
Maternal and Child Health

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Pre-Seminar MCQs

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Objectives

- Health behaviors and health systems indicators that affect the health, wellness, and quality of life of women, children, and families.
- Factors affecting pregnancy and childbirth, including preconception health status, Age, access to appropriate preconception and interconnection health care, and poverty
- Health risks that include hypertension and heart disease, diabetes, depression, genetic conditions, sexually transmitted diseases (STDs), inadequate nutrition, unhealthy weight, tobacco use and alcohol abuse
- Social and physical determinants of maternal health
- Social and physical determinants of infant and child health
- How to improve the health and well-being of women, infants, children, and families

Definitions:

- **Maternal health** is the health of women during pregnancy, childbirth,
- **Health indicators** are: variables that reflect the state of health of persons in a community. (Oxford Dictionary of Epidemiology). They inform about the quality of healthcare, and access of health care, and they are considered as quantitative measures.

Health indicators used for:

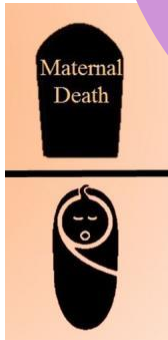
- Assessing the health care needs.
- Comparing health status of different areas or groups of people over time, one country with other countries or worldwide.
- Monitoring and evaluation of health services, activities and programs-access, quality, effectiveness and equality.



Health Systems Indicators (Maternal)

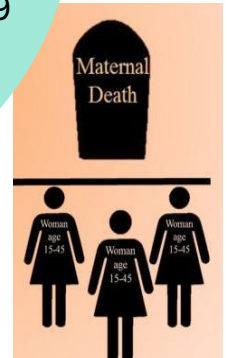
Maternal Mortality *Ratio*

The maternal mortality ratio is obtained by dividing the number of maternal deaths in a population during some time interval by the number of live births occurring in the same period



Maternal Mortality *Rate*

is found by dividing the average annual number of maternal deaths in a population by the average number of women of reproductive age (typically those aged 15 to 49 years) who are alive during the observation period.



Health Systems Indicators (Maternal) cont.

Lifetime Risk of Maternal Mortality

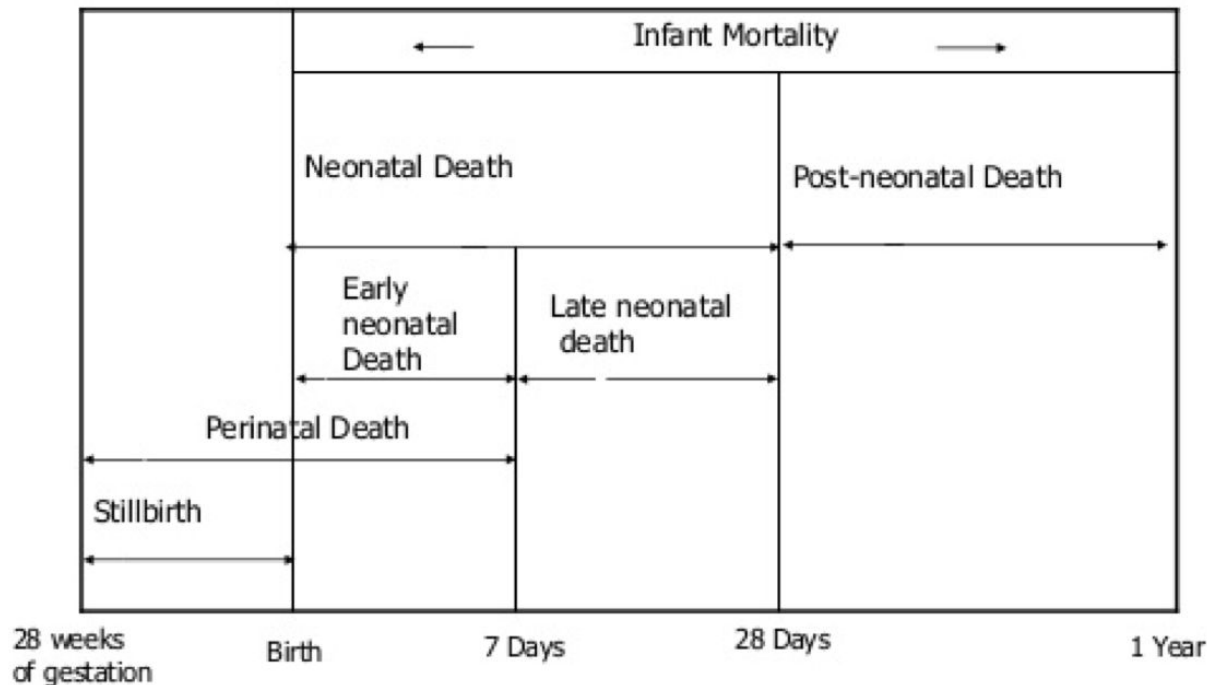
Number of maternal deaths over the reproductive life span) / (women entering the reproductive period)

