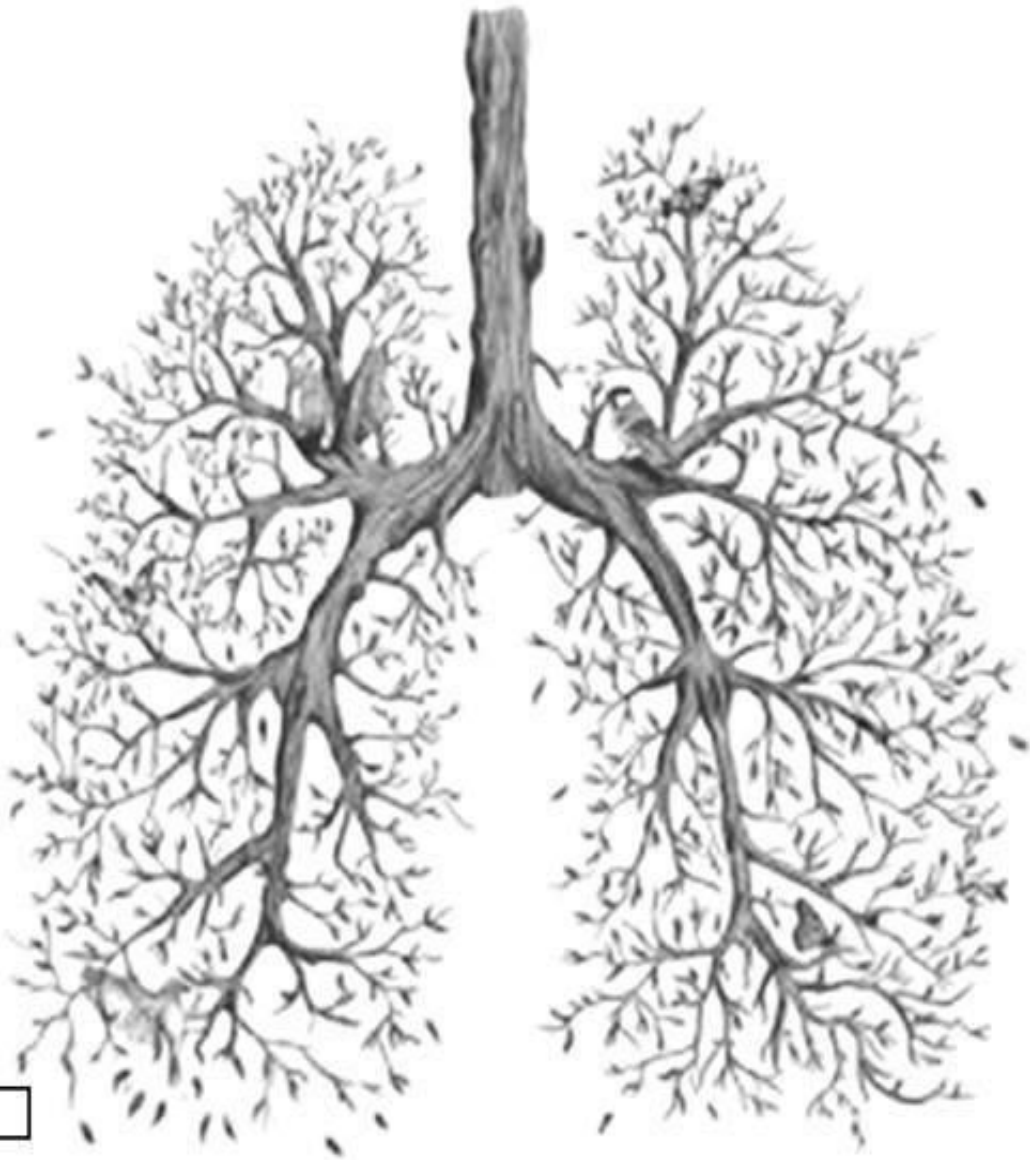




Medical Committee  
The University of Jordan

# Community Medicine



Slides

Sheet

Lecture # 10

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Date: 14/10/2014

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## Maternal morbidity and mortality in Jordan

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### Introduction to child health services .

