ORIGINAL RESEARCH PAPER

Medical Science

TO STUDY THE PREVALENCE OF ANEMIA DUE TO NUTRITIONAL DEFICIENCY IN STUDENTS OF BAKSON HMC & HOSPITAL, OF AGE GRP 18-22YRS- AN OBSERVATIONAL CROSS-SECTIONAL SURVEY

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ABSTRACT

Anaemia is a serious global public health problem that particularly affects young children and pregnant women and is commonest hematological disorders. The most common causes of anaemia include nutritional deficiencies, particularly iron deficiency, vitamins B12 and A are also important causes; haemoglobinopathies; and infectious diseases, such as malaria, tuberculosis, HIV and parasitic infections. The main objective of the study was to assess the prevalence, awareness and knowledge of anaemia among adolescence and was carried at Bakson Homoeopathic Medical College & Hospital, Greater Noida. In a study 170 students were screened through random sampling methodology for anaemia out of which 116 were found to be Normal (68%), 31 having mild (18%), 23 having moderate (14%) and no one was found having severe anaemia. Early detection is important so that proactively regulate the severe condition. India has launched Anaemia Mukt Bharat (AMB) strategy in 2018, to deal with the high burden of anaemia in the country. This scheme has led to 3% reduction in anemia cases in India . Point-of-care testing (POCT) of anaemia using digital hemoglobinometers and treatment is one of the primary interventions under AMB.

INTRODUCTION:

Anaemia is a condition in which the number of red blood cells or the haemoglobin concentration within them is lower than normal. Normal concentration of Hb: Male: 13-17 gms/100ml, Female : 12-16 gms/100ml. The optimal hemoglobin concentration needed to meet physiologic needs varies by age, sex, elevation of residence, smoking habits and pregnancy status. (1,2)

The most common causes of anaemia include nutritional deficiencies, particularly iron deficiency, though deficiencies in folate, vitamins B12 and A are also important causes; haemoglobinopathies; and infectious diseases, such as malaria, tuberculosis, HIV and parasitic infections. Anaemia is a serious global public health problem that particularly affects young children and pregnant women. WHO estimates that 42% of children less than 5 years of age and 40% of pregnant women worldwide are anaemic. It is estimated that one third of all women of reproductive age group are anaemic. Pregnant women are 40% are anaemic. An estimated over 40% of children under 5 years of age are anaemic.(1,3)

Anaemia can cause a range of symptoms including fatigue, weakness, dizziness and drowsiness. Children and pregnant women are especially vulnerable, with an increased risk of maternal and child mortality. The prevalence of anaemia remains high globally, particularly in low-income settings, where a significant proportion of young children and women of childbearing age can be assumed to be anemic. Iron deficiency anaemia has also been shown to affect cognitive and physical development in children and reduce productivity in adults. (1,2)

Anemia is an indicator of both poor nutrition and poor health. It is problematic on its own, but it can also impact other global nutritional concerns such as stunting and wasting, low birth weight and childhood overweight and obesity due to lack of energy to exercise. School performance in children and reduced work productivity in adults due to anemia can have further social and economic impacts for the individual and family. (4,5)

WHO oversees several programs across all WHO Regions to help reduce the prevalence of anaemia through treatment and prevention. These guidelines, policies and interventions aim to increase dietary diversity, improve infant feeding practices and improve the bioavailability and intake of micronutrients through fortification or supplementation with iron, folic acid and other vitamins and mineral.(5,6)

Social and behavior change communication strategies are used to change nutrition-related behaviors. Interventions to address the underlying and basic causes of anaemia. Look at issues such as disease control, water, sanitation and hygiene, reproductive health and root causes such as poverty, lack of education and gender norms(7,8). The Anemia Mukt Bharat-intensified Iron-plus Initiative aims to strengthen the existing mechanisms and foster newer strategies for tackling anemia. It focusses on six target beneficiary groups, through six interventions and six institutional mechanisms to achieve the envisaged target under the POSHAN Abhiyan(9,10)

AIMS AND OBJECTIVE

The main objective of the study was to assess the prevalence, awareness and knowledge of anaemia among adolescence between the age of 18 – 22 years and was carried at Bakson Homoeopathic Medical College & Hospital, Greater Noida.

Purpose Of Selection Of Topic

Anaemia is a serious global public health problem that particularly affects young children and pregnant women. WHO estimates that 42% of children less than 5 years of age and 40% of pregnant women worldwide are anaemic.The prevalence of anaemia remains high globally, particularly in low-income settings, where a significant proportion of young children and women of childbearing age can be assumed to be anemic. Iron deficiency anaemia has also been shown to affect cognitive and physical development in children and reduce productivity in adults. common causes of anaemia include nutritional deficiencies, particularly iron deficiency, though deficiencies in folate, vitamins B12 and A are also important causes; haemoglobinopathies; and infectious diseases, such as malaria, tuberculosis, HIV and parasitic

infections. So, study has been done on students at Bakson Homoeopathic Medical college aged between 18-22 years.

MATERIALS AND METHOD

A. Research Design:

An observational cross sectional survey approach was used in the study to assess the prevalence, awareness & knowledge of anemia in female and male participants between the age group 18-22 years at BHMC, Greater Noida.

