**Family and Community Medicine Dept**

**Prof Dr Najlaa Fawzi**

**Fourth Grade/ 2018-19 (2ND term)**

**Maternal and Child health -2**

**MATERNAL MORTALITY**

**Objectives:**

-Define maternal death

- Describe the three delays model for maternal death

-Identify the causes of maternal death

-Recognize the measures for maternal mortality.

- Recall heads for prevention of maternal death, including Emergency obstetric care (EmOC).

**What is a Maternal Mortality?**

It is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of duration and site of pregnancy from any cause related or aggravated by the pregnancy or its management and NOT due to any accidental or incidental cause.

**Why do women die?**

Maternal deaths occur when women with life – threatening complications do not have timely access to emergency obstetric care. The delays may occur at one or more stages.

**Three Delays Model:** which identifies three groups of factors which may stop women and girls accessing the maternal health care they need:

**D1 Delay in decision to seek care due to:**

* + Lack of understanding of complications
  + Acceptance of maternal death
  + Low status of women
  + Socio-cultural barriers to seeking care
  + Previous poor experience of health care
  + Financial implications

**D2 Delay in reaching an institution that can provide emergency obstetric care [EmOC]. Due to**

* Distance to health centers and hospitals
* Availability of and cost of transportation
* Poor roads and infrastructure
* Geography e.g. mountainous ground, rivers

**D3 Delay in receiving adequate health care due to**

* Poor facilities and lack of medical supplies
* Inadequately trained and poorly motivated medical staff
* Poor facilities and lack of medical supplies

Solution for D1: Training community health workers and birth attendants.

Solution for D2: Providing reliable transportation and referral system.

Solution for D3: Setting up health facilities with trained personnel and equipments.

**Factors Identified in Maternal Mortality Categorized into four groups:**

**1.Reproductive Factors**

* Maternal age
* Parity
* Unwanted Pregnancy

**2. Obstetric Complications**

1-Hemmorrhage: APH, PPH, Spontaneous abortion

2- Ectopic pregnancy

3- Multiple pregnancy

4- Puerperal infection

5- Toxemia

6- Obstructed labour

7- Induced abortion

**3. Health Service Factors**

* Lack of access to maternity services

**•** Poor medical care

• Inadequate trained personnel

• Lack of essential supplies: drugs, Instruments.

**4-Socioeconomic Factors**

A. Status of women

* Low status
* Gender discrimination
* Unequal opportunity for nutrition, health, education.

B. Cultural practice

---Cultural acceptance of large family

--- Social status and NO. of children

----Traditional preference for boys

C-Requirement of permission to go to health care facility.

**CAUSES OF MATERNAL DEATH**

1-Direct Obstetric Deaths: are those resulting from obstetric complications of the pregnant state (pregnancy, delivery, and post-partum), from interventions, errors, incorrect treatment, or from a chain of events resulting, from any of the above.

Deaths due to, for example, hemorrhage, pre-eclampsia/ eclampsia or those due to complications of anaesthesia or Caesarean section are classified as direct obstetric deaths, they are usually due to:

one of five major causes- hemorrhage (usually occurring post-partum), sepsis, eclampsia, obstructed labour, or complications of unsafe abortion.

In developing countries [¾] of maternal deaths are due to direct causes.

2-Indirect Obstetric Deaths: are those resulting from previous existing disease, or diseases that developed during pregnancy, and which were not due to direct obstetric causes but aggravated by physiological effects of pregnancy.

Deaths due to aggravation of an existing cardiac or renal disease, malaria and anemia are indirect obstetric deaths.

On average, [¼] of maternal deaths in developing countries are classified as indirect causes.

**Measures of Maternal Mortality:** the number of maternal deaths in a population is essentially the product of two factors: the risk of mortality associated with a single pregnancy or a single live birth, and the number of pregnancies or births that are experienced by woman of reproductive age.

The Maternal Mortality Ratio: is defined as the number of maternal deaths in a population divided by the number of live births [per 100000]. It is representing the risk associated with each pregnancy, it is the obstetric risk.

The Maternal Mortality Rate: Is defined as the number of maternal deaths in a population divided by the number of women of reproductive age (usually 15-49years) [ per 100000].

Measured both the obstetric risk and the frequency with which women are exposed to this risk as well as the level of fertility in the population.

Adult life time risk of maternal death: probability of dying from amaternal causeduring reproductive life span take into account both the probability of becomingpregnant and the probability of dying as aresult of pregnancy cumulated acrossa woman’sreproductive years.

Almost half of all postpartum deaths take place within one day of delivery and 70% within 1st week.

**Preventing Maternal Deaths**

The 5 steps that a physician can take to prevent the large majority of maternal deaths are:

1.    Provide good antenatal care.  
2.    Conduct/supervise delivery in clean safe environment by a trained birth attendant.  
3.    Prevent prolonged labor; refer early any delay in labor (in primi gravida beyond 12 hours, and in multi parae delay beyond 8 hours) for appropriate management.

4.    Provide emergency care on time to women with postpartum bleeding and refer them early to hospital, (good referral system)

5.    Counsel couples on adopting contraception to avoid unnecessary pregnancies through contraception rather than taking route to unsafe abortion.

**Maternal mortality can greatly be reduced by ensuring prompt and quality obstetric care services supported with an equally effective family planning service.**

How obstetric care services and family planning services can reduce maternal mortality?

* Family planning services reduces mortality through reduction in proportion in high risk , unwanted , untimed , too early and to many pregnancies.
* Good obstetric care: reduces mortality and morbidity arising from complications during pregnancy and child.

As many of these complications are unpredictable, may occur at any time during pregnancy, child birth and post-partum period. Therefore every woman , irrespective of her risk status , may require emergancy obstetric care (EmOC).

**Emergency obstetric care (EmOC)** refers to the care of women and newborns during pregnancy, delivery and the time after delivery. Women in emergency situations must have access to EmOC, as it is essential to saving lives everywhere in the world.

**Components of basic EmOC include:**

❖ Treatment for sepsis

❖ Treatment for eclampsia

❖ Treatment for prolonged or obstructed labour

❖ Post-abortion care (PAC)

❖ Treatment for incomplete miscarriage

❖ Removal of the placenta

❖ Assisted delivery using forceps or suction.

* New born care.

**Comprehensive EmOC services include the services listed above, and also:**

❖ Surgery (specifically, Caesarean section)

❖ Anesthesia

❖ Safe blood transfusion observing universal HIV precautions

* Care for sick and LBW newborns.

4. Socioeconomic Factors