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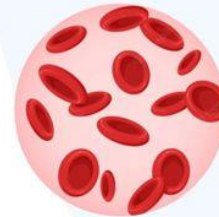
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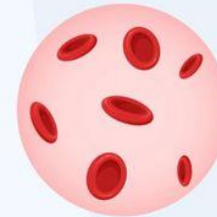
Global Ranking of Academic
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Anemia in Pregnancy

Anemia in Pregnancy



Normal



Anemia



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INTRODUCTION



- Commonest medical disorder in pregnancy.
- 18-20 pregnant women are anaemic in developed countries as compared to 40-75 % in developing countries .
- It is responsible for significant high maternal and fetal mortality rate worldwide.

DEFINITION



- Anemia is a condition in which the number of red blood cells or their oxygen carrying capacity is insufficient to meet the physiological needs of the individual , which consequently will vary by age, sex, attitude, smoking, and pregnancy status (WHO 2013).



Anemia in pregnancy



- Anemia in pregnancy is defined as haemoglobin (Hb) concentration is less than 11 g/dl.



CLASSIFICATION



- **Mild :** 9- 10.9 gm/dl
- **Moderate :** 7.8- 9 gm/dl
- **Severe :** < 7 gm/dl
- **Very severe :** <4 gm/dl



CLASSIFICATION OF ANEMIA



1. Physiological Anemia

2. Pathological Anemia

- ❖ Iron deficiency
- ❖ Folic acid deficiency
- ❖ Vitamin B12 deficiency

3. Hemorrhagic Anemia

- ❖ Acute—following bleeding in early months of pregnancy or APH
- ❖ Chronic—hookworm infestation, bleeding piles, etc.





4. Hemolytic anemia

- ❖ Familial—congenital jaundice, sickle cell anemia, etc.
- ❖ Acquired—malaria, severe infection, etc

5. Bone marrow insufficiency

- ❖ hypoplasia or aplasia due to radiation, drugs or severe infection.

6. Hemoglobinopathies

- ❖ Abnormal structure of one of the globin chains of the hemoglobin molecule of globin chains of the hemoglobin molecule ex- sickle cell disease



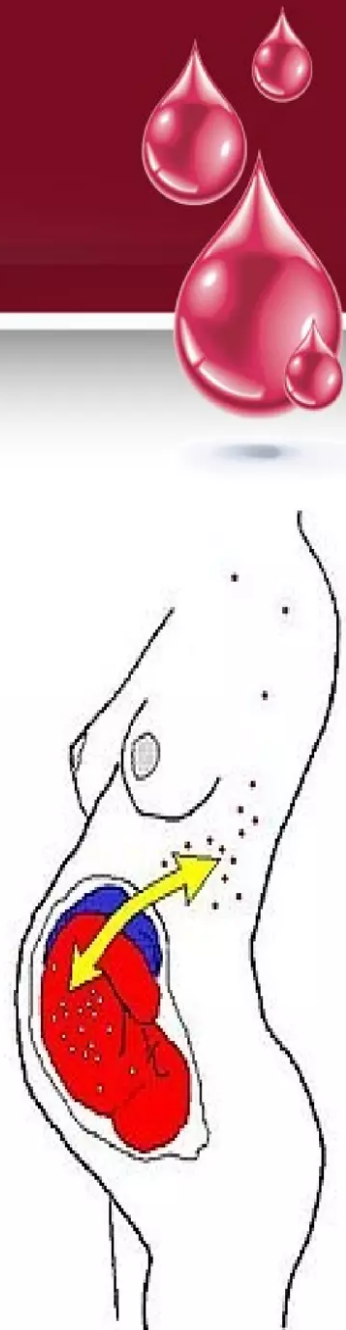
PHYSIOLOGICAL ANEMIA OF PREGNANCY



- During pregnancy, maternal plasma volume gradually expands by 50%, an increase of approximately 1,200 ml by term.
- Most of the rise takes place before 32nd to 34th week's gestation and thereafter there is relatively little change (Letsky, 1987).
- The total increase in red blood cells is 25%, approximately 300 ml that occurs later in pregnancy. This relative hemo-dilution produces a fall in haemoglobin concentration, thus presenting a picture of iron deficiency anemia.
- However, it has been found that these changes are a physiological alteration of pregnancy necessary for the development of fetus.

