STANDARD OPERATING PROCEDURES (SOPs)

Prevention and Management of Anaemia in Pregnant Women coming to Hospitals, Maternity Homes & Primary Health Facilities

Anaemia Rooms & Anaemia Corners
2024

Maternal Health Section
Directorate of Family Welfare

SOP/DFW/MH-1/Anaemia in Pregnancy/Version-1

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सत्यमेव जयते

Foreword

Anaemia remains a major public health issue with high prevalence across the country irrespective of gender, age, and geography profile. The statistics from the National Family Health Survey-V (2019-21) reveal the alarming prevalence of Anaemia among pregnant women, with figures standing at 52.2% for the country and 42.2% for Delhi. These numbers demand our immediate attention and concerted efforts to address the challenge.

I commend the Directorate of Family Welfare for taking the initiative in November 2022 to introduce the concept of "T4 Anaemia Rooms" and "Anaemia Corners". This initiative aligns with our commitment to providing accessible and quality healthcare services to our pregnant women. By prioritizing maternal health and providing a conducive environment, we aspire to lower down the prevalence of Anaemia in pregnant women at the time of entry into the labour room. Through such efforts, we hope to reduce maternal morbidity and mortality significantly, as Anaemia is a direct or indirect contributor to these adverse outcomes in a considerable number of cases.

I extend my congratulation to the entire team involved in developing this SOP. Together, let us work diligently to combat Anaemia and improve the health and well-being of pregnant women in Delhi.

I am hopeful that the service providers and the district managers will find the SOP useful in pro-actively implementing the concept and thus in turn bring about a positive impact, (Reduction of prevalence of Anaemia in Delhi and its long term health indicators).

Danish Ashraf, IAS

Dr. Vandana Bagga
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Foreword

Anaemia is a condition in which the number of red blood cells or the haemoglobin concentration within them is lower than normal. This remains a challenge across the globe and the scenario is equally dim for India including the Capital State. As per the National Family Health Survey-V (2019-21), prevalence of Anaemia among pregnant women in the country and Delhi is at 52.2% and 42.2 % respectively. According to the World Health Organization (WHO) guidelines on anaemia, prevalence of ≥ 40% is considered as a severe public health problem for any country.

Anaemia during pregnancy is associated with post-partum haemorrhage, neural tube defects, low birth weight, premature births, stillbirths, and maternal deaths. Anaemia may also lead to lowered immunity, poor cognitive development, and decreased work productivity. The morbidity and mortality risks associated with Anaemia both for mother and baby call for an urgent need to design effective strategies to address this public health problem.

Therefore, the Directorate of Family Welfare, Delhi took an initiative in November 2022 and introduced the concept of "T4 Anaemia Rooms" (Test-Treat-Talk-Track) in antenatal clinic premises of hospitals and maternity homes (all delivery points). The same concept was also envisaged for primary health set ups as "Anaemia corners". The aim was to realign the available resources for convenience of clients and at same time paying due attention to the issue of anaemia.

This SOP prepared by experts from health facilities and organizations across Delhi aims at providing uniformity across all the concerned health facilities as far as design, environment and service delivery of these rooms and corners is concerned. However, flexibility and necessary customization has been left in the hands of the facilities and may vary as per opinions and decision of technical and administrative officers/committees running the concerned facilities.

I take this opportunity to wish all the best to all service providers in implementing these SOPs in their respective areas of work.

Dr. Vandana Bagga

Dr. Jyoti Sachdeva
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Preface and Acknowledgement

Anaemia, as we all know, is a condition in which the number of red blood cells or haemoglobin concentration within them is lower than normal. This condition poses a significant challenge worldwide across all age groups.

The situation in India too including the capital state of Delhi is alarming. According to the latest National Family Health Survey(NFHS-5), 2019- 21, the prevalence of anaemia among pregnant women in Delhi still stands at 42.2%. A marginal drop of 4 points has occurred since NFHS- 4in 2015-16. These figures categorize anaemia as a severe public health issue as per the guidelines set by the World Health Organization.

Besides, clinical experience, experiences from the field, HMIS data on anaemia and causes of maternal mortality, all speak of the menace of anaemia among pregnant women.

While all pregnant women should be counselled on Anaemia and its prevention along with provision of supplements, it is of utmost importance to ensure focus on the already anaemic women with their essential sensitization to the problem, its impact on mother and baby, prevention of worsening Hb levels and providing the required treatment in the form of oral / Injectable therapy without any delays / discontinuity.

Of particular concern is the fact that quite often, the women start pregnancy with low reserves and service providers tend to ignore this impending anaemia which would surface during course of pregnancy, hence the need to build capacity of all including the frontline workers regarding cut off values for defining anaemia(often misunderstood), number of times haemoglobin is to be repeated in pregnancy and the milestone level of Hb to be maintained throughout pregnancy in order to have a safe outcome for both mother and baby.

Having said this, it is more than obvious that specific and intense strategies need to be put in place in order to achieve a significant dent in prevalence of anaemia.

One such effort by the maternal health section of this Directorate has been invoking commitment among service providers through a pledge on being sensitive and responsive to the problem. Such pledges, quizzes and other events were undertaken by all health facilities and district program management units as a special initiative on 26.11.22. This was followed by establishment of anaemia rooms in antenatal OPDs of all hospitals over next few months. These rooms were meant to cater to all needs of pregnant women with anaemia including counselling, medicine, repeated testing under one roof. The rooms were named "T4 anaemia rooms" - with 4 in-house tasks i.e. Test, treat, talk and track. The last T was added as a woman treated once and lost to follow up amounts to incomplete management. The primary goal was to optimize the use of available resources, ensuring the convenience of beneficiaries. The same concept was also extended to primary healthcare settings, referred to as "Anaemia Corners."

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Next came the need for some uniformity in structure and processes in the anaemia rooms/ corners.

In this regard, the Standard Operating Procedures (SOPs) contained in this booklet will provide a blueprint in establishing Anaemia Rooms in all Secondary care facilities/hospitals. The SOPs have been meticulously prepared by a committee of experts after a number of deliberations, search in standard textbooks and keeping the MoHFW guidelines of Anaemia Mukt Bharat as backbone.

The annexures in the booklet provide not only flowcharts & processes but also creatives for IEC, talking points, brainstorming quotes and write up on self-care.

This Directorate is indebted to all the committee members especially the chairperson Dr Monika Rana, Ex-Director, DFW for her support throughout the process of formulation and refining of the SOPs.

I also extend my heartfelt gratitude to Special Secretary & Mission Director-NHM, Danish Ashraf and Director-DFW, Dr Vandana Bagga for the guidance and support provided in the finalization of these SOPs and for penning down their motivational words.

Finally, I take this opportunity to extend my best wishes to all those who would implement these SOPs at their respective facilities. At the same time, I request the readers to contribute to further enhancing its value by providing useful feedback after reading the contents and putting these into practice and earn my gratitude as well as that of readers of subsequent revised versions.

I strongly believe that by placing a strong focus on addressing the issue of anaemia among pregnant women, this document will also help target anaemia in all other important cohorts, especially women of reproductive age group, adolescents and children.