Proportion Maternal Death

proportion of all female deaths due to maternal causes = (N of maternal deaths in a period/Number of all female deaths in same period) * 100

Health Systems Indicators (Infant) cont.

MORTALITY IN AND AROUND INFANCY; TERMINOLOGY



Health Systems Indicators (Infant) cont.

Perinatal Mortality rate

Deaths between 28th week of gestation to less than 7 days of life expressed as per 1000 of total births (live and still)

Reflects maternal health status, quality of maternal care and obstetric services

Neonatal Mortality rate

Deaths in the first 28 days of life expressed as per 1000 of total live births.

Reflects primarily quality of obstetric care and neonatal care as well as maternal nutrition and health status

Health Systems Indicators (Infant) cont.

Post neonatal Mortality rate

Deaths between 28 days of life to less than 1 year expressed as per 1000 of total live births.

Reflects infants' health care, nutrition and sanitation of the environment

Under-5 Mortality

Deaths below 5 years expressed as per 1000 of the number of children below the age of 5 years.

Role Play

Preconception Counseling



Factors Affecting Pregnancy and Childbirth

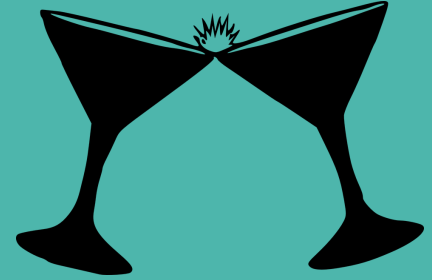
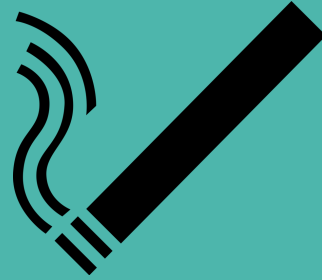
Maternal health and fetal development	<ul style="list-style-type: none">•Maternal nutrition•Smoking•Drinking•Diseases (GDM, thyroid diseases , infections ...etc.)•Drugs•Maternal age•Prenatal care
Pregnancy and childbirth	<ul style="list-style-type: none">•Preconception•health status•Age•Access to appropriate preconception•interconception health care• Poverty

1- Preconception

A) Maternal behaviors like : Tobacco use , alcohol use , failure to consume adequate folic acid.

B) Other conditions like : unintended pregnancy , experiencing physical abuse , experiencing high levels of stress.

C) Certain maternal health conditions like : Diabetes , hypertension , obesity.



2- Age

- The chances of surviving the first year of life were better for infants born to mothers aged **20-34** years than for those born to mothers of other ages.
- The most favorable survival rates were among first births to mothers aged 20-24 and among first and second births to mothers aged 25-29.
- Your risk of **pregnancy complications**, such as high blood pressure and gestational diabetes, increases after 35 and continues to rise in your 40s. The odds of genetic problems also jump as you get older: At 40, your chance of conceiving a child with Down syndrome is one in 100; at 45 it's one in 30.



3- Preconception & Interconception Health Care

Preconception health care :

is the medical care a woman or man receives from the doctor or other health professionals that aimed to increase the chance of having a healthy baby.

Interconceptional health care:

interconception health involves helping a woman understand the importance of being healthy between pregnancies and the need to wait at least 18 months before becoming pregnant again to help optimize birth outcome.

4- Antenatal Care

is the care you receive from healthcare professionals during your pregnancy.

1- folic acid and vitamin D supplements

2- nutrition, diet and food hygiene

3- lifestyle factors : smoking, recreational drug use and drinking alcohol

4- antenatal screening tests

5- if you've had any complications or infections in a previous pregnancy

6- if you're being treated for a chronic disease.