ERYTHROPOISIS

- In adults, erythropoiesis is confined to the bone marrow.
- Red cells are formed through stages of pronormoblasts-→ normoblasts-→reticulocytes-→nature nonnucleated erythrocytes
-
- The average life- span of red cells is about 120 days after which the RBC's degenerate and the haemoglobin are broken into hemosiderin and bile pigment.

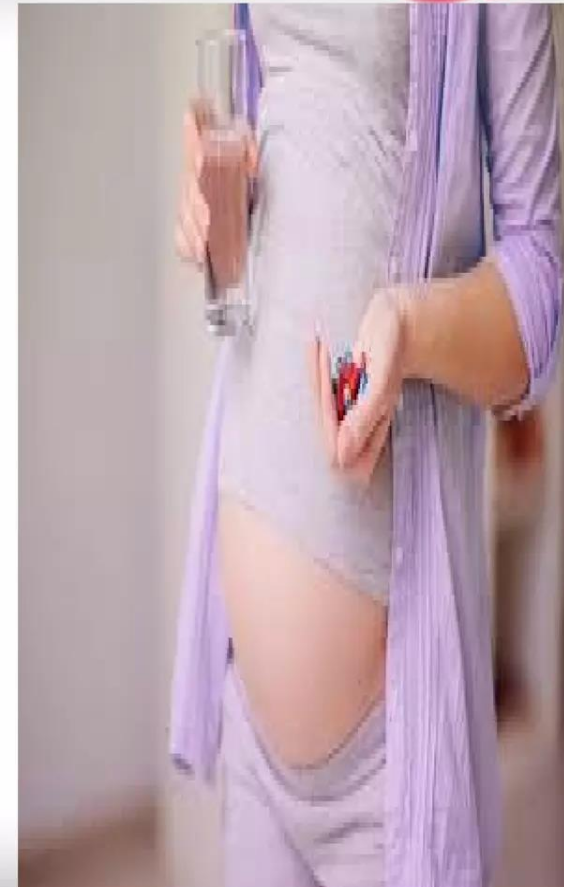


IRON REQUIREMENTS IN PREGNANCY



During pregnancy **approximately 1,500 mg iron** is needed for:-

- ❖ Increase in maternal haemoglobin (400-500mg)
- ❖ The fetus and placenta (300-400 mg)
- ❖ Replacement of daily loss through urine, stool and skin (250mg)
- ❖ Replacement of blood lost at delivery (200mg)
- ❖ Lactation (1mg/day)



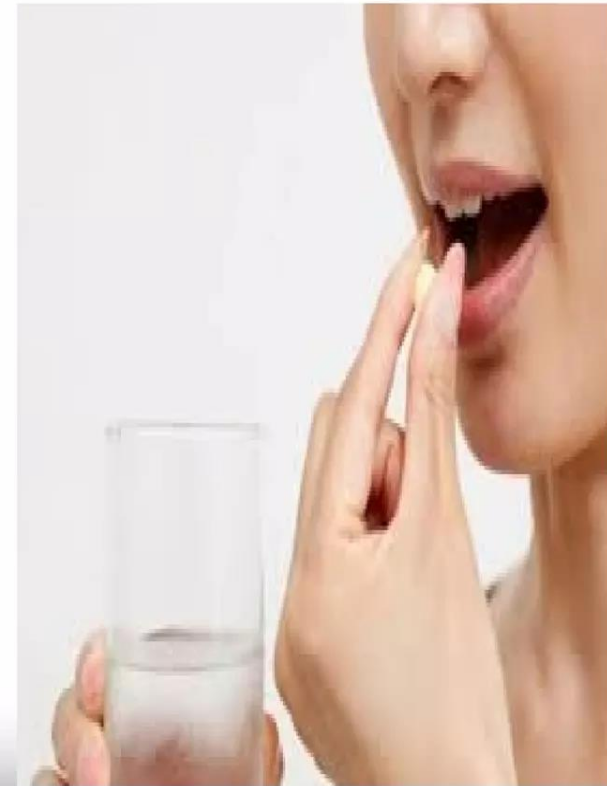
IRON AND FOLIC ACID REQUIREMENT IN PREGNANCY



Elemental iron- 30 mg to 60 mg

Folic acid- 400 μg (0.4 mg)

It is **recommended** for **pregnant** women to prevent maternal anemia, puerperal sepsis, low birth weight, and preterm birth of babies.