All said and done, we are collectively looking forward to an "Anaemia Mukt Dilli, a Pink Delhi"

Dr. Jyoti Sachdeva

CONTENTS

ABBREVIATIONS

AMB	-	Anaemia Mukt Bharat
ANC	-	Ante Natal Care
ANM	-	Auxiliary Nurse Midwife
ASHA	-	Accredited Social Health Activist
AV	-	Audio Visual
AWW		Anganwadi Workers
BCC	-	Behaviour Change Communication
BT	-	Blood Transfusion
CBC	-	Complete Blood Count
DPO	-	District Program Officer
EDD	-	Expected Date of Delivery
FP	-	Family Planning
GOI	-	Government of India
GNCTD	-	Govt. of National Capital Territory of Delhi
Hb	-	Haemoglobin
HMIS	-	Health Management Information System
HOD	-	Head of the Department
I/C	-	In-charge
IEC	-	Information, Education & Communication
IFA	-	Iron and Folic Acid
KUO	-	Keep Under Observations
LED	-	Light Emitting Diodes
LMP	-	Last Menstrual Period
LT	-	Laboratory Technician
MCW Centre	-	Maternal and Child Welfare Centre
MCP Card	-	Mother and Child Protection Card
MH	-	Maternity Home
MO I/C	-	Medical Officer In -charge
MS	-	Medical Superintendent & Medical Director
MoHFW	-	Ministry of Health & Family Welfare
OBG	-	Obstetrics and Gynaecology
OPD	-	Out Patient Department
PW	-	Pregnant Women
PHN	-	Public Health Nurse
POG	-	Period of Gestation
PMSMA	-	Pradhan Mantri Surakshit Matritva Abhiyan
PHC	-	Primary Health Care
PUHC	-	Primary Urban Health Centre
RCH	-	Reproductive and Child Health
SOP	-	Standard Operating Procedure
T4	-	Test, Treat, Talk and Track
WHO	-	World Health Organization

CHAPTER-1

SOP for Prevention and Management of Anaemia in Pregnant Women (PW) coming to the hospitals and maternity homes.

1.1 Introduction: Anaemia is a major contributor to maternal mortality and morbidity. The statistics from the National Family Health Survey-V (2019-21) reveal the alarming prevalence of Anaemia among pregnant women, with figures standing at 52.2% for the country and 42.2% for Delhi. Of particular concern is the **issue of effective follow-up** of Anaemic pregnant women who reach the hospitals directly or after referral from the primary healthcare facilities. While **all women** should be counselled on Anaemia and its **prevention** along with provision of supplements, it is of utmost importance to ensure **focus on the already Anaemic women** with their essential sensitization to the problem, its impact on mother and baby, prevention of worsening and providing the required treatment in the form of oral/injectable modalities (as appropriate)without any delays. In order to achieve this, all secondary care facilities/hospitals are advised to set up **Anaemia Rooms (ideally with 4 in house tasks i.e. testing, treating, talking and tracking)**.

This document contain suggested Standard Operating Procedures (SOP) to effectively operationalize these T4 Anaemia Rooms. While hospitals have the flexibility to **adapt and tailor** these SOP to their specific contexts, the overarching objectives should always be met. Once these customized SOP have undergone review and approval by the Head of the Obstetrics and Gynecology Department, they must receive final approval from the Medical Superintendent (MS)/Medical Directors (MDs). The endorsed SOP, complete with signatures, are to be readily accessible and utilized by the staff working in Anaemia Rooms, as well as in relevant areas such as antenatal clinics and wards. Furthermore, sharing these approved guidelines with the Maternal Health division of the Directorate of Family Welfare is also encouraged to promote best practices and consistency across healthcare institutions.

1.2 Objective of SOPs:

1. **The first purpose** of these SOPs is to ensure that all pregnant women attending the hospital Antenatal Clinic are screened universally and provided the following:

    a. **Knowledge** about the relevant key aspects of Anaemia, including what is Anaemia , how it may develop during pregnancy, how it may impact the pregnant woman and her baby and how it can be prevented by daily intake of IFA supplement and consumption of iron rich foods .
    b. Routine **work up** for Anaemia which consists of 4 times Hb, atleast one time (CBC) and advanced investigations for Anaemia,(if so required) are available for her.
    c. Appropriate Iron Folic acid supplement/ treatment in sufficient quantity.
    d. Also any co-therapy or other treatment as per cause or type of Anaemia if revealed on screening.(As per AMB guidlines)
    e. A linkage to her nearest health facility for any queries/difficulty in compliance/provision of future supplies.

2. The **second** important objective is to **bring focused attention on already Anemic women**, wherein all the above are ensured along with treatment of Anaemia with a sense of urgency commensurate with its **severity and the gestational period** using the available options of oral/injectable iron therapy and other modes as per AMB guidelines and prevalent clinical **protocols**.

1.3 Scope & Responsibilities :

- This SOP covers all the **processes and guidelines** to be followed by all Doctors, nursing officer, paramedical personnel and other support staff involved in the management of the antenatal women, presenting with Anaemia and coming to the hospitals.
- Guidelines for setting up of Anaemia Room as **one stop centre** for management of anaemia.
- **Maternity homes** may also adopt these SOP as per feasibility.

Beyond scope:

- The final fine-tuning of SOP along with **walk down of clients, exact scope, involvement and delegation of duties to any other staff** eg. antenatal ward staff, pharmacist, would be based on the opinion and decision of clinicians and administrative officers of the concerned facility.
- **The treatment protocols as recommended under AMB/other recognized organizations have been adopted and no major change is recommended through this SOP. It may be displayed in the treatment areas separately.**

Responsibility:

It is the responsibility of HOD to implement these SOP in their respective facilities. Specialists, Medical Officers, Senior Residents, Nursing Officers(OPD/Ward), ANMs, LT and support staff would perform the dedicated duties as in the SOP.

1.4 Components of SOP and Processes :

1.4.1 Protocol for prevention of Anaemia for **all pregnant women** presenting to the Antenatal Clinic of a hospital.

1.4.2 **Anaemic pregnant women presenting to Antenatal OPD** .

1.4.1 Anaemia related SOP for **all Pregnant women** presenting in Antenatal OPD **(Prophylaxis)**

S. No.	Activity	Responsibility	Reference/ Remarks
1.	All pregnant women are specifically **examined for Anaemia** during the routine antenatal examination.	Examining Resident doctor/MO/Nursing Officer or ANM	Proper reporting
2.	**Investigations**: All pregnant women should have CBC atleast once during pregnancy, ideally in the first visit itself. Along with the Haemoglobin, the red cell indices and RBC counts should also be examined and **Mentzer index calculated** especially in case of all Anaemic pregnant women. In case **CBC** is not already available in the card, the same has to be done . **Hb must be repeated if:** The latest Hb value available is older than one month The physical examination is not matching with the value recorded on card There is visible pallor, symptoms of Anaemia are reported by the women.	Examining Resident resident / MO / Nursing Officer or ANM	**Annexure A** For interpretation of CBC and Calculation of Mentzer Index.

3.	**Management and Counseling** In case the **Haemoglobin is 11gm% or above,** woman is given counselling on: • **IFA Supplementation** and ✓ Best time of intake, ✓ Best accompanied by Vitamin-C and ✓ What not to take with Tab. IFA • Iron rich foods • Balanced Nutritious diet with **Protein rich foods** • Benefits of adding **millets** • Other advises as per her antenatal examination. She is also counselled about the stage of pregnancy and importance of Deworming (Tablet Albendazole). **3 more Hb tests** to be advised during the subsequent antenatal visits as per protocol. Explain that Hb can fall and needs to be repeated and maintained **above 11gm % under any circumstances.** **Note:**If Hb> 13g % need not take IFA but repeat as per protocol.	· Counselling by the examining Doctor, Nurse, other oriented/ trained/sensitised staff. Pool of passionate counsellors can be created. · A group **health talk** to be ensured in the waiting area for pregnant women where antenatal women are waiting. A suitable individual can be identified and trained in delivering the key messages effectively. · Display of **IEC / BCC** material with provision for continuous display of AV material on Anaemia related topics outside the waiting areas of the Anaemia Room, ANC, FP OPD and Gynae OPD (Desirable)	**Annexure C**: Key messages and talking points for Anaemia. IEC/BCC designs and AV clips for display in the waiting area have already been shared in the mail. **(Annexure-E)**
4.	**Tracking** Provision of the **adequate number of IFA tablets and** other supplements to last till her next visit (At least one month). In case the supply is for lesser period, she must be linked to her nearest health facility to get her ANC and the regular supply of IFA and other supplements. Tablet IFA, Calcium and Albendazole to be made available in the Antenatal area itself in **a client friendly manner** to prevent her from standing in the long general pharmacy queue **Repeat Hb** in each trimester Also talk about 180 tablets to be continued after delivery (Ask her to follow up in post-Natal Clinic/area dispensary/ASHA)	Antenatal OPD I/C. Designated Nursing Officer / Pharmacist.	

