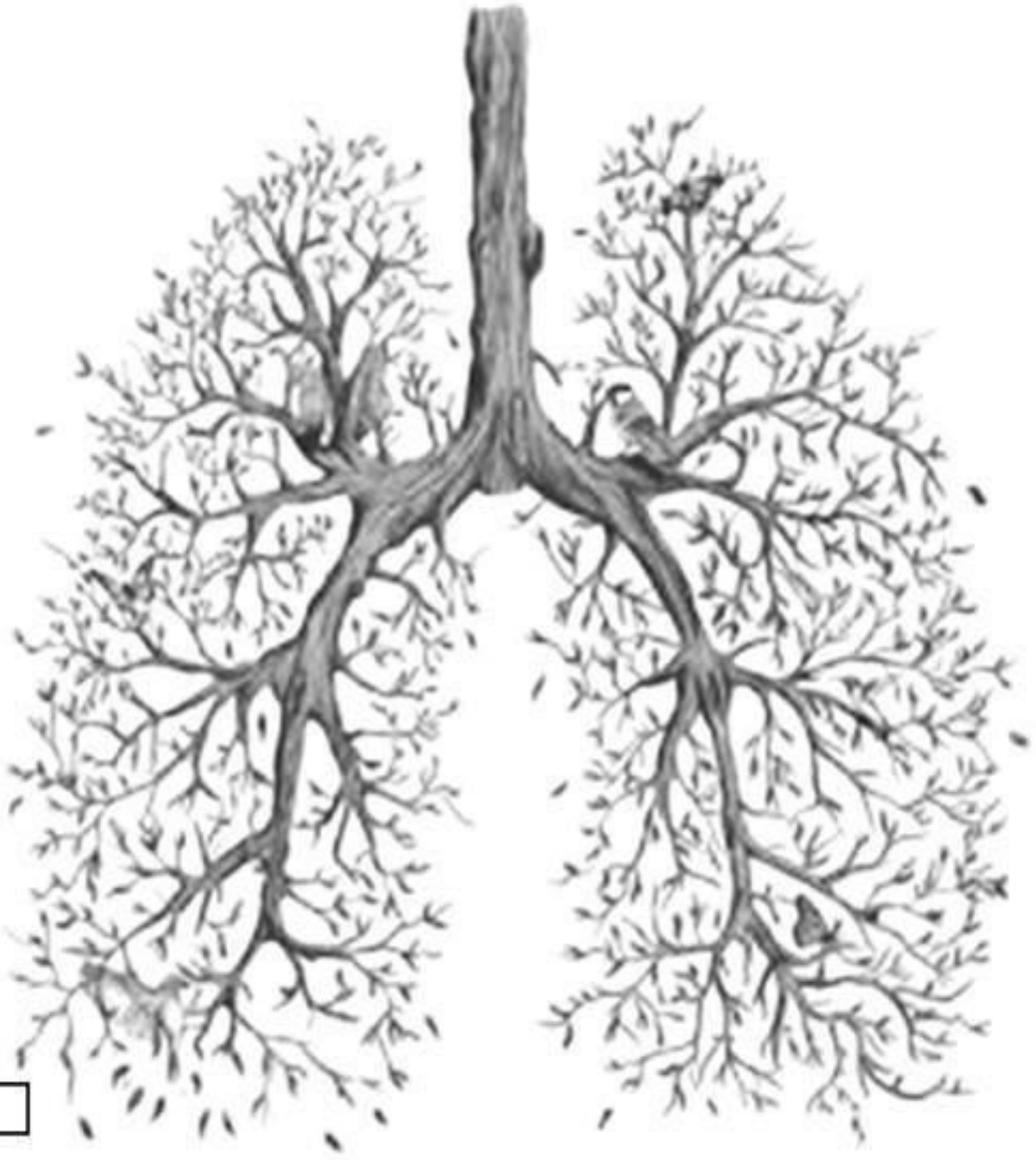
Medical Committee
The University of Jordan

Community Medicine



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Date: 3/10/2014 Done By: Raneem Badr

فلا تستطل في البلاء زمناً فكل المصيبات يوماً تغيب
وكن بالدعاء لحوحاً لحوحاً فقد أوشك السهم منا يصيب

Maternal Morbidity

Maternal Morbidity is very important because most of maternal mortality can be prevented if we could deal early enough with maternal morbidity.

