



Postpartum Hemorrhage

Module 10

Postpartum Hemorrhage (PPH)

Session Objectives:

By the end of the session, participants will be able to:

- Define PPH and types of PPH
- List the causes of PPH
- Describe WHO recommendations for management of PPH



Causes of Maternal Deaths (Asia Region)

Five complications arising directly from pregnancy account for more than 68% of maternal deaths:

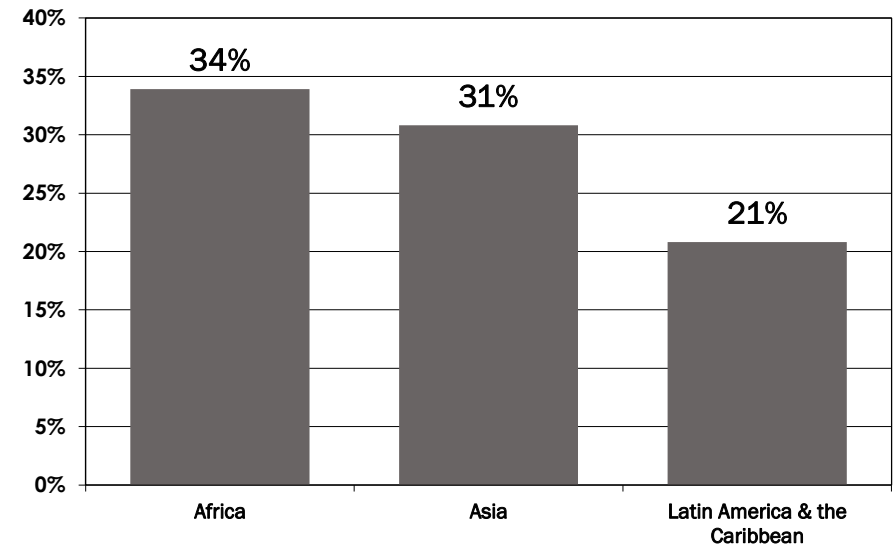
- Hemorrhage (31%)
- Infection (12%)
- Unsafe abortion (6%)
- Hypertensive disorders in pregnancy (9%)
- Obstructed labor (10%)

Source: Khan KS, Wojdyla D, Say L, et al. WHO analysis of causes of maternal deaths: A systemic review. Lancet 2006;367:1066–74.



PPH: A Leading Cause of Maternal Mortality

- Hemorrhage is a leading cause of maternal deaths
 - 31% of maternal deaths in Asia (an estimated 100,000 maternal deaths annually)
- 14 million women in developing countries experience PPH each year—26 women every minute



Sources: Khan et al., 2006; POPPHI, 2009; WHO. *Countdown to 2015 Decade Report, 2000–2010 : Taking Stock of Maternal, Newborn and Child Survival*. Geneva: WHO, 2010.



What Is PPH?

- PPH is blood loss > 500 mL in the first 24 hours after delivery.
- Severe PPH is blood loss of 1,000 mL or more.
- Accurately quantifying blood loss is difficult in most clinical or home settings.
- Many severely anemic women cannot tolerate even 500 mL blood loss.

Source: Global Health Council. Making Pregnancy Safer through Promoting Evidence-based Care. Washington, DC: Global Health Council, 2002.



Why Do Women Die from Postpartum Hemorrhage?

- We cannot predict who will experience PPH.
- In Pakistan almost 48% of women deliver without a skilled birth attendant (SBA) present (PDHS 2012–2013).
- 50% of maternal deaths occur in the first 24 hours following birth, mostly due to PPH.
 - PPH can kill in as little as two hours.
 - Anemia increases the risk of dying of PPH.
- Timely referral and transport to facilities are often not available or affordable.
- Emergency obstetric care is available to less than 20% of women.

Source: WHO. Countdown to 2015 Decade Report, 2000–2010 : Taking Stock of Maternal, Newborn and Child Survival. Geneva: WHO, 2010.



Types of PPH

Immediate PPH (primary PPH)

- PPH within the first 24 hours after childbirth

Delayed PPH (secondary PPH)

- PPH after the first 24 hours and before six weeks after childbirth



Causes of PPH

Remember the Four Ts:

- Tone: Atonic uterus
- Tissue: Retained placenta or placental fragments
- Tears: Cervix, vagina, or perineum
- Thrombin: Poor clotting



Diagnosis of PPH

Key Actions:

- Check for full bladder
- Check for uterine tone
- Check for retained pieces of placenta
- Check for any tears/lacerations
- Rule out bleeding disorders



Choice of Uterotonic Drug



Oxytocin (preferred)

- Fast-acting, inexpensive; no contraindications for use in the third stage of labor; relatively few side effects
- Requires refrigeration to maintain potency
- Requires injection (safety)