1.4.2 SOP for **Anaemic Pregnant women** presenting in Antenatal OPD **(Therapy)**

S. No.	Activity	Responsibility	Reference
1.	If the haemoglobin is less than 11 gm%, the woman is examined in detail for Anaemia and further course of action is decided and recorded on the ANC Card. The woman is referred to **the Anaemia Room for further necessary action.**	Specialist / Senior Resident	**Annexure G** The AMB algorithm for management of Anaemia.

S. No.	Activity	Responsibility	Reference
2.	**Setting up of Anaemia Room**	To be ensured by the HOD, Department of Obs & Gynae and MS/MD of the Hospital	**Annexure B** Requirements of an Anaemia Room / Anaemia Corner.
3.	**Actions to be undertaken in Anaemia Room**		
i.	**Registration of the Anaemic pregnant woman**	Nursing Officer posted in the Anaemia Room.	**Annexure D** Format of the Register.
ii.	**Dedicated counselling** covering all aspects including • Risks and adverse effect of Anaemia to PW and her baby • Importance of the treatment • Diet and core messages of Iron therapy including how, when and how much to take. • Foods to be avoided and foods to be encouraged (Enhacers and inhibitors of Iron absorption) How to deal with the side effects and reduce them.	Nursing Officer/any other person assigned duty in Anaemia Room with training on counselling for Anaemia.	**Annexure I** Display of relevant IEC and BCC Material eg. Nutritional Anaemia with Iron, Folates, Vitamin B12, Vitamin C and high protein diet. Important Do's and Don'ts to be included.
iii.	• **To ensure that all Investigations** advised by the doctor are done. All the sampling may be done in the Anaemia Room with stamp of Anaemia Room on the requisition form same day. • Similarly the report collection for necessary follow-up must be ensured on same day as far as possible The investigation records to be maintained in the register to enable tracking of the progress of lab parameters.	Nursing Officer/LT posted in Antenatal OPD. Nursing Officer	**Refer Annexure-G**
iv.	**Colour Coding to be used for severity of Anaemia in order to prioritize / track the Anemic women.** Hb 11 gm% and above : Pink**(Normal)** 10.0 to 10.9 gm% : Orange (**Mild**) 7.1 to 9.9 gm% : Yellow (**Moderate**) 7 gm% or less : White with Flag (**Severe**) The colour to be updated with improvement / deterioration.	Nursing Staff. Coloured stickers/ bindis or coloured spot pens may be used .	**See Annexure F** Colour coding on ANC/MCP card
v.	**Provision of adequate number of IFA tablets for oral iron therapy.**	Nursing Staff/ Pharmacist as per local SOP	

vi.	**In case Injectable Iron has been advised:** Administration of the same has to be ensured in the prescribed doses in the designated earmarked area (The Anaemia Room or designated beds in Antenatal Ward) as per the operational protocol decided and approved by the hospital. The same may be administered in IPD/ Day care/KUO mode as decided in the hospital SOP. Compliance is to be confirmed through good counselling and respectful facilitation and updated in the Anaemia register by the Anaemia Room Nursing Staff .	In the Anaemia Room, the administration of injectable iron shall be done as per the prescribed dosage by the nursing staff / resident doctor under the supervision of SR/specialist or consultant of the unit responsible for the day. In case it is administered in the antenatal ward, it can be administered by the ward nursing Officer/ resident doctor posted, under the supervision of SR /specialist or consultant of the unit under which the woman has been registered. The beds where anemia treatment is carried out in ward may preferably be in a corner designated for the purpose with resuscitation equipment within immediate reach and under direct visibility of nursing station.	**Annexure G for algorithm to be followed.** • Standard Treatment Protocols for Iron administration. • Guidelines for Safe Injection Practices • Availability of emergency tray/ suction/Oxygen and other necessary logistics for management of any adverse reaction to be ensured at the place of administration .
vii.	In case admission is required for **blood transfusion** , the same must be ensured for speedy management.	In the ward under the parent unit under which the woman is registered.	Blood Transfusion Protocols to be followed.
viii.	Ensure necessary **follow-up** in the hospital and linkage with the nearest Primary Health Centre/Polyclinic(Seed PUHC/PUHC/MCW/Maternity Home) for continued treatment and management. Line list should be shared with DPO of the concerned district.	Nursing Officer of the Anaemia Room in coordination with DPO (RCH)	
ix.	**Documentation:** Monthly summary with due care, data alignment with HMIS, calculation of outcome and output indicators.	Nursing staff of the Anaemia Room.	
x.	**Monitoring** Once established Anaemia Rooms need to be sustained, monitored and gradually improved.	Nodal Officer Anemia Room & Quality Circle	

Issue Hb card to all pregnant women (Annexure H)

1.5. Follow -up and Tracking:

Repeat Hb after 4 weeks is to be ensured and further follow up as per algorithm in Annexure-G is required.

1.6. Indicators for Monitoring:

1.6.1 Output Indicators :

1. New Pregnant Women registered in Anaemia Room.
2. Percentage of Pregnant Women who attended Anaemia awareness sessions.
3. Percentage of Pregnant Women followed-up after counselling.
4. Percentage of Pregnant Women with improved dietary practices after counselling.
5. New Pregnant women with Mild / Moderate / Severe Anaemia
6. New Pregnant Women counselled.
7. Pregnant women given oral IFA (Old and New)
8. Pregnant women given Injectable Iron. (Old and New)
9. Pregnant women given Blood transfusion. (Old and New)
10. Pregnant women given Injectable Vitamin B12.
11. Percentage of Pregnant Women referred to higher facilities due to severe anaemia.

1.6.2 Outcome Indicator:

1. No. of Anaemic women with rise in Hb levels in the reporting month.
2. No. of pregnant women converted to lower grade of Anaemia (moderate to mild)
3. No. of Anaemic pregnant women presenting to labour room.
4. No. Pregnant women given Injectable Iron on the Same day.
5. No. of pregnant women who achieved a normal Hb level by the end of their pregnancy.

Responsibility for collecting, collating and submitting the data and Outcome indicators and presenting the same to quality circle would lie with Anaemia Room staff under supervision of nodal officer (who may be same as OPD Incharge/ANC Incharge/PMSMA Incharge.

CHAPTER-2

Standard Operating Procedures (SOP) for Prevention and Management of Anaemia in Pregnant Women (PW) coming to the Primary Health Facilities (PHCs): Establishment of dedicated Anaemia corner

2.1 Introduction: Anaemia is a major contributor to maternal mortality and morbidity. Of particular concern is the **issue of management with effective follow-up** of Anaemic pregnant women who reach the **primary healthcare facilities.** While **all pregnant women** should be counselled on Anaemia and its **prevention** along with provision of supplements, it is of utmost importance to ensure **focus on the already Anaemic women** with their essential sensitization to the problem, its impact on mother and baby, diagnosing types of Anaemia, prevention of worsening of Anaemia e.g. from mild to severe through the pregnancy, and providing the required treatment in the form of oral/Injectable iron without any delay. In order to achieve this, all primary healthcare facilities are advised to set up **Anaemia corners/helpdesk (ideally with 4 on the spot tasks i.e. testing, treating, talking and tracking) – T4 corners**.

This document contains **Suggested SOP** for operationalizing Anaemia corners/helpdesk in all primary facilities as per feasibility.

2.2 Components:

1. SOP for **all pregnant women** presenting to the Antenatal Clinic at facilities
2. SOP for **Anaemia pregnant women presenting to Antenatal OPD** for referral and effective follow up in community (through effective counselling and required investigations with prompt treatment as per AMB guidelines).

