International Journal of Medical and Pharmaceutical Research
Website: https://ijmpr.in/ | Print ISSN: 2958-3675 | Online ISSN: 2958-3683
NLM ID: 9918523075206676
Volume: 4 Issue:3 (May-June 2023); Page No: 830-835

Original Article

IJMPR

Copyright@IJMPR

The Study of Clinical and Epidemiological Profile of Severe Anemia in Adult Patients in a Tertiary Care Hospital in South Karnataka

Dr Inchara K M[1]; Dr Bindu C B[1]; Dr Kanchana[1]; Dr Venkatesh K B[1]; Dr Muthuraj N[1]

[1] Department of General Medicine, Hassan Institute of Medical Sciences, Hassan, Karnataka

ABSTRACT

Introduction: Anemia is a major global health problem, especially in developing countries like India, despite the fact that this problem is largely preventable & easily treatable. It is responsible for morbidity and mortality among general population. The present study analysed the type of anemia, various causative risk factors associated with anemia and clinico-pathological manifestations of anemia among patients under department of general medicine, Hassan institute of medical sciences and srichamaranjendra teaching hospital, hassan, karnataka. **Methods**: A total of78 cases aging 18 to 80 years diagnosed as severe anemia based on WHO criteria of hemoglobin concentration were analysed for epidemiological, clinical and hematological parameters. A prospective observational study was conducted at HIMS, Hassan. **Result**: During the study period, a total of 78 severe anemia cases were included in the study. Of these 37.17%males, 62.8%females. Most prevalent in the age group of 41-50 years. Rural population 50%, urban 50%. Occupation more common in farmers 44.8%.The most common presentation was fatigue (73.08%). The common hematological finding was microcytic hypochromic blood picture (61.5%) with Iron deficiency anemia in 80.7% and nutritional cause being the most common etiology (47.43%). **Conclusion**: Severe anemia is more prevalent in rural areas and middle age groups with nutritional cause being most common etiology, measures to be taken by the government to ensure proper nutritional achievments and to prevent mild anemia progressing to severe anemia.

Key Words: *severe anemia, iron deficiency anemia, microcytic hypochromic, vitamin B12*

***Corresponding Author**
Dr Inchara K M
Department of General Medicine, Hassan Institute of Medical Sciences, Hassan, Karnataka

INTRODUCTION

Anemia is a major global health problem, especially in developing countries like India, despite the fact that this problem is largely preventable & easily treatable.It is the commonest disease affecting humankind and is responsible for morbidity and mortality among general population[1].

According to WHO, anaemia is defined as haemoglobin concentration less than 13 g/dL in males and less than 12 g/dL in females[2]. Causes of anemia are varied and range fromiron deficiency, vitamin B12 and folic acid deficiency, malaria, hookworm infestations, schistosomiasis, renal diseases and other chronic infections that play an important role in tropical climate. Nutritional anemia is a worldwide problem; its prevalence is highest in developing countries[3]. IDA is the most common cause of anemia worldwide, especially in adolescent girls, women of reproductive age group, and young children[4].

Because iron deficiency makes a large contribution to anaemia, global efforts to reduce the anaemia burden have largely been directed towards increasing intake of iron through supplementation, food fortification and diversification of the diet. To assess the iron status of the population or the response to an intervention to prevent and control iron deficiency, haemoglobin concentration has often been used in surveys as a proxy indicator for iron status under the assumption that anaemia is always associated with iron deficiency[5].

Government should show interest in improvements in education levels and family socioeconomic conditions, as well as public investments in infrastructure, health, and sanitation[6].