5- Poverty

1- increased total fertility rates, unintended or teenage pregnancy and being a single mother

2- living in poverty were more likely to smoke, to have poorer dietary habits, lower levels of education, and engage in higher risk and health-demoting practices

3- overall excess mortality risk was approximately 60% compared with infants born to women living above the poverty level.



6- Access to Preconception and Interconception Healthcare:

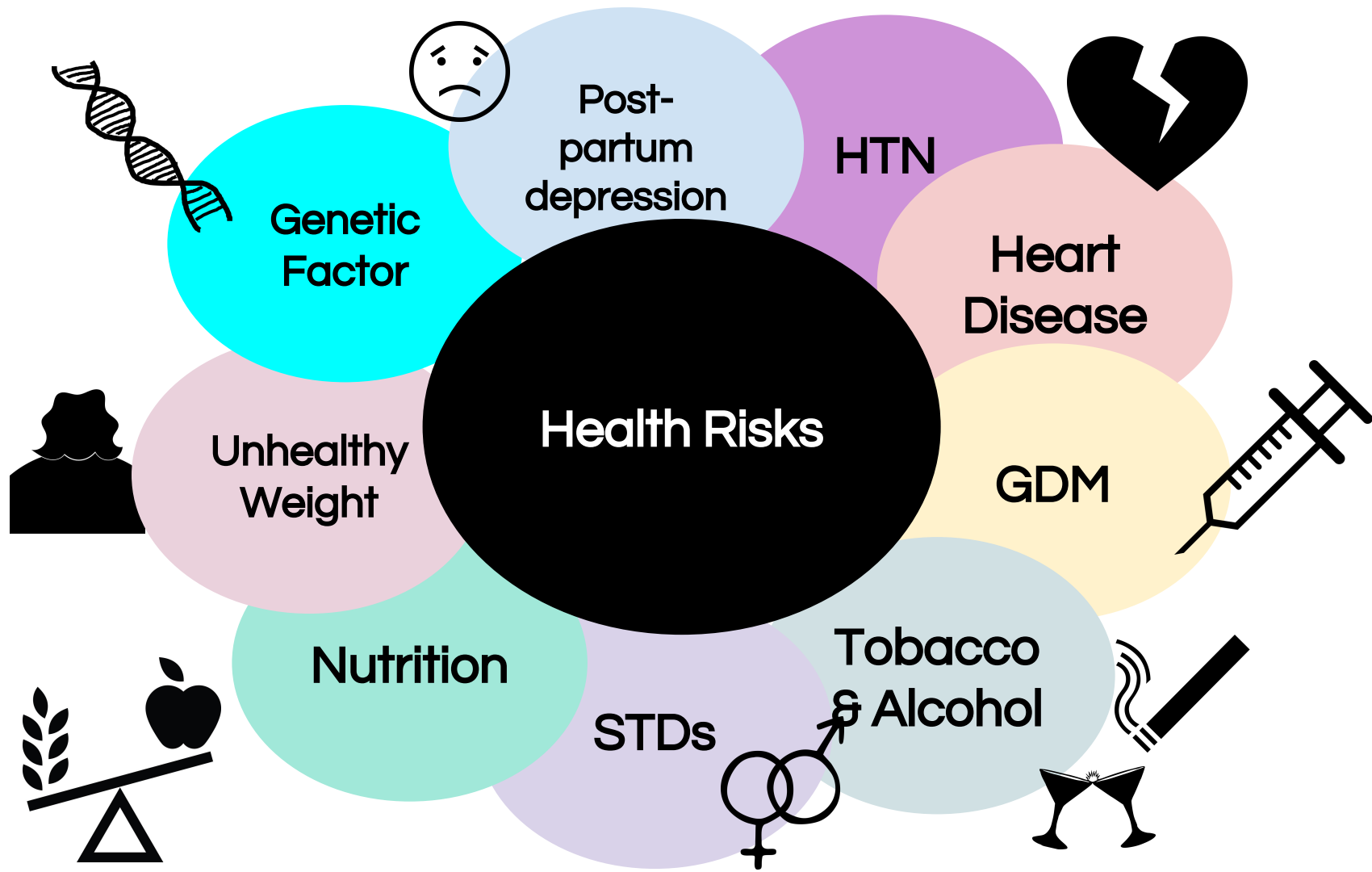
1- Talking to a health-care provider before becoming pregnant at least 6 months.