2.3 Objective:

To ensure that all pregnant women attending the antenatal clinic undergo screening and are provided the following:

a. The required **knowledge** about the key aspects of Anaemia, including what is Anaemia , how it may develop during pregnancy, impact on herself and her baby and how it can be prevented by daily intake of **IFA supplement** by pregnant women and consumption of **iron rich foods**.

b. Routine Anaemia **Screening** (4 times Hb, one time CBC on first visit and advanced investigations for Anaemia, if so required) .

c. Adequate treatment. Also any co-therapy or other treatment as per typing of Anaemia (as revealed on screening).

d. Enable ASHAs to track the Hb of the PW, address any queries/difficulty in compliance and provide regular supplies.

e. To **bring focussed attention of Medical Officers on Anaemic women**, wherein all objectives above are ensured along with treatment of Anaemia with a sense of urgency commensurate with its **severity and the gestational period** using the available options of oral iron as per AMB guidelines, referral and follow up, as appropriate.

f. To make the entire staff of PUHC work for the mission of raising Hb of all PW above 11g%.

2.4 Scope:

This SOP covers the **processes and guidelines** to be followed by all Doctors, nurses, paramedical personnel and other support staff involved in the screening of the antenatal women for Anaemia and managed, if found Anaemic.

2.5 Location and Design:

An appropriate corner with seating amongst for service provider and client along with a work area ble/station)

The IEC for Anaemia prevention as recommended under AMB and other recognized organizations y be **displayed in the background.**

2.6 Responsibility:

Medical Officers, Nursing Officers, ANM, LT, Pharmacist and support staff.

2.7 Components of SOP and Processes :

2.7.1 SOP for **all pregnant women** presenting in Antenatal OPD **(Prophylaxis)**

S. No.	Activity	Responsibility	Reference Remarks
1.	All pregnant women are specifically **examined for Anaemia** during the routine antenatal examination .	MO ANM	Clinical examination e.g. palpebral conjunctiva, tongue, nails give clue towards Hb level (Concavity of nails & pigmented knuckles point towards vitamin B12 deficiency)
2.	**Investigations:** All pregnant women should have CBC atleast once during pregnancy, ideally in the first visit itself. Along with the Haemoglobin, the red cell indices should also be examined and Mentzer index calculated. In case **CBC** is not already available in the card, the same has to be done . **Hb must be repeated if:** The latest Hb value available is older than one nonth The physical examination is not matching with he value recorded on card There is visible pallor/symptom of Anaemia are eported by the women.	MO ANM	**Annexure A** for interpretation of CBC and Calculation of Mentzer Index.
3.	In case the Haemoglobin is 11gm% or above, woman is given **counselling** on supplements (prophylactic Iron) and iron rich foods in addition to other advise as per her antenatal examination. She is also counselled for Deworming (Tablet Albendazole).	Examining MO, Nursing Officer, other oriented, trained, sensitised staff ASHA (Pool of passionate counsellors can be created).	**See Annexure C** for Key messages on Anaemia.
4.	A group health talk to be ensured in the area where antenatal women are waiting on ANC days and at UHND venues.	ANM, ASHA trained in delivering the key messages effectively.	**See Annexure C and I**

5.	Display of IEC/BCC Material (AMB portal/self-created in competitions etc.)	ANM ASHA under supervision of MOIC	**See Annexure I**
6.	Provision of the required number of IFA tablets and other supplements to last with her till her next visit (At least one month). In case supply is for lesser period, linked ASHA of her area must have provision for the continuation of supply of IFA and other supplements. IFA/Calcium and albendazole to be made available in the Antenatal area itself to prevent her from standing in the long general pharmacy queue.	ANM assisted by ASHA Pharmacist	Flow of Antenatal women from Registration Lab . to Injection room to Pharmacy to Exit must be smooth.
7.	3 more Hb tests to be advised and done during the 3 essential antenatal visits after registration.	MO ANM LT	Non Anaemic women can become Anaemic if not taken care of prophylactic Iron and Diet

2.7.2. SOP for Anaemic pregnant women presenting in Antenatal OPD (Therapy)

S. No.	Activity	Responsibility	Reference Remarks
1.	• If the Haemoglobin is less than 11 gm%, the woman is examined and investigated • Further course of action is decided Refer to Anaemia corner Record on the ANC Card (colour code).	MO	**Annexure G** Algorithm for management of Anaemia. **Annexure F** Colour coding
2.	**Actions to be undertaken in Anaemia corner /helpdesk :**		
i.	**Registration of the Anaemic woman**	ANM	**Annexure D** **Format of the Register**
ii.	**Dedicated counselling** covering all aspects including a. Risks of Anaemia to her and her baby b. Importance of regular treatment c. Diet counselling Core messages of Iron therapy including: ·how to take ·when to take ·how much to take ·Foods to be avoided and foods to be encouraged (Enhacers and inhibitors of Iron absorption) d. How to deal with the side effects and reduce them .	ANM ASHA AWW	IEC and BCC Material eg. Iron rich foods and other messages related to Anaemia and diet along with Important Do's and Don'ts to be displayed near Anaemia corner. Surakshit Matritva Booklet/Flip chart to be distributed or shown respectively.
iii.	**To conduct Investigations** advised by the doctor. Sampling may be done in the lab/corner itself. Similarly the report collection for necessary follow up must be ensured. The investigation record to be maintained in the ANC and/or Anaemia register to enable tracking of the progress.	ANM LT	**Annexure D** Register format

iv.	**Colour Coding to be used to prioritize/track the Anaemic women.**	ANM (Coloured stickers /bindis or coloured spot pens may be used)	**Annexure F**
v.	In case oral iron has been advised, **provision of adequate number of IFA tablets.**	ANM	
vi.	**In case, referral required proper documentation is to be done**	ANM under the supervision of MO	
vii.	Ensure necessary follow-up in community	ASHA	
viii.	Documentation: Monthly summary, data alignment with HMIS, calculation of indicators	ANM	
ix.	Monitoring corner and registers	MOIC	

2.8 Roles and responsibilities of ANM - ASHA - AWW

1. Ensure that all antenatal women are registered in nearby facilities.
2. Screening of all pregnant women for Anaemia at earliest (First trimester itself).
3. Counselling including iron rich, balanced nutritious diet.
4. List of Anaemic women with their haemoglobin status to be maintained for tracking.
5. IFA and other nutritional supplement to be distributed in area by ASHA.
6. Danger signs to be explained.
7. Compliance of IFA to be checked for every antenatal case (PW).
8. Prompt referral in case of severe and moderate Anaemia or any complication.
9. Institutional delivery of all pregnant women to prevent any complication.
10. Accompany/facilitate for referral to attached facility.

Note: In community, ASHA may screen pre pregnancy women and lactating mothers so that all women enter and leave pregnancy with good Hb.

Issue Hb card to all pregnant women (Annexure H)

2.9 Follow-up

- List of Anaemic women must be shared with ASHAs and AWWs for necessary tracking and reporting the progress.
- List of Anaemic women under treatment from hospitals must also be transferred to concerned facilities through concerned DPO (RCH) and follow-up done.

2.10 Indicators

2.10.1 Output Indicators:

1. New Pregnant Women registered in ANC clinics.
2. New Pregnant women with Mild / Moderate / Severe Anaemia
3. New Pregnant Women counselled.
4. Pregnant women given oral IFA (Old and New): Prophylactic or therapeutic, as applicable
5. Pregnant women referred.

