



Community-Level Interventions to Prevent and Treat Anemia: A Review of Evidence from India

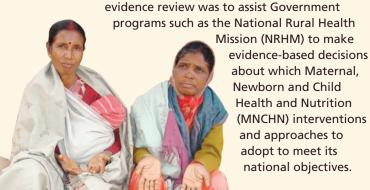
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Context

Iron deficiency anemia is a serious public health problem that affects the ability to study and work as well as health and well being. It is one of the most prevalent nutritional deficiencies in the world, and more than half of the population in India is anemic. The prevalence of anemia is as high as 70 – 80 per cent among children and 60 per cent among pregnant women⁷. In the northern states of Uttar Pradesh and Jharkhand, anemia prevalence among preschool children is 74 per cent and 82 per cent respectively.⁷

Anemia is most often caused by iron or folate deficiency and is especially common during pregnancy. Although supplementation of diets with Iron and Folic Acid (IFA) tablets has been a part of Government programming for over three decades, levels of IFA intake remain low. For example, only 22 per cent of pregnant women reported consuming IFA for 90 days or more when they were pregnant⁷. There are significant challenges in reaching the at-risk population as well as in managing the side effects of IFA consumption which discourage adequate intake.

This paper provides highlights from an evidence review on anemia prevention and treatment. The purpose of the



Evidence Review Process

Considering the importance of anemia prevention and treatment as a priority for improved MNCHN, leaders from the central and state Government, including Health and Family Welfare and Women and Child Development officials, agreed that an evidence review on the prevention and treatment of anemia would be helpful. The USAID-funded Vistaar Project facilitated this review, which was conducted by recognized national experts in this field.

The Project team identified existing evidence from India for the review, through a literature review as well as direct requests for information from many experts working in this field. The team initially identified 23 interventions and then short-listed nine interventions based on the main selection criteria that the intervention should have a sound evaluation that documented results at the outcome or impact level (e.g., IFA consumption).

Of the nine community-level anemia interventions selected for the review, six focused on anemia among adolescent girls,

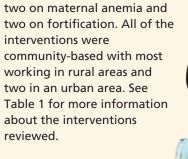






Table 1: Overview of Interventions		
Intervention Name	Lead Agencies	Focus Areas
Uplifting Marriage Age Nutrition and Growth (UMANG) (16, 17)	Govt. of Uttar Pradesh, Vatsalya and UNICEF	In-school and out-of-school adolescent girls with anemia using a "girl to girl" approach of peer education to reach beyond those girls in school. Implemented in two Districts of Uttar Pradesh. (2000-2007)
Reducing Iron Deficiency Anemia and Changing Dietary Behaviors Among Adolescent Girls ^(3, 4)	Institute of Health Management, Pachod, Maharashtra and ICRW	Changing dietary behaviors, weekly IFA for first three months implemented in 16 slums in Pune and expanded to 72 villages of Maharashtra. (2000-2003)
Adolescent Girls Anemia Control Program ⁽⁵⁾	Dept. of Preventive and Social Medicine, Medical College Vadodara, UNICEF and Govt. of Gujarat	Weekly IFA supplementation and improved dietary practices. Implemented in Vadodara District, Gujarat. (2000-on going)
Identification of an Appropriate Strategy to Control Anemia in Adolescent Girls of Poor Communities (10, 13)	Nutrition Foundation of India	Tested once a week vs. daily supplementation of IFA among adolescent girls. Implemented in urban areas of Delhi and rural areas of Bharatpur, Rajasthan. (2002)
Anemia Prevention Project (18, 19)	Govt. of Jharkhand, Vikas Bharti and Micronutrient Project (USAID)	Package of services, focus on maternal and adolescent anemia. Implemented in Gumla District, Jharkhand. (2004-2006)
Anemia Control Program for Adolescent School Girls (12)	Govt. of Jharkhand and UNICEF	Weekly supplementation of IFA among adolescent girls. Implemented across Jharkhand. (2000- on going)
Community-Based Maternal and Child Health Nutrition MCHN Project ^(2, 9)	Govt. of Uttar Pradesh and UNICEF	Focused on compliance with 100 tabs IFA supplementation in pregnant women. Implemented in four districts of Uttar Pradesh. (2001-2004)
Community-level Micronutrient Fortification of a Food Supplement in India (10, 15)	Govt. of West Bengal ICDS, CINI, Micronutrient Initiative and Tufts University	Focus on childhood anemia (36-66 months) through a fortified premix added to <i>Khichri</i> . Implemented in Mahestala block in South 24 Pargana district of West Bengal. (2005)
Extruded Rice fortified with Micronized Ground Ferric Pyrophosphate ⁽⁸⁾	Micronutrient Initiative and St. Johns National Academy of Health Sciences	Focus on childhood anemia (6-13 yrs), through a school-based program. Implemented in one school in Bangalore. (2004-2005)

The Vistaar Project team prepared a summary of each selected intervention which included available data in the areas of effectiveness, efficiency, and expandability. These summaries were provided to the lead implementing organizations for their feedback and then shared with the expert reviewers prior to the expert review meeting (These summaries are available on the IntraHealth website: http://www.intrahealth.org).