•• **Maternal Morbidity \ Mortality**: any disease that happens during pregnancy, during labor or 6 weeks after labor (Postnatal).

In severe cases of Maternal Morbidity,complications would occur and then Maternal mortality would be the result.

Maternal Morbidity : Any departure, subjective or objective, from a state of physiological or psychologicalsocial maternal well-being; during pregnancy, childbirth and the postpartum period up to 42 days (6 weeks) after delivery, related to changes taking place in these periods.

Below we have the most frequently reported maternal morbidities "from the most to the least common" (taken from WHO's systematic review of maternal mortality and morbidity (2003) that covered all published and unpublished reports on maternal mortality and morbidities from 1997 to 2002.

Maternal Morbidities include:

1) **Hypertensive disorders**:Hypertension is the most common cause in the developing world and it is related topreeclampsia.

2) **Stillbirth**: the birth of an infant that has died in the womb (strictly, after having survived through at least the first 28 weeks of pregnancy, earlier instances being regarded as abortion or miscarriage).

3) **Abortion** (termination, miscarriage): the deliberate termination of a human pregnancy, most often performed during the first 28 weeks of pregnancy.

4) **Hemorrhage**: Bleeding

5) **Preterm delivery**: babies born alive before 37 weeks of pregnancy are completed.

6) **Anemia in pregnancy**: it is very common (2nd-3rdcause in Jordan and in the world).

** Maternal Mortality and morbidity are most common in the developing world.

7) **Diabetes in pregnancy**

8) **Ectopic pregnancy**

9) **Perineal tears**: is a system used to quantify the severity of trauma to the perineum during vaginal childbirth. Delivery may lead to overstretching of the vagina, causing tears in the perineal tissue between the vagina and rectum.

10) **Uterine rupture**

11) **Depression**: very common especially just after labor.

12) **Obstructed labor**: is the failure of the fetus to descend through the birth canal, because there is an impossible barrier (obstruction) preventing its descent despite strong uterine contractions.

13) **Postpartum sepsis**: potentially fatal whole-body inflammation (a systemic inflammatory response syndrome or SIRS) caused by severe infection. Bacteremia is the presence of viable bacteria in the blood. The terms septicemia and blood poisoning, referring to the presence of microorganisms or their toxins in the blood, are no longer used by the consensus committee.

** **Note**:We have to know the disease, the prevention and its prevalence(percentage %) in the developing world especially in Jordan.

HYPERTENSIVE DISORDERS OF PREGNANCY

Chronic hypertension is defined as blood pressure exceeding 140/90 mm Hg before pregnancy or before 20 weeks' gestation. When hypertension first is identified during a woman's pregnancy and she is at less than 20 weeks' gestation, blood pressure elevations usually represent chronic hypertension.

There are two types of hypertensive disease of pregnancy:

1) The essential hypertension: in which the woman already carries the disease before pregnancy and during pregnancy the disorder symptoms are exaggerated.

2) Pregnancy induced-hypertension or During-pregnancy hypertension: the woman does not have the disease before pregnancy. It is also known as Preeclampsia.

In contrast, new onset of elevated blood pressure readings after 20 weeks' gestation mandates the consideration and exclusion of preeclampsia. Preeclampsia occurs in approximately 5% of all pregnancies, 10% of first pregnancies, and 20-25% of women with a history of chronic hypertension.

Hypertensive disorders in pregnancy may cause maternal and fetal morbidity and remain a leading source of maternal mortality.

Hypertensive disorder does affect the growth of the fetal and causes retardation.

So Preeclampsia is a syndrome (after the 20 weeks) and it causes gain in weight, edema and hypertension.

Another point to mention is that Preeclampsia (abnormal reaction of pregnancy) is a disease of prime, which means it appears in the first pregnancy and rarely in the 6^{th} or 7^{th} pregnancy.

Although the exact path of the physiologic mechanism is not clearly understood, preeclampsia can be thought of as a disorder of endothelial function with vasospasm. (Fetal ischemia)

• Evidence also indicates that an altered maternal immune response to fetal/placental tissue may contribute to the development of preeclampsia.