2.10.2 Outcome Indicator:

1. No. of Anaemic women with rise in Hb levels in the reporting month.

C BC Report Made Simpler

Parameter	Normal value	Interpretation
RBC count: Number of erythrocytes in 1 cubic mm of whole blood.	Men: 4.6 -5.9 million Women: 3.5 -4.5 million	**Low value:** Iron deficiency, blood loss, hemolysis and bone marrow suppression. **High value:** Higher altitude or after prolonged physical exercise. Polycythemia vera, Thallassemia
PCV (Haematocrit): Volume of cells as a percentage of the total volume of cells and plasma in whole blood.	Men: 42 -52 % Women: 37-47%	**Low value:** Anaemia, hemorrhage or excessive intravenous fluid infusion **High value:** Dehydration, Polycythemia vera
MCV (Mean Corpuscular Volume): Average volume or size of a single RBC	80-96fl Normocyte It's an average value and may be in normal range due to the presence of both microcytes and macrocytes in dimorphic Anaemia	**<80 fl: Microcyte** Iron deficiency, Copper deficiency, Haemoglobin opathies Chronic inflammation **>100 fl:** Macrocyte B12 or Folate deficiency, Liver disease, Hypothyroidism, Bone marrow disorder, Alcohol abuse
MCH(Mean corpuscular haemoglobin)**:** Average amount of haemoglobin in a RBC	28-33 pg/RBC	**Low value:** Iron deficiency,Thalassemia **High value:** B12 deficiency, Folate deficiency
MCHC(Mean Corpuscular Haemoglobin Concentration)**:** Average concentration of haemoglobin in a particular volume of RBC	33-36g/dl RBC It is a calculated value from haematocrit and serum haemoglobin levels and correlates Hb with volume	**Low value:** Iron deficiency, Thalassemia **High value:** Haemolytic Anaemia, Spherocytosis, Liver disorder, Hyperthyroidism
RDW (Red Cell Distribution Width) This index is a quantitative estimate of the uniformity of individual cell size.	11.5 -14.5 %	**Elevated** in Iron deficiency, B12 deficiency, Folate deficiency **Normal** in haemoglobinopathies, haemolytic Anaemia
Reticulocyte Count Immature cells released by the bone marrow into circulation which will change into mature cells in 1-2 days	0.5-2% Described as percentage of normal mature RBC present	**Decreased** in Bone marrow suppression, Deficiency Anaemia **Elevated** in Haemolytic Anaemia, in response to therapy in deficiency Anaemias

INTERPRETATION MADE EASY

Anaemia	RBC count	MCV	MCH	MCHC	RDW	Reti count	Mentzer index MCV/RBC count	Peripheral Smear
Iron deficiency	Low	Low	Low	Low	High	Low	>13	Microcytic hypochromic
Thalassemia	Normal	Low	Low	Normal	Normal	High	<13	Microcytic hypochromic
B12 or Folate deficiency	Low	Normal or High	Normal or high	Normal	high	Low		Macrocytic hypochromic

Important:

Mentzer Index (MCV(fl)/RBC count- millions per microliter)

Suspect Thalassemia in case:

- **Normal RBC with Low MCV (<80 fl)**
- **Mentzer Index <13**

Annexure B

1. **Location:**
   The Anaemia Room must be located within /close to **antenatal OPD**.

2. **Space: The Anaemia Room**
   It should have sufficient space for accommodating the Nursing Officer, seating of 5-6 women for counselling, drawing samples if required . A minimum of 12 x 14 ft should be identified. (With added staff and activities more space would be required e.g. if Dietician and LT are to be positioned in Anaemia Room. Further, if injectable iron is to be administered in Anaemia Room, more space would be required .

3. **Logistics /Drugs for Anaemia Room:**

A. Furniture and other logistics

- Table, Chairs
- An Almirah
- Display board
- Pin board
- White board with markers
- LED screen display for running AV clips
- Syringes and vials with labels and investigation forms for sending blood samples

B. Stationary

- Anaemia tracking register (**Annexure D**): May be unit wise in bigger hospitals
- Investigation forms
- Coloured sketch pen or stickers
- Anaemia Room stamp

C. IEC / BCC material

- Information pamphlets for distribution.
- Posters (printed/handmade) on all aspects of Anaemia to be displayed in the room for women/couples to see and understand.
- Anaemia management protocols as recommended by AMB, other recognized organization and annexed algorithm for ready reference.

D. Drugs:

- Tab IFA (elemental iron 60 mg plus 500 µg Folic acid)
- Tab Albendazole 400 mg
- Tab Calcium 500 mg
- Tab Vitamin B12 1000µg
- Tab Vitamin C 500 µg
- Injection Ferric carboxymaltose (FCM) 1000 mg*/Intravenous Iron Sucrose (IVIS)
- Injection Cyanocobalamine 1000 µg*

E. **Equipment for resuscitation:**

If provision for parenteral iron is made in the same set up, an emergancy tray/cart well equipped with all emergancy drugs and oxygen cylinder with paraphenomia must be readily available.

4. Manpower for Anaemia Room: Nursing Officer/ PHN/ANM. Additionally, the Dietician and Lab Technician may also share the room depending on individual hospital set up. A suitable health personnel can be identified from amongst the available staff and can be trained for nutritional/ dietary counselling .

5. Processes in Anaemia Room:

A. All antenatal women with haemoglobin (Hb) **less than 11 gm%** would be sent to Anaemia Room after examination by the medical officer. In the Anaemia Room, she would be received and **registered** by the Anaemia Room Nursing Officer. Her OPD slip/ANC Card would be stamped with **Anaemia Room stamp** and also colour-coded commensurate with the severity of her Anaemia for **ease of identification and prioritization**. (**See Annexure F)**

B. A **serial number** would be allotted to the woman and entry made in the **Anaemia registration cum tracking register**. Same serial number will be recorded on the upper right hand corner of the ANC card or in the stamp or coloured circle. Along with the Unit name/number under which she is registered.

C. Depending upon the **treatment advised by the Obstetrician**, further action will be initiated in Anaemia Room.

D. Counselling will be done for all cases **See Annexure C**
The Anaemia Room staff will counsel the patient about the following aspects :

- Risks of Anaemia to her and her baby
- Need for treating Anaemia
- How to prevent and treat
- What to do in case of side effects
- Role of nutrition and what diet to follow
- Dispel myths and misconceptions
- When to come for follow up

E. Investigations:

If so required, the Anaemia Room staff will also **draw sample** for complete blood count and peripheral smear and give instructions on when to come to collect the report (usually within a week). Sample will also be drawn for any other investigations advised.

F. Management as advised :

- Provision of oral IFA/Calcium/Vit C/Vit B12/Tab Albendazole
- Facilitate administration of Injectable Iron.
- Facilitate Admission and BT.

See Annexure G

G. Follow up:

- The women should be asked to report to the room after 4 weeks for a repeat Hb or earlier if she is not able to tolerate oral iron.
- For women who fail to return, a **telephonic reminder (in the form of message/alert/call)** to be sent by the Anaemia Room Nursing Officer and entry made in the register against her entry in the designated column along with response from the other side.

H. The **smooth functioning** of the Anaemia Room will be the responsibility of the senior most nursing officer incharge of the antenatal OPD and the designated Nodal Officers.

See Annexure H

I. Documentation:

- Issue Hb card to the woman
- Register columns to be completed on first and follow up visits.
- Monthly summary to be prepared along with indicator calculation.

See Annexure D

Live Illustrations

अनीमिया के विषय में कुछ जरुरी बातें

अनीमिया क्या है और बचाव क्यों

- गर्भावस्था में यदि महिला का हीमोग्लोबिन **11** ग्राम % से कम हो तो उसे अनीमिया कहते हैं।
- अनीमिया से ना **सिर्फ माँ** के स्वास्थ्य पर असर पड़ता है बल्कि **होने वाले शिशु** के शारीरिक और मानसिक विकास पर भी **बुरा प्रभाव पड़ता है।**
- **अनीमिया के लक्षण हैं** : त्वचा का रंग फीका पड़ना, कमजोरी, थकान, चक्कर, साँस लेने में परेशानी, पेरों में सूजन इत्यादि।

अनीमिया से बचाव :

- गर्भावस्था के दौरान महिला के शरीर में नॉर्मल से **अधिक मात्रा में आयरन (लौह) की आवश्यकता होती है** जो सिर्फ खान-पान से पूरी नहीं की जा सकती है।

✓ इस आयरन की कमी को पूरा करने के लिए हर गर्भवती महिला को **रोज़ आयरन की गोली खानी आवश्यक है।**

