Review Suggests Community-based Programs for PPH Prevention at Home Birth Can Achieve High Distribution and Use of Misoprostol

BACKGROUND


(Photo courtesy of Jhpiego.)

Hemorrhage remains a leading cause of maternal mortality in low-income countries, accounting for nearly 34% of maternal deaths in Africa and more than 30% in Asia. Recent World Health Organization recommendations[1] approve administration of misoprostol by a lay health worker trained in its use for postpartum hemorrhage (PPH) prevention in the absence of a skilled birth attendant who can perform active management of the third stage of labor. Misoprostol is ideally suited for PPH prevention at home births and in resource-poor settings due to its stability, ease of use, effectiveness and safety.

However, questions have persisted about the implementation of programs for the prevention of PPH at home births through advanced distribution of misoprostol. A newly published article by MCHIP colleagues and staff at Venture Strategies Innovations in the journal *BMC Pregnancy and Childbirth*[2] responds to these concerns through a review of programs and studies for prevention of PPH at home birth using misoprostol. "Misoprostol for postpartum hemorrhage prevention at home birth: an integrative review of global implementation experience to date" applies a common framework to assess the outcomes of various implementation strategies, including different timings and methods of misoprostol distribution and administration. The review summarizes the results of all known programs in the world undertaken through 2012.

METHODOLOGY

The study team used an integrative review methodology in order to describe the varied experience of non-peer-reviewed and non-quantitative programs. The following criteria were used for inclusion in the literature search:

- Distribution or administration of misoprostol for prevention of PPH during home births
- Research study or programmatic intervention
- Sufficient data to be extracted about strategies, methodology and results
- Published in either peer-reviewed or grey literature (i.e., no unpublished data was reviewed)

Key terms and definitions that underpinned data extraction included:

- *Distribution Rate*: Proportion of pregnant women in the catchment area who received misoprostol for the prevention of PPH
- *Coverage Rate*: Proportion of women who delivered at home in the catchment area (actual or estimated) who used misoprostol for the prevention of PPH

RESULTS

Eighteen programs were identified as having used misoprostol for PPH prevention at home birth. Of the range of cadres and timings utilized for drug distribution, ***advanced distribution of misoprostol by community health agents during home visits late in pregnancy achieved the greatest distribution and coverage rates***. In fact, programs employing these strategies achieved potentially ***more than double the coverage*** of those that distributed the drug through health workers or as a part of antenatal care (ANC) services. Programs that allowed for self-administration, or administration by traditional birth attendants (TBAs), were the most common, and also

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[1] WHO. 2012. WHO recommendations for the prevention and treatment of postpartum haemorrhage. WHO: Geneva. http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/9789241548502/en/index.html.

[2] *BMC Pregnancy and Childbirth* 2013, 13:44; online at: http://www.biomedcentral.com/1471-2393/13/44. Authored by Jeffrey Michael Smith, Rehana Gubin, Martine M Holston, Judith Fullerton, Ndola Prata.

achieved high distribution and coverage rates. Only 10 of the 18 programs reported sufficient information to calculate coverage rates, thus the paper offers recommendations on what data should be collected in future programs so that they may contribute to the global knowledge base about misoprostol use.

	Distribution Timing				Distributing Cadre			Administration Method		
	ANC Distribution		Home Visit (late pregnacy)	At home birth	Comm-unity health worker	Traditional birth attendant	Health worker/ ANC provider	Self	Traditional birth attendant	SBA or semi-skilled health worker
	Any visit	Late visit								
Distribution Rate or Rate Range	22.5–49.1%	21.0–26.7%	54.5–96.6%	22.5–83.6%	54.5–96.6%	25.9–86.5%	21.0–49.1%	21.0–96.6%	25.9–86.5%	22.5%
Coverage Rate or Rate Range	16.8–65.9%	16.2–35.9%	55.7–93.8%	16.8–73.5%	87.9–93.8%	35.9–73.5%	16.2–65.9%	16.2–93.8%	35.9–73.5%	16.8%

Overall, the 18 programs reported 86,732 women taking misoprostol for prevention of PPH at home birth. Three programs – in Nepal, Afghanistan and Zambia – tracked changes in facility birth rates, and all three reported an increase in the facility birth rate in the intervention areas. Mistimed administration of misoprostol (consumption before the birth) occurred with only seven women (0.06%), among the 12,615 women for whom follow-up visit data was collected.

Fifty-one maternal deaths were reported among all misoprostol users, 24 of which were due to PPH or excessive bleeding; the remaining deaths were due to other obstetrical causes. None of the deaths were attributed to misoprostol use. The reports include three cases of suspected (but unconfirmed) uterine rupture among women who took misoprostol after delivery.

	Number of Occurrences (total # women taking drug at home births)	**Frequency** (range)
Administration prior to birth	7 (12,615)	0.06% (0%-0.23%)
Deaths attributed to misoprostol	0 (86,732)	0%

CONCLUSIONS

High distribution and coverage rates of misoprostol for PPH prevention are possible if programs are designed with population coverage in mind and utilize community-based health workers as part of the effort. The programs and studies reviewed here reveal that home distribution by community health workers and TBAs enabled more women to access and use misoprostol than distribution through ANC alone. Moreover, these approaches appear safe, with very few incidences of mistimed administration. Limited data also suggest that such methods do not counter national strategies to promote facility-based births. Future programs for the prevention of PPH at home birth through community-based distribution of misoprostol should ensure that data collection corresponds with the key outcomes presented in this review.

For further information about misoprostol for PPH prevention, see the MCHIP website (www.mchip.net) and the PPH toolkit on the K4Health website (www.k4health.org/toolkits/postpartumhemorrhage).