IRON DEFICIENCY ANEMIA



- About 95% of pregnant women with anemia have iron deficiency type.
- A pregnant woman is said to be anemic if her haemoglobin is less than 10 gm/dl.



CAUSES



- Reduced intake or absorption of iron
- Excess demand such as multiple pregnancy
- Blood loss



EFFECTS OF ANEMIA ON THE MOTHER



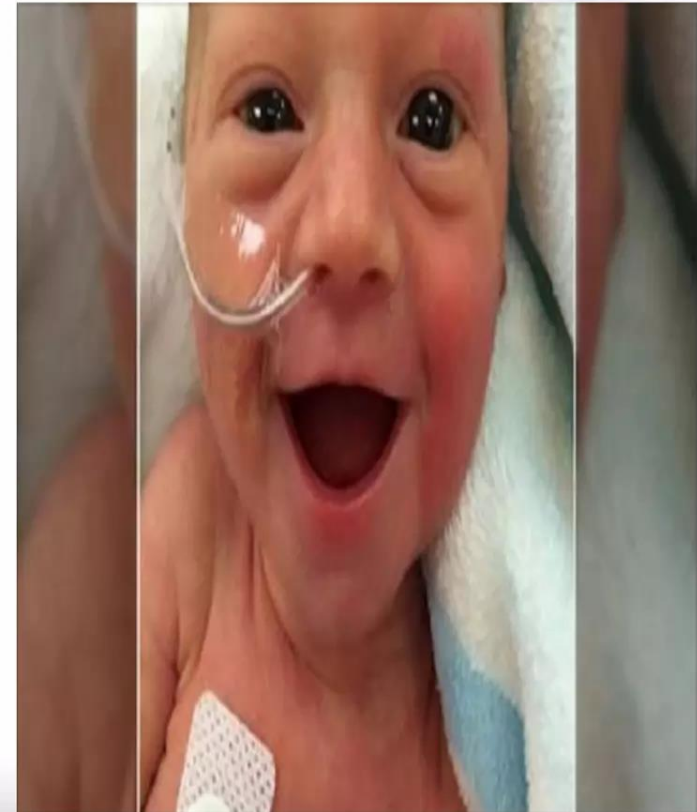
- Reduced resistance to infection caused by impaired cell-mediated immunity
- Reduced ability to withstand postpartum hemorrhage
- Strain of even an uncomplicated labor may cause cardiac failure
- Predisposition to PIH and preterm labor due to associated malnutrition
- Reduced enjoyment of pregnancy and motherhood owing to fatigue
- Potential threat to life.



EFFECTS TO FETUS/ BABY



- Intrauterine hypoxia and growth retardation
- Prematurity
- LBW
- Anemia a few months after birth due to poor stores
- Increased risk of perinatal morbidity and mortality



PREVENTION OF IRON DEFICIENCY ANEMIA



- The midwife can help to identify women at risk of anemia by
- Accurate history of medical, obstetric and social life



MANAGEMENT



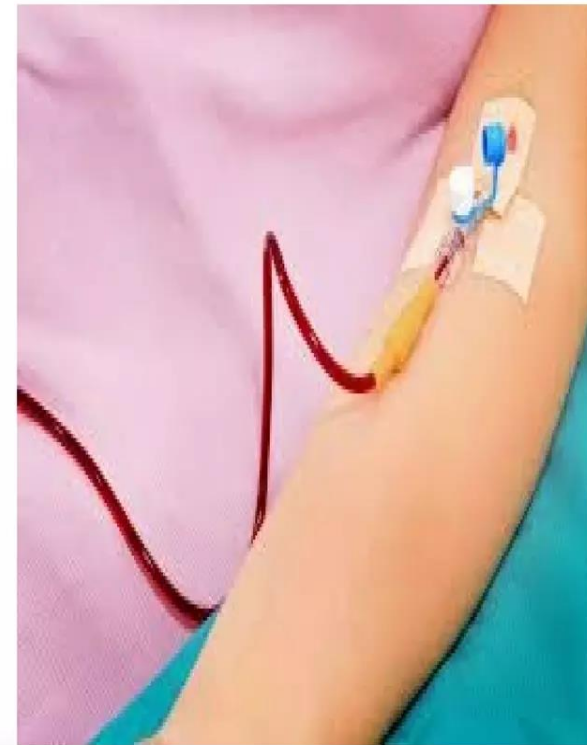
- Avoidance of frequent childbirths
- Supplementary iron therapy
- Dietary advice
- Adequate treatments to eradicate illnesses likely to cause anemia
- Early detection of falling hemoglobin level