Hypertensive disorder may cause maternal and fetal morbidity and it is a leading cause of maternal mortality (mainly in developing world)

RISK FACTORS

Maternal risk factors:

- First pregnancy
- New partner/paternity
- Age younger than 18 years or older than 35 years
- History of preeclampsia, personal history or family history

- Family history of preeclampsia in a first-degree \ relative
- Black race
- Chronic hypertension
- Secondary causes of chronic hypertension (inhormones)such as hypercortisolism, hyperaldosteronism, pheochromocytoma (metabolicproblems), or renal artery stenosis.
- Preexisting diabetes (type 1 or type 2), especially with micro vascular disease
- Renal disease
- Systemic lupus erythematous(SLE): it is an autoimmune disease(occurs in kidney, skin and joints).
- Obesity.

Anemia of pregnancy

It is number 2 cause for morbidity and it is most common in the developing world.

Anemia is defined during pregnancy as a hemoglobin (Hb) level below 11 Ogr/L (WHO, 1992).

During pregnancy, the Hb level is lower than normal, and it varies according to gestational age (the higher the gestational age, the more demand and accordingly the drop of Hb, so they are given Fe supply to protect them). Most women with Hb levels below this limit have normal pregnancies. Using the above definition, 20 to 50% of women(very common), and even more in some areas, are considered as anemic.

Note: Number 1 morbidity cause in Jordan is urinary tract infection.

PATHOPHYSIOLOGIC CAUSES

** **Note:** the volume of the pregnant women rises from 5.5L to 6L.

1) **HEMODILUTION**: Anemia during pregnancy can be thought of as a physiologic process of hemodilution; i.e. this anemia is relative and is not associated with a total decrease in oxygen carrying capacity.

2) **IRON DEFICIENCY** which is responsible for 95% of anemia of pregnancy
3) **FOLATE DEFICIENCY** due to Increased turnover or requirements of folate can occur during pregnancy – because of the transfer of folate to the fetus– and during lactation; giving rise to Megaloblastic anemia.Folate supplements are given during pregnancy.

Risk Factors:

- Women who don't use family planning system.
- Twin or multiple pregnancies (more Fe supplements).
- Poor nutrition, especially multiple vitamin deficiencies Smoking and some drugs, which reduce the absorption of important nutrients.
- Excess alcohol consumption, leading to poor nutrition.
- Any disorder that reduces absorption of nutrients.
- Use of anticonvulsant medications