- **आयरन युक्त आहार के सेवन से अनीमिया से बचने में सहायता मिलती है।**

✓ उदाहरण के तौर पर हरी पत्तेदार सब्ज़ियाँ, गुड़, काला चना, टमाटर, आँवला, चुकंदर, सेब, सूखे मेवे, केले, दालें (खासकर अंकुरित) और माँसाहारी पदार्थों के सेवन से अनीमिया का खतरा कम होता है। पेठे के बीज, सोयाबीन, गाजर, अंडे, अनार, तरबूज, छोटे अनाज (जैसे बाजरा, जई, जौ, रागी), मूँगफली, अमरूद, खजूर, कौर्नफ्लेक्स, इत्यादि लौह तत्व से भरपूर खाद्य पदार्थों के अन्य उदारहण हैं। साथ में **विटामिन-सी युक्त आहार** जैसे कि मौसमी, संतरा, नींबू, आँवला इत्यादि से शरीर में आयरन का समावेश सहजता से होता है।

✓ **प्रोटीन युक्त आहार** जैसे पनीर, अंडा, मांसाहारी पदार्थ, दालें इत्यादि भी खून की मात्रा बढ़ाने के लिए आवश्यक हैं।

✗ खाने के साथ **चाय व कॉफी** का सेवन नहीं करना चाहिए। ये शरीर में आयरन का समावेश को कम करते हैं। आयरन की गोली तथा चाय/कॉफी में कम-से-कम एक घंटे का अंतराल रखें।

- लोहे की कढ़ाई में खाना बनाने से भोजन में लौह तत्व (आयरन) की मात्रा बढ़ती है।

आयरन की गोली खाने का सही तरीका:

✗ आयरन की गोली को कभी भी कैल्सियम की गोली के साथ नहीं खाना चाहिए। दोनों गोलियों में कम-से-कम **2** घंटे का अंतराल होना चाहिए।

✓ आयरन की गोली दूध के साथ न लें बल्कि : नींबू, मौसमी, संतरे या आंवला के रस के साथ लें।

- यदि गोली खाने के बाद कोई दिक्कत या परेशानी महसूस हो तो गोली को रात के खाने के बाद लें या एक दिन छोड़ कर गोली का सेवन करें। परंतु किसी भी सूरत में गोली बंद न करें। यदि फिर भी दिक्कत होती है तो अपने डॉक्टर/चिकित्सक से संपर्क करें।

✗ भ्रान्तियों पर ध्यान न दें जैसे कि आयरन की गोली से शिशु का रंग काला पड़ जाता है।

- सच तो यह है कि आयरन की गोली खाने से अनीमिया से बचाव तो होता ही है साथ ही शिशु स्वस्थ एवम् तेज दिमाग का बनता है।

11 ग्राम % से कम हीमोग्लोबिन होने की स्थिति में प्रतिदिन एक के बजाय दो गोली/आयरन अथवा इंजेक्शन की आवश्यकता पड़ती है। इलाज अवश्य करवाएँ।

अनीमिया से मुक्ति, माँ बच्चे के स्वास्थ्य की बेहतरीन युक्ति

Annexure C
Continued

Annexure D

Suggested Format of the Anemia Room Register

Date :……..

Color Code at Registration : **≥11 g%** **10-10.9 g%** **7.1-9.9** **>7 (See annexure F)**

Anemia Room Number :…… Hospital RegNo : ……..

RCH Number : …….. Date of Registration : ……

Name of the Woman :…….. W/O : ……

Contact number : …… Address : ……

LMP : ……EDD : …….. POG on registration :……..Wks

Haemoglobin at registration : …….. Date : ……

Advice / Treatment Plan : Oral / Injectable / BT . (Tick the option)

Blood sample Taken for :

Investigation Reports :

CBC ……Mentzer Index (MCV/RBC count) : ……

PBS …… Urine Examination……ABO RH…….

S.Ferritin…… ..Ser Vitamin B12……..Ser. Folic Acid…….Any other……..

Type of Anemia ……

Iron Deficiency	B-12 Deficiency	Folic Acid Deficiency	Haemoglobinopathy	Other Genetic as Haemophilia

Date				
Hb				

CounselingDone : Yes / No **Albendazole given** : Yes / No

Tablets Given

Date						
Number of IFA Tablets given						
Number of Ca Tablets given						
Due date next visit						

Injectable Iron

Date					
Dose of Injectable Iron					

Side effect reported, if any……..

BT given : Yes / No . Details :_____

Linked to a dispensary / MCW / Mat Home : Yes / no (specify names)

- Dispensary.....
- ANM:.....
- ASHA: .....

Follow-up calls made :

Date			
Response			

Directions for filling the Anaemia Room Register :

1. In larger setups , Unit wise Anaemia Room Registers may be made.
2. In the Anaemia Room , antenatal women with haemoglobin (Hb) **less than 11 gm %** sent from ANC OPD would be received and registered by the Anaemia Room Nursing Officer .Her OPD slip/ANC Card would be stamped with Anaemia Room stamp and color coded commensurate with theseverity of her Anaemia for **ease of identification and prioritization as per coding convention (Annexure G)** . ***Severity of anaemia:** Mild:10-10.9 gm%; Moderate:1.7-9.9 gm%; Severe <7 gm%
3. A serial number would be allotted to the woman and entry made in the **Anaemia tracking register**. Same serial number will be recorded on the upper right hand corner of the ANC card or in the stamp or coloured circle. Along with the Unit name / number under which she is registered.
4. One side of a page may be devoted to one pregnant Anaemic woman as per the format given above.
5. Needless to say, all pages of the register are to be numbered and register to be checked and signed by the nodal officer at beginning of register and then on a weekly basis.
6. A summary of the progress of Anaemia Room must be made by the nursing officer in-charge of the antenatal OPD and endorsed by the nodal officer at the end of every month in the register itself.

Following information must be recorded:

Month: .....

a) Number of new Anaemic women registered (severity wise)
   - Mild .....
   - Moderate .....
   - Mild + Moderate ..... (HMIS Code 1.4.2)
   - Severe..... (HMIS code 1.4.3)

b) Number of women given oral iron
   - New .....
   - Old .....

c) Number of women given parenteral iron
   - New .....
   - Old .....

d) Number of women admitted for blood transfusion
   - New .....
   - Old .....

e) Nos. of units of blood transfusion

f) No. of women who transitioned from Anaemic to non Anaemic during reporting month. .....

g) No. of severe Anaemia treated ..... (HMIS Code 1.4.4)

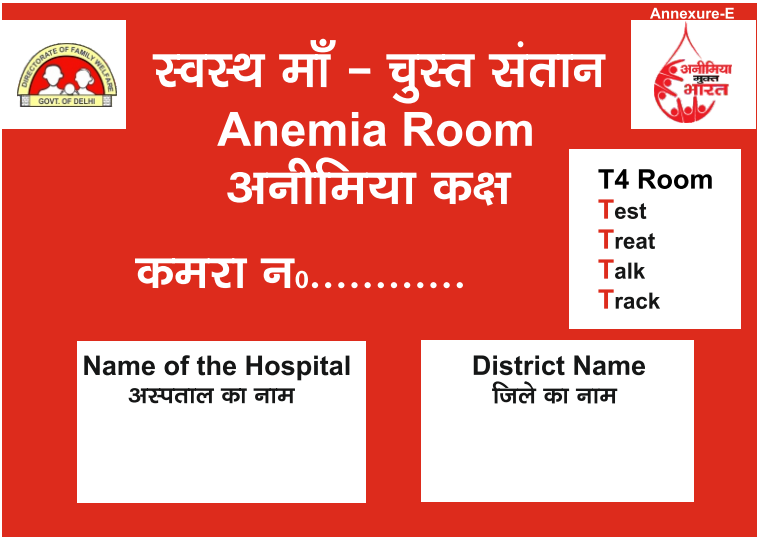
h) Number of PW provided full Course 180 Iron Folic Acid (IFA) tablets..... (HMIS Code 1.2.4)

This box may be printed hand written on back of Register for each month.

