

ORIGINAL RESEARCH

Maternal and perinatal outcomes in anaemia-complicating pregnancy

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ABSTRACT

Background: Pregnancy might bring on the prevalent illness of anemia. The present study assessed maternal and perinatal outcomes in anaemia-complicating pregnancy. **Materials & Methods:** 58 women with singleton pregnancies were included. Parameters such as duration of pregnancy, gravid and education status was recorded. **Results:** Age group <20 years had 9 subjects in group I and 8 in group II, age group 21-30 years comprised 11 and 13 and >30 years had 9 and 8 subjects respectively. The duration of pregnancy was <12 years seen in 11 and 14 subjects, 13-24 weeks in 12 and 7 and >24 weeks in 6 and 8 subjects in group I and II respectively. Gravida was primi in 22 and 21 subjects and multi in 7 and 8 subjects in group I and II respectively. There were 12 illiterates in group I and 14 in group II, primary in 10 and 11 and higher in 7 and 4 respectively. **Conclusion:** Anemia associated with pregnancy was very common. Severe maternal anemia is linked to unfavorable perinatal and maternal outcomes. It is among the indirect causes of maternal death that can be prevented. Adolescent education, routine prenatal exams, early discovery, and treatment are all important factors to take into account.

Keywords: Anemia, Pregnancy, Perinatal

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INTRODUCTION

Pregnancy might bring on the prevalent illness of anemia. It is characterized by a decrease in red blood cell count or hemoglobin concentration, which lowers the blood's capacity to carry oxygen.¹ Anemia during pregnancy can occur for a variety of causes, including folate or iron deficiency, vitamin B12 deficiency, chronic diseases, etc. Pregnancy-related anemia is most commonly caused by iron shortage. Pregnancy increases the need for iron to support the growing placenta and embryo. If the mother's iron stores are inadequate, anemia may develop.^{2,3} Folate is necessary for the formation of red blood cells. Inadequate folate absorption or insufficient ingestion of foods high in folate can result in anemia. Vitamin B12 is necessary for the production of healthy red blood cells.⁴

Anemia can arise from chronic conditions that impact red blood cell production or longevity, such as renal failure or autoimmune disorders.⁵ Pregnancy-related anemia can result in fatigue, pallor, pale skin, dizziness, dyspnea, rapid heartbeat, and difficulty concentrating. In addition, it raises the chance of

miscarriage, low birth weight, early delivery, stillbirth, and ultimately neonatal mortality. In the second and third trimesters, the fetus receives the majority of its iron.⁶ The present study assessed maternal and perinatal outcomes in anaemia-complicating pregnancy.

MATERIALS & METHODS

The present study had 58 singleton pregnancies. All gave their written consent to participate in the study. Data such as name, age, etc. was recorded. The Hemo Cue analyzer was used to determine the hemoglobin level (Hb). The WHO standards were used to classify anemia; a Hb concentration of less than 11 g/dl was deemed anemia. Anemia was classified as mild, moderate, or severe based on hemoglobin concentrations of 10–10.9 g/dl, 7–9.9 g/dl, and less than 7 g/dl, respectively. Group I consisted of subjects without anemia, and group II included individuals who had anemia. Factors including gravida, family type, educational attainment, and length of pregnancy were noted. The expectant mothers were counseled on their Hb level, the importance of taking iron and folic

acid supplements, easily accessible foods high in iron, regular prenatal checkups, etc. The results were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Baseline characteristics

| Parameters | Variables | Group I (29) | Group II (29) | P value |
|-------------------------------|------------|--------------|---------------|---------|
| Age (years) | <20 | 9 | 8 | 0.92 |
| | 21-30 | 11 | 13 | |
| | >30 | 9 | 8 | |
| Duration of pregnancy (weeks) | <12 | 11 | 14 | 0.05 |
| | 13-24 | 12 | 7 | |
| | >24 | 6 | 8 | |
| Gravida | Primi | 22 | 21 | 0.04 |
| | Multi | 7 | 8 | |
| Education | Illiterate | 12 | 14 | 0.03 |
| | Primary | 10 | 11 | |
| | Higher | 7 | 4 | |

Table I shows that age group <20 years had 9 subjects in group I and 8 in group II, age group 21-30 years comprised 11 and 13 and >30 years had 9 and 8 subjects respectively. The duration of pregnancy was <12 years seen in 11 and 14 subjects, 13-24 weeks in 12 and 7 and >24 weeks in 6 and 8 subjects in group I

and II respectively. Gravida was primi in 22 and 21 subjects and multi in 7 and 8 subjects in group I and II respectively. There were 12 illiterates in group I and 14 in group II, primary in 10 and 11 and higher in 7 and 4 respectively. The difference was significant ($P < 0.05$).

Table II Maternal complications

| Parameters | Group I | Group II | P value |
|----------------|---------|----------|---------|
| PPH | 1 | 3 | 0.05 |
| Abortion | 2 | 5 | |
| Preterm labour | 0 | 2 | |
| Pre- eclampsia | 2 | 4 | |

Table II shows that the maternal complications were PPH in 1 in group I and 3 in group II, abortion in 2 subjects in group I and 5 subjects in group II, preterm

