostic accuracy (at least 90% sensitivity), established through large-scale diagnostic accuracy studies in field settings in India
- FDA/other relevant approvals like DGHS, DGCI/NHSRC HCT approval

2019

- "Testing of hemoglobin using digital hemoglobinometers and Point of Care treatment of anemia" is a new intervention under Anemia Mukt Bharat campaign.
- Point of Care devices have great advantages over traditional Sahli's hemoglobinometer and hence they are used for mass screening of anemia.
- Point of care devices should be approved for clinical use by reputed regulatory authority e.g. FDA, European CE and other relevant Indian Regulatory Authority.
- A digital hemoglobinometer is a Point of Care device which can be used to estimate hemoglobin level using microcuvette or strip method.

Specifications

Good diagnostic accuracy (at least 90% sensitivity), established through large-scale diagnostic accuracy studies in field settings in India

Accuracy in different weather conditions

More focus should be on diagnostic accuracy for severe anemia

Anemia management protocol for pregnant women **(Haemoglobin is 10–10.9 g/dl - mild anemia)**

2018

- Two tablets of Iron and Folic Acid tablet (60 mg elemental Iron and 500 mcg Folic Acid) daily, orally given by the health provider during the ANC contact
- Parental iron (IV Iron Sucrose or Ferric Carboxy Maltose (FCM) may be considered as the first line of management in pregnant women who are detected to be anemic late in pregnancy or in whom compliance is likely to be low (high chance of lost to follow-up)

Anemia management protocol for pregnant women
(If Haemoglobin is 7–9.9 g/dl - moderate anemia)

2018

- Two tablets of Iron and Folic Acid tablet (60 mg elemental Iron and 500 mcg Folic Acid) daily, orally given by the health provider during the ANC contact

- Parental iron (IV Iron Sucrose or FCM) may be considered as the first line of management in pregnant women who are detected to be anemic late in pregnancy or in whom compliance is likely to be low (high chance of lost to follow-up)

Anemia management protocol for pregnant women
(If Haemoglobin is 5.0–6.9 g/dl - Severe anemia)

2018

- Management of severe anemia in pregnant women will be done by the medical officer at PHC/CHC/FRU/DH The treatment will be done using IV Iron Sucrose/Ferric Carboxy Maltose (FCM) by the medical officer
- *Immediate hospitalization recommended in the third trimester of pregnancy at a health facility where round-the-clock specialist care is available

Flowchart- Treatment of anemia amongst pregnant women

2019

Anemia
Hb <11 g/dl

- **Mild anemia (Hb: 10–10.9 gm/dl), Moderate Anemia (Hb:9.9-7 g/dl)**
  - **Gestational age ≤ 34 weeks and compliant to oral iron**
    - **Two tablets of Iron and Folic Acid tablet (60 mg elemental Iron and 500 mcg Folic Acid) daily**
      - **No improvement of Hb (<1 g/dl increase) after one month of treatment**
        - **Refer to FRU/DH**
      - **Improvement in Hb > 1g/dl**
        - **Continue IFA tablets and check Hb at the end of 2 months**
  - **Gestational age ≤ 34 weeks and non compliant to oral iron**
  - **Gestational age > 34 weeks:**
    - **Parental iron (IV Iron Sucrose or Ferric Carboxy Maltose)**
      - **No improvement of Hb (<1 g/dl increase) after one month of treatment**
        - **Refer to FRU/DH**
      - **Improve-ment in Hb to > 10.9 g/dl**
        - **No further need for prophylactic IFA tablet if Hb > 10.9 g/dl post parenteral Iron infusion**
- **Severe anemia (Hb: <7 g/dl)**
  - **Hb: 5.0–6.9 g/dl**
    - **Gestational age ≤ 34 weeks:** Refer urgently to FRU/DH - treat-ment will be done using IV Iron Sucrose/Ferric Carboxy Maltose
    - **Gestational age > 34 weeks:** Immediate hos-pitalization and blood transfusion
  - **Hb <5 g/dl**
    - **Immediate hospitalization irrespective of gestation for blood transfusion**

Treatment of moderate and severe anemia

2019

Indications Intra-venous Iron Sucrose (IVIS) may be considered as the first line of management in individuals identified with the following conditions:

1. Moderate anemia during pregnancy (after the first trimester of pregnancy) and during postpartum period if:

- Oral iron is not tolerated
- Non-compliance to oral iron
- No improvement in hemoglobin level or improvement less than 1gm/dL after one month of oral IFA treatment

2. Severe anemia (Hb 6.9 to 5 gm/dL) during 13 to 34 weeks of pregnancy

Evidence

IV iron sucrose reduces the need for blood transfusion in severe anemia.

IV iron can be a safer alternative for treatment of severe anemia (Hb: 5-7 gm%) in pregnancy

IV iron sucrose may be used in moderate anemia (Hb: 7.1- 9.0 gm %) in cases of poor compliance to oral iron or iron intolerance. In women with good compliance to oral therapy, IV iron sucrose may not have any added advantages.

