

Expanding Postpartum Hemorrhage Prevention at Homebirth in Indonesia

By Mohammad Zulkarnain

Expanding Postpartum Hemorrhage Prevention at Homebirth in Indonesia

Mohammad Zulkarnain

Introduction

For the last 10 years, according to the *Indonesian Demographic and Health Survey (IDHS)* in 1997, the Maternal Mortality Ratio (**MMR**) in Indonesia was 334 per 100,000 live births, where 18 thousand women died because of childbirth each year or 1,391 died every month, placing MMR in Indonesia the highest in ASEAN. MMR in Indonesia is 3-6 times higher than other ASEAN countries such as Malaysia, Singapore, Philippines, and Thailand.

Eventhough IDHS 2003 showed that the MMR has decreased to 307 per 100,000 live births (decreased 27 points in 6 years), the figure remains very high. The Indonesian government is targeting to reduce its MMR to 226 per 100,000 live births by 2010, and furthermore, to reduce its MMR to 125 per 100,000 live births by 2015, in order to achieve the MDGs commitment. If the target successfully achieved, it means that the number of maternal mortality cases, currently 18 thousand per year, can be reduced to only approximately 7,000 women per year in 2015. The IDHS 2003 also showed that only 66.2% of women nationally and 48.6% percent of women in West Java deliver with a skilled attendant.

Based on the data from Central Bureau of Statistics and Household Health Survey (1991), Postpartum hemorrhage (**PPH**) was estimated to be the cause of 45% of maternal deaths; and self-reported excessive postpartum bleeding was reported in 7% of all live births. Even though the latest data from Household and Health Survey (**HHS**, 2001) shows that PPH is now only the cause of 28% of maternal deaths in Indonesia, it is still the leading and a very important cause.

One of the important factors affecting the condition of women delivering their babies in Indonesia is that they prefer to deliver at home. [1997 IDHS](#) showed that 4 out of 5 babies in Indonesia were delivered at home including 7% who were delivered at midwife's house, indicating an increase by 2% compared to that of in 1994. In addition, there are 43% of women nationally and 31% of women in West Java whose delivery were attended by skilled providers. It was also found that approximately 25% of women who planned to be helped by a midwife, because of one or more reasons, could not be helped by midwife when delivering their baby, while oxytocin can only be administered by midwife or doctor.

Although the Ministry of Health has recommended that women deliver at Health Centers, *polindes* (rural healthcare center) or hospital, it was found that only 9% of deliveries took place at the public health facilities and 12% deliveries were at clinics and private hospitals. Home births occurred more in women below 20 years of age or above 35 years of age ([83%](#) and [78%](#) respectively), women with many deliveries ([58%](#) on the first delivery and [87%](#) on the seventh or more delivery), and women in rural areas ([84%](#) compared to [41%](#) in urban areas). As many deliveries happen at home, more birth complications also occur at home rather than in healthcare facilities.

National data on birth complication, including the cause of maternal mortality, are not available in Indonesia. It is due to the fact that 3 out of 5 babies in Indonesia were delivered at home (IDHS, 2003). [Case fatality rate](#) based on hospital reports is available, but it does not serve as a basis to describe general condition in Indonesia because the data were collected from women who delivered at hospitals, including those who are referred to the hospital for complications. The Health and Household Survey (HHS) in 2001 in its data collection from the community showed the cause of maternal mortality in Indonesia as listed below:

Table 1. Causes of Maternal Mortality in Indonesia

Causes of Maternal Mortality in Indonesia	
Hemorrhage	28.0%
Eclampsia	24.0%
Abortion Complications	5.0%
Infection and Puerperal complication	19.0%
Prolonged labor	5.0%
Trauma	5.0%
Other causes (emboli, etc)	14.0%

Source: *Survei Kesehatan dan Rumah Tangga (HHS)* tahun 2001

Table 2. Birth attendant and place of delivery in Indonesia and west Java, in 1997 and 2003

Delivery	Indonesia		West Java	
	1997	2003	1997	2003
BY HEALTH PROFESSIONAL	43.0%	66.2 %	30.5%	48.6%
AT HOME	79.3%	60.2 %	89.7%	71.4%
AT HEALTH FACILITIES	18.3%	39.8 %	10.1%	28.6%

Source: IDHS 2003.