CURATIVE MANAGEMENT



- Women having haemoglobin level of 7.5 mg% and those associated with obstetrical medical complications must be hospitalized.
- **Following therapeutic measures are to be instituted:**
 - Diet
 - Antibiotic therapy
 - Blood transfusion
 - Iron therapy which may be oral/ parental
 - Oral iron: daily dose 120- 180 gm is given.



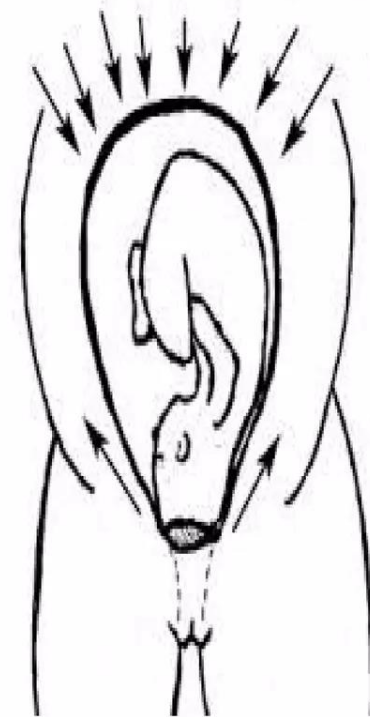
MANAGEMENT DURING LABOR



1st stage



- Special precautions
- Comfortable position on bed
- Light analgesia
- Oxygenation to increase oxygenation of maternal blood and prevent fetal hypoxia
- Strict asepsis



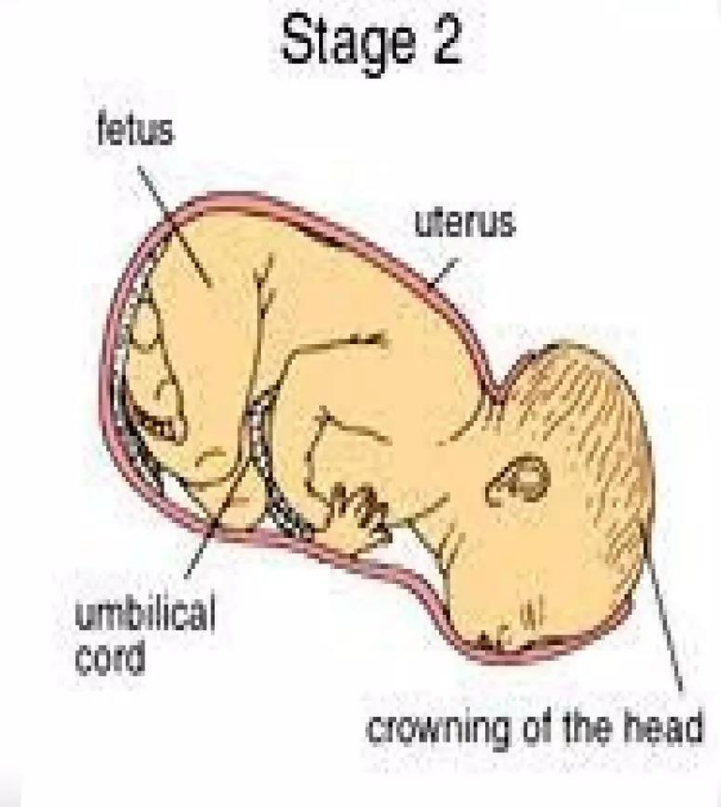
Contractions push the baby down ..

and pull the cervix open.

