Evaluation of Anaemic Patients Visited in at a Tertiary Care Teaching Hospital: An Observational Study

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ABSTRACT

Background: Iron deficiency anemia is typically caused by inadequate intake of iron, chronic blood loss, or a combination of both. Iron deficiency anemia is the most common cause of anemia in the world. Anemia although a frequent problem in all age groups, is an important cause of morbidity and mortality in the elderly. Hence; present study was planned to assess the prevalence of anaemia among known population.

Materials & Methods: The present study included assessment of prevalence of anaemia among rural population. A total of 350 patients reporting to the health care centre of the Narayan Medical College, Jamuhar, Sasaram, Bihar (India) for medical check-up were included in the present study. Fasting blood samples were obtained from all the patients.

Results: The prevalence percentage of was found to be 30 percent (105 patients). Anemia was found to more commonly affecting females in comparison to the males. Majority of the patients in the present study had moderate type of anaemia.

Conclusion: Among all the cases, anaemia is present in significant proportion, with females getting affected more commonly than males.

KEYWORDS: Anaemia, Prevalence, Healthcare.

INTRODUCTION

Anemia (from the ancient Greek ἀναιμία, anaimia, meaning 'lack of blood') is defined by a decrease in the total amount of hemoglobin or the number of red blood cells. Iron deficiency anemia is a form of anemia due to the lack of sufficient iron to form normal red blood cells. Iron deficiency anemia is typically caused by inadequate intake of iron, chronic blood loss, or a combination of both. Iron deficiency anemia is the most common cause of anemia in the world. Anemia although a frequent problem in all age groups, is an important cause of morbidity and mortality in the elderly.[1-2] Iron deficiency anemia is typically caused by inadequate intake of iron, chronic blood loss, or a combination of both. Patients with anemia present similar clinical symptoms such as fatigue, breathlessness, dizziness, and headache. Anemia also increases the susceptibility to different kinds of infections and impairs the work capacity. Severity of symptom caused by anemia is paralleled with the severity of anemia. Severe anemia may predispose to infection and heart failure, while severe anemia during pregnancy may significantly contribute to both maternal

mortality and morbidity [3] Iron deficiency results in anemia, impaired neurobehavioral performance, and decreased physical work capacity. In iron deficiency there are no mobilizable iron stores and in which signs of a compromised supply of iron to the tissues including the erythron are noted. The more severe stage of iron deficiency is associated with anemia.[4-5] Hence; present study was planned to assess the prevalence of anaemia among rural population.

MATERIALS & METHODS

The present observational study was planned in the Department of General Medicine, Narayan Medical College, Jamuhar, Sasaram, Bihar (India). All the patients reporting to the health care centre for medical check-up were included in the present study.

Patients between the age group of 20 to 60 years, were included and who gave written consent for the study, A total of 350 patients were included in the present study. Fasting blood samples were obtained from all the patients. Sahli's method was used for evaluation of

haemoglobin (Hb) concentration and categorization of anaemia. Complete demographic and clinical details of all the subjects were obtained. All the results were compiled in Microsoft excel sheet and were analyzed by SPSS software. Univariate regression curve was used for assessment of level of significance.

Table 1: Prevalence of anaemia

Parameter	Number of patients	Prevalence percentage
Prevalence of anaemia	105	30 %

Table 2: Age-wise distribution of anaemic subjects

Age group	Number of subjects	Percentage
20- 30	50	52.5
31- 40	26	27.3
41- 50	12	12.6
51- 60	17	17.8
Total	105	100

Table 3: Gender-wise distribution of anaemic subject

Gender	Number of subjects	Percentage
Male	30	31.5
Female	75	78.75
Total	105	100

RESULTS

The percentage prevalence was found to be 30 percent (105 patients). Majority of the anaemic patients in the present study belonged to the age group of more 20 to 30 years. Anemia was found to more commonly affecting females (78.75 percent of the patients) in comparison to the males (31.5 percent of the patients). Majority of the patients in the present study had moderate type of anaemia.

DISCUSSION

In the present study, a total of 350 patients were analyzed. The percentage prevalence was found to be 30 percent (105 patients). Majority of the patients in the present study had moderate type of anaemia. Alvarez-Uria G et al performed a retrospective observational study using routine clinical data from patients attending the out-patient clinics of a rural hospital in India from June 2011 to August 2014. The study included 73,795 determinations of haemoglobin. 49.5% of patients were female. The median haemoglobin concentration was 11.3 g/dL (interquartile range (IQR), 9.8–12.4) in females and 12.5 g/dL (IQR, 10.6–14.2) in males. Anaemia was present in the majority of children <10 years, women after puberty, and older adults. Children <5 years had the highest prevalence of anaemia, especially children aged 1-2 years. The high proportion of microcytic anaemia and the fact that gender differences were only seen after the menarche period in women suggest that iron deficiency was the main cause of anaemia. However, the prevalence of normocytic anaemia increased with age.[6] Arlappa N et al assessed the prevalence of anaemia among rural pre-school children. A community-based cross-sectional study was carried out in rural areas of West Bengal State during 2002-2003. A total of 437 pre-school children were covered for the estimation of blood haemoglobin levels. A majority (81%) of the rural children of West Bengal were anaemic, and the prevalence was significantly (p<0.001) higher among 1-3-year-old (91%) as compared to 4-5-year-old (74.6%) children. A significantly (p<0.01) higher proportion of 1+ and 2+ year children and those belonging to lower socio-economic Scheduled Caste and Scheduled Tribe communities were at risk for anaemia. The prevalence of anaemia is a severe nutritional problem of public health significance. Therefore, iron supplementation and health and nutrition education programmes should be strengthened.[7]

Chaudhary SM et al estimated the prevalence of anemia among adolescent females and to study the socio-demographic factors associated with anemia. A cross-sectional survey was conducted in an urban area under Urban Health Training Center, Department of Preventive and Social Medicine, Government Medical College and Hospital, Nagpur. A total of 296 adolescent females (10–19 years old) were included in this study. The study took place from October 2002 to March 2003 (6 months). Statistical analyses were done using percentage, standard error of proportion, Chi-square test, and Student's 't' test. The prevalence of anemia was found to be 35.1%.

A significant association of anemia was found with socio-economic status and literacy status of parents. Mean height and weight of subjects with anemia was significantly less than subjects without anemia. A high prevalence of anemia among adolescent females was found, which was higher in the lower socio-economic strata and among those whose parents were less educated. It was seen that anemia affects the overall nutritional status of adolescent females.[8]

CONCLUSION

Among all visited Patients included in study, anaemia is present in significant proportion, with females getting affected more commonly than males.

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