

**PREVALENCE OF ANEMIA IN PREGNANCY AND ITS  
MANAGEMENT IN A TERTIARY CARE HOSPITAL, SALEM**

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Article Received on  
19 July 2017,

Revised on 08 August 2017,  
Accepted on 29 August 2017

DOI: 10.20959/wjpr201710-9448

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**ABSTRACT**

Anemia is a multi-factorial disorder that requires a step wise approach for its prevention and treatment. Anemia is a condition characterized by a reduction in the total circulating hemoglobin. This Prospective-Observational study mainly focus on the degree, types, and the rationality of the treatment for the specific types of anemia. The study is carried out in tertiary care hospital Salem, Tamilnadu. A total of 150 patients are collected who are diagnosed as anemia during pregnancy in the department of obstetrics and gynecology. The case sheets are collected and utilized in the filling of the details of the formatted questionnaire. Out of 150 patients 66.8% were moderate anemic, 22.6% were mild anemic, and 10.6% were severe anemic. Out of 137

cases 59.1% were responded to parenteral iron preparation, 36.5% responded for oral and 4.4% responded for blood transfusion and out of 13 cases 69.2% didn't respond for oral and 30.8% didn't respond for parenteral therapy. From the study it was concluded that there is a high prevalence of anemia in pregnant females.

**KEYWORDS:** Anemia, Pregnancy, Prevalence, Rationality.

**INTRODUCTION**

Anemia is a multi-factorial disorder that requires a step wise approach for its prevention and treatment. Anemia is a condition characterized by a reduction in the total circulating haemoglobin.<sup>[1]</sup> The number of people with anemia is increasing due to lack of iron in the

diet, hemorrhage, parasitic infection, low socioeconomic status, poor knowledge about the disease process etc. Quantifying the prevalence of anemia and the number of people affected by anemia now and in the future is important to allow rational planning and allocation of resource.<sup>[2]</sup>

Iron deficiency anemia is the most common cause of maternal deaths in India (50%) and the associate cause in 20% of maternal death.<sup>[3]</sup> Anemia during pregnancy increases the chances of fetal deaths, abnormalities, pre-term and underweight babies. Iron deficiency anemia has remained the frequent cause of disability in India for 10 years, According to an India spend analysis of last two Global Burden of Disease (GBD) surveys, the latest figures show a decline of 23% in disabilities caused by anemia since 2005, but it is still the highest in the world. Last year, India reported anemia among 45% of its pregnant women – the highest in the world- even though there has been a fall of 12% in the last 10 years, as India spend reported in September in 2016.<sup>[4]</sup>

India stands low on the list of nations dealing with problems arising out of iron deficiency- it is 170<sup>th</sup> among 180 countries ranked for anemia among women, 114<sup>th</sup> among 132 for stunted growth in children under five, and 120<sup>th</sup> among 130 for muscle wasting in children under 5, according to the Global Nutrition Report, 2016.<sup>[5]</sup>

From the above data, the present study will focus on recent advances in our understanding of the burden of anemia in female population and the cause and consequences of anemia among women. This would enable the design of specific public health intervention. It is expected that this study bring in information relating to anemia in pregnancy like magnitude and degree of anemia in various trimesters, prevalence in various socioeconomic groups, varieties of anemia. So that preventive measures could be taken by the healthcare professions and treatment strategies followed in the treatment of these cases.

## **MATERIALS AND METHODS**

The study is carried out in tertiary care hospital Salem, Tamilnadu. It is a prospective observational study. A total of 150 patients are collected who are diagnosed as anemia during pregnancy in the department of obstetrics and gynecology. The case sheets are collected and utilized in the filling of the details of the formatted questionnaire. Pregnant women from the department of obstetrics and gynecology, who were anemic, and in the age group of 18- 37 were included in the study.

## RESULTS AND DISCUSSION

Anemia remains a very common health problem among the women of reproductive age group and leads to high morbidity and mortality rates among females. If anemia in pregnancy is left undiagnosed and untreated, it leads to consequence like preterm labor, pre-eclampsia, cardiac failure, intrauterine death and the risk of developing anemia in infancy, intrauterine growth retardation, and defective mental and psychomotor development in the infant. Therefore our study aimed to determine the prevalence of anemia in pregnant women. About 150 cases collected from the obstetrics and gynaecology department and patients were assessed according to their age. Out of the majority of patients, 44.66% were in the age group of 23-27 years followed by 30.67% in 18-22 years, 21.33% in 28-32 and 3.34% in 33-37 years respectively. From the above data prevalence of anemia was more in the 18- 27 age groups which indicates that the nutritional status of girl child was poor and little attention was paid to the correction of anemia in the pre-pregnancy period. Very little was done to improve the nutritional status of the young girl, the growing adolescent, married women before her first pregnancy and between pregnancies and after pregnancies. Studies of Chidi *et.al* <sup>[6]</sup> showed that 45.3% women were in 26- 30 age group compared to others and thus the study correlates with our study in which 44.6% were in 23- 27 age group.