2nd stage



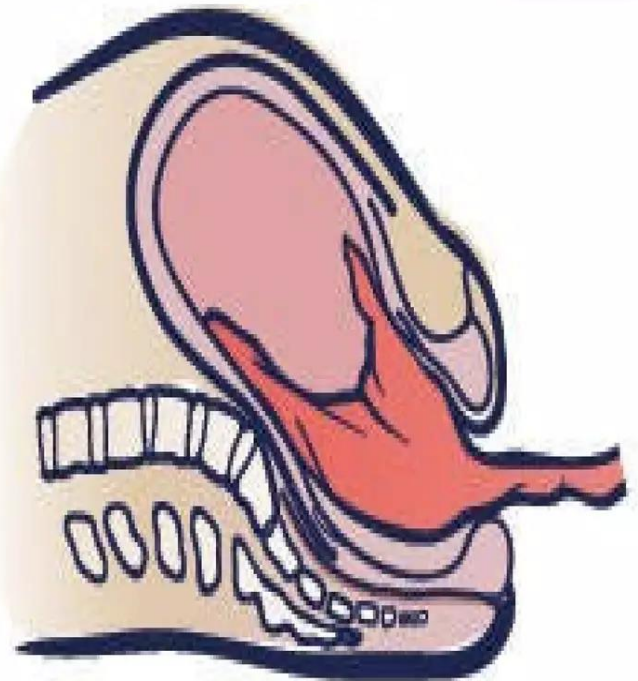
- ❑ Usually no problem.
- ❑ IV Methergin 0.2mg or 20 units oxytocin in 500ml RL IV and 10units of IM given.



3rd stage



- ❑ Intensive observation.
- ❑ blood loss must be replaced by fresh pack cell and amount must not exceed loss amount to avoid overloading



3rd Stage Placenta Expulsion

FOLIC ACID DEFICIENCY ANEMIA (MEGALOBLASTIC ANEMIA):-



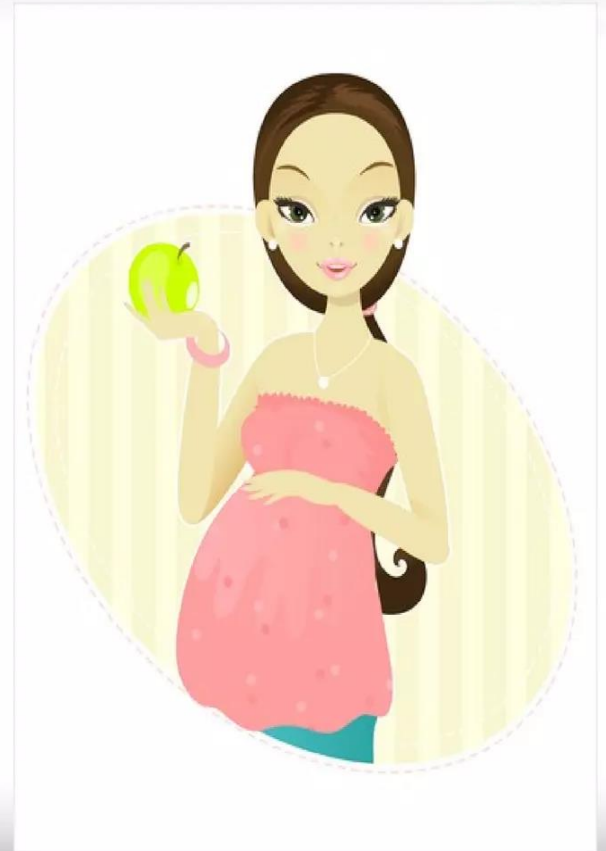
- Folic acid deficiency anemia happens when body does not have enough folic acid.
- Folic acid is one of the B vitamins, and it helps your body make new cells, including new red blood cells
- Deficiency of folic acid can cause placental abruption, neural tube defect and congenital cardiac septal defects



VITAMIN B 12 DEFICIENCY



- ❑ **Vitamin B₁₂ deficiency**, also known as **hypocobalaminemia**, refers to low blood levels of vitamin B 12.
- ❑ Deficiency of vitamin B 12 can also produce megaloblastic anemia.
- ❑ Deficiency is most likely in vegetarians who eat no animal product.



CONCLUSION



- Anemia in pregnancy is the most commonly occurring disorder during pregnancy, so every mother who are pregnant must screen for anemia and must take treatment as soon as possible along with foods rich in iron and also must have family support and care throughout pregnancy.



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**THANK
YOU**