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- **Common Causes of maternal morbidity in developing world:**

1. Hypertension becoming the first cause of maternal morbidity and there is two types of hypertension : essential (chronic) hypertension and pregnancy induced (preeclampsia).
2. Still birth

In Jordan you will notice that the causes are different because preeclampsia , still birth and other causes are prevented by proper antenatal care which has a coverage percentage more than 80% ( 80% of women are followed by antenatal care ). So it is not the main cause of morbidity as in other developing world.

Morbidity causes differ between developing and developed world because of the proper prevented antenatal care services.

**For example :** in developed world and Jordan preeclampsia it is not the number one cause of morbidity , because antenatal services help to detect hypertension and treat it early ( prevent it from entering the next stage which affect the kidney ( ketonuria) ) , so she will not reach syndrome of preeclampsia (they treat the hypertension and stop there ) , especially that it's a late pregnancy disease , so if it diagnosed and treated before the 20 week she will not go to preeclampsia .

**Remember :**  
**Preeclampsia**  
**is :**  
**hypertension**  
**+ ketonuria +**  
**edema**

**NOTE :** preeclampsia can be detected sometimes in developed world and Jordan but it is not the number one cause .

- **Causes of morbidity in Jordan (going from the most to least important) :**

1. **Urinary tract infections** : they are usually more common in pregnancy because of the enlargement of uterus , so it enters the urethra and causes stasis in the urine in urinary bladder , so the women is more susceptible for infections . especially if she has a gestational diabetes or chronic diabetes .
2. **Vaginal infections** : because her immunity is under a physiological stress .
3. **Anemia** : it is very common in Jordan ( up to 27% are anemic and in some studies previously it reaches 35% which is very common , so they put a policy to treat this problem ) \*\* we study the causes of morbidity and mortality in order to put priorities to treat and manage these causes , for example: anemia is very common , so

they put a policy that states that iron tablets and folic acid should be distributed for all the pregnant women as free in the governmental services and health centers. ( not private one ) .

4. **Early bleeding** : the main cause of early bleeding is abortion while late bleeding is caused by placenta either placenta previa or placental abruption .
5. **Hypertension.**
6. **Gestational diabetes** : chronic diabetes also is the cause number 6 in the morbidity and mortality around the world .
7. **Preeclampsia .**
8. **Late bleeding.**
9. **Multiple pregnancies**
10. **Kidney diseases .**  
( memorize the first 5 causes )

These causes are very important in morbidity because we can obtain the risk factor from them , and put the priorities of preventive services by depending on it , and the PHC services differ between countries because of the difference in the needs and funds that government can provide .

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## Results :

The study main finding indicated that the overall morbidity rate during all current pregnancy, delivery, and post partum ( maternal part ) , was 60.8%.

Morbidities ranged from mild conditions to severe conditions which are life threatening conditions .

The total morbidity rate during current pregnancy 41.6 % .

**20% >> labor and after labor .**

## **41% >> during the pregnancy .**

A total of 34.5% of women suffered at least from one morbidity during current labor and delivery . and during the current post partum 18.7%.

**So we conclude that its mainly during pregnancy , then delivery and post partum 18.7%.**

The rate of cesarean sections it is an important indicator because in Jordan the percentage of women who delivered in cesarean sections usually reflected the complicated pregnancy or there is a problem in the fetal stress .

**The more cesarean sections that we have ( in a country like Jordan ) >>> the more that we have a complicated pregnancy .**

So it is unassuring that the percent of the cesarean sections in the last survey ( 27.7% ) compared to previous reports where it was 18.5% . That mean that we have more complications in pregnancy .

The number of cesarean sections is used as an indicator in Jordan as people only resort to it when they have complications and they need to , however in USA , cesarean sections can be chosen optionally, so we don't use it as an indicator even though its rates are increasing. ( Elective cesarean section ) .