METHODS

Study design and sampling

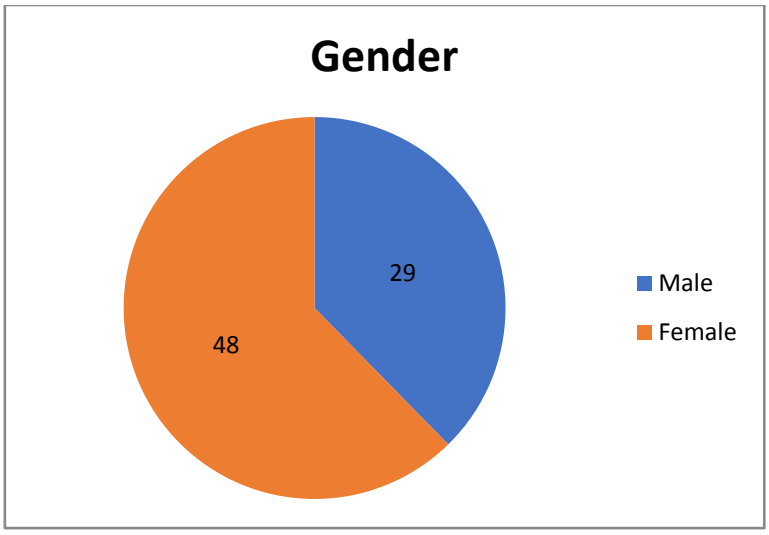
This prospective study was conducted at Hassan Institute of Medical Sciences Teaching Hospital, Hassan and the study was taken after taking permission from the Institutional Ethics Committee. This study was conducted for 6 months (July 2021 to December 2021) and informed consent was obtained from all the patients.

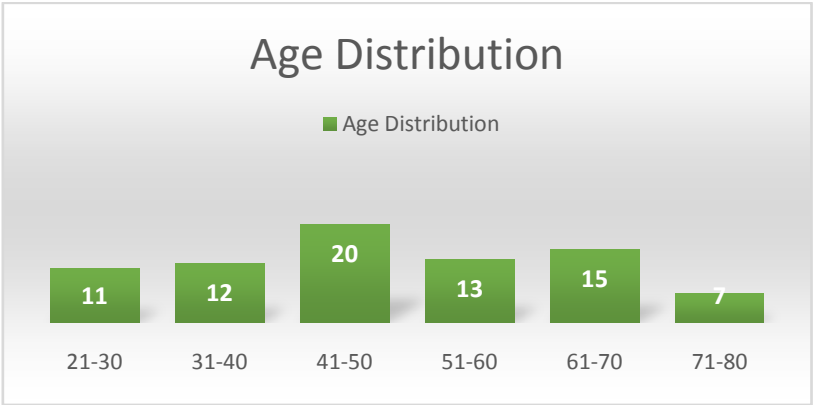
Data collection and analysis

A detailed history was recorded with particular emphasis on symptoms suggestive of anemia such as weakness and easy fatigability, deceased work performance, breathlessness on exertion, pica and peripheral swelling. Socioeconomic history was taken. A thorough clinical examination of every patient was done especially for pallor, nail changes, glossitis, fundus of eye, cardio vascular involvement in form of tachycardia, haemic murmur, congestive cardiac failure, raised JVP and edema. Initially basic investigation like haemoglobin, Total RBC count and Leukocyte count, platelets count, PCV (Hematocrit), Reticulocyte count, MCV, MCH, MCHC, Peripheral smear examination red cell morphology were assessed. On the basis of preliminary investigation further investigations were planned according to probable causes of anemia like serum iron, TIBC (Total iron binding capacity), bone marrow examination, stool for ova and cyst specially to see hookworm, stool for occult blood, haemoglobin electrophoresis, sickeling test, serum vitamin B12 level, serum folic acid level, Schilling test for absorption of vitamin B12, G-6-PD Deficiency test. Descriptive analysis was perfomed and qualitative data were presented as frequency and percentage.

RESULTS

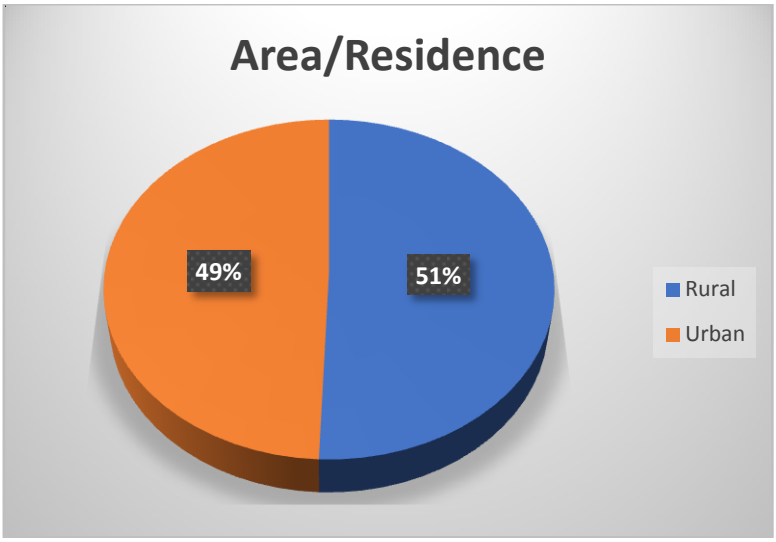
- During the study period, a total of 78severe anemia cases were included in the study.
- Of these 29(37.17%) males, 48(62.8%) females between age of 18 to 80 years.