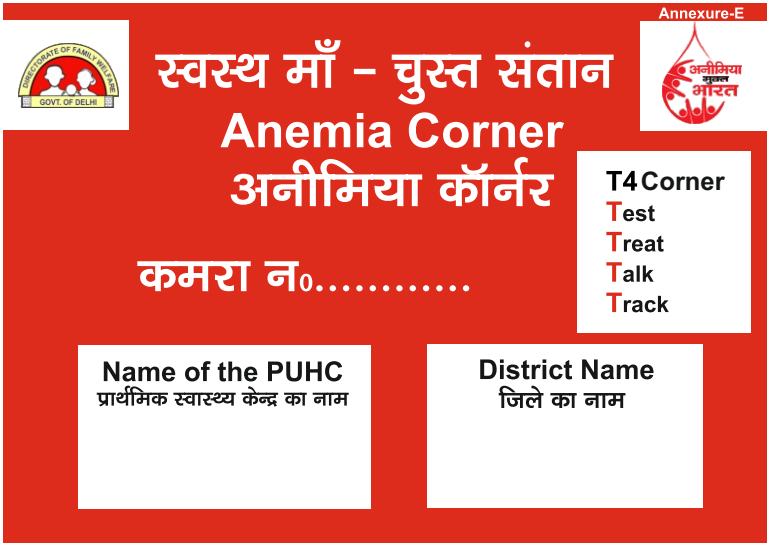
I) IFA to lactating mothers is also important and may be captured in post-natal clinic.

7. The data thus generated for all units must be collated and provided to the HMIS Nodal Officer department for entry into HMIS of the facility with copy to HOD, Obs. & Gynae /all unit heads.

Anaemia Room

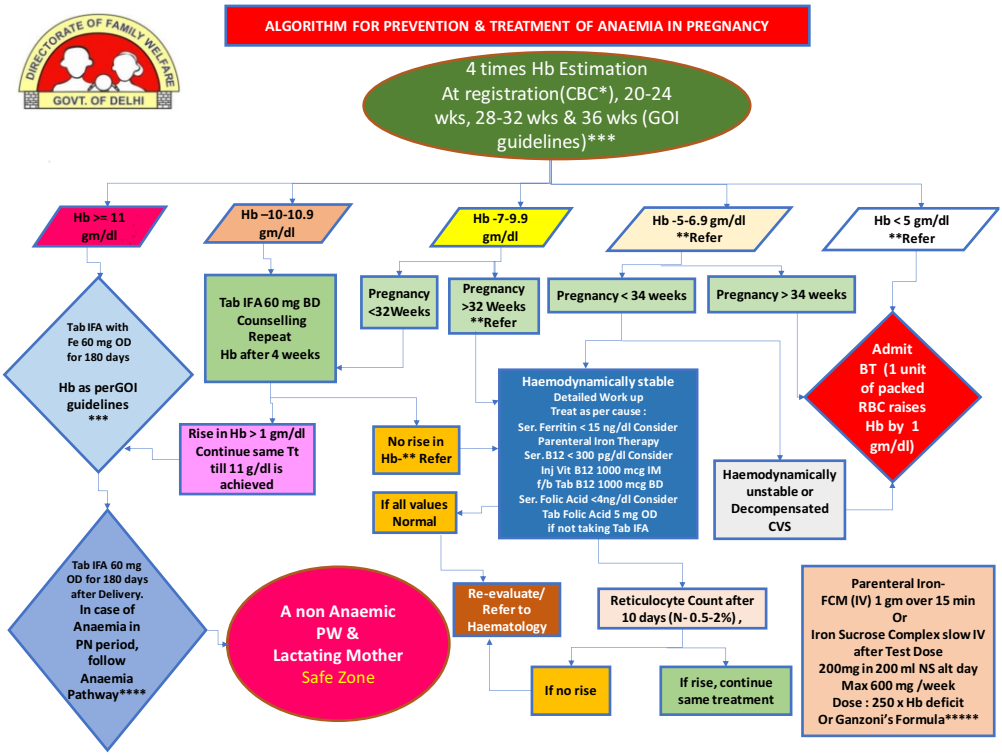


Anaemia Corner



Color codes to be put on MCP/ANC card for labelling severity of Anaemia

Period of Gestation	Before 12 Weeks	15-18 Weeks	24-28 Weeks	32-36 Weeks	6 Weeks after delivery
Date					
Hb(gm%) Color Code based on Hb level					



List of abbreviations : -
BT – Blood Transfusion
CBC – Complete Blood Count
CVS – Cardiovascular System
FCM – Ferric Carboxymaltose
GOI – Government of India
Hb – Haemoglobin
I.M. – Intramuscular
I.V.–Intravenous
PW – Pregnant Women
MCHC – Mean Corpuscular Haemoglobin Concentration
MCV – Mean Corpuscular Volume
MCH – Mean Corpuscular Haemoglobin
RDW – Red Cell Distribution Width
Ser – Serum
Tab IFA– Tab Iron Folic Acid
Tt – Treatment
Alt - Alternate

Reference : -AMB Guidelines
-WHO Guidelines

Normal Hb >/=11 gm/dl

Mild Anaemia Hb 10-10.9 gm/dl

Moderate Anaemia – Hb 7- 9.9 gm/dl

Severe Anaemia – Hb 5- 6.9 gm/dl

Very Severe Anaemia – Hb < 5 gm/dl

Ganzoni's formula***
Total Iron Deficit (mg) = Body weight (in kg) x (target Hb in gm/dl - actual Hb in gm/dl) x 2.4 + 500

All PW to be given single Tab Albendazole 400 mg after 12 weeks

* CBC Interpretation in Pregnancy

Characterstic	Normal Range	Iron Deficiency	B 12& Folate Deficiency	Thalessemia
Hb (gm/dl)	>/= 11	< 11	< 11	</= 11
RBC Count (million/mcL)	3.5-4.5	<3.5	<3.5	>/= 4.5
MCV (fl)	80-100	< 80	> 100	< 80
MCV is an average value and may be in normal range due to presence of both microcytes and macrocytes in dimorphic Anaemia				
MCH (pg/cell)	28- 33	< 28	> 33	< 28
MCHC (g/dl)	33-36	<33	>/= 33	N
RDW		High	High	N
Mentzer Index (MCV/RBC Count)				< 13

***As per CBC interpretation - for Iron Deficiency anaemia this algorithm is to be followed. In case of B12 / Folic Acid deficiency and dimorphic anaemia treat as given in box. Thalassemia is to be managed as per protocol.**

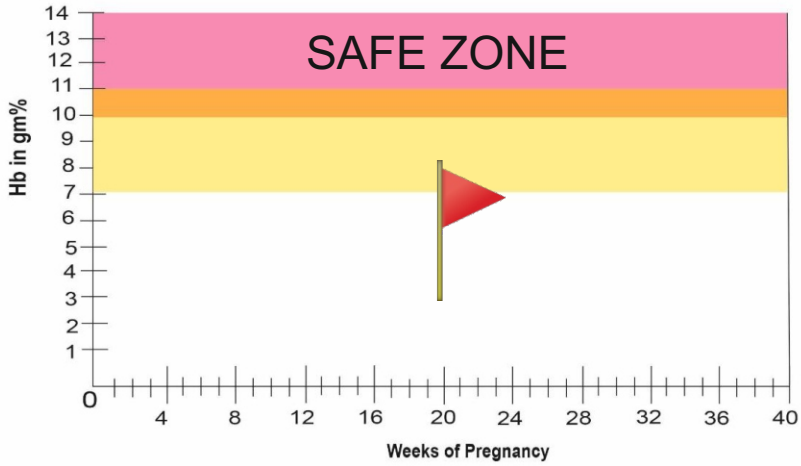
Note : This is a baseline Protocol for Primary Centres & hospital Anaemia Rooms. Facilities can customize/ further expand/ detail the same as per the level of facility. ** PW to be referred from Primary Centre to hospital for detailed work up and management. ****Parenteral Iron may be considered before discharge, intolerance or non compliance to oral Iron.

Name of card holder_____
Name of District _____
Name of Facility_____

गर्भवती महिला का हीमोग्लोबिन कार्ड

DO I FALL IN SAFE ZONE ?

