



Ministry of Health
and Social Welfare

Misoprostol Distribution at Antenatal Care: Preliminary Report in Brief

An estimated 13,000 women die each year due to pregnancy- and delivery-related causes in Tanzania, with postpartum hemorrhage (PPH) the leading cause. Misoprostol is a safe, effective and low-cost tablet that has been shown to reduce postpartum bleeding after delivery and current evidence supports its use where oxytocin is infeasible. In Tanzania, misoprostol has been approved for use in the prevention and treatment of PPH since September, 2007. In Tanzania 94% of women receive antenatal care (ANC) from a health professional at least once during pregnancy yet over half (53%) of deliveries take place at home. A measurable impact of the use of this drug would be possible if women could receive information on how to take misoprostol and be offered the drug during ANC; women who cannot reach a facility to deliver would have access to this life-saving technology.

In 2008, the Ifakara Health Institute (IHI) partnered with Ventures Strategies Innovations[†] (VSI) and the Bixby Center at the University of California, Berkeley to initiate operations research in four project districts of Kigoma Urban, Kilombero, Ulanga and Rufiji to demonstrate the safety, acceptability, feasibility, and program-effectiveness of misoprostol distribution through ANC visits. The goal was to save mothers' lives by preventing PPH with misoprostol at home births among women who are unable to reach a facility to deliver.

“Plan early for a safe delivery”

One of two components of the project was a community awareness campaign on birth preparedness; the importance of delivering in a health facility; PPH causes, consequences, and recognition using the *kanga* method; and the use of misoprostol for the prevention of PPH. Messages reinforced the importance of ANC visits throughout pregnancy and that after 32 weeks women are eligible to receive misoprostol at ANC visits. The campaign utilized radio messaging, print materials, and person-to-person interaction.

Focused ANC with misoprostol distribution

During routine ANC care, providers conduct an education

session on safe delivery and PPH prevention, including information on misoprostol, to all women. Enrollment, informed consent and misoprostol counseling followed in one-on-one sessions. Women 32 weeks or more in gestation were eligible to take misoprostol home.

Training of project personnel

In November 2008, IHI and VSI led a five-day master training on project protocols for project management, District Coordinators, and Research Assistants. Subsequently, each district held trainings for ANC providers led by the District Coordinator and project management. Each district held trainings for traditional birth attendants (TBA) and community oriented resource persons (CORPs) supervisors, and TBAs and CORPs on the community awareness campaign. All project staff were trained by mid-January 2009, including 282 ANC providers, 40 Research Assistants, 165 CORPS, 23 CORP supervisors, 150 TBAs and 18 TBA supervisors.

Preliminary data analysis

From 1 March to 31 August, 2009, 8,511 women attended ANC and 8,433 women enrolled in the study (99%). For this analysis the sample was restricted to the 4,829 women who had a delivery date before 1 September 2009, a quarter of whom had completed a postpartum interview (n=1,316).

The campaign successfully reached women

Ninety-five percent of respondents stated that they had received information on PPH. Health providers and facilities were the most frequently cited source of information about bleeding after childbirth (83%). Posters/pamphlets (29%), friend/relative (16%), community health worker (16%), radio (15%), and TBA (14%) were mentioned less frequently as sources of PPH information. Additionally, 99% of respondents received information about misoprostol, with midwife/health facility mentioned as the most important sources of misoprostol information across the four districts (Figure 1).

ANC attendance after 32 weeks gestation lower than expected

The project enrolled 99% of women who attended ANC; however, ANC attendance at 32 weeks gestation or greater is much lower than the overall ANC attendance rate. (Figure 2) Misoprostol was distributed to almost all women who were enrolled in the project and attended ANC after 32 weeks gestation. While ANC providers' ability to recruit women into the project was strong, their ability to distribute misoprostol was inhibited by the gestational age requirement.

