REVIEW ARTICLE

India steps ahead to curb anemia: Anemia Mukt Bharat

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Abstract

Anemia is a major public health problem in India affecting over half of population in almost all age groups. It has devastating effect on human health and affects the socio-economic development. Government has devised several programs like National Nutritional Anemia Control Program (NNACP), Weekly Iron and Folic Acid Supplementation (WIFS), National Iron Plus Initiative (NIPI) etc to combat anemia. The facts remain that in spite of all the programs, no marked improvement has been noticed in the magnitude of anemia. A holistic approach is required with special emphasis on community awareness about consequences of anaemia and benefits of Iron Folic Acid (IFA) supplementation, uninterrupted supply availability of Iron folic Acid tablets and syrups, hard to reach areas and monitoring and review system to find out adequacy in terms of participation and frequency of meetings and problem-solving in NIPI

Key Message

Anemia is still major public health problem in India. A holistic approach is required with special emphasis on community awareness, uninterrupted supply availability of Iron folic Acid tablets and syrups, hard to reach areas and monitoring and review system to find out adequacy in terms of participation and frequency of meetings and problem-solving in NIPI

Keywords

Anemia; NIPI; Anemia Mukt Bharat; IFA supplementation

Introduction

Anemia - a condition where the number of Red blood cells or their oxygen-carrying capacity is insufficient to meet physiological requirements, which vary by age, sex, altitude, smoking, and pregnancy status.(1) Globally the most common cause of anemia is iron deficiency, although other nutritional deficiencies such as folate, vitamin B12 and vitamin A, chronic inflammation, infectious diseases like parasitic infections, malaria, tuberculosis and inherited disorders like glucose-6-phosphate dehydrogenase deficiency, congenital hereditary defects in hemoglobin synthesis etc can all cause anemia.(2)

India is facing a serious burden of anemia where more than half of the women (51%) of reproductive

age suffer from anemia (Global Nutrition Report 2017).(3) According to the National Family Health Survey 4 (NFHS-4), 58.4% of children aged 6-59 months, 53.1% of non-pregnant women aged 15-49 years, 50.3% of pregnant women aged 15-49 years, 53% of all women aged 15-49 years and 22.7% of Men aged15-49 years were anemic in India.4 According to the process documentation conducted by joint effort of Govt. of Odisha, National Health Mission, UNICEF and AIIMS, Bhubaneswar in Odisha ; as Odisha was a forerunner of NIPI implementation among states having a very high prevalence of anemia, the prevalence of severe anemia was low (1-3%), but the prevalence of moderate anemia (7-20%) and of mild anemia (39-58%) was very high (using Hemocue 201 for Hb estimation).(5)

National Nutritional Anemia Prophylaxis Program (NNAPP)

Anemia has devastating effect on human health and quality of life and affects the socio-economic development in various ways. (6) To combat the problems of anemia, National Nutritional Anemia Prophylaxis Program was launched by Maternal and Child Health (MCH) division of Ministry of Health and Family Welfare (MOHFW) in 1970 to prevent nutritional anemia in mothers and children. Under this program, Iron Folic acid (IFA) supplementation was given to pregnant women, lactating mothers, acceptors of family planning and children of age 1- 5 years. (7)

12 – By- 12 Initiative

A 12 – by- 12 initiative was launched in 2007, which was jointly undertaken by MOHFW, WHO, UNICEF, FOGSI and others to ensure that every child would have the hemoglobin of 12 gram by the age of 12 years by 2012. Children between the age group of 10-14 years were screened and if hemoglobin was found below 12 gm%, weekly IFA supplementation was provided. It also comprised of public awareness creation, correction of dietary pattern and control of worm infestation through periodic deworming. (8)

Weekly Iron and Folic Acid Supplementation (WIFS)

With the fact that one out of the two adolescent girls (56%) and out of three adolescent boys were anemic, Weekly Iron and Folic Acid supplementation (WIFS) Program was launched to meet the challenge of anemia amongst adolescent boys and girls. (9) Weekly Iron and Folic Acid supplementation was given to all 6^{th} to 12^{th} class adolescent boys and girls enrolled in all government/government aided/municipal schools and out of school adolescent girls.

