

Reducing postpartum hemorrhage in Vietnam

Worldwide, postpartum hemorrhage (PPH), or excessive bleeding after childbirth, is the leading cause of pregnancy-related deaths. Most deaths occur in developing countries, where interventions needed to treat PPH—emergency referrals, complex obstetric care, blood transfusion, and surgery—are often out of reach. Preventing hemorrhage in the first place is vital.

The World Health Organization and other authorities on maternal and child health recommend a prevention method called “active management of the third stage of labor,” or AMTSL. It involves using drugs (such as oxytocin) to contract the uterus, providing controlled cord traction, and massaging the uterus during the third stage of labor.

PATH and the Ministry of Health studied the use of this method and its effects in Vietnam. Although oxytocin is usually provided in glass ampoules, a novel injection device pre-filled with oxytocin was also tested (Uniject™).

Postpartum hemorrhage in Vietnam

There are approximately 165 deaths related to pregnancy and delivery per 100,000 live births in Vietnam, and PPH causes the majority of these.

Seventy-five percent of all births occur at the local commune level,

and 80 percent of these are attended by trained midwives at home or at commune health centers.

By 2004, AMTSL had been found acceptable and effective when pilot-tested in hospitals in Vietnam, but had not yet been adopted nationally. Previous studies had identified a number of barriers to nationwide adoption, including a lack of information on the effectiveness of the method in the rural Vietnam context, the difficulty midwives had using multiple ampoules of oxytocin, and lack of information on the cost of the intervention.

A study of AMTSL

In 2004, PATH and the Ministry of Health collaborated on a study in six districts of Thanh Hoa Province to evaluate the use of AMTSL in commune health centers and district hospitals. In particular, the study looked at the effectiveness of AMTSL with Uniject™ injection device and with standard ampoules in reducing rates of PPH; the acceptability and ease of use of the prefilled, single-dose Uniject™; and the cost-effectiveness of routine delivery of AMTSL.

AMTSL reduces hemorrhage and length of the third stage of labor

To evaluate the effectiveness of AMTSL, we compared the



Introduction of routine active management of the third stage of labor could save the lives of hundreds of Vietnamese women.

outcomes of a control group of 2,371 pregnant women with the outcomes of 1,236 women receiving AMTSL. PPH according to the Vietnamese definition (>300ml of blood lost) was relatively common in both groups (around 19 percent), although using the international definition of 500ml or more, PPH totaled 3.4 percent in the districts where AMTSL was provided and 4.3 percent in comparison districts. After controlling for age, parity, and other confounding factors, data showed that abnormally heavy bleeding (>500ml) was 34 percent less likely when AMTSL was used. However, the most dramatic effect of AMTSL was observed in the proportion of women experiencing a prolonged third stage of labor: 80 percent fewer women had a third stage of labor lasting longer than 30 minutes, enabling midwives to attend to other needs of the mother and her newborn more quickly.

Uniject™ is easy and convenient to use

During the baseline assessment, almost 40 percent of midwives reported that it was difficult to fill the syringe with oxytocin, and 30 percent said it was time-consuming. Among the 87 midwives who used Uniject™ devices during the study, 98 percent reported that the device



was easier to use than standard ampoules and syringes.

AMTSL is inexpensive and potentially cost-saving

Relative costs were calculated by collecting actual and estimated direct costs in the study sites and using a model to estimate the cost or savings to the health system. The net incremental cost for routine provision of AMTSL at facility-based deliveries was VND 3,896 (US\$0.25) per woman when health workers used standard ampoules.

In other settings in Vietnam where the baseline rate of PPH may be higher than the 4.3 percent observed in the study site, AMTSL would become cost-saving. The cost study also showed that using Uniject™ devices could ultimately be less expensive than using ampoules if the devices became commercially available at the lower end of the likely price range.

The promise of AMTSL

This study confirmed the value of AMTSL in lowering rates of PPH and shortening the duration of the third stage of labor. Based on the results of the study, PATH and the Ministry of Health recommended:

- Including AMTSL in national policies and guidelines for all births.
- Training doctors and midwives in the use of AMTSL.
- Considering adoption of Uniject™ devices for oxytocin delivery once the devices become commercially available.

In 2006, the Ministry of Health in Vietnam issued an official guideline recommending the use of AMTSL nationwide.

More information

Tsu VD, Mai TTP, Nguyen YH, Luu HTT. Reducing postpartum hemorrhage in Vietnam: assessing the effectiveness of active management of third-stage labor. *Journal of Obstetrics and Gynaecology Research*. 2006;32(5):489-496.

For more information or the full research report, please contact vietnam@path.org or info@path.org.

Table 1. Effects of AMTSL on postpartum bleeding and duration of the third stage of labor

Outcomes	Percent of women in treatment or control group	
	AMTSL districts (N = 1,236)	Control districts (N = 2,371)
Postpartum bleeding		
Normal	81.0	81.0
High normal (>300ml)	15.6	14.6
Moderate hemorrhage (>500ml)	2.7	3.8
Severe hemorrhage (>1000ml)	0.7	0.5
Duration of third stage of labor		
More than 30 minutes	1.1	4.6
More than 15 minutes	5.4	46.7

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