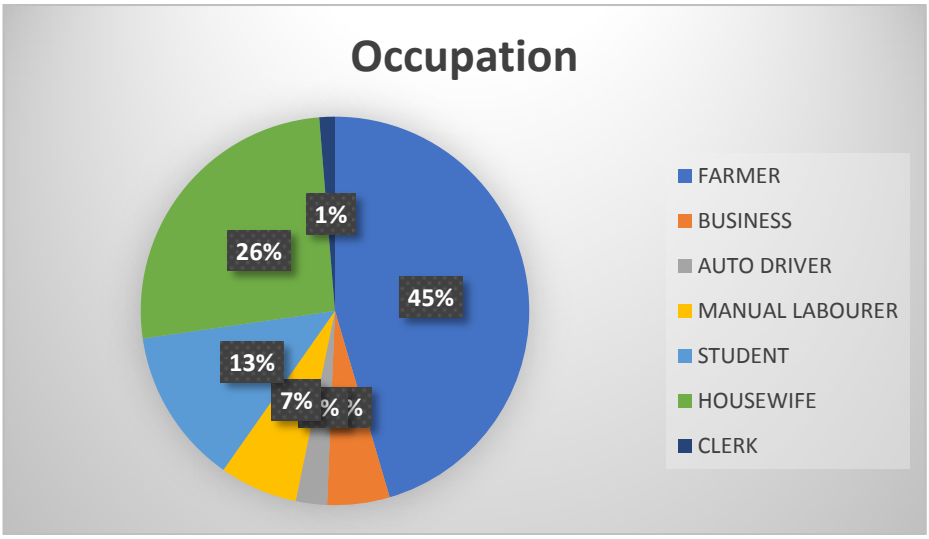




Age	no (78)	%(percentage)
21-30	11	14.10
31-40	12	15.38
41-50	20	25.64
51-60	13	16.66
61-70	15	19.23
71-80	7	07.69

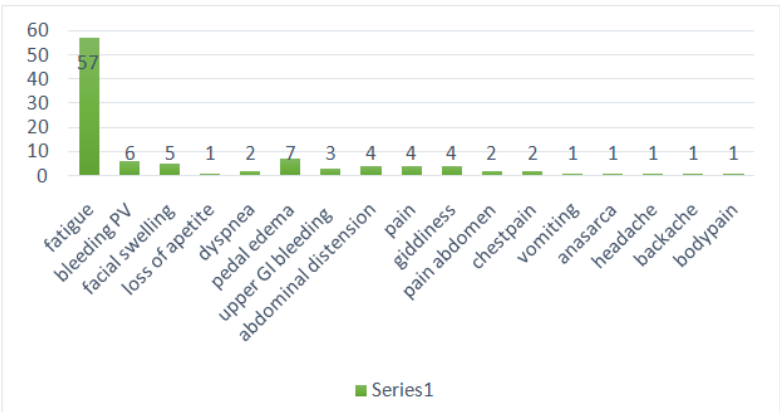
- Rural population – 39 (51%)
- Urban population- 38 (49%)



