

# Awareness of Anemia and its Association with the Severity of the Disease in Pregnant Women

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## Abstract

**Introduction:** Pregnant women are at high risk of developing anemia. Women, overall, are at increased risk of anemia due to various reasons. Anemia during pregnancy increases the risk of mortality and low birth weight. Awareness of anemia and its consequences in pregnancy is essential for managing the condition.

**Aim:** The aim of the study was to study the level of awareness of anemia in pregnant women suffering from this condition.

**Methods:** Fifty women suffering from anemia who visited the outpatient department for antenatal check-up were enrolled in the study. The data were collected with the help of a questionnaire.

**Results:** Severe anemia occurs in only 9.4% of the patients having awareness of this condition compared to severe anemia in 44% of the patient with no awareness of the disease. About 52% (26) of the women with anemia fall within the age range of 21–25 years, followed by 36% (18) in 26–30 years.

**Conclusion:** There was a statistical difference between awareness and severity of anemia. Awareness reduces the risk of severe anemia in pregnant women.

**Key words:** Awareness, Anemic, Antenatal women, Pregnancy, Severe anemia

## INTRODUCTION

Anemia is one of the most common nutritional deficiency disorders affecting pregnant women; the prevalence in developed countries is 14%, in developing countries 51%, and in India, it varies from 65% to 75%.<sup>[1]</sup> Anemia is the second most common cause of maternal death in India and contributing to about 80% of the maternal deaths caused by anemia in South East Asia.<sup>[2]</sup> Anemia is also an established risk factor for intrauterine growth retardation, leading to poor neonatal health and prenatal death.<sup>[3]</sup>

Anemia occurs at all stages of the lifecycle but is more prevalent among pregnant women due to their physiological state of health.<sup>[4]</sup> The World Health Organization (WHO)

recommends that hemoglobin ideally be maintained at or above 11.0 g/dl and should not fall below 10.5 g/dl in the second trimester.<sup>[5]</sup>

Anemia in pregnancy decreases the oxygen-carrying capacity of the blood to the body tissues. The importance of adequate Hb concentration during pregnancy for both the woman and the growing fetus cannot be overemphasized. Being a driving force for tissue oxygenation, a reduction below acceptable levels can be detrimental to both the fetus and the mother.

### Iron-deficiency Anemia (IDA)

This type of anemia is most common and is occurs when the body does not have enough iron to produce adequate amounts of hemoglobin. In iron-deficiency anemia, the blood cannot carry enough oxygen to tissues throughout the body.<sup>[6,7]</sup>

### Folate-deficiency Anemia

Folate is the vitamin found naturally in certain foods like green leafy vegetables. The body needs folate to produce new cells, including healthy red blood cells. During

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pregnancy, women need extra folate. However, sometimes they do not get enough from their diet. When that happens, the body cannot make enough normal red blood cells to transport oxygen to tissues throughout the body.<sup>[6,8]</sup>

**Vitamin B12 Deficiency**

The body needs vitamin B12 to form healthy red blood cells. When a pregnant woman does not get enough vitamin B12 from their diet, their body cannot produce enough healthy red blood cells. Women who do not eat meat, poultry, dairy products, and eggs have a greater risk of developing vitamin B12 deficiency.<sup>[6,9]</sup>

The reduction and control of anemia among women are prioritized worldwide as public health interventions, especially in childbearing age. The figure of moderate and mild forms of anemia during pregnancy in India is not declining. The sociodemographic factors, such as literacy rate, socioeconomic status, and iron consumption, are highly significant factors that affect the study group's hemoglobin (Hb) status.<sup>[10]</sup>

This study aimed to assess the correlation between awareness of anemia and the prevalence of anemia among women.

**Aim**

This study was to study the level of awareness of anemia in pregnant women suffering from this condition.

**MATERIALS AND METHODS**

The observational study was conducted on pregnant women attending the outpatient antenatal check-up. Fifty with anemic were included in the study. The women with other co-morbid conditions were excluded from the study.

A total of 50 women were enrolled in the study. A random sampling technique was used. The samples were collected with the pregnant anemic patients irrespective of parity and gestational age.

Data were collected from the respondents through a structured questionnaire. The patients who scored average were deemed to have an awareness of anemia. The questionnaire was prepared in English and was comprehensively explained to the respondents.

The questionnaires were checked for completion. The data were entered into the SPSS statistical software. To determine a significant difference between the expected frequencies and the observed frequencies, we used the Chi-squared test.  $P < 0.05$  was considered statistically significant.

