Community-Based Distribution for Routine Iron/Folic Acid Supplementation in Pregnancy

Anemia during pregnancy has long been known to be detrimental to both mothers and fetuses, increasing both maternal and perinatal mortality.[1] Iron deficiency is the cause of about 50% of anemia in developing countries and if present during pregnancy, also reduces the iron stores in infants and puts them at risk for permanent cognitive damage. Available scientific evidence shows that routine supplementation with iron and folic acid (IFA) in pregnancy is effective in preventing anemia in pregnant women where prevalence is high,[2,3] yet pregnancy anemia rates in much of the world have not declined.[4] This lack of progress is mainly attributed to limited success in ensuring that IFA supplies are delivered to women and that they have adequate information about taking IFA. While most countries still depend on facility-based antenatal care (ANC) for routine supplement distribution, experiences in several countries, especially where ANC coverage is low, prove that distributing IFA through community-based systems can reach more women and achieve higher rates of behavior change than ANC distribution alone.

BENEFITS AND POTENTIAL IMPACT

An immediate benefit of community-based distribution programs is increased access to the full recommended course of IFA supplements for pregnant women. The intensive and frequent counseling provided by community health workers, store owners or other agents can improve compliance with IFA and promote better use of ANC through referrals. As supplementation coverage and compliance increase, anemia rates decline, improving maternal and newborn health.

Country Experiences with Community-Based IFA Distribution

- The Gambia significantly reduced the prevalence of anemia and iron deficiency in women and increased average birth weight by 56 g.
- Indonesia achieved a 31% decline in anemia in pregnancy.
- Nepal increased 2nd trimester IFA coverage from 27% to 73% in just three years.
- Nicaragua reduced nationwide anemia rates in women from 23.7% to 11.2% in five years.[5]

Studies and programs in several countries have found that community-based distribution is an important part of increasing coverage and compliance for IFA supplementation and subsequently reducing anemia among pregnant women. Community agents are able to reach pregnant women through home visits to provide IFA supplements, counseling, referrals and follow-up. A 1994 study in the Gambia found that iron supplementation distributed by traditional birth attendants (TBAs) reduced anemia and iron deficiency and increased average birth weight.[6] In Indonesia, a trial of IFA distribution by TBAs found that 40% more women reported taking supplements and the average number of tablets consumed nearly tripled compared to traditional health facility distribution.[7] In the mid-1990s, Indonesia implemented a national program that included IFA distribution through village midwives, TBAs and private vendors, which resulted in a 31% decline in anemia in pregnancy and a 69% increase in women receiving at least 90 tablets.[8]

Key Factors to Successful IFA Supplementation Programs

- Ensure adequate commodity supply through improved logistics management and delivery systems.
- Establish and strengthen mechanisms for community distribution directly to women to increase access.
- Provide high-quality training and supervision for community workers.
- Promote behavior change communication through targeted communication campaigns with specific key messages to increase demand and compliance.

Nicaragua increased IFA coverage among pregnant women to over 80% and experienced a substantial drop in anemia prevalence through use of community-based distributors who also provided counseling and follow-up.[9] Nepal also launched a program in 2003 using community-based providers to distribute IFA supplements. They found not only that there was a substantial increase in compliance (defined as those taking 80% of the recommended number of supplements), but also that community volunteers actually contributed to increasing ANC attendance, dispelling the myth that community distribution will discourage women from seeking care at health facilities.[10]

Does Community-Based IFA Distribution Decrease ANC Attendance?

Critics of community-based IFA distribution have argued that it undermines the use of ANC services. However, evidence shows that community agents can actually help *increase* ANC coverage by identifying pregnant women and promoting early use of ANC. Community-based distribution frees up time of over-stretched health facility staff to implement other important ANC interventions. Community agents have more time to counsel pregnant women about IFA and help them manage barriers such as side effects. They can also refer women with suspected anemia so they can receive necessary treatment. Nepal found that its community-based IFA distribution program actually increased ANC attendance (from 39% to 76% in the 2nd trimester and from 56% to 88% in the 3rd trimester).[10]

COMPONENTS

Before beginning IFA distribution, programs would benefit from conducting a thorough situation analysis of existing community-based providers (including private sector shops and other vendors), their responsibilities, their relationships to health workers (including supervision), community capacity, current coverage and barriers to ANC, previous and ongoing commodity supply systems, and behavior change platforms. Such an analysis will help create an enabling social environment and bolster advocacy efforts necessary to garner support from policymakers and local authorities. It will also assess all possible channels for distribution of IFA and messages to the community about women taking IFA. Knowing the current community health situation will also allow programs to integrate IFA distribution with ongoing activities (such as community integrated management of childhood illness) that may foster greater coverage and sustainability.

