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**MOTHECARE/BOLIVIA: EXPERIENCE WITH A SOCIAL MARKETING
STRATEGY TO IMPROVE IRON AND FOLIC ACID TABLETS DISTRIBUTION
AND COMPLIANCE AMONG PREGNANT WOMEN**

**Dr. Juan Carlos Arraya, MotherCare/Bolivia Nutrition Program Manager, La Paz,
Bolivia**

EXECUTIVE SUMMARY: In an effort to decrease iron deficiency anemia among pregnant women in Bolivia and specifically in the seven health district area supported by MotherCare project, MotherCare and the Ministry of Health and Public Welfare decided to implement a social marketing strategy to improve the supplementation component of the national program to control iron deficiency anemia. Monitoring and evaluation results show that demand for iron supplements increased in the project areas. Coverage and compliance with increased numbers of iron folate tablets per pregnancy interval also increased in the intervention area. Side effects from the iron supplements were reported by less than 10 percent of pregnant women. Impact on anemia prevalence and hemoglobin distribution measurements were not assessed due to logistical difficulties.

INTRODUCTION: Iron deficiency anemia is a serious public health problem in Bolivia. A national study carried out by the Bolivian Government in 1994 found an anemia prevalence in pregnant women of 50.5%. A baseline study carried out by MotherCare in 1996 in 7 health districts confirmed these findings with an observed anemia prevalence of 52.1% among pregnant women. Of those, 2.1% showed hemoglobin levels indicative of severe anemia (less than 7g/dl), 8.4% suffered from moderate anemia (hemoglobin (Hb) 7 to 9g/dl), and 41.5% from mild anemia (Hb between 9 and 11 g/dl). The prevalence of anemia was twice as high in pregnant women who did not receive any iron supplementation than among those who received at least some supplements (1-30 tablets ?) during their pregnancy.

Supplementation of pregnant women with iron and folic acid supplementation has taken place in Bolivia since 1988, albeit on a very small scale. In the last 5 years, national level iron supplement supplies for coverage of pregnant women with the recommended dose of 90 tablets each reached barely 30%. MotherCare's baseline study found that only 55% of women who attended antenatal care in the project implementation area received 30 tablets and only 2% of women accessing antenatal care services received the full dose of 90 tablets. If one includes women who did not attend antenatal care in the denominator, only 1% of all pregnant women received the recommended dose of 90 tablets.

In a supplies and distribution study carried out by MotherCare in 1997, it was demonstrated that despite the low total number of iron pills available in the country, there actually was a sufficient supply of them at the clinic level in the MotherCare study area. The low coverage was not supply-, but rather demand-related. According to policy, pregnant women currently receive only 30 iron tablets at each antenatal care visit. Few attend enough times to receive the full, recommended dose of 90 tablets. As discussed above, 45% of pregnant women do not receive any antenatal care and thus no iron tablets at all.

Based on this information, MotherCare, in cooperation with the Ministry of Health, developed a social marketing strategy to increase demand for iron folate supplements and coverage of pregnant women in the 7 health districts in which MotherCare was active.

Using a social marketing analysis framework¹, the elements of the supplementation strategy were identified: the **product** (ferrous sulfate (200 mg) and folic acid (2.5 mg)); the **price** (in this scenario, the time/effort costs incurred in obtaining the supplements); the **promotion** (communication promotion); the **place** or distribution sites; and the **personal** treatment delivered by service providers.

The results of this analysis produced evidence of weaknesses in each aspect of the strategy that required change and/or improvement in order to achieve a goal of increased coverage of pregnant women with iron supplements.

¹ This analytical framework identifies five elements or "P's" within a system: product, price, promotion, place and personal treatment (?)

The MotherCare program used a two-pronged approach: iron supplements were not only promoted and distributed through the government's health facilities during antenatal care service sessions, but also were delivered through trained community personnel (traditional midwives (TBAs) and rural health promoters (RPSs)). The latter were able to reach some of those 45% of pregnant women that had no access to antenatal care due to cultural and geographic barriers. An information, education, and communication (IEC) campaign aimed at increasing demand for iron supplementation and improving women's ability to consume supplements effectively supported the program.