- Why?

- Because a woman might have a subsequent pregnancy, services in the postpartum period

2- accessing services such as the Special Supplemental Nutrition Program for Women, Infants, and Children.





most common medical problem encountered during pregnancy, complicating 2-3% of pregnancies.

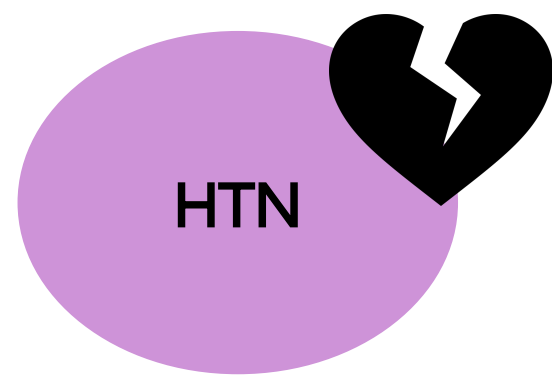
*Complication:

Preeclampsia : high BP and signs of damage to another organ system (proteinuria) , usually after 20 weeks of pregnancy

Why is high blood pressure a problem during pregnancy?

- Decreased blood flow to the placenta
- Placental abruption
- Premature delivery
- Future cardiovascular disease

Failure to thrive, seizures, , lack of energy, and difficulty in breathing can be associated with hypertension in neonates





Heart Disease

Leading Cause of maternal death worldwide.

- Myocardial infarction
- Cardiomyopathy
- Rheumatic heart disease
- Congenital heart diseases.

GESTATIONAL DIABETES MELLITUS:

- is when a woman **without** diabetes, develops high blood sugar levels **during** pregnancy
- Approximately 7% of all pregnancies are complicated by GDM more than 200,000 annually.
- in gestational diabetes, blood sugar usually returns to normal soon after delivery. But you're at risk for type 2 diabetes.

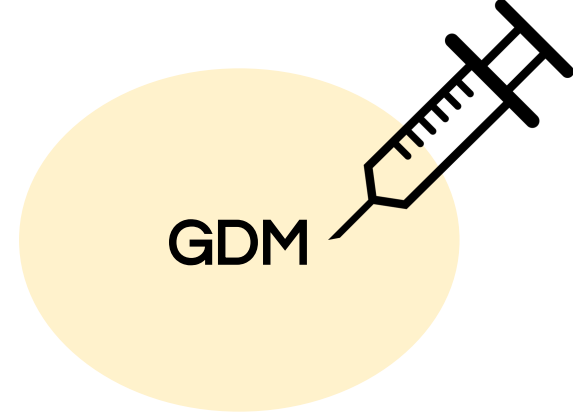
Risk factors?

- 1-Age greater than 25
- 2-Excess weight (30 or higher BMI)
- 3-Family or personal health history.

Complication

Mother: Future DM - preeclampsia

Baby: high birth weight - Preterm birth with respiratory distress syndrome
– low Blood sugars





Tobacco & Alcohol

ALCOHOL DRINKING IN PREGNANCY:

- Can pregnant women drink small amount of alcohol or beer?

Why?

There is **No** known safe amount of alcohol use during pregnancy. All types are equally harmful, including all wines and beer. When pregnant women drinks alcohol so does her baby.

Alcohol in the mother's blood passes to the baby through the umbilical cord

Complication of drinking alcohol during:

- **miscarriage, stillbirth**
- **abnormal facial features**
- **Growth and central nervous system problems**

SMOKING:

•Why is it so dangerous to smoke during pregnancy?

Cigarette smoke contains more than 4,000 chemicals, including truly nasty things like cyanide, lead, and at least 60 cancer-causing compounds. When mom smokes during pregnancy, that toxic brew gets into her bloodstream, her baby's only source of oxygen and nutrients.