Fig 1: Most important source of misoprostol information

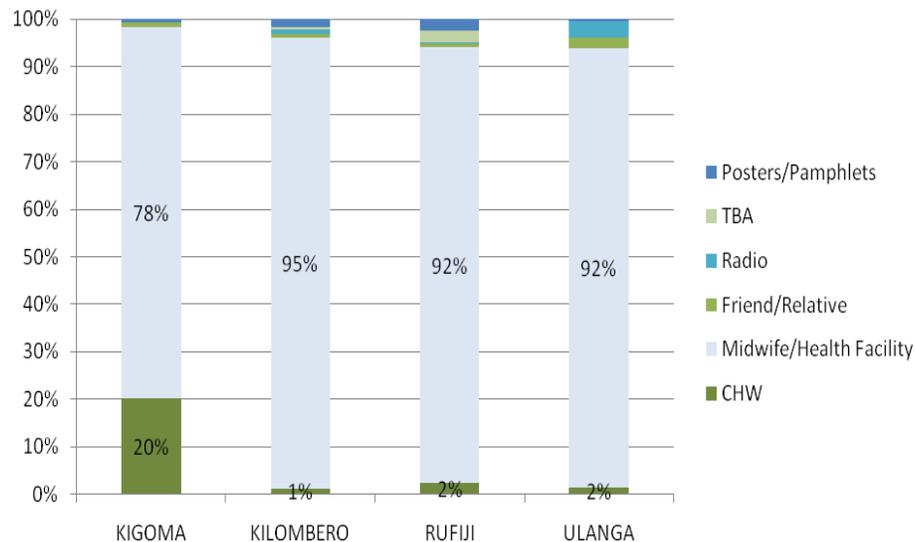
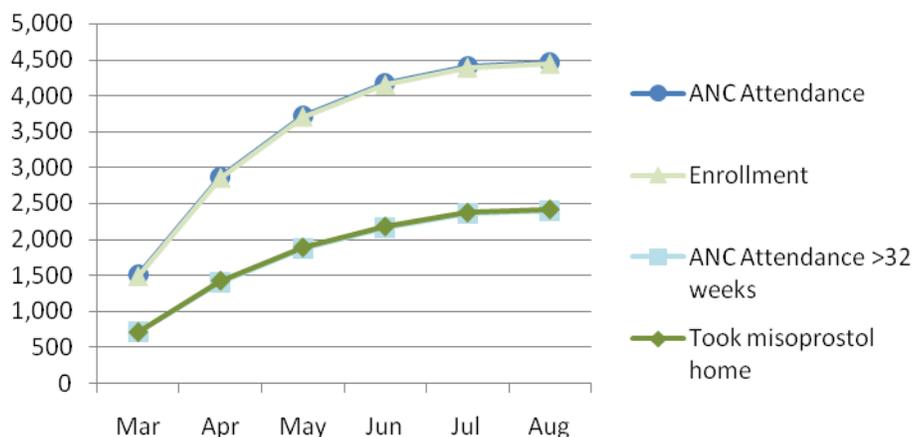


Fig 2: Coverage of misoprostol at ANC



Near universal IEC comprehension

Almost all respondents in the postpartum interview knew the function (98%), correct timing (98%), and oral route (99%) of misoprostol for PPH prevention. Additionally, 70% of participants knew of at least one symptom of its use; 87% recounted that PPH can cause death, and 81% recognized that excessive bleeding occurs when two or more kangas are soaked with blood.

Correct and safe use of misoprostol universal

Of the 508 home deliveries (34%) reported amongst the postpartum interview respondents, 93% received misoprostol at an ANC visit. All 463 women who took misoprostol at home used the drug correctly.

Few miso users and non-users reported postpartum symptoms

While misoprostol-users were more likely to report postpartum symptoms such as shivering (20% v. 11%), nausea (8% v. 4%), and raise of body temperature (6% v.

4%), the report of these symptoms was low overall. Many women, both misoprostol-users and non-users alike, reported not experiencing postpartum symptoms (73% and 84% respectively).

More births protected from PPH

Of those who participated in the postpartum interview, use of any uterotonic after delivery was quite high at 90%. Approximately half of these protected births were at a health facility, with either an injection (37%) or misoprostol (18%). Misoprostol at home deliveries “protected” an additional 35% of deliveries that occurred at home and would not have been protected otherwise. (Figure 3)

Few referrals, need for additional interventions

Only three women who delivered at home and took misoprostol were referred for bleeding-related reasons (1%), and two required additional interventions. One woman who delivered at home and did not use misoprostol required both a referral for bleeding-related reasons and additional interventions.

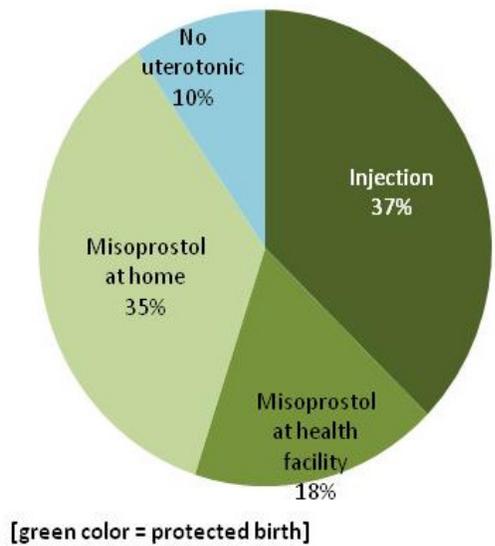
Of the 808 women who delivered at a health facility, most received an uterotonic after delivery (90%) and only 1% of these women required referral and additional interventions. A small

proportion of women who delivered in a health facility reported not receiving an uterotonic after delivery (10%), and only one woman reported requiring referral and additional interventions for bleeding-related reasons (1%). (Figure 4)

Misoprostol highly acceptable to women

Acceptability of misoprostol was high amongst users and non-users alike. Almost all women would recommend misoprostol to a friend (98%), use misoprostol in a subsequent pregnancy (97%), or purchase misoprostol (94%). While women who used misoprostol were significantly more likely to answer positively to the acceptability questions than non-users, the difference was negligible and above 90%.