NATIONAL IRON PLUS INITIATIVE (NIPI)

NIPI was introduced in 2013 to reduce the incidence and prevalence of iron deficiency anemia across all life stages including adolescents and women in reproductive age group who are not pregnant or lactating. Health care providers at all levels had been identified under NIPI framework for providing comprehensive package of continuum of care along with treatment and management of anemia.(13)

Anemia Mukt Bharat

To achieve the targets of World Health Assembly of 50% reduction of anemia in women of reproductive age by 2025 and POSHAN Abhiyan (2018-2022) to reduce the prevalence amongst young children (6-59 months), adolescents and women of reproductive age groups (15-49 years) by three percent per year, Anemia Mukt Bharat has been designed. (14, 15) This has been built upon the existing framework of NIPI with special focus on intensive behaviour change communication, vulnerable geographies, procurement and supply chain management issues and others. (16)

The operational guidelines were launched by Honorable Prime Minister Shri. Narendra Modi on 14th April, 2018 in Bijepur, Chhatisgarh. The beneficiaries are children 6-59 months, children 5-9 years, adolescent boys 10-19 years, adolescent girls 10-19 years, women of reproductive age (20-49 years), pregnant women and lactating women (0-6 months). The key interventions proposed to be carried out in this program are IFA supplementation and deworming; intensive IEC/BCC about nutrition awareness, appropriate IYCF practices and intake of iron rich foods: awareness, screening and treatment of malaria in endemic pockets; special focus on pregnant women and school going adolescents; iron and folic acid fortified foods in all public health facilities; delayed cord clamping after delivery (3 Minutes). (16)

Key interventions:

1. Dose adjusted prophylactic iron folic acid supplementation will be given as per different age groups except children with acute illness, severe acute malnutrion and hemoglobinopathies. (16)

2. Children (6-59 months): Bi-weekly, 1ml iron and folic acid syrup containing 20 mg elemental iron + 100 mcg of folic acid
3. Children (5-9 years): Weekly, 1 iron and folic acid tablet, each tablet containing 45 mg elemental iron + 400 mcg folic acid.
4. Adolescent girls and boys (10-19 years of age): Weekly, 1 iron and folic acid tablet, each tablet containing 100 mg elemental iron + 500 mcg folic acid
5. Women of reproductive age (non-pregnant, non-lactating) 20-49 years: Weekly, 1 iron and folic acid tablet, each tablet containing 100 mg elemental iron + 500 mcg folic acid.
6. Pregnant women and lactating mothers (of 0-6 months child): Daily, 1 iron and folic acid tablet, each tablet containing 100 mg elemental iron + 500 mcg folic acid from the fourth month of pregnancy and continued throughout pregnancy (minimum 180 days during pregnancy) and to be continued for 180 days, post-partum.

Bi-annual mass deworming with Albendazole will be continued on fix dates – 10th February and 10th August every year.

7. Since only iron folic acid supplementation is not enough to combat anemia, intensive behavioural change communication is required towards compliance of IFA supplementation and deworming, optimum IYCF practices with special focus on weaning, consumption of iron rich food and practice of delayed cord clamping in all health facilities till the cord pulsation cease ought to be practiced. The IEC materials include sensitization meeting for media, school teachers, VHSNCs etc., posters, mantras booklet, dialogue cards, anemia playing cards, badges etc for interpersonal communications; mass media through various radio programs and TVC and social media (facebook and whatsapp). (16)

Screening of anemia for all adolescents in school on annual basis and pregnant women at all ANC contact points will be done using non-invasive digital hemoglobinometer. Management of anemia will be done as per the severity of anemia. Iron and folic acid fortified salts, wheat flour and oil to be served under ICDS and MDM schemes. (16)