Misoprostol

- Does not require refrigeration or injection; no contraindications for use in the third stage of labor
- Common side effects include shivering and elevated temperature; less effective than oxytocin

Use of Uterotonics for Treatment of PPH

| DOSE AND ROUTE | OXYTOCIN | ERGOMETRINE/ METHYLERGOMETRINE | MISOPROSTOL |
|-----------------|--|---|--|
| Initial dose | <p>IM: 10 IU</p> <p>IV: Infuse 20 IU in 1 L IV fluids at 60 drops per minute until uterus is contracted (can use up to 40 IU/L)</p> | IM or IV (slowly): 0.2mg | <p>Prevention: 600 mcg orally (3x 200 mcg tablets)</p> <p>Treatment: 800 mcg (4 tabs) sublingually, or 1,000 mcg (5 tabs) rectally</p> <p>Do not give IV; woman already received 600 mcg orally</p> |
| Continuing dose | IV: Infuse 20 units in 1 L IV fluids at 40 drops per minute | Repeat 0.2 mg IM after 15 minutes. If required, give 0.2 mg IM or IV (slowly) every four hours. | NONE |
| Maximum dose | Not more than 3 L of IV fluids containing oxytocin | Five doses (total 1.0 mg) | 1,000 mcg per rectally |
| Response Time | 2 – 3 minutes | 6 – 7 minutes | 3-5 minutes |

Misoprostol

| Route | Onset of Action | Time to Peak Concentration | Duration of Action |
|--------------|------------------------|-----------------------------------|---------------------------|
| Oral | 8 minutes | 30 minutes | 2 hours |
| Sublingual | 11 minutes | 30 minutes | 3 hours |
| Vaginal | 20 minutes | 75 minutes | 4 hours |
| Rectal | 10 minutes | 20-65 minutes | 4 hours |



WHO Recommendations for Management of PPH

Steps:

- Initiate uterine massage as soon as uterine atony is identified
- Empty the bladder
- Give oxytocin 10 IU IM stat
- Start IV infusion (normal saline/Ringer's lactate) with oxytocin 20 IU, 60 drops/minute initially
- Continue oxytocin 20 IU infusion at 40 drops/minutes



WHO Recommendations for Management of PPH (cont'd)

- If intravenous oxytocin is unavailable, or if the bleeding does not respond to oxytocin, then use of intravenous ergometrine, oxytocin-ergometrine fixed dose, or misoprostol 800 mcg orally is recommended.
- Use of injection transamin is recommended for the treatment of PPH if oxytocin and other uterotonics fail to stop the bleeding or if it is thought that the bleeding may be partly due to trauma.



WHO Recommendations for Management of PPH (cont'd)

- Use of **bimanual uterine compression** is recommended as a temporizing measure until appropriate care is available.
- Use of **external aortic compression** is recommended if PPH is due to uterine atony after vaginal birth.
- **Manual removal of placenta** is recommended if PPH is due to retained placenta.

Uterine packing is not recommended for the treatment of PPH due to uterine atony after vaginal birth.



Symptoms of Shock Due to PPH

Hemorrhagic/hypovolemic shock resulting from acute hemorrhage is characterized by:

- **Hypotension systolic blood pressure < 90 mm Hg**
- **Tachycardia (pulse > 110 beats/minute)**
- **Scanty urine**
- **Pale, cold, and clammy skin**



What to Do If Patient Is in Shock

- Call for extra help
- Position woman on her left side, with legs higher than chest
- Insert an IV line
- Give fluids rapidly
- Keep the woman warm (cover her)
- Find out the cause and treat if possible
- Stabilize the patient and **refer her urgently to the hospital**



Comprehensive PPH Reduction Approach

PROMOTION OF COMPREHENSIVE PACKAGE OF INTERVENTIONS TO PREVENT AND MANAGE PPH

EDUCATION: Birth planning/complication readiness; promotion of ANC; encouragement of facility birth with skilled birth attendant

For Facility Births:

- Correct management of labor and birth, including partograph
- Routine administration of uterotonic immediately after birth (oxytocin preferred; alternatively, misoprostol)
- Uterotonic availability and quality
- Postpartum vigilance for PPH
- Proper management of PPH

During Transport:

- Initial dose of uterotonic
- Use of non-pneumatic anti-shock garment

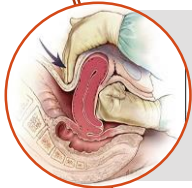
For Home Births:

- Education about PPH detection
- Education about use of misoprostol
- Advanced provision of misoprostol for self-administration after birth
- Education about what to do for continued bleeding

Key Messages



Be prepared: Every birth, every time



Contract the uterus: Remove retained placenta



Be vigilant: Monitor for shock



Continue care

Thanks!

