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PREVALENCE OF ANAEMIA AMONGST PATIENTS ATTENDING OPD AT RURAL HEALTH AND TRAINING CENTRE, ERA'S LUCKNOW MEDICAL COLLEGE AND HOSPITAL

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ABSTRACT

Context: Anemia is one of the most frequently observed nutritional disease in the world. It is a major public health problem in INDIA. Causes of anemia are inadequate intake and poor absorption of iron, malaria, hookworm infestation, diarrhoea, HIV/AIDS and other infections, heavy menstrual blood flow etc.
Aims: To find prevalence and grades of anemia amongst the patient attending rural health and training centre of Era'a Lucknow Medical College and Hospital, Lucknow
Settings and Design: A cross sectional study
Methods and Material: A cross sectional study was carried out over a period of 3 months from January 2013 to March 2013 on 400 patient attending the OPD at Rural health and training centre under department of community medicine of Era's Lucknow medical college and hospital. Blood sample was collected for hemoglobin estimation. Hb criteria were taken according to WHO standard. Anemia was defined as hemoglobin of less than 13g/dl in males and less than 12 g/ dl in females.
Statistical analysis used: Statistical analyses were done using percentage and Chi-square test,
Results: The prevalence of anemia in female was about 60% and among male patient was, about 30 %.
Conclusions: There is need to develop strategies for intensive adult education, nutrition education and dietary supplementation including anemia prophylaxis.
Keywords: Anaemia, Rural Health, Hemoglobin, Prevalence, WHO, Female.

INTRODUCTION

Anemia is one of the most frequently observed nutritional disease in the world. It is a major public health problem in INDIA. It is a condition in which the number of red blood cells (RBCs), and consequently their oxygen-carrying capacity, is insufficient to meet the body's physiological needs. Causes of anemia are inadequate intake and poor absorption of iron, malaria, hookworm infestation, diarrhoea, HIV/AIDS and other infections, heavy menstrual blood flow etc [1,2] According to National Family Health Survey (NFHS-3), fifty percent women were found to be anemic[3]. National Nutritional Anemia Prophylaxis Programme (NNAPP) was initiated in 1970 during fourth five-year plan with the aim to reduce the prevalence of anemia to 25 %[4]. In India, anemia is the second most common cause of maternal deaths, accounting for 20% of total maternal deaths[4]. Adolescent period is a vulnerable period in the human life cycle for the development of nutritional anemia, which has been constantly neglected by public health programs. The WHO Global Database on Anaemia for 1993–2005, covering almost half the world's population, estimated the prevalence of anaemia worldwide at 25 per cent[5]. Although the prevalence of anaemia is estimated at 9 per cent in countries with high development, in countries with low development the prevalence is 43 per cent [6]. In absolute numbers anaemia affects 1.62 billion people globally with about 293 million children of preschool age, 56 million pregnant women, and 468 million non-pregnant women estimated to be anaemic[5]. Children and women of reproductive age are most at risk, with global anaemia

prevalence estimates of 47 per cent in children younger than 5 years, 42 per cent in pregnant women, and 30 per cent in non-pregnant women aged 15–49 years [6]. Africa and Asia account for more than 85 per cent of the absolute anaemia burden in high-risk groups and India is the worst hit.

With these back ground, this cross sectional study was undertaken to find the prevalence of anemia in rural areas of Lucknow district.

MATERIALS AND METHODS

A cross sectional study was carried out over a period of 3 months from January 2013 to March 2013 on 400 patient attending the OPD at Rural health and training centre under department of community medicine of Era's Lucknow medical college and hospital. Blood sample was collected for hemoglobin estimation. Hemoglobin estimation was done by sahli's hemoglobinometer at the laboratory of rural health and training centre.

Hb criteria were taken according to WHO standard .Anemia was defined as hemoglobin of less than 13g/dl in males and less than 12 g/ dl in females. Mild anemia was hemoglobin level of 10 to 12.9 g/dl in males and 10 to 11.9g/dl in females, moderate anemia was hemoglobin level of 7 to 9.9 g/dl and severe anemia was hemoglobin level of less than 7g/dl both among males and females respectively. Pregnant and lactating females are excluded from this study.

Statistical Analysis:
Data will be analyzed using the statistical software SPSS 17.0 for windows. Chi –square test was used to make categorical comparison.

RESULTS

In general population, over all prevalence of anemia was 57%, prevalence of anemia was more in females (60%) than males (30%), which reflect the status of woman in the house as well as society in comparison to man.

