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EFFECTS OF ANAEMIA ON PREGNANCY OUTCOME IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Anemia during pregnancy is highly prevalent in developing countries like India. Mostly is nutritional, of which iron deficiency anemia is predominant. Pregnancy is a state of hemodilution, also there is an increased demand for iron and folic acid during pregnancy. The incidence varies with socioeconomic status, literacy. Anemia has an adverse effect on both mother and fetal outcome. A poor neonatal outcome like an increase in preterm deliveries, an increase in IUGR/LBW, an increase in NICU admission, intrauterine death is seen. Maternal complications increase with anemia. This study aims to study the prevalence, type of anemia and its effect on mother and fetus. The objective of the present study was to investigate the type and degree of anemia and to study the maternal and perinatal outcome.

Methods: This study was done in the department of obstetrics and gynaecology in NMCH for a period of one year. The study was conducted on 150 pregnant women. Hemoglobin estimation was done for all women in 3 rd. trimester. The severity of anemia was detected by ICMR (Indian Council of Medical Research) classification. Depending on degree and type of anemia all women were treated and followed up for maternal and perinatal outcomes.

Results: The incidence of mild, moderate, severe anemia was 31.33%, 56%, 12.66% respectively. Most of the anemic woman belonged to low socioeconomic status 84%. 15.33% had maternal complications. The poor perinatal outcome was seen in unbooked and referred cases.

Conclusions: Anemia continues to be a major problem in developing countries with poor maternal and neonatal outcomes. Early diagnosis and treatment can improve both maternal and neonatal outcomes.

INTRODUCTION

Anemia is one of the most important public health problem not only in India but also in most developing countries. About 17-40% of maternal deaths occur due to anemia. Anemia also increases maternal morbidity and mortality. Pregnancy increases the requirement of various healthy nutrients, iron and folic acid. Hemodilution during pregnancy worsens anemia. Along with physiological causes, social causes like early marriage, teenage pregnancy, decrease the spacing between pregnancies, poor nutritional supplementation also contribute to anemia. Incidence of anemia during pregnancy in India ranges between 70-80%.[1] In India, NNACP was initiated to provide free iron and folic acid supplementation to pregnant women from the second trimester to three months postpartum. ICMR data shows 84.2% anemia prevalence in rural pregnant women, of which 13.1% were severe anemia.[2] if anemia detected earlier the hazards of parentral iron therapy and blood transfusion can be avoided.[3] Anemia the most preventable cause of maternal mortality should be eradicated from the female population in the coming years, which will ensure better maternal and neonatal health. Hence the need for this study is to know the complications and to counsel women to prevent further obstetrical complications. The objective of the present study was to investigate the type and degree of anemia and to study the maternal and perinatal outcome.

METHODS

This study was conducted in the Department of Obstetrics and Gynecology, NMCH, India for a period of 1 year (Mar 2018 to Mar 2019). A prospective randomized study was conducted on pregnant women in 3rd trimester attending OPD as well as IPD of the OBG Department of NMCH. The sample size was 150 antenatal cases attending OPD and IPD.

Inclusion criteria

- All women attending OPD and IPD in the third trimester with haemoglobin of <10.9gm/dl.

Exclusion criteria

- All women whose haemoglobin was more than 11gm/dl.
- Patients with First and second-trimester pregnancy were not included.

All the patients were studied in detail regarding age, literacy, socio-economic status, parity, the interval between pregnancies, menstrual history, any significant past history. General physical examination, systemic examination, the obstetric examination was done. Data were collected during their visit in 3rd trimester.

Following investigations were done,

- Haemoglobin estimation
- Complete blood picture.
- Blood group and Rh typing
- Peripheral smear- the type of anemia was studied by peripheral smear examination.
- Obstetric scan.

Anemia was classified according to Indian council of Medical Research criteria (ICMR).

- Mild anemia-10-10.9gm/dl
- Moderate anemia-7.1-10gm/dl
- Severe anemia- <4-7 gm/dl
- Very severe anemia< 4gm/dl

According to the degree of anemia, all the subjects were treated with either oral or intravenous iron or blood transfusion and followed up during antepartum, intrapartum and postpartum period. Mean and Standard deviation was used.

RESULTS

Table1: Distribution of Patients depends upon age and parity:

Age (in years)	Number	Percentage
<20	24	16.11
21-25	68	45.33
26-30	45	30.00
>30	13	8.60
Parity		
Primipara	53	35.33
Multipara	97	64.66

The most common age group was 21-25 years (45.33%), followed by 26-30 years (30%). Many of the cases belonged to low socioeconomic status (81%). 64.66% of the cases were multi gravida, 35.33% were primi gravida.