B. Selection Of Study Group:

Total 116 Female and 52 male participants of age 18-22 years were included in the study through random Sampling method.

C. Inclusion Criteria:

Female and male participants who have submitted the consent form duly signed & who are willing to participate in the study were included with the age group 18-22years.

D. Exclusive Criteria:

Those participants who had blood transfusion or who were hematinics in past 4 weeks were excluded.

E. Study Design: A cross- Sectioned Study was executed among 116 female & 52 Male Subjects (Observational Study).

F. Duration: The Duration required was Period of one year.

G. Selection of Tool: Laboratory investigation–Haemogram[5] of each participant was conducted.

H. Statistical Technique& Data Analysis: Frequency tables, bar charts, pie charts were used as statistical analyses were calculated with the help of application.

### I. Ethical Issues: -Ethical Clearance was obtained from the college ethical committee.

j. Methodology: Under graduate students of Bakson homoeopathic medical college and hospital were screened for their haemoglobin values and students were assessed about their knowledge, awareness about iron rich diet and causes of anemia . After that they were adviced about the iron rich diet and balanced diet and how to prevent the risk factors that causes anemia.

RESULT-

Total number of students screened were 170, out of which 31 were suffering from mild anaemia and 23 were having moderate anaemia. No case was there of severe anaemia. Out of 170, 116 were female students out of which 52 were anaemic and 54 were male students out of which 2 were anaemic.
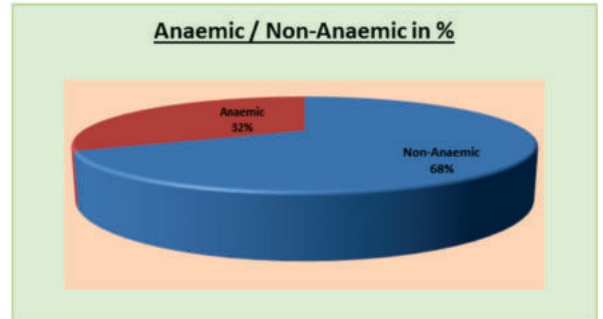
Table -1

Category	Female	Male	Total	% of Anaemic students
Normal	64	52	116	68%
Mild	29	2	31	18%
Moderate	23	0	23	14%
Severe	0	0	0	0%
Total	116	54	170	100%
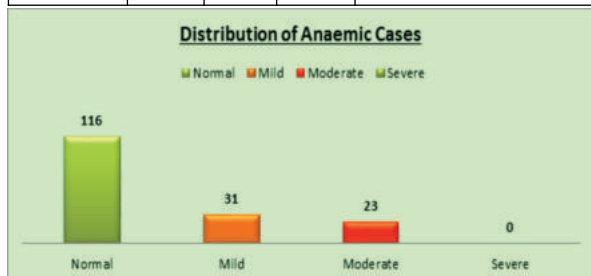
Graph – 1, Mild, Moderate And Severe Cases Of Anemia in Students Female And Male .
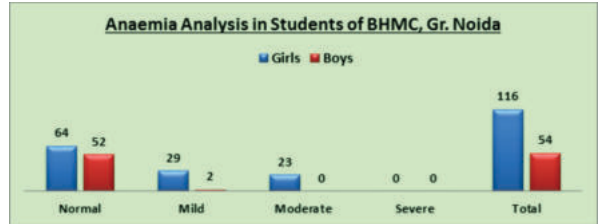
Graph – 2, Anemia in Boys & Girls at BHMC, Gr. Noida

Graph – 3, Anaemic And Non Anaemic Cases.

DISCUSSION -

The study was conducted on the homoeopathic students of both sexes of age group 18- 22 years of age because this is the phase during which the prevalence of nutritional anaemia is significantly high. Findings revealed on taking their case that, in terms of symptoms and clinical signs, more than half of the respondents complained of tiredness, fatigue on slight exertion and lethargic feelings in both sexes and menstrual irregularities in females along with pallor and changes in hair and nails which were brittle. Results clearly pointed towards high prevalence of anaemia in female gender. It was seen that inspite of studying in medical college, students have poor knowledge about balanced nutrition and iron, folic acid and vitamin B 12 , vitamin C rich diet. No student had in-depth knowledge of anaemia. The primary problem was lack of information, poor eating habits and efforts to correct the problem.

CONCLUSION

Teenage girls and women of reproductive age continue to experience anaemia as a prevalent health issue. The majority of the female participants had limited understanding of anaemia's prevention and treatment. Anaemia prevalence among adolescent girls and adult women was to be estimated in the present study. Additionally, the results revealed that adult women and teenage females both have a high prevalence of anaemia. Major factors that contribute to anaemia include excessive blood loss during menstruation or menorrhagia, traditional eating patterns, a dread of gaining weight, exam anxiety, and irregular eating patterns. Improved health care facilities are required, as is increased awareness of anaemia and its prevention among adolescent girls and adult women. Knowledge of Iron-rich foods and balanced diet in general should be strengthened in medical students because they have the responsibility towards the health of the society.

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