Besides providing training on anemia for health providers and community personnel, MotherCare also trained health staff in communication and counseling skills. These skills were expected to improve the quality and user-friendliness of maternal health services, and thus increase demand for these services.

The following table contrasts the elements of the supplementation service before and after the introduction of MotherCare's social marketing program:

	BEFORE	AFTER
PRODUCT	Tablets dispensed in paper envelopes; easily degraded by humidity, accessible to pets and/or children, subject to loss within the household	The product was improved by the use of plastic bags and plastic bottles for the packaging of the iron pills.
PRICE	Personal costs to obtain IFA supplements were high due to partial dose delivery of iron tablets (30 tablets dispensed at a time so women had to attend a clinic at least 3 times to receive the full dose)	The price was reduced by introducing flexibility in the number of iron pills delivered at each antenatal control, by allowing the health personnel to deliver more than 30 iron pills at once. Health service providers were urged to take into account that the average number of antenatal controls in Bolivia is less than two, and in most cases is only one. The price or effort needed to obtain iron pills was reduced with the addition of community health personnel for distribution of supplements in the community (and in many cases, at the household level).
PROMOTION	Essentially none	The promotion of iron/folate supplements for pregnant and lactating women was reinforced with the broadcast of radio spots in two native

PLACE (Distribution sites)	117 health facilities serving 1,500 communities	languages and the use of local radio stations. In addition, a radio soap opera including information about anemia within several chapters was aired on key radio stations at a regional and local level. The place or distribution sites were improved with the incorporation of trained community personnel located in the rural communities most at risk of not accessing service facilities for antenatal, intrapartum, or postpartum care.
PERSONAL (Treatment)	Inadequate treatment by health personnel, poor communication skills, cultural insensitivity, and long waits at clinics characterized services at baseline.	The personal treatment of clients was improved by technical and interpersonal counseling and communication skills training, with an emphasis on increasing respect for different cultures and birthing traditions.

The area of intervention was 5 districts in the department of Cochabamba and two health districts in the department of La Paz. The national population for year 2000 is 8.328,772 inhabitants.

Department	Districts	Population	Pregnant women
La Paz	El Alto Centro	165,578	6,623
	Ingavi-Los Andes	146,750	5,870
Cochabamba	Capinota	53,816	2,153
	Tapacari	24,710	988
	Quillacollo	215,289	8,612
	Sacaba	99,438	3,977
	Independencia	37,189	1,487
Total		742,770	29,710

Source: National Health Information System: Year 2000

FORMATIVE AND BASELINE SURVEY FINDINGS: Formative research carried out in 1996 in conjunction with OMNI (spell out) provided information on the knowledge, perceptions, attitudes, and practices of women in relation to pregnancy, the condition of anemia, its consequences, and actions to address the problem. The majority of people interviewed were familiar with the signs and symptoms of anemia, but they did not know the determinants of the condition or methods to prevent or control it. Almost none of the pregnant women who were identified as anemic by Hb testing identified themselves as having the condition. Among women who did not attend services for antenatal care, there was little or no

knowledge of iron/folate supplements and their use for the problem of iron deficiency and anemia.

Almost all women who attended antenatal control sessions recognized the IFA tablets, but they did not know the name or purpose (?) of the supplement. Reported occurrence of side effects was low, and only 10% of women surveyed stopped taking iron/folate tablets due to them. Running out of supplements was a frequently cited reason for not continuing to take iron throughout their pregnancy. The majority of pregnant women who consumed them reported positive effects after taking iron/folate tablets. From these the majority related the consumption of iron/folate with the increase of physical strength and others mention an increase in their appetite.

Fifty percent of women interviewed reported disliking the form and appearance of the pills. Some women suggested that the TBAs and RPS could also distribute the tablets in the communities.

The majority of health personnel agreed to encourage alternative sources of iron/folate pills, (e.g., TBAs) provided they are trained about anemia and management of iron/folate tablets. All the RPSs and TBAs interviewed were confident in their willingness and ability to distribute iron tablets.