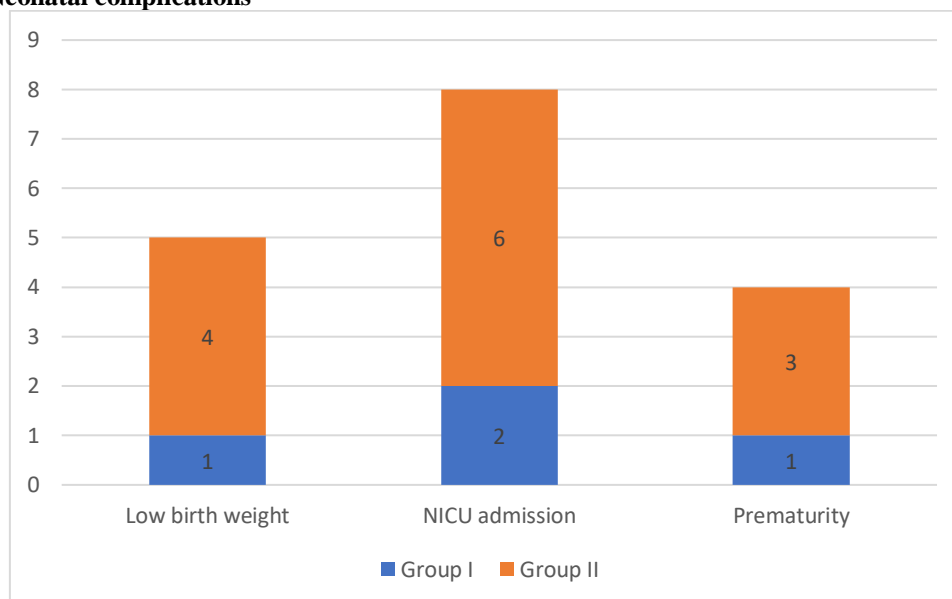
labor in 0 in group I and 2 in group II, pre- eclampsia in 2 in group I and 4 in group II. The difference was significant ($P < 0.05$).

Table III Neonatal complications

| Neonatal complications | Group I | Group II | P value |
|------------------------|---------|----------|---------|
| Prematurity | 1 | 4 | 0.05 |
| Low birth weight | 2 | 6 | |
| NICU admission | 1 | 3 | |
| Death | 0 | 2 | |

Table III, graph I show that neonatal complications were prematurity seen in 1 in group I and 4 subjects in group II, low birth weight in 2 in group I and 6 in group II, NICU admission in 1 in group I and 3

subjects in group II, and death in 0 in group I and 2 subjects in group II subjects. A significant difference was observed ($P < 0.05$).

Graph I Neonatal complications**DISCUSSION**

Over 80% of maternal deaths in South East Asia are related to anemia, which is the second most common cause of mortality for pregnant women in India.⁷ Not only is anemia a known risk factor, but it has also been linked to perinatal death and intrauterine growth retardation.^{8,9} Obstetricians who treat anemic women who present during labor face difficulties since even a small amount of blood loss during birth might be harmful.^{10,11} If the problem is found early in the pregnancy, remedial action may also be taken.^{12,13} The present study assessed maternal and perinatal outcomes in anaemia complicating pregnancy.

We found that age group <20 years had 9 subjects in group I and 8 in group II, age group 21-30 years comprised 11 and 13 and >30 years had 9 and 8 subjects respectively. The duration of pregnancy was <12 years seen in 11 and 14 subjects, 13-24 weeks in 12 and 7 and >24 weeks in 6 and 8 subjects in group I and II respectively. Gravida was primi in 22 and 21 subjects and multi in 7 and 8 subjects in group I and II respectively. There were 12 illiterates in group I and 14 in group II, primary in 10 and 11 and higher in 7 and 4 respectively. Suryanarayana et al¹⁴ evaluated the prevalence of anemia in pregnant women and determined its correlation with outcomes for the mother and the fetus. Of the 446 pregnant women included in the group, during the follow-up, the women's hemoglobin levels demonstrated a noteworthy overall improvement. The rate of maternal or fetal morbidity was approximately 35.6%. Anemia accounted for six 2.3 percent of pregnancy-related problems, with other problems including difficult labor (3%), postpartum hemorrhage, and preeclampsia (1.6%), as well as stillbirths and abortions (3.5%). Low birth weight (25.5%), preterm delivery (0.2%), and birth asphyxia (0.5%) were the most common fetal problems.

We found that maternal complications were PPH in 1 in group I and 3 in group II, abortion in 2 subjects in group I and 5 subjects in group II, preterm labor in 0 in group I and 2 in group II, pre-eclampsia in 2 in group I and 4 in group II. Mangla et al¹⁵ found that 98% of the pregnant women had anemia. Out of these, 41.76% had mild anemia, 37.05% had moderate anemia, 15.88% had severe anemia, and 3.29% had very severe anemia. The average hemoglobin level was found to be 8.845. The pregnant woman's use of iron folic acid prophylaxis and the number of prenatal care visits during the present pregnancy were both highly important factors in determining the prevalence and severity of anemia.

We observed that neonatal complications were prematurity seen in 1 in group I and 4 subjects in group II, low birth weight in 2 in group I and 6 in group II, NICU admission in 1 in group I and 3 subjects in group II, and death in 0 in group I and 2 subjects in group II subjects. Bansal et al¹⁶ determined the socio-demographic variables and also the maternal and perinatal outcomes of pregnant women admitted to labour room with severe anemia (Hb < 4gm%). Severe anemia is seen in 82% unbooked patients and only in 18% booked patients. There was increased incidence of preterm delivery, PPH, preeclampsia, eclampsia, mortality in the anemic group as compared to non-anemic group. Among the adverse fetal outcomes, there was increased incidence of intrauterine deaths, intrauterine growth restriction, NICU admission, and low birth weight among the anemic group as compared to non-anemic group.

CONCLUSION

Authors found that anemia associated with pregnancy was very common. Severe maternal anemia is linked to unfavorable perinatal and maternal outcomes. It is among the indirect causes of maternal death that can be prevented. Adolescent education, routine prenatal

exams, early discovery, and treatment are all important factors to take into account.

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