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HEMATOLOGICAL PROFILE OF PREGNANT WOMEN REGISTERED IN PARUL SEVASHRAM HOSPITAL VADODARA

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ABSTRACT

Background: Anemia in gestation is the most common nutritional deficiency syndrome that affects pregnant females. According to WHO [world health organization], the occurrence of anemia is 14% in advanced nations, 51% in developing nations, and 65-75% in India. Iron is a good source of nutrients for several cellular functions, as well as for the nervous system early development. As a result, it's important for prenatal and postnatal development

Objective: The main purpose of the study was to determine occurrence of anemia during pregnancy and factors related to anemia.

Methods: This was a retrospective study conducted among pregnant females of Parul Sevashram hospital at Parul university, Vadodara, Gujarat. Data of 123 anemic pregnant women from 1st November 2021 to 30th April 2022 were collected.

Result: Present study contains anemic pregnant women of mild, moderate and severe anemia. In this study majority of the pregnant females belonged to the age group of 20-25 years. The prevalence rate of anemia was found to be 98.6%. a higher proportion of anemia was found in moderate category [56%] followed by mild [34%] and severe [3%] anemia.

Conclusion: In this retrospective study high prevalence of anemia was found between anemic pregnant females. That indicates poor nutritional status and lack of knowledge about risk factors of anemia.

Keywords: Anemia, pregnant women, Nutritional status, iron deficiency, nutrition, risk factors

INTRODUCTION

Anemia in pregnancy has been described by WHO [World health organization] as a state in which the hemoglobin concentration of a female during gestation

is <11g/dl. The generality of anemia in pregnancy was Nutritional anemia, particularly iron deficiency anemia [IDA], is one of the most common causes of anemia in pregnancy. Generality of anemia is 14% in advanced countries, 51% in developing countries and 65-75% in India **[1]**.

Anemia is a disorder in which there is an absence of healthy red blood cells in blood.in that condition the oxygen carrying capacity of red blood cells become insufficient to meet the body's physiological demand **[2]**.

Anemia has been associated with various issues in both the mother and the fetus. It has been connected to LBW [low birth weight], early delivery, intrauterine growth retardation, and hence increased perinatal mortality, in addition to lowering women's capacity to tolerate bleeding during or after childbirth **[3]**.

Overall iron requirement throughout pregnancy is significantly higher than that in the non-pregnant condition **[4]** Anemia has a remarkable effect on the health of the baby and also on the health of the mother. Fetus are at risk of prematurity, still birth, increased risk of IDA in early infancy and intrauterine death due to the impairment of oxygen delivery to placenta and fetus. So, the main objective of this study was to determine occurrence of anemia during pregnancy and factors related to anemia **[5]**.

According to WHO [world health organization] anemia has been classified into: mild, moderate and severe. It called mild when hemoglobin level is between 9-10.9g/dl.it called moderate when hemoglobin range between 7.8-9g/dl and said to be severe when hemoglobin level <7g/dl **[6]**.

Adult non pregnant, and menstruating women's mean iron requirements are approximately 1.36mg/day. Pregnancy usually lasts about 35-40 weeks. There are a total three divisions of pregnancy, called trimester. The initial trimester is from week 0-13, the second trimester is from 14-26 weeks and the third trimester is from 27-40 weeks **[7]**.

During the early trimester of pregnancy, demand for iron is lower because of the stoppage of menstruation. the total amount of iron required for an average pregnancy is about 840mg **[8]**.

Eat foods rich in folic acid, including dried beans, leafy green vegetables, bread, and drink juice that contain high amount of vitamin C, for the prevention of anemia during pregnancy. eat citrus fruits and uncooked vegetables.

MATERIAL AND METHODS:

It was a retrospective record-based study conducted at Parul Sevashram hospital, Vadodara Gujarat. Data was collected after

the approval by Parul university institutional ethics committee for human research [PU-IECHR] Approval number: PUIECHR/PIMSR/00/081734/4001.

collected Data regarding pregnancy from 1st November 2021 to 26th April 2022, were analyzed. Parameters including hemoglobin concentration [HB], mean corpuscular volume [MCV], mean corpuscular hemoglobin concentration [MCHC] and mean corpuscular hemoglobin [MCH]were investigated. Data from 123 pregnant women who visited the gynecology department of Parul Sevashram hospital during the past six months were examined. Pregnant women between the age of 18-45 were included and pregnant women with hemoglobin concentration >12.5 g/dl and non-pregnant women were excluded **[1, 9]**.