Community-based distribution of misoprostol study

Since 2001, Ministry of Health (MOH) has collaborated with Maternal and Neonatal Health (MNH) program through a National Steering Committee, Indonesia association of obstetricians and gynecologists (POGI) and WHO Collaborating Center, to test the Safety,

Acceptability, Feasibility and Program Effectiveness (SAFE) of Community-based Distribution of Misoprostol for Prevention of Postpartum Hemorrhage in rural Indonesia.

The purpose of the study was to demonstrate that provision of correct information and community-based distribution of misoprostol (named “*Tablet PAS Bayi*” for the project) during the antenatal period and use of the drug immediately after home birth of the baby can lower the incidence of postpartum hemorrhage, is safe and acceptable to women and families, and is programmatically feasible. Patients and their support persons receive information on two occasions during their pregnancy from Bidan in antenatal clinics and from trained community volunteers (Kader) during home visits. Patients were asked to correctly recount the information before being given the medication and a safety reminder card. The woman and her support person keep the medication in a safe place together with all other things needed for childbirth to be used immediately after birth of the baby especially if they do not have a skilled provider attending.

Patient and their support persons (especially those who will accompany her during delivery) receive information once or twice during their pregnancy from Bidan in antenatal clinics and/or from trained community volunteers (Cadre) during home visits. Patients were asked to correctly recount the information before being given the medication (“*Tablet PAS bayi*”) and a safety reminder card. The woman and her support person keep the medication in a safe place together with all other things needed for childbirth to be used immediately after birth of the baby especially if they do not have a skilled provider attending.

The study was completed in July 2003, and data from 1322 women followed up in the intervention area (Bandung district) was compared to 489 women in the comparison area (Subang district).

The PPH Study anticipated as many as seven maternal deaths among the 1,855 pregnant women, since at that time the maternal mortality rate in Indonesia is 334 per 100,000. In fact, there were only three maternal deaths unrelated to the use of misoprostol found during the PPH Study in Indonesia (due to dengue shock syndrome, due to multiple organ failure related to eclampsia, and due to congestive heart failure related to a pre-existing heart disease.)

98% of participants who were offered the medication, accepted misoprostol. ¹ Women were successful in taking the intervention drug in a self-directed manner following one-on-one counseling sessions, without the supervision of a skilled health provider. During the study, no evidence of misuse of misoprostol was discovered and every woman who took the drug did so after delivery of her baby.

The study concluded ¹ that trained and supervised community volunteers (kader) can successfully provide PPH prevention counseling and information and then safely distribute misoprostol to those women who are unlikely to be attended by skilled providers. The study also provides evidence that women understood the information provided by kader, acted on it and safely took misoprostol at the correct time. ³ Women were adequately prepared to cope with increased minor discomforts that are predictable after misoprostol use. ¹ The study also provides evidence that pregnant women are likely to continue to seek childbirth care with a skilled provider, and are not more inclined to home birth because they have access to a drug that prevent PPH. It is an indication that the counseling given to pregnant women and their support persons have successfully increase the number of women attended by health providers.

Table 3. Place of delivery before and during the study

	Previous delivery	During study delivery
Patient's Home	54.8% (475)	47.1% (408)
Midwife's Home	28.2% (244)	37.9% (328)
TBA's home	7.7% (67)	5.4% (47)
Health facility	8.9% (77)	9.4% (81)
Other	0.3% (3)	0.2% (2)

Information related to uterotonic coverage among PPH Study participants includes 900 women who had deliveries at home. Of these home deliveries, 575 were in the intervention area among women offered misoprostol to prevent postpartum hemorrhage. Almost 90% (514 / 575) of those women experiencing home births took misoprostol.

Regression analysis showed that women in the experimental area were 25% less likely to perceive excessive bleeding, 30% less likely to need an emergency referral, and 45% less likely to need an emergency referral for postpartum hemorrhage when compared to the control area.

Overall, the combination of the use of active management of third stage using oxytocin provided by the midwife and the use of misoprostol by the woman if a midwife is not available at home birth has the greatest potential for expanding prevention of PPH.

MOH Misoprostol Demonstration Program

Recognizing that PPH is a major cause of maternal mortality in Indonesia and that this intervention results in an expanded coverage of a safe PPH prevention strategy, the National steering committee and MOH has decided to disseminate results widely in Indonesia, finalize and distribute program implementation guidelines and training, counseling, and monitoring materials and incorporate PPH prevention into national health strategy.

In June 2004, the MOH has allocated around 500 million Rupiah for implementing the community-based misoprostol PPH prevention demonstration program in 4 Provinces in Indonesia. In each province the program was implemented in one district, and in each districts 4 puskesmas (community health center) were then selected.

