



## Misoprostol for the Prevention of Postpartum Hemorrhage

### Summary of Selected Publications

<i>Expanding uterotonic protection following childbirth through community-based distribution of misoprostol: Operations research study in Nepal, International Journal of Gynecology and Obstetrics, 2010</i>		
Summary Information	Results	Policy Relevance
<p><b>Study author(s):</b> Rajbhandari, S. et al.</p> <p><b>Setting:</b> Rural, Banke, Nepal</p> <p><b>Dose &amp; route:</b> 600µg oral misoprostol</p> <p><b>Sample size:</b> n=840</p> <p><b>Study design:</b> Pre- and post-intervention survey</p> <p><b>Provider:</b> Female Community Health Volunteers</p> <p><b>Research question:</b> Is community-based distribution of misoprostol to pregnant women through community volunteers working under government health services feasible for prevention of postpartum hemorrhage (PPH)?</p>	<ul style="list-style-type: none"> <li>• The proportion of vaginal deliveries protected by a uterotonic drug increased from 11.6% to 74.2%.</li> <li>• Among women living within three hours of a suitable facility, a significantly higher proportion of deliveries took place in health facilities at after the intervention.</li> <li>• Among the 447 respondents who took misoprostol, none reported taking it at the wrong time; only 1.8% reported taking fewer than three tablets.</li> <li>• The largest gains in protection from PPH were among the poor, illiterate, and those living in remote areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Community-based distribution of misoprostol for PPH prevention can be successfully implemented using existing government health services in low-resource, geographically challenging settings.</li> <li>• This intervention can result in increased population-level protection against PPH, with particularly large gains among the disadvantaged.</li> <li>• Community-based distribution of misoprostol with messages about the importance of facility delivery can complement other efforts to increase institutional deliveries.</li> </ul>
<i>Prevention of postpartum hemorrhage at home birth in Afghanistan, International Journal of Gynecology and Obstetrics, 2010</i>		
Summary Information	Results	Policy Relevance
<p><b>Study author(s):</b> Sanghvi, H. et al.</p> <p><b>Setting:</b> Rural, Afghanistan</p> <p><b>Dose &amp; route:</b> 600µg oral misoprostol</p> <p><b>Sample size:</b> n=3187</p> <p><b>Study design:</b> A nonrandomized experimental control</p> <p><b>Provider:</b> Community Health Workers</p> <p><b>Research question:</b> Is community-based education and distribution of misoprostol safe, acceptable, feasible and effective for the prevention of PPH at home births in Afghanistan?</p>	<ul style="list-style-type: none"> <li>• Where misoprostol was introduced, near-universal uterotonic coverage (92%) was achieved compared with 25% in areas where misoprostol was not available.</li> <li>• Adverse effect rates were lower in the misoprostol group than the comparison.</li> <li>• 92% of women who used misoprostol said they would use it again in their next delivery, 88% said they would be willing to pay for it in future.</li> </ul>	<ul style="list-style-type: none"> <li>• Community-based education and distribution of misoprostol is safe, acceptable, feasible, and effective in Afghanistan and should be considered in other countries where access to skilled attendants is limited.</li> <li>• Educational messages emphasizing importance of skilled attendance at delivery along with provision of misoprostol for PPH prevention can lead to greater coverage by skilled providers.</li> </ul>
<i>Prevention of Postpartum Hemorrhage: Options for Home Births in Rural Ethiopia, African Journal of Reproductive Health, 2009</i>		
Summary Information	Results	Policy Relevance
<p><b>Study author(s):</b> Prata, N. et al.</p> <p><b>Setting:</b> Rural Villages, Tigray, Ethiopia</p> <p><b>Dose &amp; route:</b> 600µg oral misoprostol</p> <p><b>Sample size:</b> n=966</p> <p><b>Study design:</b> Field intervention trial</p> <p><b>Provider:</b> Traditional birth attendants (TBA)</p> <p><b>Research question(s):</b> Is home-based prevention of PPH with misoprostol safe and feasible? How did the need for bleeding-related referrals and additional interventions differ between those who took misoprostol and those who did not?</p>	<ul style="list-style-type: none"> <li>• Of the 966 vaginal deliveries attended by TBAs, only 8.9% of those who took misoprostol for PPH prevention needed additional intervention due to excessive bleeding, compared to 18.9% of those who did not take misoprostol.</li> <li>• Of those women receiving additional interventions, 6.2% from non-intervention areas received blood transfusion, compared to less than 1% of women from the intervention area.</li> </ul>	<ul style="list-style-type: none"> <li>• Misoprostol for PPH prevention in home births is safe and feasible.</li> <li>• Community-based providers trained in its use can correctly and effectively administer misoprostol and be essential in reducing PPH-related morbidity and mortality.</li> <li>• Efforts to increase skilled attendance at births should continue, but as an interim measure misoprostol can have an immediate impact in helping poor women in rural areas.</li> </ul>
<i>Comparison of sublingual misoprostol, intravenous oxytocin, and intravenous methylergometrine in active management of the third stage of labor, International Journal of Gynecology &amp; Obstetrics, 2009</i>		
Summary Information	Results	Policy Relevance
<p><b>Study author(s):</b> Singh, G. et al.</p> <p><b>Setting:</b> Hospital, New Delhi, India</p>	<ul style="list-style-type: none"> <li>• Those who received 600µg of misoprostol had the lowest mean blood</li> </ul>	<ul style="list-style-type: none"> <li>• Adequate storage and administration by injection of a</li> </ul>