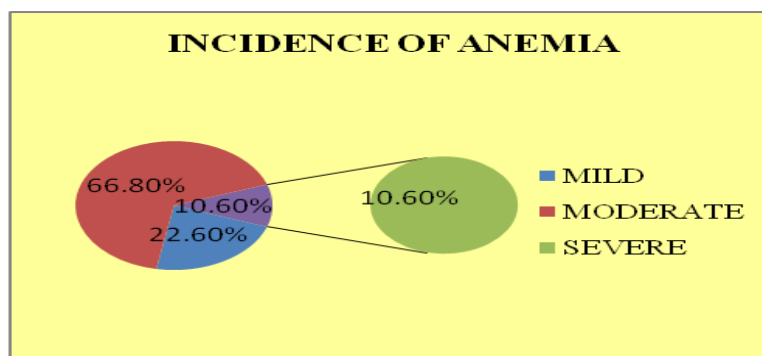


Fig. 1: Distribution of case according to the incidence of Anemia.

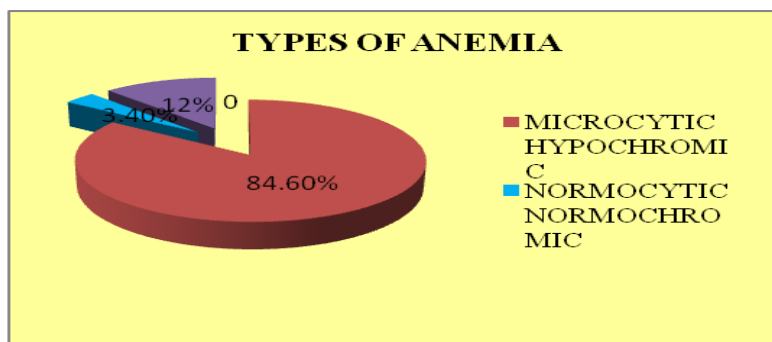


Fig. 2: Distribution of cases according to the type of Anemia.

**Table 1: Improvement of hemoglobin status before and after treatment.**

S.NO.	Preparations	Responders		Non Responders	
		No. of Patients	%	No. of Patients	%
1	Oral Iron	50	36.5%	9	69.2%
2	Parenteral Iron	81	59.1%	4	30.8%
3	Blood Transfusion	6	4.4%	0	0.0%
4	Total	137	100.0%	13	100.0%

In our study mainly anemia is divided into different degrees which mainly include mild anemia, moderate anemia, and severe anemia etc. Out of 150 cases 66.8% were found to be moderate anemic, 22.6 % were mild anemic, and 10.6% were found to be severe anemic. The results were shown in Fig. No 1.

This study helps to find out the type of anemia in various trimesters of pregnancy. It was found that 84.6% were found to be microcytic hypochromic anemia, 12% were found to be macrocytic anemia and 3.4% were found to be normocytic normochromic anemia. The results were shown in Fig. No 2.

This study helps to assess those to responds to the parenteral, oral preparations and blood transfusion and those who failed to respond to the respective therapies. It was found that out of 137 cases 59.1% were responded for parenteral preparation, 36.5% responded for oral and 4.4% responded for blood transfusion. Out of 13 cases 69.2% didn't respond for oral and 30.8% didn't respond for parenteral preparation. The results were shown in Table No. 1.

Depending upon the severity of anemia, 66.8% were found to be moderate anemic, 22.6% were mild anemic, and 10.6% were found to be severe anemic. Women with chronic mild anemia may go through pregnancy and labor without any adverse consequences, because they were well compensated. Premature births are more common in women with moderate anemia. They won't be able to bear blood loss prior to or during labor and may succumb to infections more readily. Women with serious anemia should be closely monitored as it might increase maternal mortality. Studies of Pushpa *et.al*,<sup>[7]</sup> showed that 54.5% were moderately anemic as compared to 24.7% mild anemic and 7.9% were severely anemia and it correlates with our study.

This study also helps us to find out the types of anemia in pregnancy. It was found that 84.6% were found to be microcytic hypochromic anemia, 12% were found to be macrocytic anemia

and 3.4% were found to be normocytic anemia. Iron deficiency is more predominant due to poor intake and poor availability of iron in food. Majority of women enter in pregnancy with partially or completely depleted iron reserves. Thus iron deficiency or microcytic hypochromic type is more predominant in pregnancy. Studies of Hinderaker *et.al*,<sup>[8]</sup> showed that 62% of anemia were microcytic hypochromic and it correlates with our study.

As far as the drugs per prescription were concerned, it was found that out of 137 cases 59.1% were responded for parenteral iron preparation, 36.5% responded for oral and 4.4% responded for blood transfusion. Out of 13 cases 69.2% didn't respond for oral and 30.8% didn't respond for parenteral therapy. The treatment of choice for mild anemia is oral iron therapy. But Intravenous iron therapy has been shown to increase the hemoglobin level and replenish the iron stores faster than oral iron preparation. In severe condition, blood transfusion can be insisted. Studies of Ragip *et.al*,<sup>[9]</sup> showed that the change in hemoglobin from baseline was significantly higher in the parenteral group (62.2%) than oral (20%), and it correlates with our study which showed 59.1% responded with parenteral and 36.5% responded with oral preparation respectively.

## CONCLUSION

From the above study it may be concluded that during pregnancy there is a need for mandatory regular supply of iron, folic acid and vitamin B<sub>12</sub> because prevalence of anemia in pregnancy is very high in rural areas of Tamil Nadu. To reduce the prevalence of anemia and reduce magnitude of its problem, it is essential that antenatal health workers and health workers should reinforce the daily iron, folic acid and vitamin B<sub>12</sub> tablets to adolescent and pregnant women from the diagnosis of pregnancy till 3-6 months of post-partum period along with correction of other nutritional deficiencies and timely intervention for reducing the burden of related diseases.

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