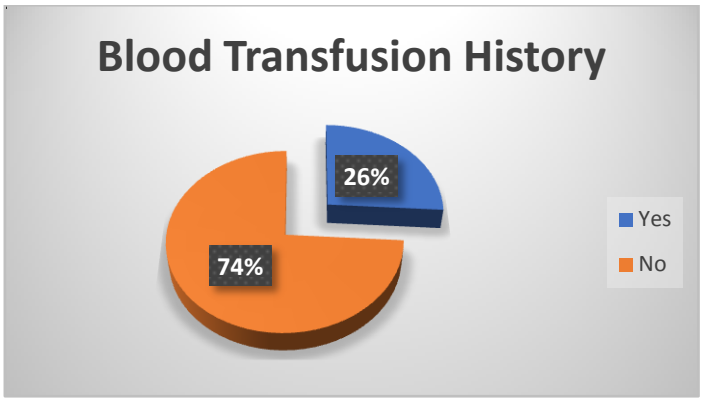


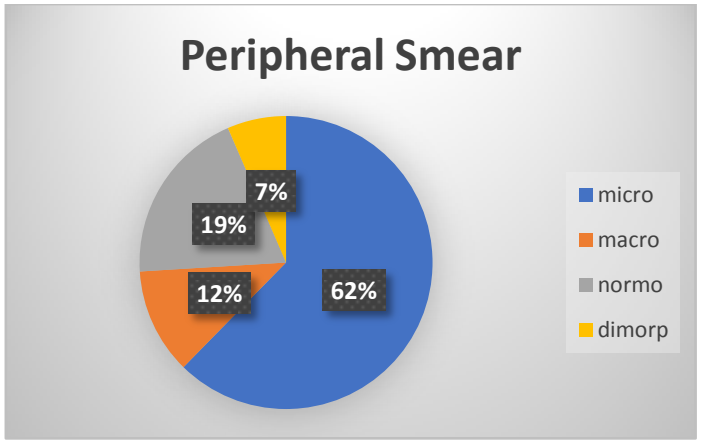
OCCUPATION	COUNT
FARMER	35
BUSINESS	4
AUTO DRIVER	2
MANUAL LABOURER	5
STUDENT	10
HOUSEWIFE	20
CLERK	1

- The most common presentation was fatigue (73%).

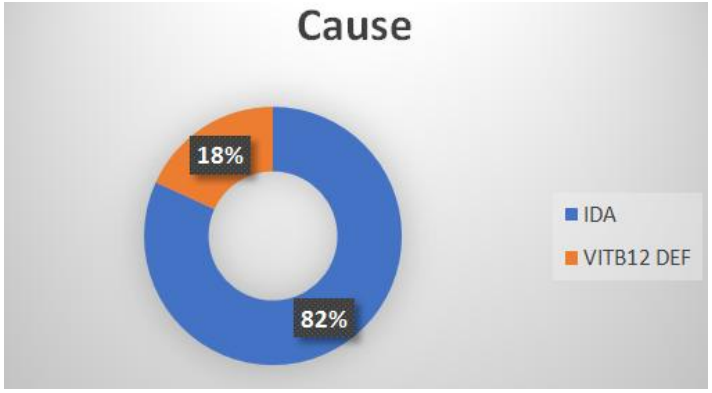


Presenting complaints	Count		
fatigue	57	chestpain	2
bleeding PV	6	vomiting	1
facial swelling	5	anasarca	1
loss of apetite	1	headache	1
dyspnea	2	backache	1
pedal edema	7	bodypain	1
upper GI bleeding	3		
abdominal distension	4		
pain	4		
giddiness	4		
pain abdomen	2		