**Q : Why do we use cesarean section only in complication while in developed world it is elective ?**

Because we have complications from the surgery itself. The study which was published In 1995 about maternal mortality , they found that anesthesia which is used in a cesarean section is the second cause of death for the maternal mortality . While in USA anesthesia it is not any more a cause of death because they have a better services , a better staff and better equipment .

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**The prevalence rates of anemia at enrollment (beginning of pregnancy) and delivery were 20.1 % and 26.3% respectively .**

Although still high , these rates are well below previously reported national figures ( about 35% in 2002 , MOH)

And because of these high results in anemic pregnancies , they put a policy that iron and folic acid should be given routinely during pregnancy for all the women as free of charge .

**Q. What is the relation between mortalities and morbidities?**

Of course morbidities are more , because only complicated cases reach mortality . And the ratio between them is :

For every 16 morbidities we have one mortality

it should be noted that most cases of anemia were mild anemia ( they don't reach sever anemia ), their Hb levels are between 10-12gm/dl and only 6% of women having Hb levels less than 10gm/dl ( moderate anemia to severe ).

Urinary tract infections ( 20.2% ) and genital infections ( 19.4% ) were the commonest morbidities during current pregnancy .

**Maternal mortality in world (WHO) reflects developing world mainly :**

**1. Severe bleeding (25% )** and it is same in Jordan ( it is similar to developing world regarding the cause and not the percentage.)

**2. Infections**

**3. Abortion**

**4. Preeclampsia** ( its percentage withdraw because of preventive antenatal care services ), if diagnosed early it prevents it from reaching the late stages of pregnancy.

**Indirect causes of mortality: which isn't caused by pregnancy , it existed before pregnancy and it increases with it and it causes up to 20% of mortalities.**

**Eg :**

Preeclampsia : direct cause

Gestational diabetes : direct cause .



Cancer : indirect cause .

Severe anemia : indirect ( it increases by pregnancy )

Malaria or hepatitis : indirect .

We have to know that  $\frac{3}{4}$  of maternal death are due to direct complications such as : ( severe bleeding , infections , unsafe abortion , hypertension , preeclampsia , obstructed labor )

Women also die because indirect causes aggregated by pregnancy such as malaria , diabetes , hepatitis , and anemia.

Maternal Mortality by region (global wise) : it ranges from 13 in developed world to 940 in Sub Sahara and Africa (per 100,000) . Which is still a high range , but it is lower than the range before these preventive services.

Over 99% of maternal mortalities happen in the developing world .

**In Asia and Africa while high quality accessible health care has maternal death a rare event in the more developed countries (22.00)**

The lack of such health care has fatal consequences for pregnancy .



In Jordan : this study was made in the mid of nineties (20 years ago) it shows that :

1. Preeclampsia was the number one cause of death .
2. Anesthesia complications : that is why the policy states that cesarean sections should be done only for severe or indicated cases .
3. Hemorrhage .

In the newest study (in 2008 ) :

Preeclampsia it is not the main cause of mortality anymore, because of preventive antenatal care and the follow ups for the mother and it is considered as an Indirect cause of mortality .

There were goals for the conference which established in nineties :

1. Reduce the mortality rate from 41 to 12 in 2015 ( 70%) .  
The last study of mortality recorded 18 , so it dropped from 41 to 18.
2. Increasing Contraceptive prevalence : in the last 10 years the increase was less than previous years because parents choose not to use it , they are satisfied for 3 or 4 children , they don't want less (an unmet need).

In some communities there is a policies which determine the number of children , for example : after the second child , you have problems , you have to be taxed , you have to be educated , you have to be for medical insure .

But here in Jordan we can't apply a certain policy to restrict the amount of children a family can have as there are a religious and social rules, even if the economy is dropping.

3. Adolescence birth rate : as it is increasing, the maternal mortality will increase because it is a risk factor.
4. Antenatal coverage : has increased by years.

Their target was the reduction of maternal mortality rate by three quarters between 2000 and 2015 (reduce the mortality from 41 to 12 per 100,000)

In this period, the percentage has dropped in both the developing and developed worlds but there is a lot of difference between the developed world and developing world. This drop indicates better antenatal care and preventive services.

