

Management of Postpartum Hemorrhage at the Community Level at Home

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The ability to manage postpartum hemorrhage (PPH) at the community level should be an essential element in programs aiming to address PPH, the main cause of maternal mortality¹. In this regard, the efficacy, safety and importance of misoprostol use for PPH management has been established (see Chapters 32–35), with a recommended dose of 600 µg orally immediately after delivery². Misoprostol's most significant impact is at the household level, where most deliveries occur in many parts of the world³.

Three randomized controlled trials^{4–6} (Table 1) and seven intervention trials have successfully tested such technology in home births, with self administration by the delivering woman^{7,8} or by a traditional birth attendant (TBA)⁹. The differences in PPH reduction when misoprostol is used at the community level (Table 1) are not unexpected, because these studies use different methods of measuring and collecting blood after delivery. Such differences can influence the outcome of interest, blood loss of 500 ml or more. Nevertheless, in all three studies, the 95% confidence intervals around the relative risk overlap, indicating a clinically important range in PPH reduction in community studies, but not necessarily statistically significant differences between studies.

Scant data exist on the use of misoprostol for treatment of PPH at the community level. In one intervention study conducted in Tanzania, Prata and colleagues demonstrated that TBAs, who assist in most deliveries, were able to diagnose PPH and effectively and safely administer 1000 µg of rectal misoprostol to control PPH¹⁰. This study took place in rural Kigoma, an area in Tanzania where TBAs were trained to administer 1000 µg (5 tablets) of misoprostol rectally using gloves after visual identification of PPH using

the blood loss collection garment the kanga. TBAs in the control areas were similarly trained to diagnose PPH and refer the patient to the nearest facility. Of the 454 women recruited in the treatment areas, 2% were referred to the nearest facility for additional interventions after being diagnosed with PPH and receiving misoprostol at home. In the control areas, 395 women were recruited and 19% required transfer and additional interventions for PPH management.

Three years after the study, Prata and colleagues returned to the original sites and reported continued use of misoprostol by TBAs in a safe and effective manner¹¹. The second study on long-term community-based use of misoprostol by TBAs assessed knowledge, use, effectiveness and acceptability of the drug for PPH management in home births. Using a cluster design, women delivering between July 2004 and May 2007 were interviewed. This assessment found 239 women who were diagnosed with PPH. Of these, 71.5% were administered 1000 µg of misoprostol at home, while only 1.8% needed additional interventions.

Overall, published studies show that the ability to manage PPH in home births resulted in significant reductions in the number of women with PPH, the number of referrals and the need for additional interventions, all of which represent crucial issues in low resource settings.

Having said this, it is important to remember that effective community level interventions for PPH management constantly face the challenge of accurate blood loss measurement. Despite this, however, blood loss measurement can be standardized by employing local tools. Similar to the 'kanga' in Tanzania¹², other garments/tools have been used with similar success.

Table 1 Summary of studies showing efficacy of misoprostol for postpartum hemorrhage (PPH) prevention at community level

Author, location	Study type	Misoprostol administered at home by	Blood loss ≥ 500 ml	
			RR	95% CI
Mobeen <i>et al.</i> , 2011 ⁴ , Pakistan	Placebo controlled RCT	TBAs	0.76	0.59–0.97
Derman <i>et al.</i> , 2006 ⁵ , India	Placebo controlled RCT	Auxiliary nurse midwives	0.53	0.39–0.74
Walraven <i>et al.</i> , 2005 ⁶ , Gambia	RCT ergometrine vs. misoprostol	TBAs	0.77	0.60–0.98

RCT, randomized controlled trial; TBA, traditional birth attendant

These include the 'mat' in Bangladesh, the 'chittengue' in Zambia and the 'moda' in northern Nigeria, amongst others. The mat is a square piece of cotton fabric of pink color covered on the bottom side with a plastic sheet. The plastic sheet is of the same size and is stitched in the borders of the fabric. The size of the mat is standardized so that it collects 500 ml of blood when soaked. The chittengue is a piece of local fabric, similar to the kanga, but it is called different names in different countries, for example, it is called 'kapulana' in Mozambique. The moda is a local name for a plastic container (shaped like a cup) used to gather water by women, which holds exactly 500 ml of liquid.

Misoprostol should be available to all women delivering at home. It will be many decades before all women in low resource settings can receive skilled attention at delivery. In the meantime, misoprostol has the potential to make a significant impact in reducing PPH associated morbidity and mortality.

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