The team worked with Government officials and recognized experts to form a

panel of experts in this field to conduct the evidence review.

The expert group included Government officials, donors, and representatives from NGOs, academia and professional associations (See Table 2).

Table 2: List of Experts		
Prof. A.K. Nigam	Institute of Applied Statistics & Development Studies, Uttar Pradesh	
Dr. Anand Lakshman	The Micronutrient Initiative, New Delhi	
Dr. Deepika N. Chaudhery	The Micronutrient initiative, New Delhi	
Dr. G.S. Toteja	Indian Council of Medical Research, New Delhi	
Dr. N.K. Arora	INCLEN Trust, New Delhi	
Dr. Prakash V Kotecha	Academy of Educational Development, New Delhi	
Dr. Ramesh K Singh	HOPE Foundation, New Delhi	
Dr. Rajiv Tandon	USAID, New Delhi	
Dr. Saroj Menon	National Institute of Health & Family Welfare, New Delhi	
Mr. Satyavrat Vyas	Population Foundation of India, New Delhi	
Dr. Shubada Kanani	M.S. University, Gujarat	
Dr. Subhadra Seshadri	Senior Nutrition Expert, Karnataka	
Prof. Sudha Salhan	Safdarjung Hospital, New Delhi	

Note: Other invited experts were unable to attend.

Lessons Learned

Thirteen technical experts met for one day on July 19, 2007 to review the nine selected interventions. The experts worked in a consultative manner and primarily in small groups to achieve the following objective:

Analyze the available evidence to make recommendations to the Government about achieving impact in the area of anemia prevention and treatment.

The experts also identified several important evidence gaps where additional information needs to be generated. The experts placed significant focus on the quality of data and results available.

The experts commended the implementing agencies for their evaluation and documentation work and the contributions they have made to the evidence base about anemia prevention and treatment in India. However, they did not feel the evidence was compelling enough to recommend a set intervention or model to the Government for adoption at scale. Instead, they produced a list of lessons learned and general recommendations based on the available evidence (listed below).

- There is a need to strengthen monitoring, evaluation and documentation capacity in the public and private (including NGO) sector to improve the data available for decision making and to fill important evidence gaps
- NGO and donor-funded projects have produced more documentation on outcome-level results, as compared to Government-led programs; this may be an issue of data availability and limited public access to Government program evaluations, but it would be useful to have more data on Government-led interventions to guide program decision making
- The Government and private sector groups should seek to contribute to the evidence base by evaluating and documenting existing "natural experiments" and successes within Government programs
- The existing evidence does not provide much information on which specific approaches or components were the most effective within a package of approaches
- Some interventions with significant results used the "positive deviance approach" (e.g., the Adolescent Anemia Control Program for Girls in Vadodara District and the UMANG Project in Uttar Pradesh), and this approach should be further implemented and documented
- Collaboration among the Ministry of Health and Family Welfare, the Ministry of Women and Child Development, the Ministry of Education and Panchayati Raj Institutions was associated with better results (e.g., MCHN and

- UMANG in Uttar Pradesh, and the Anemia Control Program for Adolescent School Girls in Jharkhand)
- More comprehensive efforts that included health and nutrition education, de-worming and the promotion of convergence were more successful

Evidence Gaps

The reviewers noted the following gaps in evidence.

- Most of the research is on adolescent girls; there is a need for more documentation of work with other target groups such as pregnant women and boy and girl children
- More evidence should be collected and made available from Government programs
- There is very little evidence on efficiency or cost issues
- Program implementers should evaluate and report more data on the equity and gender-related outcomes of their interventions

In Summary

The evidence review process is a useful approach to build consensus among experts and program leaders, inform program planning, and assist with decision making. The Vistaar Project experience shows that this process is most valuable when:

- It is conducted in an open, inclusive and participatory manner
- The focus is on learning lessons, not identifying the "best model"
- The audience is clear, and the evidence is reviewed from their perspective (i.e., in this case, the evidence was reviewed for application in Government programming)

The Vistaar Project greatly appreciated the opportunity to be a part of this evidence review and is honored to join with the technical experts,





Vision

We believe in a world where all people have an equal opportunity for health and well-being.

Mission

To mobilize local talent to create sustainable and accessible health care

The Purpose of the Vistaar Project is:

To assist the Government of India and the State Governments of Uttar Pradesh and Jharkhand in taking knowledge to practice for improved maternal, newborn, and child health and nutritional status

IntraHealth International, Inc. is the lead agency for the Vistaar Project

Disclaimer: This publication is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of IntraHealth International, Inc. and do not necessarily reflect the views of USAID or the United States Government.

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