



Management of Postpartum Hemorrhage with Misoprostol

Background/Rationale:

Post-Partum Hemorrhage – A Dilemma:

Postpartum hemorrhage is one of the leading causes of maternal mortality and morbidity in Pakistan. Blood loss exceeding 500ml at vaginal delivery and 1000ml at caesarean section is considered a primary post partum hemorrhage. However studies have shown that average blood loss at normal delivery is about 600ml. Blood loss is usually underestimated at uncomplicated delivery, PPH is divided into two categories based on the timing. Primary occurs within 24 hours of delivery and secondary PPH after 24 hours. Primary PPH is usually due to uterine atony which is failure of the uterus to contract and retract is called uterine atony, and is the most common cause of primary PPH, which accounts for more than 90 % of the cases. Uterine atony is seen in association with a number of conditions like multiparity; prolonged labor, incoordinate uterine activity, placental causes, uterine over distention, uterine inversion, chorioamnionitis, drugs etc.

Primary PPH is an acute and potentially fatal emergency and every second is important and may prove life saving. The management has two major components i.e. resuscitation of the patient and replacement of blood loss. Both aspects are equally important and must commence simultaneously. Poor, unhealthy, high parity women delivered away from health facility are actual victims. Delay in diagnosis, failure to employ sufficient medical and surgical treatment, poor team work, deficiencies in communication and transport, lack of infrastructure impedes transfer of patient to high level of care. Inability to stabilize a patient who is in hemorrhagic shock, rapidly result in death. Guidelines for management of spontaneous onset of labor, induction, and augmentation are needed specifically for low resourced setting. The prostaglandins (E1, E2, and F2 α) have been successfully used to control PPH. The prostaglandin E1 analogue, misoprostol is available in the form of tablets. The dosage varies widely and the routes of administration include rectal, oral, sublingual, and buccal.

Why Misoprostol:

Misoprostol is a potent uterotonic agent that leads to reduction in the incidence of post-partum hemorrhage. The suggested single dose is 400 to 600 micrograms given either orally or rectally¹ immediately following delivery of the child. Its demonstrated effectiveness in the prevention of post-partum hemorrhage is further enhanced by the fact that it is:

- In-expensive;
 - Easily available;
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- Convenient to use for it requires simple route of administration;
- Does not require special storage conditions i.e. it is thermostable, light stable, can be stored easily at room temperature, and does not require special conditions for transfer; and
- Has a prolonged shelf life spanning over several years.

In a country where many deliveries take place away from medical centres and under either no supervised care or that provided by non-qualified individuals, misoprostol comes forward as a useful drug for reducing the incidence of PPH. A study conducted at the Aga Khan University in 2010 on administration of Misoprostol by Trained Birth Attendants (TBAs) to prevent post-partum hemorrhage in homebirths, brought forward a significant reduction i.e. from 16.5 to 21.9% in the rate of PPH due to this drug².

In spite of the above, this new line of treatment has been unable to make inroads in the country's reproductive health sector. Launched in Pakistan in the year 2009 by Zafa Pharmaceutical Laboratories (Private) Limited as S.T.Mom, the nature, effectiveness, utility, dosage & administration of this drug is yet to be introduced to most of the health professionals in the country.

PNFWH-SGAFP project on “Management of PPH with Misoprostol”

PNFWH with support of SGAFP (USAID) initiated an intervention of training of health care providers on Management of PPH with Misoprostol. The aim behind this is to facilitate active management of the third phase of labor through provision of accurate and updated guidelines to the health professionals in the country, about the usage of this medication for the prevention and treatment of post-partum hemorrhage. The organization envisages a 25-30% reduction in maternal mortality associated with PPH in the selected target area, as a consequence of the proposed intervention.

Objectives of the Proposed Project:

To facilitate management of Post-Partum Hemorrhage (PPH) by training 2000 Health Professionals in the correct use of Misoprostol.

Project Beneficiaries:

Province	No. of Health Professionals
Sind	1,380
Baluchistan	620
Total	2,000

Note: The organization is targeting following cadres of Health Professionals:

- Medical Doctors – Gynecologist, Lady Doctors, & General Physicians;
- Midwives/Lady Health Visitors;
- Lady Health Workers.

Considering the same the group of beneficiaries will essentially comprise of females. However, in rural districts, majority General Physicians are male, who conduct deliveries with the help of female midlevel health care providers like Midwives.

In view of the same, 10-15% of health care professionals in the doctors' cadre may comprise of men.

Project Implementation Strategy:

The proposed 12-month long intervention will be implemented in the following manner:

Selecting Target Area:

- a) With a Maternal Mortality Rate (MMR) of 276 per 100,000 live births (PDHS, 2006-07) the situation throughout the country is one that requires immediate attention and urgent action. However things are somewhat far worse in certain areas as compared to the others.

