



Mayer Hashi Project

Preventing Postpartum Hemorrhage: *Community-Based Distribution of Misoprostol in Tangail District, Bangladesh*

OVERVIEW

Every day, 1,500 women around the world die from pregnancy complications, mostly in developing countries; severe bleeding accounts for 25% of those deaths, and much of that bleeding occurs postpartum (World Health Organization, 2010). Although rates of maternal mortality have started to decline in Bangladesh (as in many developing countries), maternal mortality remains a serious concern, with approximately 320 maternal deaths occurring for every 100,000 live births (NIPORT et al., 2003). About 28% of maternal deaths in Bangladesh are due to bleeding, primarily during the postpartum period (NIPORT et al., 2003).

Postpartum hemorrhage (PPH) is defined as the loss of more than 500 ml of blood during the first 24 hours postpartum (WHO, 2003). If a woman hemorrhages after childbirth and does not receive immediate medical care, she may die within two hours. The speed at which death can occur presents a major challenge, especially in rural areas, where communication and transportation systems often are poor, and health facilities may lack skilled birth attendants and the necessary drugs and equipment.

PPH poses a particular risk in Bangladesh, where only 15% of births occur in health facilities and where 48% of pregnant women receive no antenatal care from a medically trained provider (NIPORT et al., 2009). The most common point at which PPH occurs is during the third stage of labor (after delivery of the baby and before delivery of the placenta), when the uterus may suddenly lose its ability to contract. This problem can be managed, however, through the use of drugs to stimulate uterine contraction.

MISOPROSTOL USE FOR POSTPARTUM HEMORRHAGE PREVENTION

Oxytocin is most commonly used to manage PPH, but this drug is ill-suited to use in low-resource settings—it can only be given by injection, and it must be refrigerated until it is used. Alternatively, taking misoprostol orally immediately following the birth of a baby also reduces the occurrence of hemorrhage (El-Refaey et al., 1997; Hoj et al., 2005; Derman et al., 2006; ICM & FIGO, 2006). Misoprostol has an excellent safety profile, is inexpensive, is easy to store, does not require refrigeration, and is stable under field conditions (El-Rafaey, 1997). As a result, it can be dispensed by a range of health care providers, including community health workers. The International Federation of Gynaecology and Obstetrics and the International Conference of Midwives have jointly recommended the use of misoprostol for home births without a skilled attendant (ICM & FIGO, 2006). As a result, misoprostol is increasingly being used in both clinical and home settings to prevent and manage PPH.

COMMUNITY-BASED DISTRIBUTION: A PILOT PROJECT

In 2008, a joint project to pilot community-based distribution of misoprostol for the prevention of PPH was begun in Bangladesh. The partners were the National PPH Prevention Task Force, the Directorate General of Health Services, the Directorate General of Family Planning, and the Mayer Hashi Project.¹

The objective was to have health and family planning field workers from the government and from nongovernmental organizations (NGOs) distribute misoprostol tablets to pregnant women in Tangail District,² central Bangladesh, to assess the approach's effectiveness, and to gather lessons learned and provide recommendations for national scale-up.

In preparation for the project, partners advocated with health policy makers and program managers to garner their support for testing the approach, drafted a misoprostol policy and implementation plan, developed training curriculum, educational materials, and monitoring checklists and tools, and provided a supply of misoprostol tablets.³

PROJECT PLANNING AND IMPLEMENTATION

The project was conducted between November 2008 and June 2009. It began with an orientation and planning workshop for health and family planning district and subdistrict managers. Government and NGO field workers and their supervisors were then trained in:

- The rationale for community-based distribution
- PPH and its prevention
- The identification and registration of pregnant women
- Follow-up procedures
- How to educate pregnant women about safe motherhood, PPH, and misoprostol

Field workers also received a supply of misoprostol tablets, educational leaflets, reporting forms, and other supplies.

The project arranged with the manufacturer to create a special three-tablet packet (each tablet containing 200 mcg misoprostol), with a product insert in the local language. This packet provided each woman with the needed dose of the drug and instructions for its use.

Field workers conducted several communication activities among pregnant women, their families, and the community. Through courtyard meetings (*utthan baithak*),⁴ home visits, and the distribution of leaflets, the workers provided information about:

- The complications of delivery, including PPH
- The advantages of hospital delivery
- The use of misoprostol after home delivery to prevent PPH



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² The pilot project was implemented in eight out of 12 subdistricts of Tangail; the total population of these eight subdistricts was about 2.8 million people.

³ The misoprostol tablets for the Tangail pilot intervention were locally produced by Gonoshasthya Pharmaceutical Ltd. and were donated for the pilot by Venture Strategies Innovations (VSI), Berkeley, California, USA.

