



'Anemia in Men' too Needs National Attention - A Case Study

Tejaswini BS^{1*} and K Suresh²

¹*Clinical Nutrition Dietetics, MPH Scholar, Karnataka State Rural Development and Panchayath Raj University (KSRDPRU), India*

²*Public Health Consultant and Visiting Professor, MPH, Karnataka State Rural Development and Panchayath Raj University (KSRDPRU), Karnataka, India*

***Corresponding Author:** Tejaswini BS, Clinical Nutrition Dietetics, MPH Scholar, Karnataka State Rural Development and Panchayath Raj University (KSRDPRU), India.

Received: June 01, 2021

Published: June 15, 2021

© All rights are reserved by **Tejaswini BS and K Suresh.**

Abstract

Anemia among men in India is an important public health problem, with adverse effect on health, wellbeing, and economic productivity. However, Population-based studies on anemia in India have mostly focused on women and children, but men with anemia have received much less attention. We, present here a case of a 53-year-old male from a village with the complaint of loss of appetite, fatigue, shortness of breath for 6-7 months that exaggerated after a bout of fever lasting for 3 days about 2 weeks ago. His personal history revealed that his dietary practices were far from balanced, because poverty and other family problems. He was a chain smoker, beginning with smoking of 5 to 6 Bidis per day and reaching 15 to 20 beedis and 1 to 2 cigarette per day for 2-3 years. He was also addicted to tea, consuming 5 to 7 cups per day. Simple Hb% estimation helped to diagnose severe Anemia, as his hemoglobin level was exceptionally low, at 8G /dl. He was put on Tab. Livogen Z twice daily morning and evening with Syrup. Hemo care(10ml) once at night, He was advised to avoid smoking and tea, and increase the consumption of fruits, green leafy vegetables, and other vegetables. hemoglobin increased gradually reaching 11 gm/dl, over a period of 3 months.

Keywords: Anemia; Hemoglobin; Public Health

Introduction

Anemia is a medical condition in which the red blood cell count or the hemoglobin is less than normal. The normal levels of Hb% in men are 13.8 to 17.2 gm/dl [1]. Approximately 65% of body iron is incorporated into circulating Hb. The men are branded as anemic if the Hb% is lower than 13.0 g/dL, moderate or severe if it was lower than 11.0 g/dL, and severe if it is lower than 8.0 g/dL [1]. There are multiple varieties of anemia but anemia due to dietary Iron deficiency is the commonest. India's high prevalence of iron-deficiency anemia is largely due to the local vegetarian diet that to

poor in green leafy vegetables. Iron-deficiency anemia can cause fatigue, and heart problems in men. The proportion of anemia among men is half of that in women and children Iron supplement pills often have gastrointestinal side effects, so are an undesirable remedy for many people.

Anemia among men in India is an important public health problem, However, Population-based studies on anemia in India have mostly focused on women and children. Even the National Nutritional Anemia Prophylaxis Program initiated in 1970, revised and expanded to cover beneficiaries' children aged 6-59 months,

5-10 years, adolescents aged 10-19 years, pregnant and lactating women, and women in reproductive age group under the National Iron Plus Initiative recently. For over 5 decades it had focused only on women and Children [2]. The prevalence of anemia continues to remain high due to various reasons. Many common forms of anemia and resulting condition's effect on economic productivity, apart from individual discomfort lower energies and need to visit hospitals for treatment.

Case History

Patient description

A well built 53 years old male, farmer by profession reported in a private clinic with the complaints of loss of appetite, fatigue, and inability to do routine agricultural labor work which he used to do last year as he gets tired soon. Though these complaints were there for over 6 - 7 months, they had exaggerated following an episode of 3 - 4 days fever 15 - 20 days ago.

Physical examination result

Patient showed paleness in the palms, nail, conjunctiva, and lips were black.

Personal history

Beginning with smoking of 5 to 6 bidis per day, it had increased to 15 to 20 bidis and 1 to 2 cigarette per day in the last 2 - 3 years. He was also addicted to tea starting from 2 - 3 cups a day since 15 to 20 years that increased to 5 to 7 cups per day in the recent few months. The diet indicated inadequate calories, vegetables, and fruits due to poverty and other family problems.

