

## STATISTICAL EVALUATION OF ANAEMIA IN PREGNANCY –AN OBSERVATIONAL STUDY

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### ABSTRACT

Ministry of health and family welfare of India conducted a programme for distribution of elemental iron and folic acid to each patient through the media of ante-natal clinics and primary health centers. But patients are still devoid of getting proper hematinics. Due to late approaches of patients for clinical advices large number of patients is coming with moderate to severe anaemia mostly in third trimester. These patients are mostly from the rural area of nanded district, so we are compromising their anaemias with blood transfusion or IV iron as substitute of routine folic acid and iron supplement. 48 patients were screened out clinically and diagnosis was made through investigation such as CBC with PBS, we conclude that each patient may complicate there stages of delivery and may create obstetrical emergencies so we are presenting statistical data observed in our institute revealing the type of anaemia.

**Keywords:** Anaemia, blood transfusion , iron suppliment ,obstetrical emergencies.

### INTRODUCTION

As per norms of WHO India is iron deficiency country. Anaemia is responsible for 20% of maternal deaths in the third world countries. The major rural population of India still enrich with malnutritional diseases. Anaemia being the major socio economical clinical entity case s. Secondary many other disease, lack of healthy education services, health awareness, these are responsible factors. We are documentary travelling towards global nation but health issues, in rural area are same rather than worsening day by day. Aldosent age problems, early marriages repeated pregnancies, criminal abortions, gynecological disorders, also predisposing factors for development of anaemia. Anaemia is one of the most neglected and wide spread nutrition related disorder affecting mostly in pregnant women. They have much lower tolerances for blood loss and less effective function of the immune system.

**AIM** -The aim of study is to describe the nature and magnitude of anaemia among the pregnant women under IPD record of stree rog and prasutitantra dept, government ayurved college nanded within period of 2013 to 2014.

**MATERIAL AND METHOD** -In this retrospective study data is collected from IPD of stree rog and prasutitantra dept G. A. C & H Nanded. In our institute 48 patient were studied for evaluation and incidence of anaemia.

**FACTORS RESPONCIBLE FOR HIGH PREVALANCE OF ANAEMIA**-Lack of awareness of GARBHINI PARICHARYA, Which is still not routine part of antenatal care. Already existing anaemia, negligence in early trimester. Low dietary intake .Poor iron (>20mg/day) and folic acid intake (>7microgram/day).

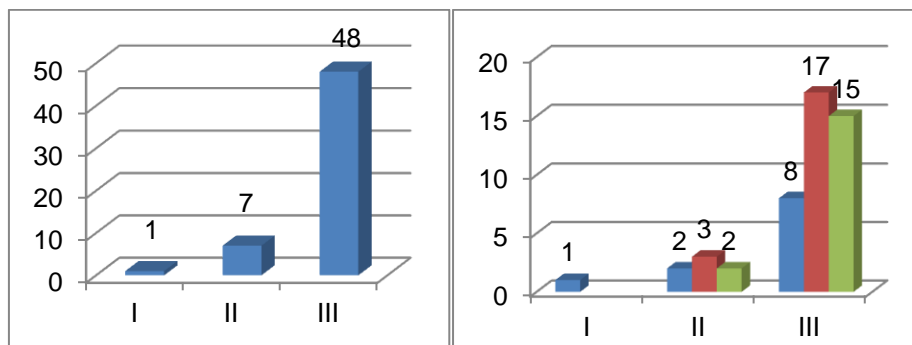
Chronic blood loss due to infections such as malaria and hookworm infestation .

**STATISTICAL ANALYSIS** -Total annual ANC patient in our institute is near about 522 and clinically observed anaemic

ANC patients are 48. So the prevalence of anaemia in pregnancy is 9.1%.

$$\text{Prevalence of ANC of Anaemia} = \frac{48}{522} \times 100 = 9.1\%$$

Statistical distribution of Anaemia in I, II, III rd trimester.



### ETIOPATHOGENESIS OF ANAEMIA

**During pregnancy:** The woman who has got sufficient iron reserve & is on a balanced diet, is unlikely to develop anaemia during pregnancy in spite of an increased demand of iron. But if the iron reserve is inadequate or absent, the factors which leads to the development of anaemia during pregnancy are

- Increased demands of iron.
- Diminished intake of iron.
- Disturbed metabolism.
- Pre-pregnant health status.
- Excess demand, multiple pregnancy increases the iron demand by two folds.

### MATERNAL CONSEQUENCE OF ANAEMIA

**Mild Anaemia:** Women with mild anaemia is pregnancy have decreased work capacity. They may be unable to earn their livelihood if the work involves manual labour. Women with chronic mild anaemia may go through pregnancy & labour without any adverse consequence, because they are well compensated.