Province	MMR
Baluchistan	785/100,000
Sind	278/100,000
KPK	275/100,000
Punjab	227/100,000

In light of the above data as shared by PDHS, 2006-07 Baluchistan & Sindh came forward as the obvious choice for the present intervention.

- b) Within each province selection of districts has been made on the basis of following parameters³:

Baluchistan: Stable law & order situation;

Sindh: Maximum damage incurred to health infrastructure due to Floods 2010.

Consequently, 13 districts – 05 in Baluchistan and 08 in Sindh have been selected for the proposed intervention.

Baluchistan	Sindh
Quetta	Karachi
Gawader	Thatta
Turbat	Badin
Lora Lai	Jamshoro
Sibbi	Umerkot
	Tharparkar
	Sanghar
	Mirpurkhas

Training Health Professionals:

- c) From within the domain of health professionals concentration will be placed on the following groups:
- Medical Doctors – Gynecologist, Lady Doctors, & General Physicians;
 - Midwives;
 - Lady Health Visitors;
 - Lady Health Workers.

While the organization plans on providing trainings to health professionals from both government⁴ and private health facilities; main focus will be placed on the staff working in the public health facilities. In this respect the organization plans on ensuring a 70:30 representation rate between participants from the public & private sector.

- d) Under the proposed intervention the organization plans on providing trainings to 2000 health professional through 01-day sessions, with each session catering to an average of 30 participants.

Considering the number of health professionals that have to be reached through this intervention, while at the same time ensuring adequate coverage of the identified groups the organization plans on holding an absolute minimum of 03 sessions per district. These sessions will be so designed so as to focus on:

Session I: Medical Doctors – Gynecologist, Lady Doctors, & General Physicians;

Session II: Midwives & Lady Health Visitors;

Session III: Lady Health Workers.

Additional sessions will be planned in districts having more population concentration and consequently more health professionals. Considering the same, an estimation of the number of training sessions that will be held is given as under:

Sind/Districts	No. of Sessions	Baluchistan/Districts	No. of Sessions
Karachi	12	Quetta	08
Thatta	06	Gawader	04
Badin	06	Turbat	03
Jamshoro	04	Lora Lai	03
Umerkot	04	Sibbi	03
Tharparkar	04	-	-
Sanghar	06	-	-
Mirpurkhas	04	-	-
Total	46		21

- e) To ensure that health professionals from the government facilities are fully on board, Letter of Support from Health Departments Sindh and Baluchistan has been obtained.

Upon commencement of project, Letter of Support along with list of related staff in concerned facilities will be obtained from EDO Health in each district. Whereas, list of related staff in private health facilities will be obtained from the Society of Obstetrician and Gynecology and Pakistan Medical Association Network, for according to the organization private practitioners are registered thereat. In this reference an attempt will be made by the organization to give preference to those who are working in relatively impoverished areas and are therefore more in contact with those belonging to the lower socio-economic strata.

- f) All possible efforts will be made by the organization to conduct training sessions in a government health facility like DHQ or THQ. Only in event of unavailability of the same will an external premises be arranged for the purpose.
- g) Each training session will focus on the following:
- Clinical assessment of a women in labor;
 - Information about medicine;
 - Correct usage and dosage;
 - Potential complications; and
 - Management of side effects.

For Midwives, LHWs & LHVs exposure visit to the labor room will also form part of the training. Moreover, these women will also be made cognizant of the role of Misoprostol in the prevention of PPH. They will be advised to counsel the concerned women to take this medicine during labor and prior delivery as a preventive measure.

Assessing Effects:

- h) Effectiveness of the imparted trainings will be appraised by a third party, preferably a research institute having expertise in and experience of undertaking evaluations of health related interventions.

The said institute/organization/firm brought on board from the very inception of the project will adopt a three-pronged approach for the purpose:

- (i) **Ascertaining Knowledge:** Each training session will begin and end with a test of the participants' understanding and knowledge about the medicine. Especially designed forms will be used to determine if the given exercise has been successful in removing myths & misconceptions and transferring accurate and updated information to the concerned.
- (ii) **Analyzing Attitudes:** Gynecology Departments at DHQs and THQs will form the subject of focus in this case. Data obtained from the said departments 03 months prior to and after the trainings will facilitate in the assessment of (a) changing attitudes/trends among the health professionals, and (b) efficacy of the drug in preventing and/or reducing PPH.
- (iii) **Examining Practices:** Random selection of 30% of the participants will be carried out with the objective of analyzing the record of cases dealt by them post training, so as to detect adoption of Misoprostol as a drug of choice in active management of third stage of labor.