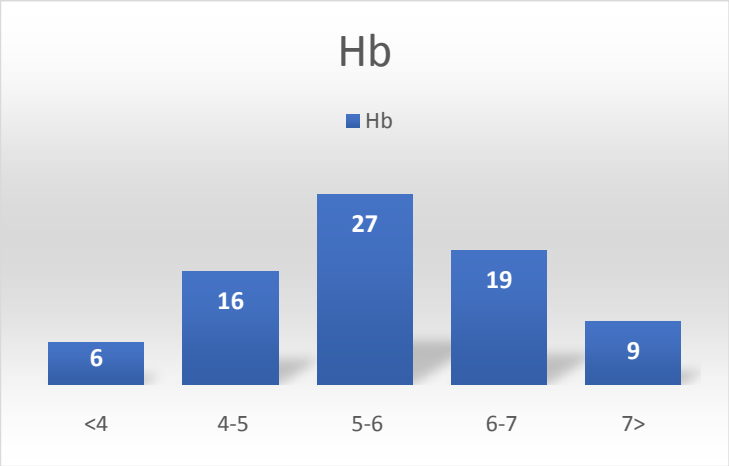




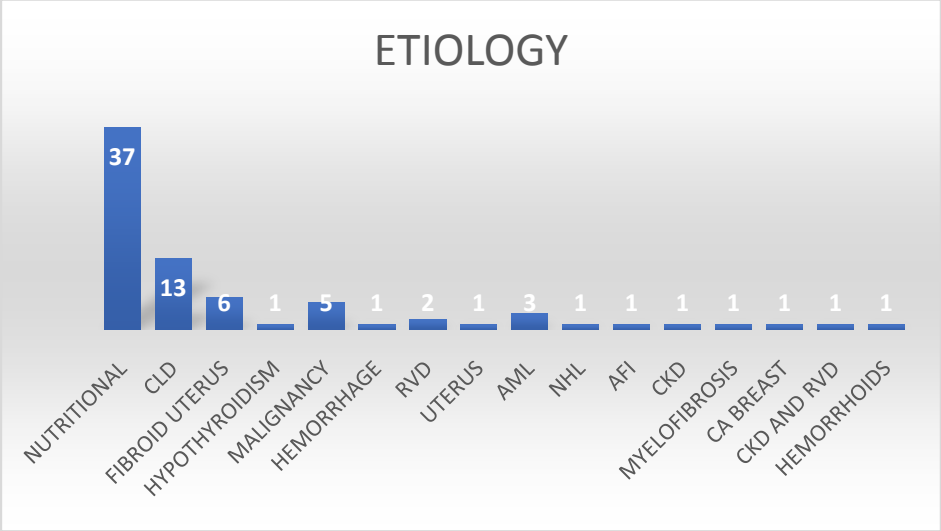
Peripheral smear	Count
microcytic	48
macrocytic	9
normocytic	15
dimorphic	5



- Most common cause was Iron deficiency anemia (82%) followed by Vitamin B12 deficiency (18%).



Hemoglobin	no.
<4	6
4-5	16
5-6	27
6-7	19
7>	9



DISCUSSION

- This study looked into clinical, epidemiological, hematological factors and etiology of the disease. We noted that out of 78 patients 29(37.17%) of patients were male and 49(62.8%) were female, Rathre et al (n=200) also observed a male predominance with 106 cases (53%) and 94 (47%) female patients.
- Distribution of anemia was almost same in urban (49%) and rural (51%) population.
- In current study, prevalence of anemia was more in farmers (35%) followed by housewives (20%), students (10%).
- Age group distribution being more common in 41-50 years of 25.64% followed by 61-70 years of 19.23%.
- Most common presentation was fatigue in 57% cases, followed by bleeding PV, facial swelling, loss of apetite, dyspnea, pedal edema, upper GI bleeding, abdominal distension, pain, giddiness, pain abdomen, chest pain, vomiting, anasarca, headache, backache, body pain.
- Most common cause for severe anemia in this study was Iron deficiency anemia in about 80.7%etiology being nutritional cause most common and 61% patients were having microcytic hypochromic blood picture.

CONCLUSION

Nutritional deficiency anemia is the most common cause of anemia among population, and iron deficiency is the most common nutritional deficiency in population. Low socio- economic class, vegetarian diet, false dietary habits, worm infestation, multiple pregnancy are the most common risk factor related with anemia. By taking simple and

effective measures like dietary adjustment and fortification of food with iron and other micronutrients, we can decreases the occurrence of nutritional anemia, and will also decrease the morbidity and mortality related to anemia.

REFERENCES

1. Ratre DB, Patel DN, Patel DU, Jain R, Sharma VK(2014). Clinical and epidemiological profile of anemia in central India. Int J Med Res Rev. 2014;2(01).
2. Manjunath F. V.; Girish I; Taruni Ng(Year)A study of clinical profile of anaemia in elderly patients admitted at a tertiary care centre
3. Reddy VS(Year). A study of etiological and clinical profile of patients with severe anemia in a tertiary care hospital.
4. MuKumar A, Bharti A, Meena LP, Tilak V(2020). Clinical and biochemical profile of patients with Iron deficiency anemia at a tertiary care hospital. Acta Medica International. 2020 Jul 1;7(2):153.
5. McLean E, Cogswell M, Egli I, Wojdyla D, de Benoist B(2009). Worldwide prevalence of anaemia, WHO Vitamin and Mineral Nutrition Information System, 1993-2005. Public Health Nutr; 12(4):444-54
6. Maurício S Leite, Andrey M Cardoso, Carlos EA Coimbra, James R Welch, Silvia Ana Lúcia Escobar(2013). Prevalence of anemia and associated factors among indigenous children in Brazil: results from the First National Survey of Indigenous People's Health and Nutrition.Nutrition Journal; 12:69