Table2: Distribution of Patients depends upon Severity and Type of anemia:

Severity	Number	Percentage
Mild	47	31.33
Moderate	84	56.00
Severe	19	19.00
Type		
Microcytic hypochromic anemia	132	88.01
Dimorphic anemia	18	11.99

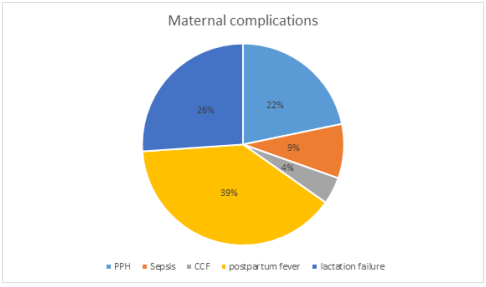
Most of the women had moderate anemia (56%), 31% presented with mild anemia, 19% had severe anemia. The severity of anemia was classified as ICMR classification.

Peripheral smear study showed microcytic hypochromic anemia in the majority of cases (88.01%), dimorphic anemia on peripheral smear study was seen in 11.99%.

Oral iron was given at 95%. 57% of the cases were given parentral iron. Blood transfusion was done in 21% of cases. Among the blood transfused patients, all the patients were transfused packed cells.

Maximum number (75%) of cases present with Easy fatigability, Pedal edema, Dyspnea/palpitation, Headache, Giddiness, Loss of appetite, 25% were asymptomatic.

Figure: 1 various Maternal Complications



In our study, 127 women (84.66%) had no complications. The maternal complication was seen in 23 (15.33%) cases, of which postpartum fever was most common, seen in 9 cases, followed by lactation failure in 6 cases, PPH in 5 cases, sepsis in 2 cases and congestive cardiac failure in 1 case.

In our study, 24.66% of the women had preterm delivery and IUGR. 27.3% of the babies were LBW, NICU admission was seen in 16.01% cases. Intrauterine death was seen in 3 cases.

DISCUSSION

In the present study, 31.33% mild, 56% moderate and 12.66% were severely anemic. The majority of the anemia cases belonged to the age group of 21-25 years (45.33%). This was comparable to Alli R et al.[4] A low socioeconomic status predisposes to anemia, poor nutrition, lack of awareness about resources being the leading cause of anemia. In the present study, 82% belonged to the low socioeconomic group. In Rangnekar et al[5] 67% of women belonged to the low socioeconomic group. 81% had severe anemia in unbooked and referred cases, this was comparable with Maka SS et al[6] (74.0%). In the present 64.66% were multigravida, comparable with Maka SS et al[6] (63.0%).

In the present study spacing between pregnancies 2 years is 41%, comparable to Khandait DW et al[7], 44.1%. In the present study microcytic hypochromic anemia was most common (88.01%) followed by dimorphic anemia (11.99%). Which is comparable to Maka SS et al[6]. In the present study, 21% of patients require a blood transfusion. The requirement of blood transfusion was more in referred and unbooked cases. Preterm deliveries 24.66% and IUD 2.1% were comparable with the study of Sarin AR[8], who observed that 31.2% of women had preterm deliveries. Maternal complications like postpartum febrile illness (39%), lactation failure (26%) postpartum hemorrhage (22%), sepsis (9%), and congestive cardiac failure (4%) was seen which was comparable to Maka SS et al[6]. Fetal outcome in the form of preterm/IUGR (24.66%), NICU Admission (16.01%), LBW (27.33%) and IUD (2.1%) were seen which was comparable to Maka SS et al[6] preterm (20%), IUGR (28.0%), IUD (3.0%).

CONCLUSION

Anemia is the commonest medical disorder in pregnancy and is a very common problem in developing countries. It leads to maternal morbidity and mortality. Around 70-75% of pregnant women have anemia and it contributes to 40% of maternal death. It also contributes to indirect death in the form of PPH, infection, cardiac failure. Anemia is also responsible for poor fetal outcomes in the form of spontaneous abortion, preterm deliveries, LBW and IUGR. Among various causes of anemia, 90% are nutritional in origin, iron deficiency is the commonest. Therefore, efforts should be done not only to correct anemia but also to prevent it. Attention should be paid to menstrual problems, worm infestations, and good nutritional habits from the adolescent age, prevention of teenage marriages, proper spacing between pregnancies. This is possible with better awareness and education of females in society. Delivery of anemic patients should be preferably done in a tertiary care center.

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