In July 2004 the program was socialized to the selected districts and puskesmas, and during July to September 2004 the midwives and kaders (community volunteers) were trained. But because of technical and policy issues the drug was not successfully purchased by MOH until the beginning of December 2004. So there was a 3 month gap between the training and the receiving of drugs by district MOHs. Fortunately, the district MOHs have instructed the

midwives coordinator in each puskesmas to refresh the knowledge and skill of other midwives, and then the midwives refresh the knowledge and skill of kaders they supervised.

In Bandung district, West Java province, there is one puskesmas, namely Ciparay puskesmas (4 villages) that implement the demonstration program by using its own money and supported by district MOH budget.

The MNH program was closed at the end of September 2004. Since October 2004 there was no more technical assistance given from MNH / JHPIEGO. Consequently, the supervision and monitoring of the demonstration program have been fully under the responsibility of MOH.

Because the district MOHs had to put the drug into a specially designed package, so that effectively the program were started at the end of January or at the beginning of February 2005. Even in some puskesmas in Banyuasin district, the program were started at the end of June 2005.

In December 12, 2005, Central MOH conducted a meeting with all representatives from 5 District MOHs (4 Provinces) which are implementing the demonstration program. The purposes were to have reports about the results of the misoprostol implementation in each district, identify problems at the field and discuss the alternative solutions.

The meeting was also attended by an NGO: "International Organization for Migration", who wanted to know the possibility for supporting the implementation of misoprostol program in two districts in Aceh Province.

From the meeting some important informations were collected:

1. All districts have successfully implementing the program. But the starting time for each district is different. Banyuasin District in South Sumatra Province is the latest one.
2. Until October 2005, the drug have been distributed to 3,890 women.

3. From 1798 women who took the drug, no one took the drug before the birth of the baby.
4. The most frequent side effect is shivering, which is experienced by 91 women (5.1%).
5. Coordinator Midwives concluded that the program is more important and most effective in villages with no midwife (because most of the distributed drugs were used by the women, so that the recollection rate is low).
6. All districts reported that the number of deliveries attended by health providers is increase.
7. In Serang District, in addition to the increase of deliveries attended by health providers, they also had enough data to conclude that the number of PPH and maternal mortality cases were also decrease. Before the demonstration program (2004) there were 19 PPH cases and 7 maternal death in the demonstration areas, but during the demonstration program (end of October 2005) there were only 8 PPH cases and 2 maternal death.
8. In Ciparay, they have only 200 packages of drug, because they use they own money. So they ask that the central MOH can also help them with more drugs. They have also allocated Rp. 133,881,000 (\$ 14,092) for implementing the program in Cililin health centre (5 villages) in 2006.

CURRENT ACTIVITIES

Expanding the community based PPH prevention throughout the country especially in remote areas, to ensure that women who are unable to access or be accessed by skilled birth care providers are protected from PPH

References

1. Central Bureau of Statistics (CBS), 1991. *Household Health Survey 1991*, Ministry of Health, Jakarta, Indonesia
2. Central Bureau of Statistics (CBS), 1996. *Indonesia Demographic and Health Survey 1995*, CBS and Macro International and Calverton, MD.
3. Central Bureau of Statistics (CBS), 1998. *Indonesia Demographic and Health Survey 1997*, CBS and Macro International and Calverton, MD.
4. Central Bureau of Statistics (CBS), 2001. *Household Health Survey 2001*, Ministry of Health, Jakarta, Indonesia
5. Central Bureau of Statistics (CBS), 2003. *Indonesia Demographic and Health Survey 2002 - 2003*, CBS and Macro International, Calverton, MD.
6. Sanghvi H et al, 2004. Prevention of postpartum hemorrhage study, West Java, Indonesia. *Maternal Neonatal Health, JHPIEGO, Baltimore, Maryland, USA.*

Expanding Postpartum Hemorrhage Prevention at Homebirth in Indonesia

ORIGINALITY REPORT

24%

SIMILARITY INDEX

PRIMARY SOURCES

1	www.jhpiego.org Internet	357 words — 15%
2	www.mnh.jhpiego.org Internet	126 words — 5%
3	reprolineplus.org Internet	68 words — 3%

EXCLUDE QUOTES OFF
EXCLUDE BIBLIOGRAPHY ON

EXCLUDE MATCHES < 1%