



A STUDY OF ANEMIA IN PREGNANCY AT A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Anemia is a significant public health problem that occurs worldwide with higher prevalence noted in pregnancy. Objective: This study was done to evaluate the proportion, morphological patterns and severity of anemia among pregnant women. **Material and Methods:** A prospective study was done on pregnant women of a tertiary care hospital over a span of one year. We evaluate the results of complete blood count and peripheral blood smear of all pregnant women after taking their informed consent. The WHO criterion (hemoglobin < 11 g/dl) was used to diagnose anemia. To categorize the degree of anemia, the following cut-off points were used: 10.0-10.9 g/dl – mild anemia; 7.0-9.9 g/dl – moderate anemia; < 7 g/dl – severe anemia, very severe (decompensated) < 4 g/dl. **Results:** Out of 360 pregnant women, 210(58.3%) were found to be anemic. Commonest pattern of anemia was microcytic hypochromic (74.2%) suggesting iron deficiency as the major cause of anemia in pregnancy. 51.4% of pregnant women had moderate to severe anemia. **Conclusion:** We conclude that it is important to determine the proportion, morphological patterns and severity of anemia in pregnant women so that we can direct the investigation for profiling the etiology since it is well known that the treatment of anemia goes a long way in improving the overall outcome and quality of life.

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INTRODUCTION

Anemia is one of the most commonly encountered medical disorders during pregnancy. Anemia is a significant public health problem that occurs worldwide in both developed and developing countries.¹ According to World Health Organization estimates, up to 56% of all women living in developing countries are anemic.² In India, National Family Health Survey -2 in 1998 to 99 shows that 54% of women in rural and 46% women in urban areas are anemic.³ Mild anemia may not have any effect on pregnancy and labour except that the mother will have low iron stores and may become moderately to severely anemic in subsequent pregnancies. Moderate anemia may cause increased weakness, lack of energy, fatigue and poor work performance. Severe anemia, however, is associated with poor outcome. The woman may have palpitations, tachycardia, breathlessness, increased cardiac output leading on to cardiac stress which can cause decompensation and cardiac failure which may be fatal. Increased incidence of pre-term labour (28.2%), pre-eclampsia (31.2%) and sepsis have been associated with anemia.⁴ The sparse literature available regarding anemia in pregnancy necessitated the need for the present study and early screening and detection of anemia will in turn help in early and better management.

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Aims: This study was done to evaluate the proportion, morphological patterns and severity of anemia among pregnant women.

MATERIALS AND METHODS

A prospective study was done on pregnant women presenting to the obstetrics and gynaecology OPD of a tertiary care hospital over a span of one year. We evaluate the results of complete blood count and peripheral blood smear of all hospitalized pregnant women. Peripheral smears were stained with Leishman stain. The WHO criterion (hemoglobin < 11 g/dl) was used to diagnose anemia. To categorize the degree of anemia, the following cut-off points were used: 10.0-10.9 g/dl – mild anemia; 7.0-9.9 g/dl – moderate anemia; < 7 g/dl – severe anemia, very severe (decompensated) < 4 g/dl. Patterns of anemia were classified based on RBC indices which was further correlated with peripheral smear. Normocytic anemia was defined as MCV between 80 fl and 100 fl, microcytic as MCV below 80 fl and macrocytic as MCV above 100 fl.

RESULTS

Out of 360 cases, 210(58.3%) pregnant women were found to be anemic. Commonest pattern of anemia was microcytic hypochromic (74.2%) suggesting iron deficiency as the major cause for anemia in pregnancy, followed by normocytic normochromic anemia in 13.8% of cases. Dimorphic anemia was seen in 11.9% of cases as shown in table 1.

Table 1 Distribution of anemic subjects according to patterns of anemia

Pattern of anemia	Cases	Percentage
Microcytic hypochromic	156	74.2%
Normocytic normochromic	29	13.8%
Dimorphic	25	11.9%
Total	210	100%

46 pregnant women presented with mild anemia, 44 with moderate and 05 with severe anemia as shown in table 2.

Table 2 Distribution of anemic subjects according to severity of anemia

Pattern of anemia	Cases	Percentage
Mild	102	48.5%
Moderate	83	39.5%
Severe	25	11.9%
Total	210	100%

DISCUSSION

Out of 360 cases, 210(58.3%) pregnant women were found to be anemic in our study. Anemia is the commonest medical disorder in pregnancy and has a varied prevalence, etiology and degree of severity in different populations being more common in non-industrial countries.⁵ The World Health Organization (WHO) estimates that two billion people over 30% of the world's populations are anemic, although prevalence rates are variable because of differences in socioeconomic conditions, lifestyles, food habits, and rates of communicable and noncommunicable diseases.⁶ In our study microcytic hypochromic anemia was most common which was similar to the study done by Shaikh Sabina et al where the most common cause of anemia in pregnancy was lack of iron suggesting microcytic hypochromic anemia as the most common cause of anemia in pregnancy.⁷ In our study mild to moderate anemia was noted in majority of cases which is in accordance with other studies

CONCLUSION

Anemia therefore is a common and underappreciated problem in all developing countries. It is important to determine the proportion, morphological patterns and severity of anemia in pregnancy so that we can direct the investigation for profiling the etiology since it is well known that the treatment of anemia goes a long way in improving the overall outcome and quality of life. All pregnant women should be fully assessed at the start of their pregnancy so that any problems such as anemia will be picked up and treated.

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