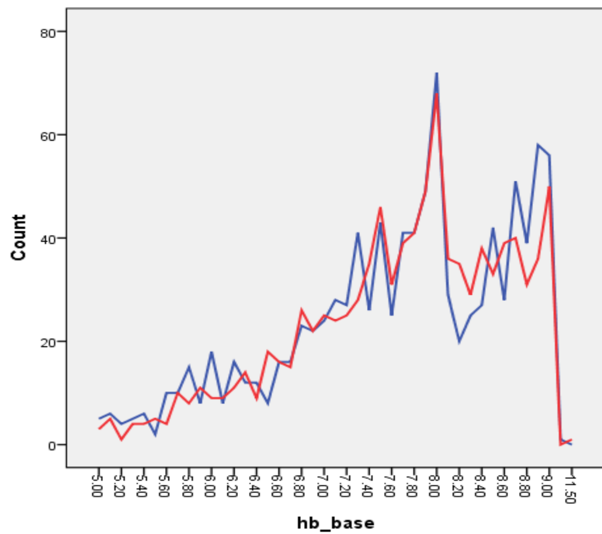
Not more than 1000 mg should be given

Oral IFA supplementation not required in case of full replacement

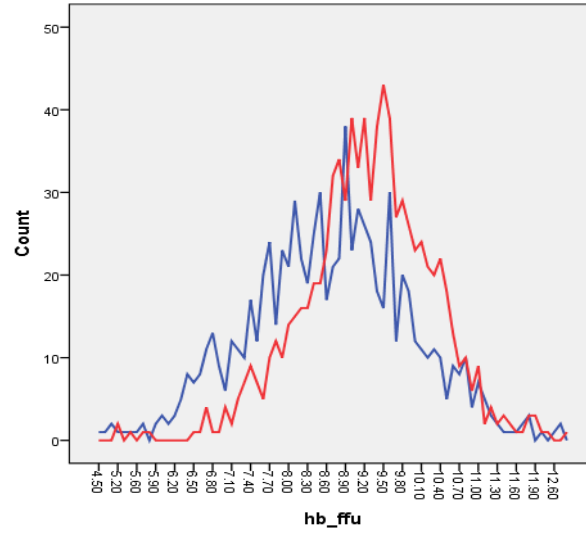
Consensus on FCM?

Neogi et al, Lancet Global Health, 2019

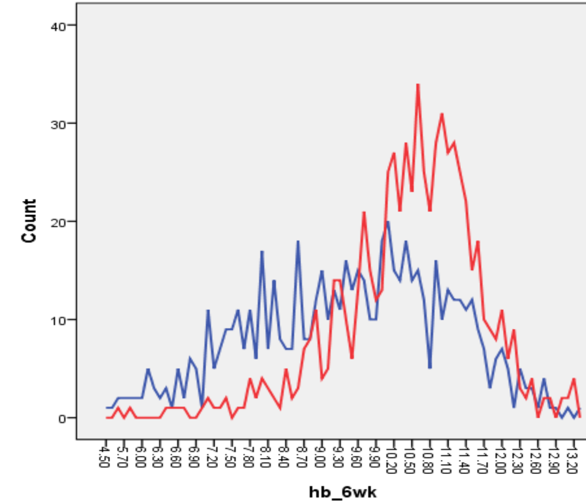
Hematological outcomes: IV v/s oral



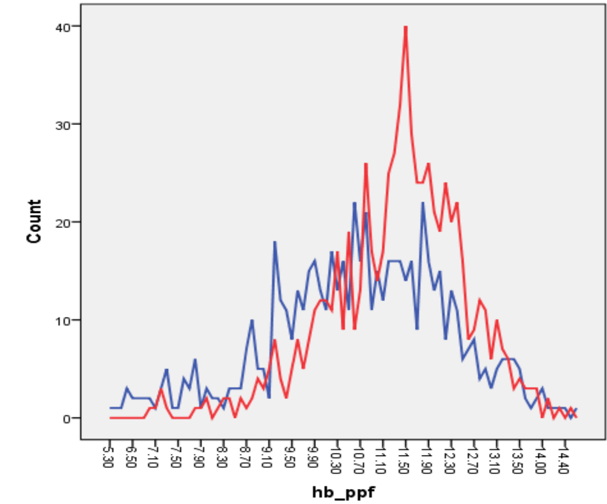
Baseline



2 weeks FU



6 weeks PR



6 weeks PP

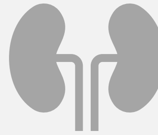
IV sucrose arm

Standard arm

Neogi et al, Lancet Global Health, 2019

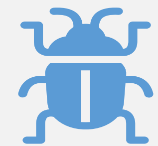
Anaemia reduction efforts must address a broad range of contributors and causes; efforts cannot be limited to addressing the proportion of anaemia that is related to iron deficiency

Iron deficiency- 60%



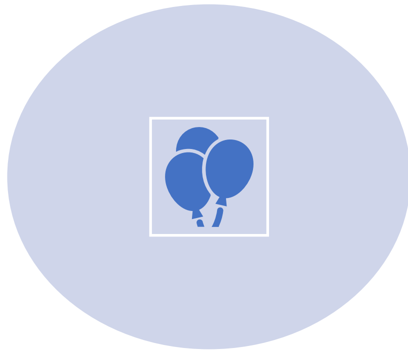
Folate and Vitamin B12 deficiency– 20-30%, dimorphic anemia- 13-26%

Hemolytic anaemia-4-11%, prevalence of iron deficiency almost 55% among carriers

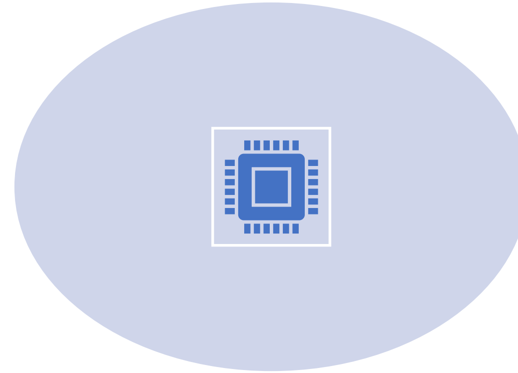


Infections/ infestations- 11-26%

Dimorphic anemia- diagnosis



Autoanalyzer?



Peripheral smear?

Thank You