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Original Research Paper

# Prevalence of Anemia Among Pregnant Women

Medical Science

**KEYWORDS :** Anaemia, Haemoglobin,Pregnant, Malnutrition.

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## ABSTRACT

**Objective :** *This study was to observe haemoglobin levels and prevalence of anemia among pregnant women .*
**Material and methods :** *Blood sample were collected carefully from the 500 pregnant women with 18-35 age group and transported to the laboratory for hemoglobin estimated by chemical analizer.*
**Result:***This study showed that the prevalence of anaemia in pregnancy is 60%. It also showed that the PCV increased progressively from the first to the third trimester, while it decreases with advancing maternal age and parity. Intervention to prevent malaria in pregnancy such as mass literacy and public enlightenment, poverty eradication, antimalarial and antihelminths therapy, nutritional supplementation and routine use of haematenics throughout the stages of pregnancy would prove valuable preventive measures.*

**INTRODUCTION :**
Anaemia in pregnancy is defined as a haemoglobin concentration < 11.0 g/dl or <10.5 g/dl in the second half of pregnancy . Therefore, the mean minimum acceptable haemoglobin level during pregnancy by WHO criteria is taken to be 11g/dL in the first half of pregnancy and 10.5 g/dL in the second half of pregnancy. The World Health Organization further divides anaemia in pregnancy into: mild anaemia (haemoglobin 10-10.9g/ dL), moderate anaemia (Hb 7.0-9.9g/dL) and severe anaemia (haemoglobin < 7g/dL). Though there is a conflicting view that argued pregnant woman can be stable at haemoglobin level of 10gm/dL and that for these group of women it is better to define anaemia only when their haemoglobin is <10.00gm/dL[1-3].

Anemia is one of the most commonly encountered medical disorders during pregnancy. In developing countries it is a cause of serious concern as, besides many other adverse effects on the mother and the fetus it contributes significantly high maternal mortality. According to United Nation declaration 1997, anemia is a major public health problem that needs total elimination. It is estimated that globally two billion people suffer from anemia or iron deficiency [4].

**ERYTHROPOIESIS IN PREGNANCY-** The various factors required for erythropoiesis are proteins (erythropoietin), minerals (iron), trace elements (including zinc, cobalt and copper), vitamins (particularly folic acid, vitamin B12 [cyanocobalamin], vitamin C, pyridoxine; and riboflavin), and hormones (androgens and thyroxine). In addition to the common deficiencies of iron and folate, there is a growing body of evidence to implicate vitamin A (important for cell growth and differentiation maintenance of epithelial integrity and normal immune function) and Zn (important in protein synthesis and nucleic acid metabolism) in nutritional anemias.[5,6]

The objective of this study was to observe hemoglobin levels and prevalence of anemia among pregnant women .

**Material andMethod :**
**Study Area and Duration**
This study was conducted from January 2016 to March 2016 in Department of Microbiology at Hind Institute of Medical Science.

**Study Population:**
Blood sample were collected from a total of 300 pregnant women between the age of 18 to 35 years. All these females were out patients attending the Hind Institute Of Medical Science .

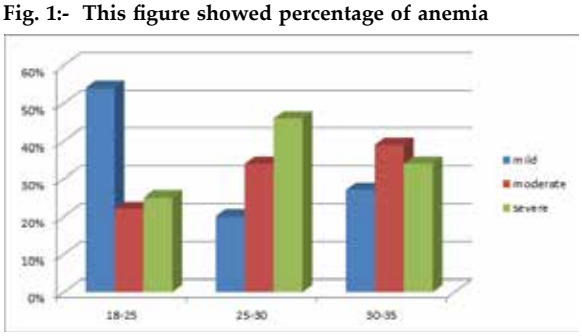
**Sample collection and laboratory investigation :**
Skin was cleaned thoroughly and sterilized with 70% isopropyl alcohol swab and dried before withdrawing 2 mL peripheral blood using 5cc disposable syringe from enrolled subjects. The blood was transferred to ethylenediamine tetra acetic acid (EDTA) coated purple-top test tube. The blood was mixed in the test tubes with 5 complete inversions and tubes were marked with codes and immediately taken to the laboratory for investigation. Hemoglobin concentrations were analyzed with the Chemical Analyzer .