<b>Dose &amp; route:</b>	400µg or 600µg sublingual misoprostol vs. 5IU of intravenous oxytocin vs. 200µg of intravenous methylergometrine	loss (~96mL). Patients who received 400µg misoprostol had the second lowest mean blood loss (~126mL), followed by oxytocin (~155mL), and methylergometrine (~223mL). • Those who took 600µg misoprostol experienced the shortest mean duration of the third stage of labor (5.74 min), followed by 400µg misoprostol (~5.91 min), oxytocin (6.17 min), and methylergometrine (6.83 min).	uterotonic drug is not feasible in many developing countries, including India. • Misoprostol offers distinct advantages because it is stable at room temperature, affordable and easy to administer. • In low-income countries, maternal anemia compounds the problem of PPH, and therefore administration of misoprostol could reduce maternal morbidity and mortality.
<b>Sample size:</b>	n=300		
<b>Study design:</b>	Randomized controlled trial (double-blind)		
<b>Provider:</b>	Skilled		
<b>Research question:</b>	In the active management of the third stage of labor, what is the effectiveness of misoprostol, oxytocin and methylergometrine in reducing blood loss in the third and fourth stages of labor and shortening the duration of the third stage of labor?		

***Prevention of postpartum hemorrhage with misoprostol, International Journal of Gynecology & Obstetrics, 2007***

Summary Information	Results	Policy Relevance
<b>Study author(s):</b> Alferivic, Z. et al. <b>Setting:</b> Hospitals and community-based settings in Guinea-Bissau, Gambia and India <b>Dose &amp; route:</b> 600µg oral misoprostol <b>Sample size:</b> n=22,749 (7 randomized controlled trials) <b>Study design:</b> Systematic review of 7 randomized controlled trials (RCT) <b>Provider:</b> Skilled <b>Research question:</b> Is an oral or sublingual dose of misoprostol more effective than placebo at preventing PPH?	<ul style="list-style-type: none"> <li>• An oral or sublingual dose of 600µg misoprostol is more effective than placebo at preventing PPH at the community level, but not in hospital settings.</li> <li>• Oral misoprostol is less effective than injectible uterotonics in preventing severe PPH (blood loss&gt;1000mL: 3.6% vs 2.7%).</li> </ul>	<ul style="list-style-type: none"> <li>• Misoprostol is recommended for prevention of PPH in settings where conventional, injectable uterotonics are not available.</li> </ul>

***Oral misoprostol in preventing postpartum haemorrhage in resource-poor communities: a randomised controlled trial, Lancet, 2006***

Summary Information	Results	Policy Relevance
<b>Study author(s):</b> Derman, R.J. et al. <b>Setting:</b> Rural, India <b>Dose &amp; route:</b> 600µg oral misoprostol <b>Sample size:</b> n=1620 <b>Study design:</b> RCT with placebo <b>Provider:</b> Auxiliary nurse midwives at community-level primary health center <b>Research question:</b> Is misoprostol safe and effective when administered at the community level?	<ul style="list-style-type: none"> <li>• Misoprostol reduced PPH incidence by 53%, from 12 to 6%.</li> <li>• Misoprostol reduced acute PPH incidence by an additional 20% from 1.2 to 0.2.</li> <li>• For every 18 women given misoprostol for prevention, one case of PPH is averted.</li> </ul>	<ul style="list-style-type: none"> <li>• Misoprostol is safe, effective and affordable for women giving birth in low-resource settings.</li> <li>• It is often the only pharmacological option for preventing PPH and reducing postpartum blood loss in these communities.</li> </ul>

***Misoprostol in preventing postpartum hemorrhage: A meta-analysis, International Journal of Gynecology & Obstetrics, 2006***

Summary Information	Results	Policy Relevance
<b>Study author(s):</b> Langenbach, C. <b>Setting:</b> Hospital <b>Dose &amp; route:</b> Multiple <b>Sample size:</b> n=30,017 (22 studies) <b>Study design:</b> Review/Meta-analysis <b>Provider:</b> Skilled <b>Research question:</b> Is misoprostol effective for prevention of PPH?	<ul style="list-style-type: none"> <li>• Misoprostol is similar to other oxytocics; it should not be branded as inferior to other drugs.</li> </ul>	<ul style="list-style-type: none"> <li>• Misoprostol should be used for prevention of PPH.</li> <li>• Continuing to weigh the benefits of one effective drug against another only delays the distribution of misoprostol in countries where it is the only feasible choice and must be measured against no treatment at all.</li> </ul>

***Misoprostol and active management of the third stage of labor, International Journal of Gynecology & Obstetrics, 2006***

Summary Information	Results	Policy Relevance
<b>Study author(s):</b> Prata, N. et al. <b>Setting:</b> Hospital, Egypt <b>Dose &amp; route:</b> 600µg oral misoprostol <b>Sample size:</b> n=2532 <b>Study design:</b> Operations research, equivalency trial <b>Provider:</b> Skilled (obstetricians) <b>Research question:</b> Is misoprostol as good as AMTSL with conventional uterotonics?	<ul style="list-style-type: none"> <li>• Women in misoprostol group were less likely to bleed 500mL or more compared to women in the AMTSL current practices group.</li> <li>• 73% of women in current practices group required interventions due to PPH compared to 11% in misoprostol group.</li> </ul>	<ul style="list-style-type: none"> <li>• In a busy hospital setting, misoprostol performs as well or better than conventional uterotonics.</li> <li>• When oxytocin and/or ergometrine are not consistently and appropriately used during the third stage of labor, misoprostol should be considered for inclusion in active management of the third stage of labor protocol.</li> </ul>