In Jordan it dropped from 41 to 19.1 but we might not reach 12 in 2015.

When we compare Jordan to other Arab world we will see that we are doing very well as we have less money.

UAE >> similar to the most developed countries  
Sudan >> 1000 mortality ( very bad).

This indicates that poverty affects the mortality and morbidity rates which shows from the differences from the developing and the developed countries.

- **Direct Causes of maternal mortality in Jordan**

( وفقاً لمجلس السكان الأعلى ) :

1. hemorrhage .
2. thromboboilsim ( الجلطات ): in brain , heart , lungs
3. septicemia as an infection

- **Indirect causes of maternal mortality ( 20% ) :**

1. Cardiovascular diseases (10%)
2. CNS diseases and cerebrovascular accidents (8%)
3. Communicable diseases (5%)
4. Chronic anemia (1.3%)
5. Kidney failure (1.3%)

## **Child health services.**

### **\*3 stages of CHS (from delivery to first year) :**

1. **Perinatal** : week before birth and week after birth , and this period is very important .
2. **Neonatal period** :-- early neonatal : first week after birth
  - Late neonatal : first month after birth
3. **Infant period** : first year .

After these three stages , there is a period from first year to 5 year , and there is a coverage to monitoring the growth and development of baby by a clinic called "Well baby clinic", ( in developed world they continue these services until the age of 21 but in less frequency ).

**In first year they follow up every 2 months .**

**In second year ever 3 months .**

**And then every 6 months .**

In some formulas for childhood is up to 21 years , although there is an adolescence period from 9 to 19 .

- **Early childhood from 0 to 5 years .**
- **Late childhood from 9-19**

The most important goal for well baby clinic to monitor growth and development

**Q : What is the difference between growth and development?**

- **Growth** : height , weight (size wise) ..
- **Development** : concentrate on the development of skills ( when he start smiling , talking , setting , standing..etc

**Nutrition** is very important for children , and they have special needs because they are growing.. whether it is child or pregnant nutrition.

**Health education** : we have to educate the women especially if she is dealing with a baby for the first time , and even second time because each baby has it is own problems .

The period which is before school and after first year are called day care centers in developed world , in where they are responsible completely about the child , his vaccinations , nutrition , follow up the development ,growth , >> **all of that in these centers .**

In developing world there are no centers that care about the medical aspect of the child's health , so we depend on well baby clinic centers ( the main source of care of babies who are less than 5 years here in Jordan )

While in developed world they have the day care centers, in which they follow up everything for the child .

School health : from 6 -18 , and it should follow the health of children but in our country it is very rare .( just for acute cases and screening, not a proper school health).

Adolescence care (youth clinic): in where they take care of children between 12-18,

And we can't find these clinics in Jordan , but it exists in developed world to deal with many things such as family planning services for the girls who are at the age of puppetry and they start their sexual life , psychological counselors ( it is very important ).

Handicap children : physically and mentally handicapped , they have to be followed by special centers and we are still behind these services .

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Special thanks for Aseil khatib 😊

( عندما نعيش لذواتنا فحسب ، تبدو لنا الحياة قصيرة ضئيلة ، تبدأ من حيث بدأنا نعي وتنتهي بانتهاء عمرنا المحدود ، أما عندما نعيش لغيرنا - أي نعيش لفكرة - فإن الحياة تبدو طويلة عميقة ، تبدأ من حيث بدأت الإنسانية وتمتد بعد مفارقتنا لوجه هذه الأرض ، إننا نربح أضعاف عمرنا الفردي في هذه الحالة ، نربحها حقيقة لا وهماً ، لأن الحياة ليست شيئاً آخر غير شعور الإنسان بالحياة ! . )  
آمن بفكرتك ، وعش لها ، وسخر - طبك وعلمك- من أجلها.

لا تنسوا المسجد الأقصى من دعائكم في هذه الأيام  
زميلتكم : تقى الغزاوي .

