

Comprehensive Approach to Address Anaemia: Beyond Conventional Methods

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Anaemia, as defined by WHO is a condition characterised by reduced haemoglobin, with its concentration being <11.0 g/dL in children aged under 5 years and pregnant women and <12.0g/dL in non-pregnant women and <13.0g/dL in men. In India, according to NHFS 5 report 2019, the prevalence of anaemia in women of reproductive age and in children between 6 to 59 months is seen to be 57% and 67.1% respectively, the prevalence of which is higher than that reported in NFHS 4 conducted in 2015-16. (Figure 1)

The goal of reducing anaemia prevalence has not been reached despite the existence of numerous anaemia control programmes, such as the Anaemia Mukh Bharat (AMB) strategy, which improved the coverage of iron and folic acid supplements in all the beneficial groups from 2017 to 2020.¹ The program's coverage has significantly increased even though many other health services have been impeded by the COVID 19 lockdown, demonstrating that the causes of the increased prevalence may go beyond nutritional deficiencies, which are often not addressed in anaemia control programmes. Therefore, it is necessary to modify the structure of the national

programmes to take these underlying causes into account and to plan an efficient strategy with cross-sectoral coordination to reduce the burden of anaemia.

Addressing root causes of anaemia:

To comprehensively tackle anaemia, it is imperative to address the root causes contributing to its development. Beyond nutritional deficiencies, factors such as gastrointestinal issues (e.g., helminthic infections, chronic inflammatory diseases, diarrheal diseases), improper water, sanitary and hygiene (WASH) practices, poor reproductive health, open defecation leading to helminthic infections, malaria and low socio-economic status play significant roles in adding up to the burden of anaemia. By targeting these key factors, the most appropriate course of action can be implemented to successfully combat anaemia.

Numerous studies have demonstrated that malaria, one of the common infections in India, increases the prevalence of anaemia.² According to a study by V. Chandrashekar et al., 87.3% of the malaria-infected population was found to be anaemic.² A significant correlation has been found between asymptomatic *P. vivax* infection and a high prevalence of anaemia.¹

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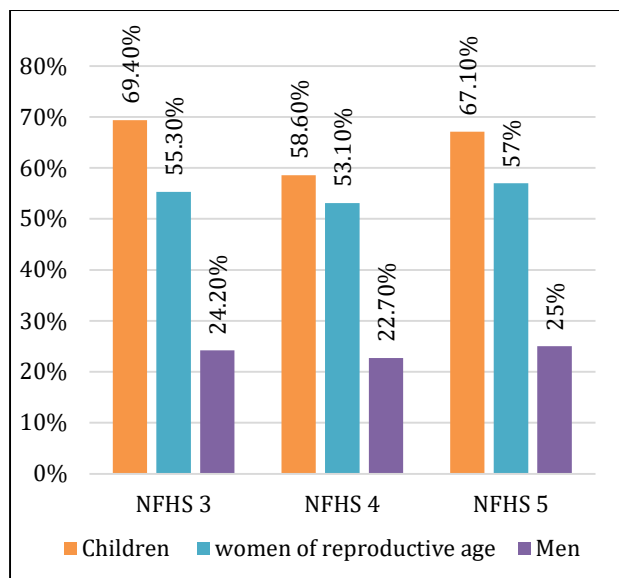


Figure 1: The prevalence of anaemia over the past NFHS data

In another study by Kishore Punnath et al., 26% of malaria patients had developed severe anaemia.² Children hospitalised with severe malaria anaemia have a mortality rate ranging from 2.6% to 10%.³ Since eliminating malaria has been shown to decrease anaemia cases,⁴ intensifying malaria prevention efforts in high-risk areas, accurate diagnosis, and prompt treatment would help prevent both malaria and anaemia.

A strong association is found between inadequate water, sanitary and hygiene (WASH) practices and Iron deficiency anaemia.^{5,6} Open defecation is linked to increased risk of helminthic infections, diarrhoeal diseases and other intestinal infections leading to anaemia.^{5,6} Improved hygienic practices with access to facilities has proved to be effective in reducing the prevalence of anaemia by decreasing diarrhoeal diseases.^{7,8} As a result, the community health education should emphasise on limiting open defecation and encouraging better hygiene practices along with deworming in under 5 children which is beneficial in preventing helminthic infections thus reducing diarrhoea and anaemia.

COMPREHENSIVE STRATEGIES AND INTERVENTIONS

There is a growing recognition of the effectiveness of community-based interventions in addressing anaemia. These interventions focus on raising awareness, providing education and implementing practical measures at community level to tackle anaemia. This article emphasises on comprehensive strategies that looks beyond the conventional causes of anaemia, being in alignment with the principles of community-based interventions. Hence an approach encompassing timely diagnosis and treatment, addressing ma-

laria, improving water, sanitary and hygiene (WASH) facilities and the reproductive health of the women, limiting open defecation, prevention of infections leading to anaemia combined with effective management strategies bridging the service gaps is necessary for combating anaemia. In a developing country like India with a growing population and majority residents falling in low- and middle-income categories, considering the factors pertaining to socio-economic, educational and gender norm and cultural taboos should be an integral part of the programs.

CONCLUSION

By prioritising the root causes and implementing comprehensive strategies along with the existing programs and newer initiatives, healthcare professionals and policy makers can effectively prevent and manage anaemia. The provision on improving sanitation, prevention of malaria and diarrheal diseases are crucial components of these efforts. By taking a holistic approach with inter-sectorial coordination it is possible to make significant progress in reducing the burden of anaemia and improving health outcomes.

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