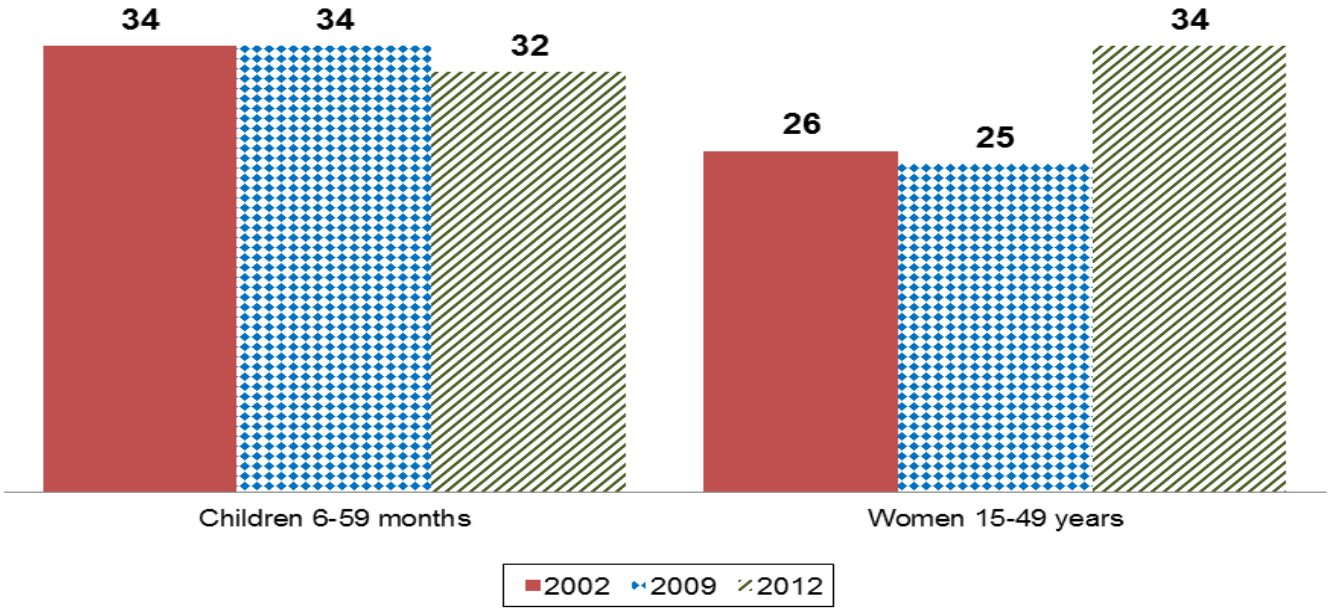
EPIDEMOLOGY

Region % of women Hb <11

- World 51
- Developing 56(important)
- Developed 18(important)
- Africa 52
- Asia (except Japan ...) 60
- Latin America 39
- North America 17
- Europe 17

Trends in prevalence of anemia, 2002, 2009 and 2012 in Jordan

- You have to memorise the numbers and the dates in this figure, for example, in 2009 the percentage of the women who have anemia in Jordan is 26% ... etc.



HEMORRHAGE DURING PREGNANCY (1st cause of maternal mortality in Jordan.)

- During pregnancy, during labor and after labor.
- Vaginal bleeding can be somewhat common in the first trimester. This can present as anything from light spotting to sever bleeding with clots. First trimester bleeding complicates between 20 and 30 percent of all pregnancies. Up to half of those who experience this may go on to have a miscarriage.
- Early bleeding may be a sign of an ectopic pregnancy. An ectopic pregnancy is one in which the fetus is not inside the uterus. Spotting not severe bleeding.
- Abortion:

  * Bleeding before 28 weeks of gestation.

  * Prematurity Labor

  * Labor before 36 weeks of gestation.

- Any vaginal bleeding during the last 6 months of a 9-month pregnancy is considered abnormal, and is most often associated with a problem with the PLACENTA. (2nd and 3rd trimesters)

There are several problems in the Placenta\uterus that can occur during pregnancy:

1) **Placentia previa** is a pathological condition in which the placenta completely or partially covers the opening of the womb (the cervix, i.e. the internal os) and some of the blood vessels of the placenta stretch and rupture. Placenta previa is seen in about 5'10 of pregnancies in the 2nd trimester and is rarely seen at term because most of cases resolve by reaching the term.

2) **Placental abruption** occurs when a normal placenta separates from the uterine wall prematurely and blood pools between the placenta and the uterus. (mortality is very high in this case)
3) **Uterine rupture** is a splitting open of the uterus and may also cause late-pregnancy bleeding. (vasectomy is needed)

Post-Partum Hemorrhage

Post-partum hemorrhage is the first death cause and it is very threatening especially if more than 1 liter of blood is lost.

- Any bleeding that results in signs and symptoms of hemodynamic instability, or bleeding that could result in hemodynamic instability if untreated, is considered PPH. Blood loss of greater than 1,000 mL with a vaginal delivery or a decrease in postpartum hematocrit level greater than 10% of the prenatal value also can be considered PPH.

Important causes of PPH:

1) Uterine atony, a condition in which the uterine corpus does not constrict properly, allowing continued blood loss from the placental site. (women who have many children , or multiple pregnancies -twins or triplets-)
2) Lacerations of the cervix and/or vagina.
3) Retention of part or the entire placenta.
4) Disorders of coagulation and thrombocytopenia.
5) Trauma during delivery.
6) Uterine inversion

RISK FACTORS

- Prolonged third stage of labor.
- Preeclampsia.
- Multiple gestations.
- Arrest of descent.
- Maternal hypotension.
- Coagulation abnormalities.
- Lacerations of the cervix, vagina, or perineum.
- Asian or Hispanic ethnicity.
- Delivery with forceps or vacuum.
- Nulliparity, multiparty (20-fold increase in risk), and polyhydramnios.

Gestational diabetes

Gestational diabetes is the 6^{th}- 7^{th} cause of morbidity. It is only detected during pregnancy.

Gestational diabetes mellitus (GDM) is defined as glucose intolerance that begins or is first detected during pregnancy.