•Smoking effect:

- harder for a woman to get pregnant.
- placenta can separate
- Sudden Infant Death Syndrome
- Cleft lip or cleft palate

•Second smoke effect:

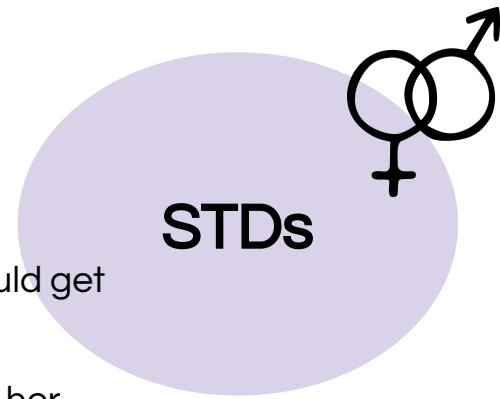
baby who weighs less.

Ear infections AND asthma attacks



Tobacco
& Alcohol

SEXUALLY TRANSMITTED DISEASES



1-Perinatal HIV/AIDS

It recommends that all women who are pregnant or planning to get pregnant should get tested for HIV as early as possible.

•If a woman is treated for HIV early in her pregnancy, the risk of transmitting HIV to her baby can be 1% or less.

How to lower the risk of transmitting HIV from the mother to their babies?

HIV medicines

Cesarean delivery

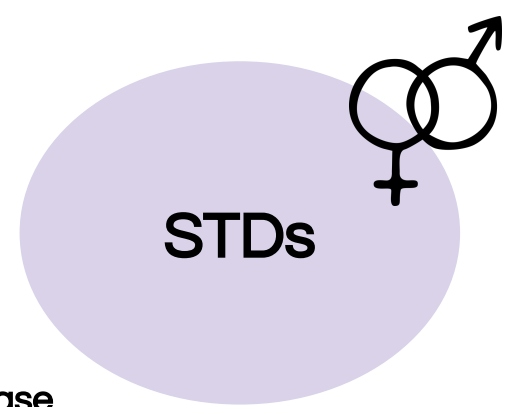
2- Chlamydia :

Most women have NO symptoms and it is **Easy to cure**

Chlamydia lesions on genitals are highly contagious and infect the baby during labor

The risk **in** pregnancy : early delivery, eye infection or ectopic pregnancy.

SEXUALLY TRANSMITTED DISEASES



3-Gonorrhea

- The risk **in** pregnancy :miscarriage, preterm birth
- The risk **before** and **after** pregnancy if untreated : cause pelvic inflammatory disease
- Gonorrhea in newborns most commonly affects the **eyes**

•4-Syphilis:

- Typically occurs during second half of pregnancy
- May be transmitted to baby by infected mother.
- linked to premature birth, stillbirth.
- death in some cases

•5-Herpes simplex virus:

- Herpes is safe in pregnant women until she get ready to deliver.
- Herpes lesions on genitals are highly contagious and infect the baby during labor

POOR NUTRITION

malnutrition: fail to gain weight in pregnancy Mother die while pregnant

Baby : low-birth weight - restricted fetal growth

Micro nutrition: Iron : Preterm birth

and anemia (risk of death from bleeding during childbirth)

Calcium: prevent baby to draw calcium from his mother bone.

Baby :

Folate : neural tube defect

Calcium: poor skeletal development

Iron: low birth weight



A women weight before and during pregnancy are important indicators of health for both mother and child.

Recent studies showed **overweight** or **obese** before pregnancy associated with a **higher** pregnancy complication.



**Unhealthy
Weight**

more than 50 percent of miscarriages in the early stages of pregnancy are due to **abnormalities** of the chromosomes



**Genetic
Factor**

Social and Physical Determinants of Maternal and Child Health

It is increasingly being recognized that health outcomes are a result not only of biological and individual risk factors but also of other factors like social and physical factors.

- **What is the difference between social & physical factors?**

Social: wealth, ethnic background, gender and education.

Physical: age, parity knowledge of services, previous obstetric history

1- Biological Determinants:

- Birth weight : low birth weight (< 2.5 kg) & high birth weight (> 4 kg)
- Age of The Mother
- Repeated pregnancies (risk of miscarriage)
- Birth Spacing: < 1 year = 2-4 times risk of mortality.
- Multiple Births: more risk due to low birth weight



2- Social Determinants:

The social environment exerts a strong influence on child health especially through :

- Income
- Education
- Health care quality (developing countries)
- Environmental conditions
- Violence (wars, child abuse, domestic violence)

3- Culture determinants:

- Religion
- Customs
- Early marriages
- Sex of child
- Cleanliness, Eating, Clothing.
- Child care



Role Play

Breastfeeding Counseling



How to Improve Maternal Health

- **First 24 hours:** assessment of vaginal bleeding, uterine contraction, temperature and heart rate should be done routinely.
- **Breastfeeding** should be assessed, why is it important?
- **10 to 14 days:** Emotional wellbeing, family and social support they have. Looking for?
- **After 2-6 weeks,** ask about sexual intercourse and possible dyspareunia as a part of an assessment of overall well being.
- **Iron and folic acid** supplementation for at least 3 months.