Fig 3: Birth protected with a uterotonic (%)

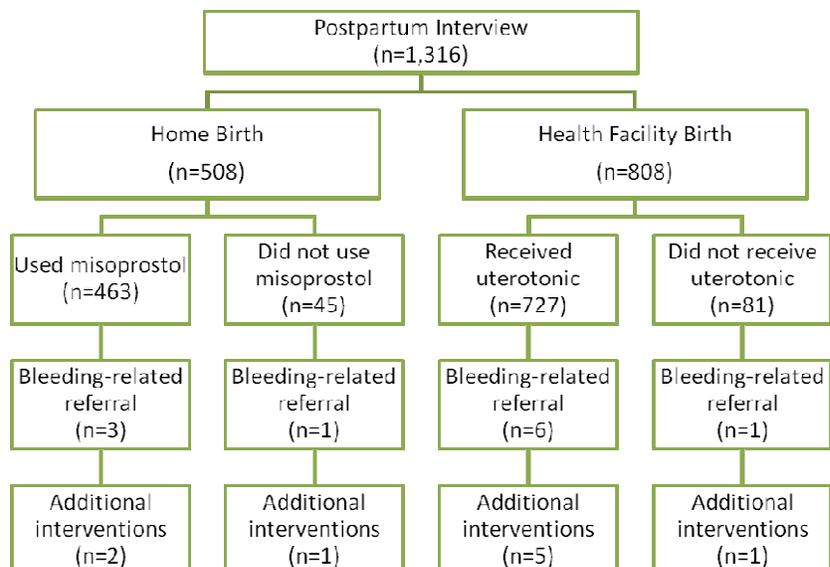


Conclusions

Overall, preliminary results are positive and indicate misoprostol distributed to pregnant women at ANC is feasible, safe, effective and acceptable.

Feasibility: ANC providers have been successful in recruiting women to the project during ANC visits, and enrollment is exceeding expectation. Of those eligible to receive misoprostol,

Fig 4: Bleeding-related referrals and the need for additional interventions



virtually all women receive the drug during an ANC visit. One challenge is that women are returning to ANC after 32 weeks at a rate lower than expected (54%).

The importance that participants placed on the health facility for safe delivery information demonstrates the vital role health facilities and their staff play in educating women. This suggests that the facility-based education sessions may be the critical IEC component and should be prioritized over other communication elements of the program moving forward.

Safety: All women who used the drug at home used it correctly. Furthermore, experience of symptoms was quite infrequent, although more frequent compared to those who did not use the drug. These symptoms were self-resolving within an hour for most cases, and none required referral.

Program effectiveness: An additional 35% of births were protected using misoprostol at home deliveries, vastly increasing the proportion of protected births in the population.

Misoprostol distribution at ANC had no effect on the proportion of health facility deliveries of those who participated in the postpartum interview.

Acceptability: Despite reported symptoms after use, almost all women would recommend misoprostol to a friend, use it again in a subsequent delivery, or purchase misoprostol. Symptoms related to its use appear to be of minor consequence compared to the drug's perceived benefit.

Stakeholder Meeting

On the 8th January 2010, IHI and VSI held a dissemination meeting to share preliminary findings. The meeting was held at Peacock Hotel in Dar es Salaam and was attended by 40 stakeholders from the Ministry of Health and Social Welfare (MoHSW), AGOTA, and NGO-partners. Dr. Geoffrey Kiangi, representing the Chief Medical Officer from the MoHSW, officiated and supported the inclusion of misoprostol in the forthcoming maternal packs, while emphasizing the need for all stakeholders to work collaboratively on the eventual scale-up of these study findings.

Recommendations

Attendees of the stakeholder meeting agreed that the project findings are a critical component of strengthening active management of the third stage of labor to reduce PPH, and



hence the project needs to be fully supported. Specific recommendations were to:

- Integrate misoprostol in the MoHSW's Maternal Packs;
- Develop better measures of misoprostol compliance at home-births; and
- Encourage women to return to ANC later in pregnancy or consider giving misoprostol at an earlier gestational age, given poor turnout after 32 weeks gestation.

Given the positive findings of this preliminary analysis, the project implementers recommend to policy makers to begin planning for scale-up of misoprostol distribution at ANC nationwide in Tanzania.

Data collection is ongoing. Upon completion, a final analysis and report will be generated mid-year, 2010.