The baseline study (also carried out in 1996) in the intervention area confirmed the information available at national level: approximately 50 percent of pregnant women suffer from some grade of anemia. But most critical is the fact that only 1% of the pregnant women was actually receiving the established dose of iron/folate supplement during pregnancy.

Similar to the qualitative research results, three quarters of individuals interviewed had heard about anemia and almost half of them could name three or more symptoms. Tiredness, weakness, and paleness were mentioned most frequently. One third of surveyed people had heard about iron sulfate tablets in the former three months. The medical practitioners and the mass media were mentioned most often as the source of information about anemia and its treatment.

Almost half of women assured felt positive effects after taking iron/folate tablets (44%). From the results of the baseline study, compliance with consumption of IFA tablets appears to be high: 80% of women stated they had taken all the tablets given to them. The reasons given for noncompliance were unpleasant epigastric side effects and forgetfulness (10% and 8% respectively) of the pregnant women supplemented with iron/folate tablets.

STRATEGY DESIGN: Based on the results of the formative research phase, it was decided to use new community actors in order to increase coverage of pregnant/lactating women with iron/folate at the community level. Rural health promoters and TBAs were identified and trained to counsel and distribute of

iron/folate tablets, including the use of print materials for education of women and their families. In total, 302 community actors were trained.

In addition, an intensive IEC campaign was implemented in order to obtain a greater level of sensitization toward iron deficiency anemia and how to control the problem.

The following materials were designed and produced: Posters to promote iron/folate supplementation for health personnel (2000 units); daily reminder calendars for pregnant women (30.000 units); counseling cards (1000 units); promoter manuals (1000 units); radio spots developed by OMNI (in Spanish, Quechua and Aymara languages); and a radio soap opera. Badges (for credential identification purposes) were produced for the RPSs. All materials were validated before printing in the two different ecological areas where the 7 health districts were located (High land and Valleys) and each version reflected social and cultural differences associated with the two ecological zones.

178 facility-based health providers (medical practitioners, nurses, and auxiliary nurses) were also given specific training on interpersonal communication skills and adult teaching skills. The training courses also emphasized increased awareness of iron deficiency anemia; its management and support to women for iron supplement consumption, including how to most effectively use the new communications materials for counseling purposes.

A supervision and monitoring system was designed and implemented to assure quality control, maintain providers' motivation, continue training, and for feedback purposes. The tools used were a check list and monitoring guide. The key indicators followed were:

Process indicators	Educational materials and supplement availability at health facilities Training courses carried out for RPS and community personnel
Outputs indicators	Number of RPS that has received iron/folate supplements Number of RPS using the monitoring guide to document iron/folate supplements delivery Number of health providers delivering the 90 tablet-dose of iron/folate pills in the first antenatal control
Outcomes indicators	% of pregnant women supplemented with some iron/folate tables % of pregnant women supplemented with 90 iron/folate tablets

RESULTS: The evolution of these two key indicators, for coverage (30 iron pills) and of quality of care (90 iron pills) are as follows.

PERCENTAGE OF PREGNANT WOMEN COVERED WITH SOME IRON/FOLATE TABLETS

Year (Jan. - June)	MotherCare	Control District
1996	26.2	16.7
1997	37.1	20.1
1998	54.5	26.5
1999	62.1	30.9

Source: MotherCare Monitoring system

PERCENTAGE OF PREGNANT WOMEN SUPPLEMENTED WITH RECOMMENDED DOSE (90 IRON/FOLATE TABLETS)

Year (Jan. - June)	MotherCare districts	Control district
1996	6.0	4.0
1997	9.8	5.3
1998	16.8	4.8
1999	19.5	6.0

Source: MotherCare Monitoring System

More women in centers in MotherCare districts received 30 (1/3 of the acceptable dose) or 90 (the recommended ideal) iron sulfate tablets than in the control centers. However the percentages are still low. For example, in 1999, 62.1% of women in MotherCare districts received 30 iron pills compared to 30.9% in the control district. Among women supplemented with 90 iron pills, 19.5% in the MotherCare districts versus 6.0% in the control district received the full dosage for the pregnancy period.