Institutional Mechanism

It is proposed that, the National Anemia Mukt Bharat steering committee will be merged into existing RBSK steering committee in coordination with other ministries such as Tribal welfare, Ministry of Women and Child Development, Ministry of Rural Development & Panchayat Raj, Ministry of Human Resource Development. A National Anemia Mukt Bharat unit will be formed to monitor the implementation strategy. All the technical assistance will be provided by AIIMS, New Delhi as the nodal center for excellence and research on anemia control. To strengthen procurement and supply chain management, states will introduce multivendor policy; centralized procurement at state level; IFA and Albendazole tablets to be included in Essential Drug list and others. On-line portal will be created for a quick review of the Dashboard Indicators of control of anemia. (16)

Challenges:

Although numerous efforts have been made to combat anemia, the burden is still significantly high in the country. Since different initiatives or supplementation programs are already existing in the country to cater to the nutritional needs of various age groups, so now it is also important to approach this problem with newer perspectives focusing on the service delivery along with community awareness. Non-pregnant and non-lactating women belonging to the reproductive age group although are in focus programmatically, are not effectively receiving the desired interventions. Under various programs, children under the age of 5 and adolescents are being catered through Anganwadi centers and government aided schools. These mechanisms ensure effective service delivery to these age groups and enhances the efforts to combat anemia. These women are expected to receive IFA supplementation through home visits made by health care personnel. The already overburdened front line workers are entrusted with various programmatic goals, target based performances and incentives accordingly. Lack of supervision and monitoring mechanisms to evaluate IFA delivery by front line workers to these women needs to be tackled at the earliest. Effective and timely measures following monitoring can further strengthen and sustain efforts of the nation to combat anemia. Life-cycle approach, hence plays a role and various age groups should be addressed effectively.

Conclusion

Anemia Mukt Bharat program has to work in a direction to increase the felt need by the community

to reduce the invisibility of anemia (few beneficiaries think they are anemic, despite high prevalence) and to educate community about its long-term consequences (to understand that anemia limits scholastic performance, reduces work productivity, and compromises delivery outcomes). A holistic approach to control anemia emphasizing on community awareness through extensive BCC, uninterrupted supply of IFA supplementation, expansion of supplementation areas and robust monitoring and review system is recommended

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Tables

TABLE 1 IFA SUPPLEMENTATION PROGRAMS AND SERVICE DELIVERIES

Program	Beneficiaries	Dose	Service delivery
NNAPP (7,10)	Children of age 12 months to 60 months	20 mg elemental iron and 100mcg folic acid per ml for 100 days and age appropriate de-worming	Through primary health centers and its sub-centers. Multipurpose worker female and other para-medics in the PHC's are responsible for the distribution of IFA tablets. The functionaries of ICDS scheme assist in implementation of program.
	Pregnant and lactating women, IUCD acceptors	100 mg of elemental iron and 500 mcg of folic acid daily for 100 days during pregnancy. Followed by same dose for 100 days in the post-partum period	
WIFS (11,12)	School based: Adolescent boys and girls (10-19 years) Out of school: Adolescent girls only	Weekly dose 100 mg elemental iron and 500 mcg folic acid on a fixed day approach with biannual deworming	In school through teachers and for those out-of-school through AWC. ASHA will mobilize those out of school adolescent girls.
	6–60 months	1ml of IFA syrup containing 20 mg of elemental iron and 100 mcg of folic acid	Through ASHA

		biweekly and de worming for children 12 months and above.	
NIPI (13)	5–10 years	Weekly dose of 45 mg elemental iron and 400 mcg folic acid per child per day and biannual deworming	In school through teachers and out of school through AWC. ASHA will mobilize
	10–19 years	100 mg elemental iron and 500 mcg of folic acid weekly and biannual deworming	In school through teachers and out of school through AWC. ASHA will mobilize
	Pregnant & lactating women	100 mg of elemental iron and 500 mcg of folic acid daily for 100 days during pregnancy after first trimester. Followed by same dose for 100 days in the post-partum period	ANC/ ANM /ASHA
	Women in reproductive age (WRA) group	100 mg elemental iron and 500 mcg of folic acid weekly	Through ASHA during door step visit for contraceptive distribution.

Figures

FIGURE 1 LOGO OF ANEMIA MUKT BHARAT

FIGURE 2 KEY INTERVENTIONS UNDER ANEMIA MUKT BHARAT