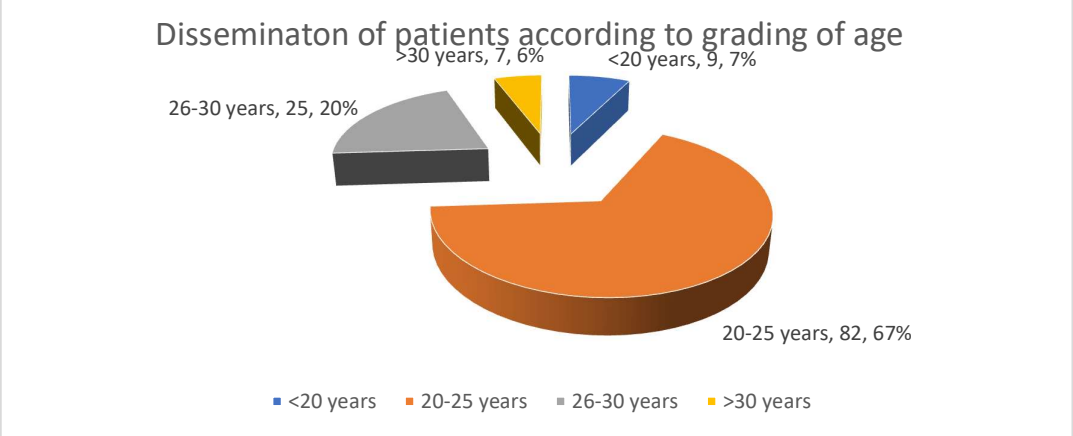
RESULT:

There were 123 pregnant women records included in this analysis, among the patients of Parul Sevashram hospital, at Parul university Vadodara Gujarat. The mean age of the women was 23.7 years. There was total 93 [75.6 %] Pregnant women who were anemic and 9 [7.31 %] had hemoglobin level >12.5g/dl **[10]**.

The Prevalence rate of anemia was found 92.6% [N= 114 /123]. The highest number of cases between the age of 20-25 years. [66.6%]. Total 82 pregnant women out of 123 pregnant women.7.3% of pregnant females under the age of 20 years were registered. Between the age group of 26 to 30 years there were a total 25 [20.3%] of pregnant females were registered. Lowest number of pregnant females age of >30 was registered [5.6%] **(Table 1)**.

Table 1: Dissemination of patient according to grading of age [1]

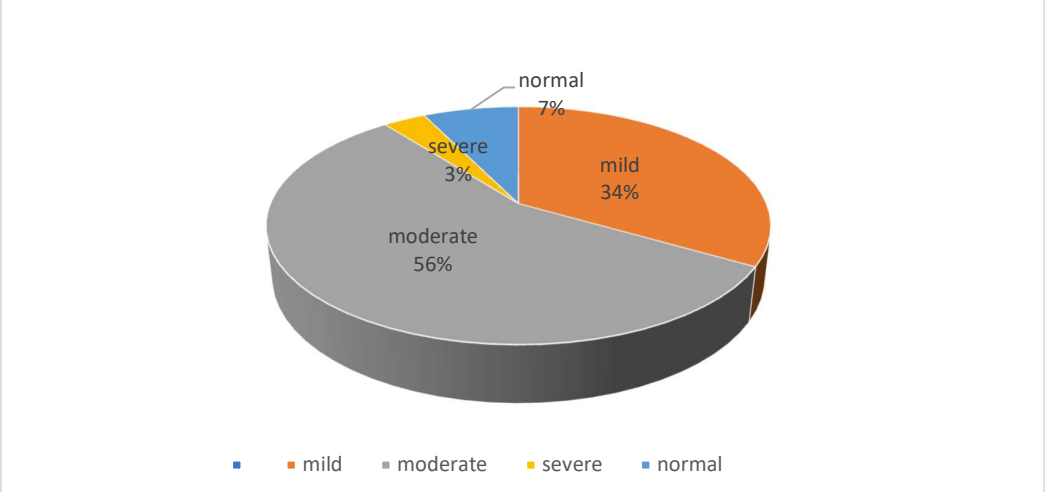
Age[years]	Number [n=]	Percentage [%]
<20	9	7.3%
20-25	82	66.6%
26-30	25	20.3%
>30	7	5.6%