Remember: with quality health care, many of maternal & child deaths could be prevented.



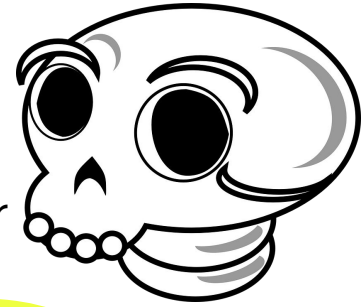
Postpartum Depression

What are the symptoms of PPD?

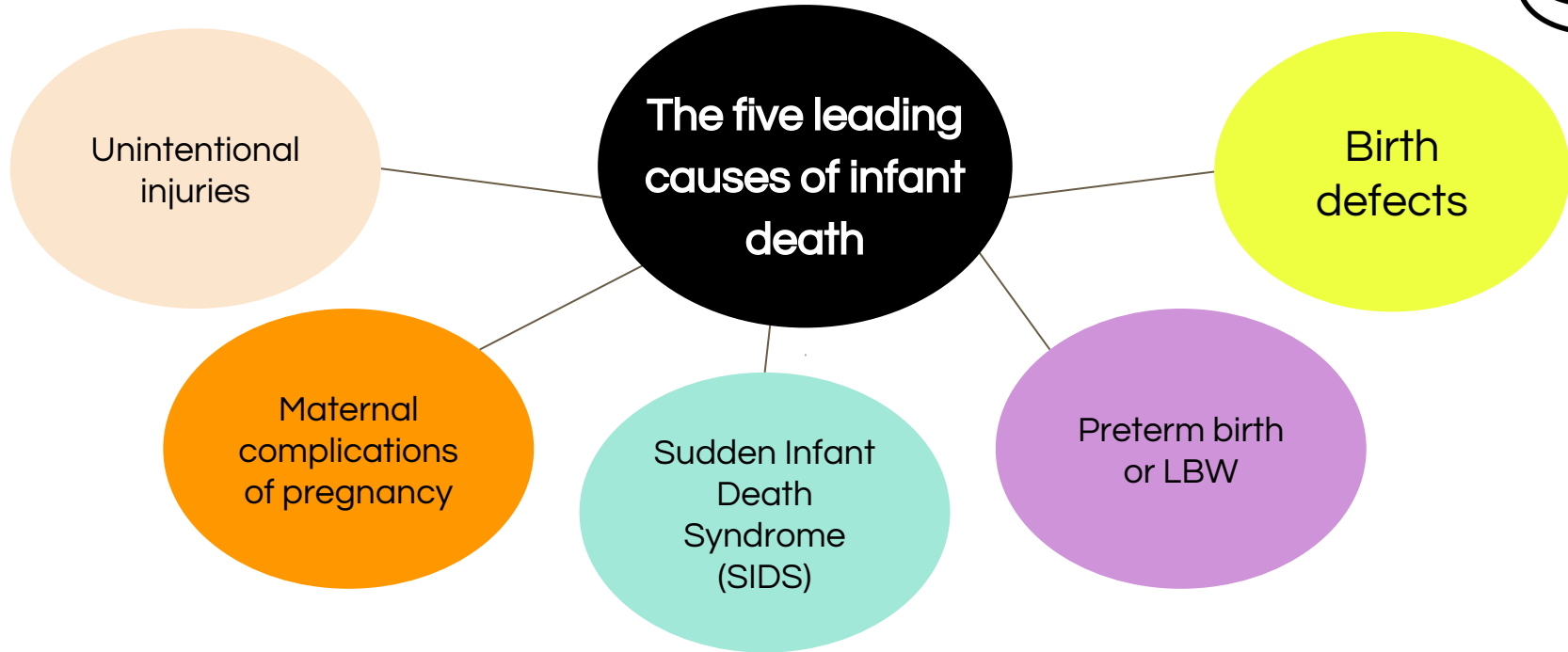
- loss of pleasure or interest in things you used to enjoy
- eating much more, or much less,
- Sadness, crying
- Feeling guilty or worthless—blaming yourself



Improving Infant and Child Health



*For every 1,000 babies that are born, almost 6 die during their first year



With quality health care, many of these deaths could be prevented....