**Result :**
In 500 pregnant womens 300 womens were anemic,in which100 females of 18-25 showed mild anemia , 100 female of 25-30 year females showed severe anemia and 100 females of 30-35 year females showed moderate anemia. Anemia were found in first trimester in 94 (31.3%),in second trimster116 (38.6%),in third trimster90 (30%)out of 300 patients.

**Table no. 1:- Mild ,Moderate , Severe anemia according to age**

| Age distribution | Mild | Moderate | Severe |
|---|---|---|---|
| 18-25 | 54 | 21 | 25 |
| 25-30 | 20 | 34 | 46 |
| 30-35 | 27 | 39 | 34 |

**Fig. 1:- This figure showed percentage of anemia**




**Discussion:**
During the period from January 2016 to 2016 March , a total of 500 blood sample were collected from pregnant females and proceed.

Our findings showed that the decrease level of hemoglobin in first and second trimester.These findings also related to Muphy et al and Casp J[7-8].

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Measuring the rate of Hemoglobin in the first visit of pregnant women isperforrmed in all cases in routine form. This method could be benificial for recognizing mother who were exposed to danger[7].

During the second trimester anaemia is associated with preterm birth, incidence of which is increased five-fold for iron deficiency anaemia and double for other anaemia. The risk of iron deficiency is particularly high in women with high parity and short intervals between pregnancies[9].

During pregnancy Hb level in woman is naturally lower than when she is not pregnant. This is because the fluid (plasma) increases by about 50% during pregnancy (peaking at about 32 weeks). The increased plasma dilute the red cells, making their level drop. Serum ferritin usually falls markedly between 12 and 25 weeks of gestation, probably as a result of iron utilisation for expansion of the maternal red blood cell mass[10-12].

**Conclusion :**

Nutritional deficiency anemia during pregnancy continues to be a major health problem in India. To eradicate it certain steps can be taken at individual and community level like education of the women as regards anemia, its causes and health implication. Imparting nutritional education, with special emphasis on strategies based on locally available food stuffs to improve the dietary intake of proteins and iron, administration of appropriate iron supplements and ensuring maximum compliance, deworming, treatment of chronic disease like malaria and universal antenatal care to pregnant women will help in combating this serious problem. Long term policies by government, non-government agencies and the community can be directed to formulate effective plans like eradicating anemia in children and adolescent girls.

**References:**


1. WHO (1993). Prevention and management of severe anaemia in pregnancy.WHO/ FHE/MSM/93-5.
2. WHO (1993). Prevention andmanagement of severe anaemia in pregnancy.WHO/ FHE/MSM/93-5.
3. Agboola A (2006). Anaemia in Pregnancy.In:Agboola,A. Textbook of Obstetrics and Gynaecology for Medical Students. Ibadan: Heinnemann Publishers LTD. P.376.
4. UNICEF and Micronutrient Initiative. Vitamin and mineral deficiency: a global progress report March 2004.
5. Ross AC,Gardner EM. The function of vitamin A in cellular growth and differentiation and its role during pregnancy and lactation. Adv Exp Med Biol 1994; 352: 187-200.
6. Sharma J.B. Nutritional anemia during pregnancy in non industrial countries, Progress in Obst. & Gynae (Studd)2003, vol -15,103-122.
7. Murphy JF, O' Riordan J, New Combe, J. Coles EC , Pearson JF relation of Haemoglobin level in first and second trimester to outcome of pregnancy. Lancet 1986;1:992-5.
8. Casp J. Intern Med 2(1): winter 2011 High maternal hemoglobin concentration in first trimester as risk factor for pregnancy included hypertention.
9. Thangeleela T, Vijayalkshmi P. Prevalance of Anemia in pregnancy. Indian J Nutr Dietetics 1994; 3(2):26–9.
10. Hytten F. Blood volume changes in normal pregnancy. In: Letsky EA. (Ed). Hematological Disorders in pregnancy. London: WB Saunders; 1985. p. 601–12.
11. Letsky EA. The Hematological system. In: Broughton PF, Chamberlain GVP. (Eds). Clinical Physiology in Obstetric 3rd ed Oxford: Blackwell; 1998. p. 71–110.
12. Baynes RD, Skikne B. Iron absorption. In: Brock, J.H., Halliday, J. W. Piparrd, M. J. and Powell, L.W. (eds). Iron metabolism in Health and disease. London, UK: WB Saunders; 1994. p. 151– 87.