Table 1: Prevalence of anemia, according to sex

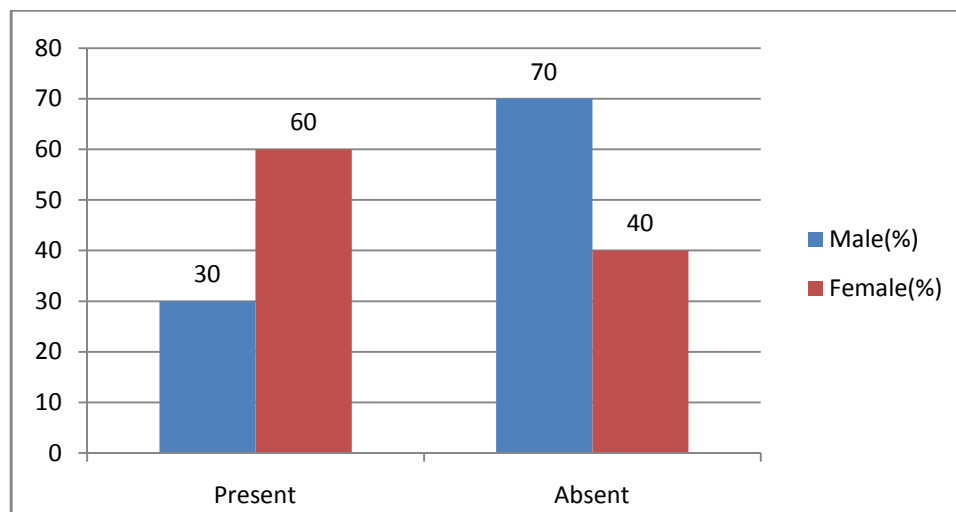| Anemia	Male		Female	
	No	**%**	**No**	**%**
Present	12	30	216	60
Absent	28	70	144	40
Total	40	100	360	100

Figure 1: Prevalence of anemia according to sex

Out of 400 patient who were examined, 360 were female and 40 were male .Among 360 female 216 had anemia that is about 60% and among 40 male patient , 12 had anemia that is about 30 % (Table -1)(Figure-1)

Table 2: Prevalence of Anemia according to grading of anemia

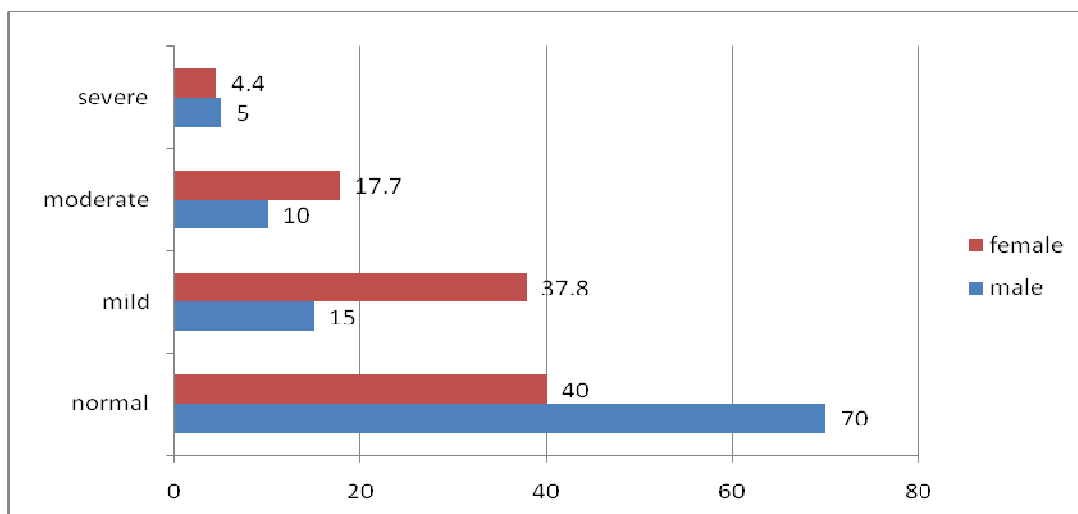| Grade of anemia	Male (N=40)		Female (N=360)	
	No.	**%**	**No.**	**%**
Normal	28	70	144	40
Mild	6	15	136	37.8
Moderate	4	10	64	17.7
Severe	2	5	16	4.4

Figure 2: Prevalence of anemia according to grading of anemia

Prevalence of mild anemia in females was 37.8 %and in males was 15% (Table-2) (Figure-2)