Graph 1: Dissemination of patient according to grading of age

Table 2: Distribution of anemia according to number and percentage [1]

Serial number	Anemia	Number[n=]	percentage [%]
1	Mild	41	34%
2	Moderate	69	56%
3	Severe	4	3%
4	Normal	9	7%



Graph 2: Distribution of anemia according to number and percentage

Highest number of anemic pregnant women was found in moderate category 69 [56%] followed by mild category 41 [34%]. Lowest percentage of anemic women were seen in the severe category [3%] as compared to other categories. There were also found pregnant ladies with no anemia. Proportion of normal anemic pregnant women was 9 [7%] **(Table 2)**.

Highest number of anemic pregnant women was found in moderate category 69 [56%] followed by mild category 41 [34%]. Lowest percentage of anemic women were seen in the severe category [3%] as compared to other categories. There were also found pregnant ladies with no anemia. Proportion of normal anemic pregnant women was 9 [7%] **(Table 2)**.

DISCUSSION:

The body generates extra blood throughout pregnancy to support the growing fetus. The mother would not be able to generate enough red blood cells if the body does not have sufficient iron and other nutrients. There's also a chance of premature birth if the baby does not gain a healthy weight as a result there is a chance of anemia, especially iron deficiency anemia. (IDA) **[11]**.

This study checks the prevalence of anemia among pregnant females and provides enough knowledge and awareness among pregnant ladies during their gestation period. Similarly other study **Prevalence of anemia in pregnancy at booking: a retrospective study at a tertiary care**

center in Lucknow India [8] checked prevalence of anemia among pregnant females and factors associated with anemia and they concluded high prevalence of anemia [57.6%] among pregnant females.

In the study **of Prevalence of Anemia and Its determinants among Pregnant Women in a Rural community of Jhalawar, Rajasthan [9]** also determine the prevalence of anemia among pregnant females and to determine association of anemia with sociodemographic factors.

In a given study the prevalence of anemia was 92.6% among anemic pregnant women. This is comparable to study **[10]** in which the prevalence of anemia was 98% among the pregnant females of rural India.

In this study, among anemic pregnant females moderate anemia was most prevalent (56%) followed by mild anemia [34%]. Severe anemia was seen in only [3%] of pregnant females. However, another study showed the most common type of anemia was moderate anemia [56.6%] followed by mild [23.3%] and severe anemia [20%] **[6]**.

Maximum number of expectant females were in the age group of 20-25 years.in contrast to the study was done by **[7]** in which maximum number of pregnant ladies were in age group of <20 years.

In present study, among all anemic females 87.8% were Hindu compared to 12.01% of Muslim females. A high prevalence of anemia was found among Hindu females compared to Muslim women observed in this study, it probably could be because of different dietary patterns.in contrast to present study 65.4% anemic pregnant women were Hindu and 34.6% were Muslim females **[8]**. This study showed some limitations like being unable to find data of 0-3 months because of list number of OPD patients.

CONCLUSION:

There was significantly high prevalence of anemia among anemic pregnant females in Parul Sevashram hospital of Parul University, Vadodara Gujarat. A dominant amount of anemia was also observed in the moderate category [56%] followed by mild and severe.

Iron deficiency anemia is a public health problem, it creates adverse pregnancy outcomes and affects the baby. so early recognition, sufficient knowledge and awareness among them are necessary.

It is an indicator of poor nutritional status and lack of knowledge and awareness about risk factors of anemia during gestation. Anemia was significantly associated with age, oral iron supplementation, and hematological parameters. so early recognition, sufficient knowledge and awareness among them are necessary.

Awareness about constant medical check-up, regular intake of iron and folic tablets, intake of green leafy vegetables, fruits,

meat and other treatments like IV iron supplementation are highly recommended.

All women must be educated about the importance of taking iron during pregnancy. In this study there is a scope to improve knowledge and awareness of pregnant females about anemia during their gestational phase. This knowledge will motivate the patient towards early detection and promote management of anemia during pregnancy **[2]**.

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