Investigation

Patient was referred for complete blood cell count and hemoglobin investigation:

- Blood pressure - 120/80 mm/hg Pulse- 100/minute, Respiratory Rate- 20/minute.
- Random blood sugar 140 mg/dl.
- Hb%- 8 G/dl.

Treatment

He was diagnosed as a case Iron deficiency anemia and put on 1. Syrup. Hemocare (containing Iron, Minerals, Vitamins), 10 ml at night and 2.Tab. Livogen-Z (contains a combination of vitamin B9 (Folic acid an essential amino acid,) morning and evening. He

was advised to a) increase consumption of fruits, green leafy vegetables, and other vegetables in the diet. b) avoid the excess tea and smoking. Hemocare, formulation plays a significant role in Iron deficiency anemia because of its Iron content [4].

Discussion

Anemia is a global problem of immense health significance affecting persons of all ages and economic groups. It has been estimated that 27% of the world's population was iron deficient in 2013 [3]. A cross sectional study of Anemia among (2019) both Men (106298) and Women (633305), reported a prevalence of any anemia in Men to be 23.2%, Moderate and Severe anemia were 5.1%, and 0.5% respectively. In women any anemia was 53.2%. Inter-state differences in prevalence of anemic men were lowest in Manipur-9.2%, followed by Mizoram 9.8%, Nagaland 10.3%, Goa 10.7, and Kerala 11.8%. The highest prevalence was in Bihar-32.9%, West Bengal 30.5%, Jharkhand 30.3 and Odisha 28.5%. The study concluded that Anemia among Men in India is an important public health problem and Iron deficiency anemia (IDA) is the most common type of anemia met with in clinical practice. It is an important cause of chronic fatigue and ill health [1].

The patient in our study had low hemoglobin level because of 1) Poor iron consumption in diet 2) poor absorption of the iron consumed due to frequent tea consumption and smoking 3) having food at improper time and skipping food for sometimes since 2 to 3 months.

A study conducted by SRM Medical college Hospital and Research Centre, analysis of effect of Hemocare syrup and Hemocare XT Tablets on Hemoglobin levels in Iron deficiency, by T M Vijayakumar, *et al.* study conducted on 126 patients in 2019, revealed that 30 days treatment with two supplements a) Hemocare syrup and b) Hemocare XT, HB level increased to 12.46 ± 0.44 g/dl and 12.90 ± 0.98 g/dl from 9.08 ± 2.54 g/dl and 9.68 ± 2.04 g/dl, respectively [4].

A study of iron deficiency anemia due to excessive green tea drinking, conducted by Frank S. Fan, inferred that Tea interferes with iron absorption and can lead to iron deficiency anemia when consumed in large quantities. The case in study reflects similar effect of tea on anemia in a middle- aged man emphasizes the potential causal role of this beverages [5].

Another study of correlation between anemia and smoking showed a significant difference ($P < 0.05$) in the mean age, MCV, MCHC, and WBC between the two groups and with increase in severity of smoking. In smokers with anemia, the highest percentage was found in mild smoker category. An increase in the smoking severity the percentages of anemic subjects declined. The study concluded that there is a link between smoking and alteration in hematological parameters. Smoking decreases the levels of Vitamin C, which in turn, predisposes the individual to iron deficiency anemia due to decrease in the absorption of iron. Smoking is known to cause macrocytosis mainly by altering the levels of Vitamin B12 and folic acid [6].

The online review of 16 studies including two men and two elderly studies, summarized that tea consumption was inversely associated with the serum ferritin and or hemoglobin. In one of the studies of middle-aged men tea consumption indicated lower serum ferritin concentration. In the western population tea consumption does not influence the iron status as individuals have marginal iron deficiency [7].

A Cross-Sectional study conducted by Matthew Little., *et al.* (2018) among 412 women and 341 men, indicated a prevalence of anemia among men 39.3% and women were 57.2%. Only 11.7% women and 24.1% of men reported iron intakes above recommended dietary allowances ($P < 0.001$). Prevalence of moderate and severe anaemia was three times higher among women (39.3%) than men (13.2%) Factors associated with mild, moderate, or severe anaemia among men included rurality, sugar consumption, egg consumption and high caste [8].

