
Empowering Women through Awareness of Consuming More Traditional Food for Reduction of Iron-Deficiency Anemia

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Received: 09 September 2022 **Accepted:** 27 November 2022 **Published:** 30 January 2023

Abstract: Iron deficiency anemia (IDA) affects more than a third of the world's population. The most typical causes of IDA in females are menstruation and gastrointestinal bleeding. Haem iron and non-haem iron are two types of metal. Hemoglobin and iron stores should be restored to normal levels as part of the treatment for IDA. The anemia rate among women of childbearing age is to be cut in half by 2030, according to the revised global nutrition objectives approved by the World Health Assembly. Using information from the most extensive nutrition study ever conducted in Asia, researchers analyzed the prevalence and causes of anemia in Indian teenagers (10-19 years old). In thirteen states of India, most anemia among women is high enough to pose a severe threat to public health. Accessible, open-access databases such as DOAJ, Google Scholar, etc., were searched using keywords for this brief review paper. In this analysis of iron deficiency anemia, Indian female data predominated. The article outlined the several kinds of iron-rich Indian diets and why some are not feasible or readily available. Altogether, anemia is not an issue in India or Africa but a global burden. Consistent efforts through mass awareness, mainly primary education for all women, should be mandatory to remove this global issue gradually.

Keywords: Anemia, Iron Deficiency Anemia, Anemia Awareness, Iron-Rich Food, Anemia Mukh Bharat.

1. INTRODUCTION

More than a third of the global population suffers from iron deficiency anemia (IDA). Feminine menstruation and gastrointestinal bleeding are the most common causes of IDA in women, followed by insufficient iron in the diet and poor absorption of dietary iron. Treatment for IDA should focus on restoring the patient's normal iron reserves and hemoglobin levels. Dietary intake, intestinal absorption, and iron recycling are the primary regulators of iron, an essential element (Kumar et al., 2022). There are two varieties of iron: haem iron and non-haem iron. In the absence of inflammation, such as increased C reactive protein, a hemoglobin (Hb) level



below 130 g/L, and a ferritin level below 100 ug/L are diagnostic of iron deficiency anemia (IDA). The diagnosis of IDA requires a transferrin saturation (TSAT) of less than 20%, which will cause a decrease in serum iron and Serum iron and transferrin saturation (TSAT). (Kumar et al., 2022)

2. RESEARCH METHODS

This short review article used some keywords to search open-access articles from free-access databases like DOAJ, Google scholar, etc. Mainly data on Indian women was considered to review in iron deficiency anemia. Types of Indian food that are rich in iron and food that are not possible and available due to various factors were discussed in the article.

3. RESULTS AND DISCUSSION

The effects of anemia on both health and the economy are significant. Indicator 2.2.3 of the United Nations Sustainable Development Goals is the percentage of women between the ages of 15 and 49 who are anemic, broken down by whether they are pregnant. The World Health Assembly has endorsed an extension of the global nutrition targets set for 2025 that aims to halve the anemia prevalence among women of reproductive age by 2030. (WHA). Our study's objective was to provide a global and regional estimate of most anemia in children 6–59 months old, women 15–49 who are not pregnant, and women 15–49 who are pregnant during 2000–2019 (Stevens et al. 2022). Anemia can show low blood oxygen symptoms, including difficulty breathing, weariness, heart palpitations, tachycardia, and even angina. Multiple studies have shown that once anemia has normalized, cognitive abilities return to normal in people who have experienced central hypoxia, which can produce headaches, vertigo, and lethargy (Banerjee et al., 2021). According to the Ministry of Tribal Affairs, Govt. of India, the tribal population in India accounts for 8.19 % of the total population, spread across several states. As a result of anemia, this population has a decline in productivity and a weakening of their immune systems, among other effects. Since half of all pregnancies affected by anemia have their onset at conception, this factor also plays a significant role during this time. 5 Anemia in Indian adolescents aged 10-19 years was studied, along with risk variables, using data from the most extensive nutrition survey in Asia. According to World Health Organization (WHO) guidelines, the prevalence of anemia in this age range was 28.5% overall, indicating a moderate public health hazard. The frequency of anemia among females is high enough in 13 states in India to be considered a severe public health hazard. However, additional variables, including iron insufficiency, vitamin A and zinc deficits, hemoglobinopathies, older age, and higher household affluence, were related to anemia prevalence in this population, with relationships varying by location (Scott et al. 2022; Banerjee et al. 2021)

In a study, girls at a district college in West Bengal participated in the survey for two days. One hundred and ten interested female college seniors were screened for primary health and nutrition. Results showed that 12.5% were depressed, 13.5% were experiencing excessive hair loss, 62.5% had problems with their skin's condition, and 65.4% had acne or pimples. The primary health issue was iron deficiency anemia despite being from urban areas (Banerjee et al. 2021).



