

## **PERINATAL AND MATERNAL MORTALITY:**

### **Perinatal mortality(PNM) :**

- also perinatal death, refer to the death of a fetus or neonate and is the basis to calculate the perinatal mortality rate : number of stillbirth after 24 weeks and deaths in the first week of life per 1,000 live births.
- \*preterm birth is the most common cause of perinatal mortality, causing almost 30% of neonatal deaths. Infant respiratory distress syndrome, in turn, is the leading cause of death in preterm infants, affecting about 1% of newborn infants. Birth defects cause about 21% of neonatal death.

### **FETAL MORTALITY:**

- stillbirths or fetal death. It encompasses any death of a fetus after 20 weeks of gestation or 500 grams. In some definitions of the PNM **early fetal mortality**(week 20-27 gestation) is not included, and the PNM may only include **late fetal death** and neonatal death.
- Fetal death can be divided into death prior to labour, **antenatal (antepartum) death**, and death during labour, **intranatal (intrapartum) death**.

### **NEONATAL MORTALITY:**

- **Early neonatal mortality:** death of a live-born baby within the first seven days of life.
- **Late neonatal mortality** cover the time after 7 days until before 28 days. The sum of these two represent the neonatal mortality.
- **Infant mortality rate:** Neonatal mortality and postneonatal mortality(covering the remaining 11 months of the first year of life).

### **PERINATAL MORTALITY RATE:**

- The PNMR refers to the number of perinatal deaths per 1,000 total births. It is usually reported on an annual basis. It is a major marker to assess the quality of health care delivery.

## **Cause of perinatal death:**

### **1.spontaneous preterm labour:**

- idiopathic
- preterm labour with chorioamnionitis.
- preterm prelabour rupture of the membranes
- cervical incompetence.

### **2.infections:**

- syphilis.
- amniotic fluid infection.
- malaria.

### **3.antepartum haemorrhage:**

- abruptio placenta
- placenta praevia.

### **4.intrauterine growth restriction:**

- idiopathic (maternal underweight, smoking, alcohol, or a cause unknown).
- Postterm (gestation beyond 42 weeks).

### **5.hypertension:**

- proteinuric hypertension(pre-eclampsia).
- chronic hypertension.
- Eclampsia

### **6.fetal abnormality:**

- subdivided into organ systems (e.g central nervous system) or multiple abnormalities.
- chromosomal abnormality(e.g Down syndrome).
- non-immun hydrops.

### **7.trauma:**

- stuck breech (hypoxia).
- assisted delivery(forceps or vacuum).
- ruptured uterus.
- motor vehicle accident or personal assault.

### **8.intrapartum hypoxia:**

- labour related (prolonged labour, cephalopelvic disproportion, hypertonic uterus).
- meconium aspiration.
- cord prolapse.
- cord around the neck (3 or more times).

### **9.maternal disease:**

- diabetes mellitus.
- cardiovascular.

### **10.unexplained intrauterine death.**

## **MATERNAL MORTALITY:**

- The distribution of causes of maternal death varies. Hemorrhage, for example, is the leading cause of maternal mortality in Africa accounting for 34% of maternal deaths, and also in Asia, where it accounts for 31% of maternal deaths.
  - In Latin America and the Caribbean, hypertensive disorders, causing 26% of maternal death, top the list of causes in developed countries, the most important cause of maternal death is "other direct causes"(21%), which includes complications during interventions such as those related to caesarean section and anaesthesia, followed by hypertensive disorders and embolism.
  - A maternal death is defined by the WHO as the death of women while Pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.
  - The definition includes deaths of women from pregnancy, termination of the pregnancy, spontaneous abortion, miscarriage and ectopic pregnancy, but it excludes deaths from assisted reproduction technologies where pregnancy has not occurred.
- ☒ **Direct deaths** result from obstetric complications of the pregnant state (pregnancy, labour and puerperium), from interventions, omissions or incorrect treatment, or from a chain of events resulting from any of the above. They are complications of the pregnancy itself example, eclampsia, amniotic fluid embolism, rupture of the uterus, postpartum hemorrhage).
  - ☒ **Indirect deaths** result from pre-existing disease or disease that developed during pregnancy and was not due to direct obstetric causes, but which may have been aggravated by the physiological effects of pregnancy(for example, heart disease, diabetes, renal disease).
  - ☒ **Incidental deaths** result from conditions occurring during pregnancy, where the pregnancy is unlikely to have contributed significantly to the death.
  - ☒ **Late maternal deaths** (defined as the death of a woman from direct or indirect obstetric cause more than 42days but less than 1 year after termination of pregnancy).

## **PRIMARY CAUSES OF MATERNAL DEATH:**

The most important subdivisions are:

### **1.abortion:**

- septic abortion.
- uterine trauma.

### **2. ectopic pregnancy.**

### **3.antepartum haemorrhage:**

- abruptio placenta.
- placenta praevia.

### **4.hypertensive disorders of pregnancy:**

- chronic hypertension.
- proteinuric hypertension.
- eclampsia.
- HELLP syndrome.

### **5.pregnancy related sepsis:**

- amniotic fluid infection with or without ruptured membranes.
- puerperal sepsis following delivery.

### **6.non-pregnancy related sepsis:**

- AIDS.
- pneumonia.
- tuberculosis.
- bacterial endocarditis.
- pyelonephritis.
- malaria.

### **7.pre-existing maternal disease:**

- cardiac disease e.g rheumatic valve disease.
- endocrine e.g diabetes.
- CNS e.g epilepsy.
- skeletal e.g kyphoscoliosis.

### **8.postpartum haemorrhage:**

- retained placenta.
- uterine atony.
- ruptured uterus.
- inverted uterus.

### **9.anaesthetic complication.**

### **10.embolism.**

### **11.acute collapse (cause unknown).**

### **12.non obstetric cause.**

- motor vehicle.
- assault.
- suicide.