Programs should also take time to ensure that communities are involved from the beginning, have decision-making authority, have a mechanism for linking with the formal health system and fully support community-based providers (especially if they are volunteers).

The essential components to implementing a successful community-based, routine IFA supplementation program include identifying distribution points, ensuring adequate supplies and increasing demand.
Public and Private Distribution Points: Examining the existing health infrastructure and supply systems, current coverage for ANC, community health resources (such as community health workers) and private markets helps identify an appropriate mix of distribution points. Community-based distribution has the strongest impact where ANC coverage is low and where it is initiated late into pregnancy. Options include private vendors, TBAs, community health workers or other community-based health agents.

Supplies: Ensuring adequate supplies includes estimating pregnancies, keeping records of inventory and regularly resupplying distributors. Community-based distributors need a simple inventory system to calculate when and how much to order and a regular contact schedule for resupplying their stocks. If community workers already have regular contact with the health system for supervision and training, resupplying their

IFA supplements can be integrated with this existing schedule. A supply system should also establish how many days of supplements women receive at each contact (at least a 90-day supply), which depends on how often community agents visit women and how often their own stocks are replenished. Logistics systems also need to provide an emergency stock of IFA supplements that all levels of the health system can access.

Guidelines for Routine IFA Supplementation to Pregnant Women[11]

Prevalence of Anemia in Pregnancy	Dose	Duration
<40%	60 mg iron + 400 µg folic acid daily	6 months in pregnancy
≥40%	60 mg iron + 400 µg folic acid daily	6 months in pregnancy, and continuing to 3 months postpartum

Notes:

If 6 months duration cannot be achieved in pregnancy, continue to supplement during the postpartum period for 6 months or increase the dose to 120 mg iron in pregnancy.

Where iron supplements containing 400 µg of folic acid are not available, an iron supplement with less folic acid may be used. Supplementation with less folic acid should be used only if supplements containing 400 µg are not available.

Demand: Increasing demand from pregnant women for IFA and garnering support for this intervention from communities is pivotal to achieving adequate coverage. Social marketing, counseling and health education are all methods to encourage women to both access and consume supplements. Community-based distributors can be very effective at changing behavior because they have greater access to families; have more time than health workers to explain when, why and how to take IFA; and are not dependent on women seeking their services (i.e., they can go to the women instead of waiting for women to come to them). Community agents need training in counseling women and should have educational materials to assist them in this task.

A key component to demand creation includes investigating (through existing or original research) what motivates women to take supplements and what discourages them from doing so. Research has found that side effects are a less significant barrier than previously believed (only 10% of women stop taking IFA due to side effects), and educating women about common side effects and helping them learn to manage them are effective in increasing adherence. Many women also stop taking iron when they feel better, and others are hesitant to take supplements because they are afraid of having a large fetus or taking "medicine" in pregnancy.[12] Other actions to improve adherence are distributing materials to help remind women to take supplements and improving supplements themselves through attractive packaging, smaller tablets, and improved taste and smell (film- or sugar-coated).

Key Messages to Promote IFA

Supplements are good for the health of the mother and baby.

IFA will not harm the mother or the baby in any way.

Pregnant women should take one tablet per day for at least 90 days, starting as early as possible in pregnancy.

Common side effects are black stools, stomach upset, constipation and diarrhea. These effects are not serious and should subside in a few days. If they do not, women should take IFA at night or with food.

Take IFA with fruit juice or fruit if possible.

Avoid or limit tea and coffee one hour before and after taking IFA.

ESSENTIAL INDICATORS

World Health Organization (WHO) standard indicators:

% of mothers who received daily iron and folic acid supplements for at least 6 months of pregnancy

% of pregnant women with anemia [hemoglobin <11.0 g/dl (or <110 g/l)]

Demographic and Health Survey indicators:

% of women with a birth in the last five years who took any iron tablets/syrup and those who took iron tablets or syrup for less than 60 days, 60–89 days, or 90+ days in last pregnancy

% of pregnant women who have any anemia (hemoglobin <11.0 g/dl) and those with mild anemia (10–10.9 g/dl), moderate anemia (7.0–9.9 g/dl) or severe anemia (<7.0 g/dl)

ENDNOTES

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