A Clinical and Epidemiological profile of Anemia in central India, of 200 patients, 40% patients in 21-30 years age, showed that 57% moderate anemia and 41% as severe anemia. Prevalence of anemia was more in female, symptoms of fatigability most common, pallor was most common clinical sign, nutritional anemia was most common (84%) [9].

A community-based cross-sectional study in Rural Area of a total 1226 participants by haemoglobin estimation showed a prevalence of any anaemia in 28.8%, in that 22% had mild, 6.6% had moderate, and only 0.2% had severe anaemia. Most importantly misconceptions among study participants about the role of specific dietary factors in causation of anaemia was significant. Poor pur-

chasing capacity was cited as main reason for not consuming iron rich diet. As was in our case too [10].

Conclusion

Our case of a male anaemia with symptoms of fatigue, anorexia, shortness of breath is a common feature of such cases coming to clinicians. The diagnosis is based on Hb%. The branding of severe anaemia is done at Hb%- 8 G/dl or below. Poor intake of dietary Iron and poor absorption of iron taken was because of heavy smoking and excess of tea consumption.

The result of iron supplementation avoiding and smoking and tea consumption and consumption of iron rich green leafy vegetables and fruits was satisfying as the level increased to 11 G/dl in three months of oral therapy.

The Iron deficiency Anaemia is about 25% of the Indian men, but only few seek care only after reaching severe stage as in our case.

Government of India has launched Anaemia Mukh Bharat program in 2018 but have kept men out of it so far. It is high time that Policymakers in India must consider extending Anaemia reduction policies and programs in India to include men at least in select districts.

Take Home Messages

- Anaemia in men is low compared to women but still a Public Health Problem
- Smoking, alcohol consumption, and excess tea consumption enhance the chances of men becoming anaemic, as Tannin in the tea and smoking reducing Vitamin B12 and Folic acid impede iron absorption leading to anaemia.
- Poor purchasing capacity is main reason for not consuming iron rich diet.
- The patterns of geographical and sociodemographic variation of anaemia between men and women, are similar and therefore future efforts to reduce anaemia among men could target similar population groups as those targeted current anaemia prophylaxis programs among women.

Bibliography

1. Didzun O., *et al.* "Anemia among men in India: a nationally representative cross-sectional study from January, 2015, to December 2016". *Lancet Global Health* 7.12 (2019): e1685-1694.

2. Umesh Kapil, *et al.* "National Iron Plus Initiative: Status, and future strategy, review article". *Indian Journal of Medical Research* 150.3 (2019): 239-247.
3. Kassebaum NJ. "The global burden of anemia". *Hematology/Oncology Clinics of North America* 30 (2016): 247-308.
4. TM Vijaykumar, *et al.* "Effect of Hemocare Syrup and Hemocare XT Tablets on Hemoglobin levels in iron deficiency anemia among women of reproductive age: A randomized, placebo controlled, open label trial". *Contemporary Clinical Trials Communications* 15 (2019): 100425.
5. Frank S Fan. "Iron deficiency anemia due to excessive green tea drinking". *Clinical Case Report* 4.11 (2016): 1053-1056.
6. Waseem S and Alvi A. "Correlation between anemia and smoking: Study of patients visiting different outpatient departments of Integral Institute of Medical Science and Research, Lucknow". *National Journal of Physiology, Pharmacy and Pharmacology* 10 (2019): 1.
7. Temme EHM and Van Hoydonck PGA. "Tea consumption and iron status". *European Journal of Clinical Nutrition* 56.5 (2002): 379-386.
8. Little M., *et al.* "Burden and determinants of anemia in a rural population in South India: A cross-sectional study". *Anemia* (2018).
9. BK Ratre., *et al.* "Clinical and Epidemiological profile of Anemia in central India". *International Journal of Medical Research and Review* (2013).
10. Kant S., *et al.* "Prevalence and determinants of anemia among adult males in a rural area of Haryana, India". *Journal of Epidemiology and Global Health* 9.2 (2019): 128-134.

Volume 3 Issue 7 July 2021

© All rights are reserved by Tejaswini BS and K Suresh.