



## INCIDENCE AND ETIOLOGY OF ANEMIA IN CENTRAL INDIA- A RETROSPECTIVE STUDY

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**ABSTRACT** Anaemia is a condition when there is decrease in number of circulating red blood cells in the body. It is the most common blood disorder in the general population of India. Symptoms can include pale skin, headache, fatigue, chest pains etc. The present study is aimed to find out the incidence of various morphological patterns of anaemia at our centre i.e in central India. Patients with haemoglobin less than 11 gm% were included in the study and diagnosis was made using five part haematology analyser and leishman stained peripheral smear examination by experienced pathologists. Iron deficiency anaemia was the most common type found in our region.

### KEYWORDS :

#### INTRODUCTION

Anemia is a condition characterized by a decreased number of red blood cells and has serious implications for the health, cognitive development, and productivity of adults and children worldwide. As of 2010, the global prevalence of anemia was approximately 32.9%, and this burden was borne primarily by women and children in low- and middle-income countries in Africa and South Asia [1]. Despite recent economic growth and prevention efforts, anemia remains particularly pervasive in India and is the largest cause of countrywide disability [2]. Data from the 2005-06 rounds of India's National Family Health Survey (NFHS) reveal that approximately 55% of women and 24% of men aged 15 to 49 suffer from anemia [3]. The most common symptom of all types of anemia is a feeling of fatigue and a lack of energy. Other common symptoms may include: paleness of skin, fast or irregular heartbeat, shortness of breath, chest pain, headache, light-headedness. In mild cases, there may be few or no symptoms. Some forms of anemia can have specific symptoms: **Aplastic anemia**: fever, frequent infections, and skin rashes. **Folic acid deficiency anemia**: irritability, diarrhea, and a smooth tongue. **Hemolytic anemia**: jaundice, dark colored urine, fever, and abdominal pains. **Sickle cell anemia**: painful swelling of the feet and hands, fatigue, and jaundice.

Previous research has identified several potential causes of anemia in the Indian context, such as low iron intake [4], limited vitamin C intake [5, 6], and lower gastric acidity relative to populations of European descent [7]. Among women, repeated childbearing, lactation [8], and poor access to nutritional supplements following menarche and during pregnancy may cause or further exacerbate anemia [9]. Furthermore, parasitic infections, such as hookworm and malaria, are also important causes of anemia [7, 9]. Most research on anemia in India has focused on urban settings [10, 11], pregnant women [12], and adolescents or children [12-14].

#### AIM AND OBJECTIVE-

To find out the incidence and etiology of anaemia at our institute.

#### MATERIALS AND METHODS

Present study is a retrospective study. A total number of 1000 patients were selected at random presenting in the outpatient department of our institute. Age, sex and etiology of the patients were included. Patients between 10-60 years were selected for the same. Haemoglobin less than 11 gm% was selected as the inclusion criteria for the study. Patients less than 10 years and more than 60 years were not included in the study. Peripheral smear of the selected patients were examined using leishman stain for anaemia typing along with complete blood count using 5 part haematology analyzer.

#### RESULTS

The record of the patients were compiled and summarized for further evaluation using frequency distribution and percentage proportion.

**Table no. 1- Morphology And Incidence Of Anemia Recorded At Our Centre**

S.No	Diagnosis	Number Of Cases	Percentage
1	Iron deficiency anaemia	330	33
2	Macrocytic anaemia	190	19
3	Normocytic normochromic anaemia	170	17
4	Anaemia due to chronic kidney disease	90	9
5	Haemolytic anaemia	140	14
6.	Aplastic anaemia	50	5
7.	Thalassemia	30	3

**Table no. 02. Male And Female Preponderance**

S.no	Gender	Total number	Percentage
1.	Female	640	64
2.	Male	360	36

#### DISCUSSION

Red blood cells carry hemoglobin, an iron-rich protein that attaches to oxygen in the lungs and carries it to tissues throughout the body. Anemia occurs when you do not have enough red blood cells or when your red blood cells do not function properly. Many people are at risk for anemia because of poor diet, intestinal disorders, chronic diseases, infections, and other conditions. Women who are menstruating or pregnant and people with chronic medical conditions are most at risk for this disease. The risk of anemia increases as people grow older.

In the present study a total number of 1000 patients were examined. As per the statistics incidence of microcytic hypochromic anemia is more common among other anemias and is more common in age group of 41-50 yrs. [15,16]

Incidence of iron deficiency anemia is about 33%, more common in age group of 41-50. incidence is more among females. [15,16]. Incidence of thalassemia is 3%, more among the age group of 10-20 yrs with male preponderance [19]. Macrocytic anemia stood second in incidence (19%). More common among the age group above 60 yrs, incidence is more in females. [17,18]. Normocytic normochromic anemia incidence is 17%, more among the age group of 51-60, with female preponderance. Incidence of aplastic anemia is 5%, incidence is more among elderly males. [20] Incidence of anemia secondary to chronic kidney disease is about 09%, with male preponderance. Incidence of other hemolytic anemias is around 14% with female preponderance. [21,22]. In the present study anaemia was seen more commonly in the female population 64% with reference to male population that was only 34%. This may be due to the dietary and nutritional deficiency along with increased blood loss and demands during pregnancy. While many types of anemia cannot be prevented, eating healthy foods can help you avoid both iron- and vitamin- deficiency anemia. Foods to include in your diet include those with high levels of iron (dark green leafy vegetables, dried fruits, and nuts),

vitamin B-12 (meat and dairy), and folic acid (citrus juices, dark green leafy vegetables, legumes, and fortified cereals).

## CONCLUSION:

The incidence of anaemia is high in our region and is more common in females. Iron deficiency anaemia followed by megaloblastic anaemia, being secondary to nutritional deficiency and worm infestation. Aplastic anaemia is common in the elderly patients most probably due to agriculture toxins. Proper nutrition and time to time deworming as well as educational intervention can prove helpful in preventing the people from anaemia.

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