Improving Infant and Child Health

Preterm birth or LBW

- Delivery before 37 weeks of pregnancy
- Associated with cerebral palsy, developmental delays, chronic lung disease, and vision and feeding problems.
- **Preterm and low-birth-weight babies should be identified as soon as possible and should be provided special care.**

Sudden Infant Death Syndrome (SIDS)

- Most deaths occurred while the infant was sleeping in an *unsafe environment*
- Examples: accidental suffocation from soft bedding or from another person rolling on top of or against the infant while sleeping
- **Although there is no 100% way to prevent SIDS, there is a lot you can do lower your infant risk as carefully watch the infant and obtaining safe environment.**

Improving Infant and Child Health

- Promote early and exclusive breastfeeding
- All women and newborns should receive care that prevent hospital acquired infections
- A full clinical examination should be done 1 hour after birth. This includes giving vitamin K prophylaxis and hepatitis B vaccination (within 24 hours).



Breastfeeding

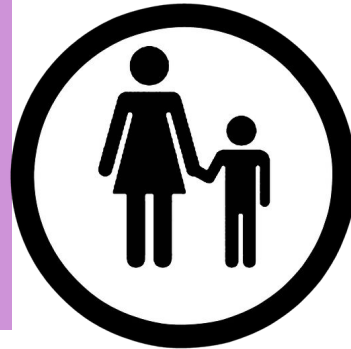
- ★ Promote early and exclusive breastfeeding (EBF):
 - Evidence shows EBF reduces the risks of mortality and morbidity and improves post-neonatal outcomes
 - Infants who are not breastfed are at mildly increased risk of developing acute and chronic diseases, including lower respiratory infection, ear infections, bacteremia, bacterial meningitis, botulism, urinary tract infection and necrotizing enterocolitis.



Breastfeeding Benefits

Maternal

- Oxytocin hormone, which helps the uterus return to its pre-pregnancy size.
- *Exclusive* breastfeeding usually delays the return of fertility through lactational amenorrhea.



Infant

- Breast milk contains several *anti-infective factors* such as bile salt stimulated lipase (protecting against amoebic infections) and lactoferrin (which binds to iron and inhibits the growth of intestinal bacteria)

Vaccinations

- **Before pregnancy:** measles, rubella
- **During pregnancy:** DTaP vaccine to protect against whooping cough
- **For infants:** hepatitis B, TB, Chickenpox
- Flu shot could be taken during or before pregnancy

Basic Vaccination Schedule		جدول التطعيمات الأساسية	
Visit	Vaccine	للصاح	الزيارة
At Birth	BCG	الدون	الولادة
	HepB	التهاب الكبد (ب)	
2 months	IPV	شلل الأطفال المعطل	شهرين
	(DRP , HepB , Hb)	(الثلاثي البكتيري : التهاب الكبد (ب) : المستدمية النزلية)	
4 months	OPV	شلل الأطفال الفموي	4 أشهر
	(DRP , HepB , Hb)	(الثلاثي البكتيري : التهاب الكبد (ب) : المستدمية النزلية)	
6 months	OPV	شلل الأطفال الفموي	6 شهور
	(DRP , HepB , Hb)	(الثلاثي البكتيري : التهاب الكبد (ب) : المستدمية النزلية)	
9 months	Measles (mono)	الحصبة المفرد	9 شهور
	OPV	شلل الأطفال الفموي	
12 months	MMR	الثلاثي الفيروسي	12 شهر
	Varicella	الجدري المائي	
	OPV	شلل الأطفال الفموي	
18 months	(DTP , Hib)	(الثلاثي البكتيري : المستدمية النزلية)	18 شهر
	Hepatitis (A)	التهاب الكبد (أ)	
	Hepatitis (A)	التهاب الكبد (أ)	
4-6 years	OPV	شلل الأطفال الفموي	4 - 6 سنوات
	DTP	الثلاثي البكتيري	
	MMR	الثلاثي الفيروسي	
	Varicella	الجدري المائي	

Post-Seminar MCQs

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The End

THANK YOU!
Any Question?