RISK FACTORS

- Maternal age (more than 40 years old are under higher risk)
- Parity
- Previous Neonatal Death

EPIDEMIOLOGY

- Gestational diabetes is more common in older pregnant females; it is 1.5-3 times more in pregnant females older than 40 years (compared to younger pregnant females).
- Gestational diabetes is most common in ASIA (especially Northeast and southern Asia), and is least common in North America.
- Gestational Diabetes is less common in rural areas than in metropolitan areas; maybe because of differences in dietary trends.

PSYCHOLOGIAL MATERNAL MORBIDITY (Esp. DEPRESSION)

Postpartum emotional distress is fairly common after pregnancy and ranges from mild postpartum blues (affecting about 80~o of women), to postpartum depression or psychosis. Postpartum psychosis can pose a threat to the life of the mother or baby.

Mild postpartum blues is a temporary normal hormonal case (not a disease) that doesn't need to be treated. It lasts for a couple of weeks .If it lasts more than 2 -3 weeks and had an effect on the mother's life then it needs to be treated or , in severe cases, it will turn to be a severe depression case(especially if there is a past depression history).

Postpartum depression

Postpartum depression affects up to 34% of women and typically occurs in the early postpartum weeks or months and may persist for a year or more. Depression is not necessarily one of the leading symptoms although it is usually evident.

Other symptoms include exhaustion, irritability, weepiness, low energy and motivational levels, feelings of helplessness and hopelessness, loss of libido and

appetite and sleep disturbances. Headache, asthma, backache, vaginal discharge and abdominal pain may be reported.

Symptoms may include obsessional thinking (wrong ideas in her brain), fear of harming the baby or herself, suicidal thoughts and depersonalization.

The prognosis for postpartum depression is good with early diagnosis and treatment. More than two-thirds of women recover within a year. Providing a companion during labor may prevent postpartum depression. Once established, postpartum depression requires psychological counseling and practical assistance.

Management

The first step to be taken is the Psychotherapy (in depression and neurotic diseases).

- Provide psychological support and practical help (with the baby and with home care).

- Listen to the woman and provide encouragement and support. Assure the woman that the experience is fairly common and that many other women experience the same thing.

- Assist The mother to rethink the image of motherhood and assist the couple to think through their respective roles as new parents. They may need to adjust their expectations and activities.

- If depression is severe, consider antidepressant drugs, if available. Be aware that medication can be passed through breast milk and that breastfeeding should be reassessed.

- Care can be home-based or can be offered through day-care clinics. Local support groups of women who have had similar experiences are most valuable

** Note:

Neurotic diseases: the patient knows that he his ill (OCT, depression).

Psychotic diseases: The patient doesn't know that he is sick. He lives in a hallucination and delusion area.

When depression is not treated,psychosis will result. psychosis causes a loss of intact of reality, loss of awarenessand the mother wouldn't be able to take care of the baby.

Postpartum psychosis (SELF STUDY ☺)

Postpartum psychosis typically occurs around the time of delivery and affects less than 1% of women. The cause is unknown, although about half of the women experiencing psychosis also have a history of mental illness. Postpartum psychosis is characterized by abrupt onset of delusions or hallucinations, insomnia, a preoccupation with the baby, severe depression, anxiety, despair and suicidal impulses.

Care of the baby can sometimes continue as usual. Prognosis for recovery is excellent but about 50% of women will suffer a relapse with subsequent deliveries.

Management

- Provide psychological support and practical help (with the baby as well as with home care).

- Listen to the woman and provide support and encouragement. This is important for avoiding tragic outcomes.
- Lessen stress.

- Avoid dealing with emotional issues when the mother is unstable. If antipsychotic drugs are used, be aware that medication can be passed through breast milk and that breast feeding should be reassessed.

- Note: Antidepressants are taken only for 6 months.

أخي في الطبِّ اسمع من كلامي... لفوج من جموع اللاحقينا

إذا رمت النجاة فلا تفكر... بأن الطب درب الناجحينا

وخذ من بُرج ساعتنا يساراً... إلى الأعمال أرض القانعينا

ومن يمنحك من طب خلاصاً... فبايعه أمير المؤمنينا

أضحى مبارك

أعاده الله عليكم باليمن والبركة

Done by: Raneem Bader