⁴ In Bangladeshi villages, several houses usually are located at one place, with a shared open courtyard in front of them. Field workers organized meetings in such courtyards that involved members of the community, including pregnant women, mothers-in-law, and birth attendants.



Courtyard meeting conducted by a field worker

Going house-to-house, field workers registered women who were pregnant and pasted a sticker outside each woman's house, to help them identify the house in the future. The stickers also encouraged community members to remind the woman to take the tablets immediately after delivery. A sticker placed inside the house served as a reminder to the woman and her family about the need to take misoprostol immediately after the baby was born.

HEALTH OUTCOMES

From November 2008 through June 2009, 12,961 out of 19,497 registered pregnant women received misoprostol tablets at or after 32 weeks of pregnancy. (The project chose to distribute the drug late in pregnancy, to minimize the chances of women's forgetting about, losing, or misusing the drug.) Among the pregnant women who received the tablets and had a home birth, 92% (9,228 out of 10,040 women) took the tablets after delivery (Mayer Hashi Project, 2010).

During the project period, eight women living in Tangail District died as a result of childbirth. Five of these eight women died of PPH; four of these five did not take the misoprostol given to them by a field worker, and one took the tablets late (one day after delivery). No women who used misoprostol as instructed died following delivery.

Using national maternal mortality rate data from Bangladesh (NIPORT et al., 2003), project evaluators estimated that among a group of 9,228 pregnant women, 30 would have died of pregnancy- and delivery-related causes, and seven of these 30 would have died from postpartum hemorrhage. Thus, use of misoprostol was considered to have averted seven maternal deaths in the project area.

Among the users of misoprostol, 25 women (0.3%) had complications and were referred to a hospital. These complications included retained placenta, postpartum eclampsia, severe lower abdominal pain, and lack of typical postpartum bleeding. Thirty-nine women who used the tablets (0.4%) reported minor side effects such as fever and chills.

WOMEN'S VIEWS AND EXPERIENCES

After the pilot period, project evaluators conducted in-depth interviews with 31 women who had been clients of the project—16 who had used misoprostol and 15 who had not. While all of the women had heard about excessive bleeding after childbirth, the depth and accuracy of their knowledge varied. One-third of the women interviewed believed that the “bad blood” that accumulates in a woman's body during pregnancy must leave the body after pregnancy—a misconception that needs to be addressed.

All of the women interviewed demonstrated good basic knowledge of misoprostol, suggesting that client education was done well. One-third of nonusers were confused about whether the tablets should be taken before or after delivery of the placenta. Thirteen of the 16 women who used misoprostol reported that the bleeding following childbirth was less than what they had experienced in a previous delivery and were satisfied with the drug.

During focus group discussions conducted by project evaluators, field workers and supervisors reported that women had some questions and concerns about using misoprostol. For instance, some women believed that postpartum bleeding was natural and wondered why it was necessary to stop it. Others wondered if it was wise to take a drug that might have side effects. Some workers reported that traditional birth attendants (dais) and other community members who were not yet oriented about misoprostol had discouraged women from taking the tablets. In general, though, field workers believed that counseling and education resolved women's concerns.

LESSONS AND RECOMMENDATIONS

Pregnant women and health workers widely accepted the use of misoprostol after delivery. Overall use of the drug and client satisfaction with it were both high among women served by the program. Misoprostol users experienced no deaths or significant complications. Field workers, supervisors, and program managers all believed that the program model should be continued and expanded to other parts of Bangladesh.

In general, women showed good understanding of how to manage excessive bleeding after delivery, but there is room to improve their knowledge about pregnancy complications, bleeding after delivery, PPH, misoprostol, and its side effects. Misperceptions were one of the main reasons for nonuse of the drug. Educational efforts should continue and be strengthened. In particular, the message about when to take the drug should be clear and specific: within five minutes after delivery of the baby.

Some women said they were unaware of the courtyard meetings or were unable to attend. Others said the meetings did not occur in their area. If these meetings are used in the future, careful planning, outreach, evaluation, and supervision will be needed. Going forward, interpersonal communication should continue to be the primary means of education.

Traditional birth attendants and other community members play a strong role in women's understanding of postpartum bleeding. Field workers should involve these influential members of society in their educational and communication activities with women and their families. Field workers registered 89% of pregnant women (19,497 out of 21,834 estimated pregnant women). Given the workload challenges in striving to reach all pregnant women in the large catchment areas typical for field workers, scale-up efforts should explore alternative sources of manpower in the community.

The pilot intervention conducted in Tangail District demonstrates good potential for scale-up throughout Bangladesh and in other low-resource settings where home-based deliveries are the norm. This innovative approach and the documentation of it also provide scientific support for consideration in international policy dialogue, particularly with the World Health Organization and other prominent policy making bodies involved in setting standards of care and medical guidelines for health care provision worldwide.

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