



Unmet Need for Oxytocin in Rwanda

Oxytocin vs. Ergometrine

The recently developed emergency obstetric and neonatal care guidelines [better known as SONU (Soins Obstétricaux et Néonataux d'Urgence)] for Rwanda recommend the use of oxytocin over ergometrine for prevention of post-partum hemorrhage (PPH). This is a sensible recommendation clinically as oxytocin is better tolerated, ergometrine being associated with side effects such as hypertension and vomiting. In addition, oxytocin is easier to handle—it can be stored at up to 30 °C¹ and should be protected from freezing. However, ergometrine must be refrigerated, having a shelf-life of only 4 weeks at temperatures up to 30 °C, and must be protected from light and freezing.

Theoretical Quantity of Oxytocin Needed to Cover All Births

The number of births in Rwanda for 2011 attended in the public sector, according to Health Management Information System data, was 557,459. It is estimated that 15%² of those births would require induction with either oxytocin or ergometrine. In addition, it is estimated that around 10% of women delivering would go on to develop PPH and would require treatment³, which is a conservative estimate drawn from two trials that included only healthy women. According to SONU, every woman should receive 10 units of oxytocin injection intra-muscularly (im) during the first minute after delivery (third stage of labor) to prevent post-partum hemorrhage (PPH). If oxytocin is not available, then 0.2 mg ergometrine should be administered as an im injection or misoprostol 600 mcg should be given orally.

Number of attended births (national)	557,459
15% would require induction	83,619
10% would require treatment	55,746
Total quantity of oxytocin required (based on 2011 data)	696,824

Gap in Procurement

Data on the procurement of oxytocin and ergometrine was obtained from the Medicines Procurement and Distribution Division (MPDD)⁴ as shown below.

	Oxytocin	Ergometrine	Total
Ampoules procured in May 2012*	216,320	60,800	
In pipeline	43,340	60,300	
Existing stock	30,360	67,400	
Total quantity procured for 12 months	290,020	188,500	478,520
% of theoretical need covered in procurement			69%

* To cover 12 months; probably will arrive in December 2012

¹According to manufacturer recommendation of the product available in the public sector in Rwanda

²Verbal estimate from the director of MCH, MoH Rwanda

³Prendiville, W. J., Harding, J. E., Elbourne, D. R., Stirrat, G. M. 1988. The Bristol Third Stage Trial: Active Versus Physiological Management of Third Stage of Labour. *BMJ* 297(6659):1295–300; Rogers, J., Wood, J., McCandlish, R., Ayers, S., Truesdale, A., Elbourne, D. 1998. Active Versus Expectant Management of Third Stage of Labour: the Hinchingsbrooke Randomised Controlled Trial. *Lancet* 351(9104):693–9.

⁴Verbal communication September 4, 2012



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Not enough oxytocin was procured or distributed, and uterotonics were administered to only half of the women who should have received them.

As the data demonstrates, there is a gap between the amount procured and the amount required for the full implementation of the active management of the third stage of labor (AMTSL) as only 69% of the theoretical need is being made available at the central level. In addition, despite the guidelines stating that oxytocin should be first line, a large, disproportionate amount of ergometrine is being procured.

Distribution from MPDD

According to MPDD⁵, 259,000 ampoules of oxytocin and 63,900 ampoules of methylergometrine were dispatched from the MPDD stores to district pharmacies and other clients during April 2011 to March 2012. This is a total of 322,900 ampoules which is approximately 46% of the annual theoretical requirement, a gap greater than the procurement gap.

Consumption by Health Facilities

Data on the consumption by health facilities (public health centers and hospitals) was obtained from the Logistics Management Information System (LMIS)⁶ for the period April 2011 to March 2012, i.e., 12 months. Orientation of health facility staff to the SONU guidelines took place during 2009 and 2010.

The total amounts of the drugs consumed were 308,748 ampoules of oxytocin and 36,599 ampoules of ergometrine for a total consumption of 345,347 ampoules of uterotonics. Compared to a theoretical need (if a uterotonic is administered to each woman according to AMTSL), this represents 50% of the theoretical need, similar to the gap in distribution from MPDD. In other words, uterotonics were administered to only half of the women who should have received them, based on HMIS data of facility-attended deliveries.

What's Next?

Given that the SONU recommendation is to administer oxytocin, but that the supply chain pipeline contains significant quantities of ergometrine, it is important to consider a transition policy that encompasses using and phasing out the remaining ergometrine before it expires and then focuses on procurement, distribution, and training on the use of only oxytocin for prevention of PPH. It is proposed that the logistics management officer of the MCH department monitors the procurement, distribution, and consumption data to provide feedback to the department, MPDD, and the health facilities to improve the implementation of AMTSL in Rwanda and minimize the unmet need for oxytocin.

⁵Communication on September 21, 2012

⁶From the SCMS office on September 4, 2012