क्या मैं सुरक्षित घेरे में हूँ?



Color codes to be put on ANC Card for labelling severity of Anaemia

Pink	>11gm%	- Normal
Orange	10-10.9 gm%	- Mild Anaemia
Yellow	7.1-9.9 gm%	- Moderate Anaemia
White	<7gm%	- Severe Anaemia

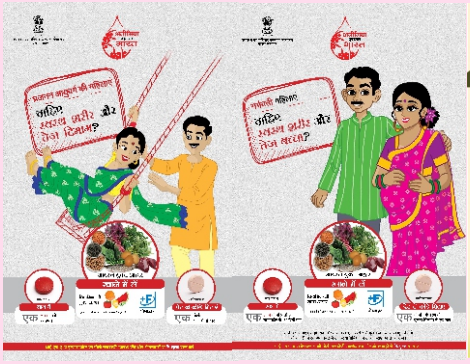
स्वस्थ माँ– चुस्त संतान

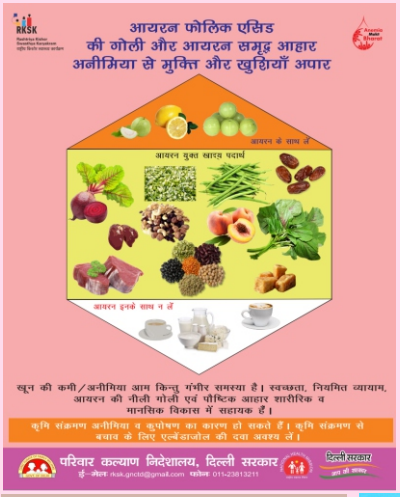
Directorate of Family Welfare, GNCTD

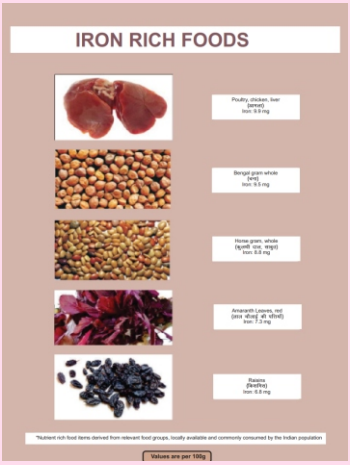
PTO

Annexure I

IEC Material







Annexure J

Self-care interventions for anemia in Pregnancy

Self-care interventions have the potential to increase choice and autonomy when they are accessible, acceptable, and affordable. The WHO is working closely on evidence-based recommendations on key public health self-care interventions, including for advancing sexual and reproductive health and rights (SRHR). It is an approach to reach Universal Health Coverage.

The following self-care interventions are recommended for Anaemia during pregnancy:

1. Haemoglobin Cut-off Value Awareness:
   - Knowing the cut off value of Haemoglobin for anemia in pregnancy
2. Regular Haemoglobin Monitoring:
   - Consistently track your Haemoglobin levels throughout all three trimesters of pregnancy, with a particular focus on monitoring at 36 weeks, which is a critical phase.
3. Symptom Observation:
   - Be vigilant for common symptoms of anemia, including fatigue, weakness, pallor (pale complexion), shortness of breath.
4. Use of Tools and Apps:
   - Consider using readily available tools like mirrors to check for pale tongue color or mobile apps designed to help assess anemia symptoms.
5. Edema (Swelling) Awareness:
   - Be aware of pedal edema, which involves swelling in the feet and ankles. Any unusual swelling should be reported promptly to your healthcare provider.
6. Prophylactic Use of IFA Supplements:
   - Understanding and following the prophylactic use of 180 tablets of IFA
   - Ensure strict compliance with the prescribed IFA supplements regimen. Do not skip doses and take them as directed by your healthcare provider.
7. Nutrient-Rich Diet:
   - Embrace dietary recommendations for combating anemia. Seek cost-effective yet nutrient-rich recipes that are both iron-packed and suited to your taste preferences.
8. Open Communication with Service providers:
   - Maintain open and frequent communication with your service providers, including ASHA workers, ANM and Doctors. Discuss any concerns about your Haemoglobin levels or symptoms you may be experiencing.
9. Family Engagement and Education:
   - Engage your family members in understanding the significance of maintaining optimal Haemoglobin levels during pregnancy. Emphasize that it is not only for your well-being but also for the health of the unborn child. Encourage their active support in adhering to self-care measures.
10. Regular antinatal check-ups:
    - Attend all scheduled antinatal check-ups and screenings. These visits are essential for monitoring your health and the well-being of your baby.
11. Hydration and Balanced Diet:
    - Stay well-hydrated and maintain a balanced diet. Adequate hydration supports the absorption of iron from food and supplements.
12. Rest and Stress Management:
    - Prioritize rest and manage stress effectively. Fatigue can exacerbate anemia symptoms, so getting enough sleep and minimizing stressors is crucial.
13. Emergency plan and Contact Information:
    - Keep contact information for your nearby healthcare facility. It should be accessible in case you need to reach the facilities urgently.

REFERENCES AND ADDITIONAL READING

- Anaemia Mukt Bharat: https://anemiamuktbharat.info/
- WHO guidelines for prevention and management of severe Anaemia in pregnancy:https://apps.who.int/iris/bitstream/handle/10665/62087/WHO_FHE_MSM_93.5.pdf
- Poshan Abhiyan- ek Jan andolan - https://poshanabhiyaan.gov.in/
- PMSMA accessed at https://pmsma.mohfw.gov.in/wp-content/uploads/2016/09/PMSMA_Operational_Framework.pdf
- Guidelines for skilled birth attendants at birth https://nhm.gov.in/images/pdf/programmes/maternal-health/guidelines/sba_guidelines_for_skilled_attendance_at_birth.pdf https://www.google.co.in/url?
- Safe injection practices accessed at https://www.who.int/teams/integrated-health-services/infection-prevention-control/injection-safety
- Blood transfusion guidelines https://naco.gov.in/sites/default/files/Standards%20for%20Blood%20Banks%20and%20Blood%20Transfusion%20Services.pdf
- Haemovigilance program of India accessed at https://nib.gov.in/haemovigilance.aspx
- RMNCHA+N Manual on counselling- (https://nhm.gov.in/images/pdf/programmes/familyplaning/guidelines/RMNCAH+N_Manual_on_Counseling_2021.pdf-
- WHO Anaemia Fact sheet- (https://www.who.int/news-room/fact-sheets/detail/anaemia)

गर्भवती स्त्रियों की सेवा में
ना रखेंगे कोई कमियां,
शून्य पर ला देना है इनको
चाहे मातृ- मृत्य दर हो
या हो अनीमिया

प्रसव-पश्चात मातृ-मृत्यु इतनी
क्यों, ये सवाल जरूरी है।
गर्भावस्था में रक्त की उचित
आपूर्ति का ख़्याल जरूरी है।

सुरक्षित मातृत्व का स्वप्न
सर्वत्र साकार करायेंगे,
हम सब मिलकर अनीमिया
को जरूर हरायेंगे।

जब पति देगा पत्नी के
पोषण पर ध्यान
तभी होगा
गर्भ सम्बंधित
अनीमिया का समाधान

उत्कृष्ट देश की
अमिट पहचान,
सुरक्षित माँ और
स्वस्थ सन्तान।

निश्चय करें अनीमिया
उन्मूलन का,
गर्भवती के सुरक्षित-स्वस्थ
जीवन का।

लौह युक्त उचित आहार का
प्रतिदिन करें सेवन
अनीमिया संबंधित दुष्प्रभाव का
समूल करें उन्मूलन

स्वास्थ्य कर्मी,
परिवार व स्वयं गर्भिणी का
होना पड़ेगा सम्मिलित योगदान
यदि जल्द ही पाना है
अनीमिया से निदान

लौह युक्त उचित आहार
अपनायें,
अनीमिया से आजीवन
छुटकारा पायें।

श्री नीरज मिश्रा व डॉक्टर ज्योति सचदेवा
के सम्मिलित प्रयास से