**Moderate Anaemia:** Women with moderate anaemia have substantial reduction in work capacity & may find it difficult to cope with household chores & childcare.

They are more susceptible to the infections & recovery from infections may be prolonged .

**Severe anaemia:** Three distinct stages of severe anaemia have been recognized compensated, recompensed & that associated with circulatory failure.

**IRON DEFICIENCY ANAEMIA** For the proper erythropoiesis adequate nutrients are needed.

A. Minerals: Iron is essential element in synthesis of Haemoglobin. Traces of copper and cobalt are also required in synthesis.

B. Vitamin: -B<sub>12</sub>, Folic Acid and Vitamin C. B<sub>12</sub>, for the maturation process. Synthesis of nucleoprotein, Particularly erythropoietic cells.

C. Protein: - Supply amino acids for the synthesis of globin.

D. Erythropoietin : - Important hormone responsible to increase red cell volume by stimulating the stem cell is the bone marrow produced by kidney (90%) and liver (10%)

Symptoms: - lassitude & feeling of exhaustion or weakness may be earlier manifestation.

a. Anorexia

- b. Indigestion  
 c. Palpitation, Dyspnea, Giddiness & Swelling of Legs.

**On Examination**

1. There is pallor of varying degrees.
2. Edema of legs may be due to hypoproteinemia.
3. Soft systolic murmur may be heard in mitral area due to physiological mitral incompetence.

**Investigations:** The patients having Hb% 9 gm/dl or less should be subjected to full hematological investigation

Includes

1. Degree of anaemia
2. Type of Anaemia
3. Cause of Anaemia

**1. Degree of Anaemia:** Hematological examination, Hb%, PBS, total red cell count. Determination of packed cell volume.

**Grading of pathological anemia**

1. Mild -between 8-10 gm%
2. Moderate -between 7-8 gm%
3. Severe -between 7 gm%

During pregnancy plasma volume expands resulting hemoglobin dilution. Hb% level below 10 gm/dl at any time during pregnancy is considered as anaemia. (WHO-1993 CDC 1990)

**TO ASCERTAIN TYPE OF ANAEMIA**

- Study of morphology of red cells gives better idea about type of anaemia.
- Abundant presence of small pale staining cells with variation in size (anisocytosis) and shape (poikilocytosis) suggest microcytic hypochromic anaemia. This is typical in iron deficiency anaemia.
- MCHC is the most sensitive index of iron deficiency anaemia.
- A typical iron deficiency anaemia show following blood values.

Hb - less than 10 gm %

RBC	-	> 4 million / mm <sup>3</sup>
PCV	-	> 30%
MCHC	-	> 30%
MCV	-	> 75 μm <sup>3</sup>
MCH	-	> 25 pg

**Prevention and management of anaemia in pregnancy:**

In view of the high prevalence of anemia in pregnancy & serious adverse consequences in both mother & baby, management of anaemia in pregnancy was accorded a very high priority both in obstetric & public health practice. Mandatory monthly screening for anaemia becomes the routine in all antenatal clinics. Skilled management of severe grades of anaemia detected late in pregnancy, though blood transfusion & parenteral iron therapy became the hallmark of good obstetric practice & resulted in maternal & perinatal salvage rates in hospitals. However, it became obvious that unless effective steps were taken to reduce the prevalence of anaemia, further reduction in morbidity & mortality rate, could not be achieved.

**DISCUSSION**

Nanded is district place where Govt. Ayurved College centrally placed. Day to day ANC cases is visiting to IPD and OPD of our hospital. These patients are mostly coming from peripheral rural areas of Nanded district. We observed that they are mostly from poor socio economic group and illiterate. While checking them it was observed that these patients have no any protocol for their self-awareness about her health and baby health and so this causes high prevalence of anaemia during pregnancy. That's why it was decided that ANC data should be collected for rule out which type of anaemia is more common among these patients. Retrospective data collected in the form of ANC patients with their trimester of pregnancy Hb%, PBS

report. PBS were study 48 patients obtain who suffer from iron deficiency anaemia among this in 1<sup>st</sup> trimester 2.08% in 2<sup>nd</sup> trimester 14.5% and 3<sup>rd</sup> trimester of 83.5% obtained. As per need this we corrected their anaemia either by blood transfusion for intra venous iron therapy. To minimize complication during labor preterm labour and increase oxygenation toward fetus.

### CONCLUSION

Anaemia in pregnancy is associated with adverse consequence both for mother and fetus. Studies had shown that adverse consequence of maternal anaemia may affect not only the neonatal and infant. But also increases the risk of non-communicable disease when the child grows into an adult the risk of LBW in next generation

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