Other critical causes may lead to kidney failure that persists over a long period of reduced gastrointestinal (GI) iron absorption, poor nutrition, and blood loss due to dialysis and frequent blood collection are all contributors to IDA in CKD, just as they are in Congestive cardiac failure (CCF) (Gutiérrez 2021). However, a recent trial of more than two hundred individuals given 1 g three times a day suggests that ferric citrate may be an alternate oral preparation, resulting in low hospitalization rates and reduced transplantation, dialysis, and death. Despite the data presented for intravenous (IV) preparations, many patients continue to use oral iron therapy as their primary treatment since it is accessible, affordable, and does not require the IV process. (Shah et al. 2021).

Symptoms of low blood oxygen include difficulty breathing, weariness, heart palpitations, tachycardia, and even angina. Multiple studies have shown that once anemia has normalized, cognitive abilities return to normal in people who have experienced central hypoxia, which can produce headaches, vertigo, and lethargy. In a diet-related paper, almost seventy percent of one's daily iron consumption comes from staple meals. Iron from staple foods is poorly absorbed because it includes many phytates, preventing the body from using an iron. Anemia affects about 60% of kids under three years old, fifty percent of expecting moms, and fifty-three percent of girls and young women aged 15 to 19. (Bhatnagar, et al 2021)

In India, roughly 29% of people over 15 follow a vegetarian diet. Eighty-three percent of vegetarians follow a lacto-vegetarian diet. Only 11% are strict vegetarians who refuse to eat anything from an animal, whereas the other 89% are vegans (dairy products prohibited). Vegetarians can receive enough iron through legumes, dry beans, soybeans, nuts and seeds, dry fruit, and green vegetables with leaves. Iron content in vegetarian diets may be comparable to that in omnivore diets, but plant-based iron may be less bioavailable due to intrinsic factors that reduce absorption. Over the past few years, cereal has become a smaller percentage of people's daily caloric intake. Consumption of oil and sugar has increased to compensate for this calorie deficit. There has been no change in the rate of either fruits and vegetables or livestock over this period. Compared to the global average of 34.3 kg/per capita, India's meat intake is significantly lower at 3.3 kg/per capita ((Bhatnagar et al., 2021).

Pregnant women have a lower-than-normal knowledge of anemia, which is reflected in the ANC services or primary Health Centers in India. Poor levels of anemia knowledge are seen among pregnant women with low levels of education and unemployment. Women of childbearing age, particularly pregnant women, must be educated on the dangers of anemia. (Duko et al. 2017). An increased risk of moderate to severe anemia has been linked to exposure to smoke from fossil fuels (coal, kerosene) or biomass (dung, wood, straw, crop residue, charcoal) used as an energy source in rural India. Moreover, biofuels made from biomass are the principal source of energy for over 90% of Indian homes in rural areas and 32% of Indian households in urban areas, respectively. Hence rural women should be given a basic level of awareness about good cooking and fuel use within their limited budget. In addition, open defecation is most common in India, which has the most significant population in this practice. Food insecurity and the subsequent increased risk of IDA may have been exacerbated by cultural norms like a woman eats at last after the completion of all family members. It has been shown that the intake of microbes can have several unfavorable effects, including reducing iron absorption via inflammatory pathways. Hence all women out of urban areas must be aware of personal hygiene and timely eating. A study can show that improper vegan or non-vegan diets



can influence TSH, creatinine, and bone mass among older adults of both sexes in SEA regions and may also affect the total iron level in the elderly bodies. (Banerjee and Ray Pal, 2022)

Adherence to iron-folic acid supplements is low for many rural pregnant women, general women, and adolescents. Reasons for not taking iron-folic acid (IFA) tablets include concerns about potential side effects, including nausea, vomiting, gastritis, constipation, and black stools. In 2018, the Intensified National Iron Plus Initiative (I-NIPI) was launched under the banner "anemia mukt Bharat" by the Ministry of Health and Family Welfare, GoI (anemia-free India). This program's creators set an ambitious target of halving the prevalence of anemia among women of reproductive age (WRA) by 2025. They also aim to reduce anemia rates among newborns, adolescents, and WRA by three percentage points per year between now and 2020. This initiative includes the distribution of iron and folic acid supplements, deworming tablets, screening and treatment for anemic individuals, and enhanced newborn feeding habits.

4. CONCLUSION

A global problem, anemia is not exclusive to developing countries like India or Africa. All women should be required to complete prior knowledge of anemia and iron-rich food to cope if people are serious about eliminating this global problem. In conclusion, the right iron-rich, balanced diet, and basic knowledge are the only way to reduce anemia. Women will be rightly empowered when total efforts defeat anemia.

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