The post-intervention impact study (add details about sample size, methods) carried out to assess MotherCare IEC strategy together with the social marketing strategy to increase iron /folate supplementation showed the following results:

Pregnant women

1) Only 8.9% of health providers mentioned that they have used the IEC materials for counseling purposes at health facilities. It appears that these materials are more suitable for community workers implementing education and information dissemination activities at the household level.

2) 75% of women at health facilities have been advised to take iron/folate supplements during pregnancy. In 1996 only 55% of pregnant women who had received facility-based services had been advised to take iron folate tablets.

- 3) It was found that 75% of pregnant women at health facilities received an explanation about why iron/folate tablets should be taken in comparison with only 39% of women asked about this in 1996.
- 4) 74.2% of pregnant women surveyed were taught how iron folate tablets should be taken properly.
- 5) 69.8% pregnant women said they have received iron folate supplements during their last pregnancy.
- 6) All providers interviewed stated that they distribute iron tablets to pregnant and postpartum women. More than half of the health providers stated that they offer counseling about anemia and iron tablets usage.
- 7) Fifty percent of health providers that offer counseling assert that they frequently use educational support materials.
- 8) Less than fifty percent state that they use educational material some of the time. A small percentage states that they almost never use support material.
- 9) Only one third of health providers interviewed stated that they were delivering 90 iron tablets in the first contact with pregnant women.
- 10) The majority of health providers assert that they "always" or "almost always" had enough iron tablets to give 90 tablets in one visit to pregnant/postpartum women.
- 11) The majority of providers stated that in the last two years health promoters were trained about anemia and iron tablet supplementation at their facilities.
- 12) From among these providers one third reported that health promoters have implemented what they were taught.
- 13) All pregnant/postpartum women interviewed stated that iron tablets were given to them and almost half of them received 90 tablets in a single visit.
- 14) Fifty percent of women receiving services in a facility receiving counseling about anemia, and 2/3 of them could explain adequately what anemia is and why they have to take iron tablets.
- 15) The majority of women stated that they felt better after taking iron tablets.

Health service providers

- 1) Of the 40 health promoters interviewed, only 2 did not participate in courses about anemia in the last 3 years.

- 2) 21 promoters interviewed (6%) received educational material to assist them with education and counseling about anemia.
- 3) The majority of health promoters had the opportunity to explain about anemia to pregnant women in their communities
- 4) Half of the health promoters received iron tablets.
- 5) 100% of health promoters reported that women who received iron tablets take them "always" or "almost always".

DISCUSSION: While coverage of pregnant women with the recommended dose of 90 tablets/pregnancy increased in the MotherCare intervention areas, levels remain low. In order to increase the impact of the combined community- and facility-based program to address maternal anemia, further efforts are needed. The social marketing strategy was only partially implemented and therefore the increase in coverage did not meet the unmet need for iron supplements. One of the main reasons for not obtaining better outcomes was the highly turn over of community workers. Some of them remain active only 3 months and most only 4 to 6 months.

An important barrier was the low commitment of health providers. Advocacy efforts are needed to boost their interest and support for improving iron status in pregnant women. Adoption of the one-time disbursement of 90 iron/folate supplements continues to be problematic; many providers want to maintain the partial delivery of supplements in order to encourage more than one antenatal visit.

High levels of compliance with iron supplements and increased demand as a result of the project intervention engender optimism about the long-term prospects for improved coverage and impact of iron supplementation for women in Bolivia. It is reasonable to aim for 60 percent coverage of pregnant women with 90 tablets during pregnancy and 90 tablets during the postpartum period. However, a much stronger commitment by the national authorities at a central, as well as regional level will be needed to achieve this goal.

RECOMMENDATIONS: A stronger political position and more ambitious goals are required at all levels (national, regional and local) to increase supplementation coverage. Community participation has to be encouraged on a permanent basis. The community personnel should receive ongoing training due to the high turn over.