Table 3: Prevalence of anemia according to age and sex

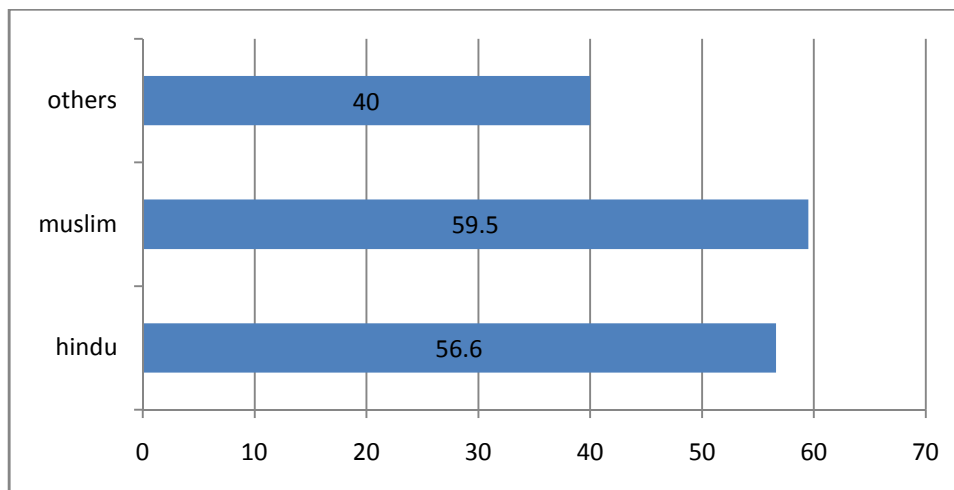| Age in Years	Male (N=40)					Female (N=360)				
	No.	Normal	Mild	Moderate	severe	No.	Normal	Mild	Moderate	severe
7-10	16	16	0	0	0	24	20	2	2	0
10-19	4	4	0	0	0	142	50	64	24	4
20-40	8	4	2	2	0	134	34	60	30	10
40-60	6	2	2	0	2	36	24	6	4	2
>60	6	2	2	2	0	24	16	4	4	0

Figure 3: Distribution of anemia according to religion

In females the prevalence of anemia is more in age group of 20-40 (74.6%) where as in males the prevalence was more in age group of 40-60 (66.6%) (Table-3). In Muslims the prevalence was 59.5%, and in Hindus it was 56.6% (Figure-3)

DISCUSSION

The following cut off points which were suggested by the WHO were used to determine whether iron deficiency anaemia was a major problem among the general population[5]

Prevalence	Public health problem
<5%	Not a problem
5-14.9%	Low magnitude
15-39.9%	Moderate magnitude
40% and above	High magnitude

The population covered by survey data is high for the three population groups considered to be the most vulnerable; preschool-age children, pregnant women, and non-pregnant women of childbearing age. A greater number of countries have undertaken surveys to assess anaemia in non-pregnant women than in pregnant women[8].

The high prevalence of anemia among women in India is a burden for them, for their families, and for the economic development and productivity of the country.

In India, recent nationally representative data from the National Family Health Survey 1998/1999 (International Institute of Population Sciences and ORC Macro 2000) on anemia of women of reproductive age describe the magnitude of the problem. More than one third of Indian women have a body mass index (BMI) <18.5 kg/m^2, reflecting chronic energy and micronutrient deficit. The prevalence of anemia among all women in the Indian sample is 52%. Fifteen percent of these women are classified as moderately anemic (Hb 70–99 g/l) and 2% as severely anemic (Hb <70 g/l). While there are regional differences, prevalence rates across the states are remarkably similar, reflecting underlying determinants that include diets low in heme-iron and high in phytates, high levels of malaria and other infectious diseases, and frequent reproductive cycling that decreases iron stores[9,10].

CONCLUSION

Anaemia is the world's second leading cause of disability and is responsible for about 1 million deaths a year, of which three-quarters occur in Africa and South-east Asia. In terms of lost years of healthy life, Iron Deficiency Anaemia causes 25 million cases of Disability Adjusted Life Years (DALYs); this accounts for 2.4 per cent of the total DALYs worldwide. In the World Health Organisation (WHO)/World Bank rankings, Iron deficiency anemia is the third leading cause of DALYs lost for females aged 15–44 years. Physical and cognitive losses due to IDA cost developing countries up to 4.05 per cent loss in gross domestic product (GDP) per annum, thereby stalling social and economic development.

Recommendations

To initiate strengthening of anemia prophylaxis programs including nutritional education. Health education may be useful for improving the health status of both females and males. This could also be imparted in all the schools with the help of heath personnel, NGOs. The teachers of the schools should be trained on health education and health promotion. Development of an information, education, and communication (IEC) strategy with emphasis given to adolescent girls, females of reproductive age group and elderly population.

Safe and effective public health interventions are needed to address iron deficiency anemia in .Improving education for girls and young women. Poor girls are least likely to be able to attend school. Literacy programs and other non-formal education for such non school attending adolescent girls .

Although disparities between enrolment rates for girls and boys remain,
targeted efforts to improve girls' education and schooling for girls must be raised.
Promote good sanitation practices such as wearing shoes and using latrines

To educate females about healthy diet, and how to overcome anemia Iron - Iron-rich foods include beef and other meats, beans, lentils, iron-fortified cereals, dark green leafy vegetables, and dried fruit .

Folate- It is found in citrus fruits and juices, bananas, dark green leafy vegetables, legumes and fortified breads, cereals, and pasta.

Anemia can be avoided by choosing a diet that includes :

Vitamin B-12- Rich in meat and dairy products. It's also added to some cereals and soy products, such as soy milk.

Vitamin C- Foods containing vitamin C — such as citrus fruits, melons and berries help increase iron absorption.

Encourage consumption of fortified foods if available.

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