**RESULTS**

Fifty pregnant women with anemia visiting the antenatal clinic were included in the study. The women with co-morbid conditions were excluded from the study. Table 1 shows the frequency distribution of demographic data. The maximum number of patients lies between the age of 21 and 25 years.

Table 2 shows the frequency of awareness of anemia among women. Almost 64% of women were aware. The maximum awareness was found in women with moderate anemia. Most women with severe anemia were unaware.

Table 3 indicates the frequency distribution of parity among 50 women. The highest percentage was of the primigravida women, followed by gravid 2 women.

Table 4 mentions the frequency distribution regarding the severity of anemia. About 56% of the women were suffering from moderate anemia.

**Table 1: Frequency distribution of demographic data of 50 patients**

Age group	Frequency	Percentage
<20	2	4.0
21–25	26	52.0
26–30	18	36.0
>31	4	8.0

**Table 2: Frequency distribution of awareness in 50 pregnant women**

	Anemia			Total	P-value
	Mild	Moderate	Severe		
Awareness					
Yes					
Count	7	22	3	32	0.011
% within row	21.9%	68.8%	9.4%	100.0%	
No					
Count	4	6	8	18	100.0%
% within row	22.2%	33.3%	44.4%	100.0%	
Total					
Count	11	28	11	50	100.0%
% within row	22.0%	56.0%	22.0%	100.0%	

**Table 3: Frequency distribution of parity in 50 pregnant women**

Parity	Frequency	Percentage
Primigravida	23	46.0
Gravid 2	19	38.0
More than 2	8	16.0

Table 5 indicates the frequency distribution of morphological type of anemia in 50 women. About 72% of the women suffered from microcytic hypochromic anemia and 10% suffered from dimorphic anemia.

## DISCUSSION

In this study, we determine the degree of awareness among pregnant women suffering from anemia. Another purpose for performing, this study was to find the relationship between the patient's age and the severity of anemia. Through this study, we also concluded the most common type of anemia present in pregnant women. Patients having a hemoglobin level <11 g/dl were considered anemic while those having a level <7 g/dl were considered severe anemic.

About 52% (26) of the women with anemia fall within the age range of 21–25 years followed by 36% (18) in 26–30 years. The results were almost like Kawak *et al.*, where 62.3% of the pregnant women with anemia were in the age range of 20–35.<sup>[11]</sup>

In our study, 46% of the women were primigravida, while 38% and 16% were Gravid 2 and more than 2, respectively. Our results contrast with Kawak *et al.*, wherein only 18.7% of the nulliparous women have anemia.<sup>[11]</sup> Our results are also non-consistent with Barroso *et al.*, which, in a study done on 2103 women, concluded that predictors of having anemia during the gestation period include increased parity.<sup>[12]</sup>

Of 50 women included in our study, 56% have moderate anemia and 22% have mild anemia. Severe anemia was present in 22% of the patients. Our study results were inconsistent with Wemoker, which concluded that 25% each was mildly and moderately anemic and one woman was severely anemic with respect to the severity of anemia.<sup>[13]</sup>

**Table 4: Frequency distribution of severity of anemia in 50 pregnant women**

Anemia	Frequency	Percentage
Mild	11	22.0
Moderate	28	56.0
Severe	11	22.0

**Table 5: Frequency distribution of morphological type in 50 pregnant women**

Morphological type of anemia	Frequency	Percentage
Microcytic hypochromic	36	72.0
Macrocytic	4	8.0
Dimorphic	5	10.0
Normocytic normochromic	2	4.0

Our study concludes that 72% of pregnant women's anemia was microcytic hypochromic anemia followed by dimorphic anemia in 10% of the cases. Contradictory results were found in Abusharib who concluded that a total of 116 participants (58%) had a dimorphic pattern, followed by 50 participants (25%) with a microcytic hypochromic pattern, 20 participants (10%) with a macrocytic pattern, and 14 participants (7%) with a normochromic normocytic pattern.<sup>[14]</sup>

Severe anemia occurs in only 9.4% of the patients having awareness of this condition compared to severe anemia in 44% of the patient with no awareness of the disease. Further, 64% of the patients have knowledge and awareness of anemia, while 36% of the women do not have awareness. Appiah *et al.*, in a study done on 598 pregnant women, concluded similar results where 13.5% of the pregnant women had high knowledge while 58.4% of the women had a fair knowledge of anemia and 28.1% of them had low knowledge.<sup>[15]</sup>

## CONCLUSION

The awareness of anemia in severe anemic pregnant women is low. It is important to create awareness among pregnant women regarding the consequences of anemia during pregnancy. This will help in reducing mortality and low birth weight.

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