

# MATERNAL AND CHILD HEALTH

SLS



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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 and child health.
- How to improve the health and well-being of women, infants, children families.

- **Women die in pregnancy and childbirth for 5 main reasons:**
  1. severe bleeding (mostly bleeding after **childbirth**)
  2. infections (usually after **childbirth**)
  3. high blood pressure during **pregnancy** (pre-eclampsia and eclampsia)
  4. complications from **delivery**.
  5. unsafe abortion.

**-The lack of skilled care is the main obstacle to better health for mothers**

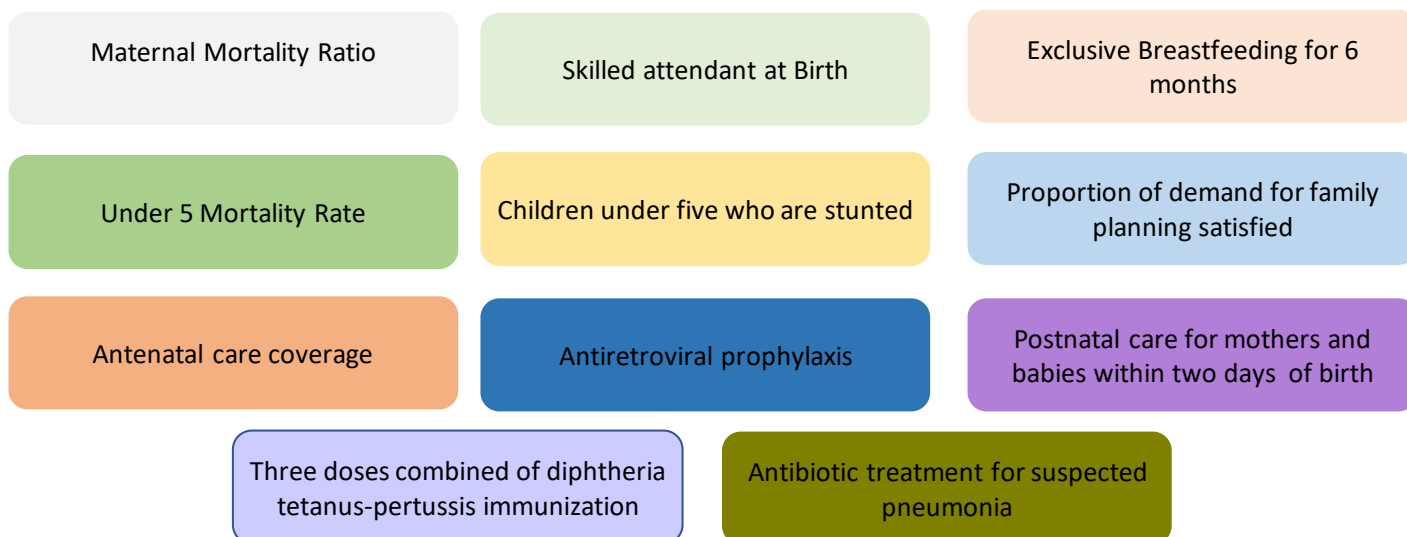
**-Most maternal deaths can be prevented**

## Maternal health:

-Maternal health refers to the health of women before pregnancy ,or during pregnancy, childbirth and the postpartum period.

-It encompasses the health care dimensions of **family planning, preconception, prenatal, and postnatal care** in order to ensure a positive and fulfilling experience in most cases and reduce maternal morbidity and mortality in other case

## Health indicators (maternal , newborn ,child)



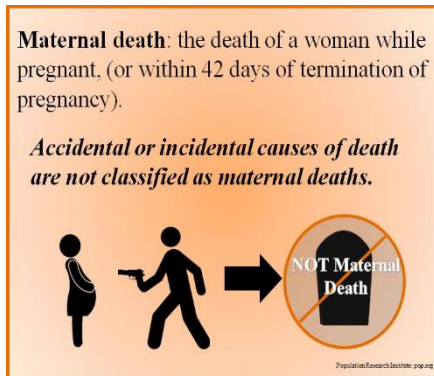
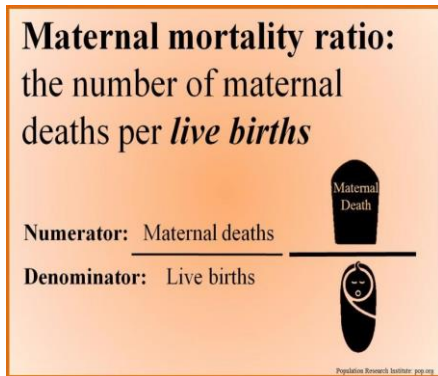
## Millennium Development Goals



### 1-Maternal mortality ratio:

-number of **maternal deaths** during a given time period per 100,000 live births during the same time period.

-Maternal mortality is a sensitive measure of health system strength, access to quality care and coverage of effective interventions to prevent maternal deaths.



## 2-Skilled attendant at birth

-The presence of a skilled health professional (doctor, nurse or midwife) who provides essential and emergency health care services to women and their newborns during pregnancy, childbirth and the postpartum period.

-Skilled attendant at birth is a measure of a health system's ability to provide adequate care for pregnant women during labor and delivery

-This indicator is considered a key process measure for assessing country progress in reducing maternal mortality and is a tracking indicator for **MDG 5**.

## 3-Exclusive breastfeeding for six month:

Recommendations from **WHO** :infant receives only breast milk. No other liquids or solids are given – not even water – with the exception of oral rehydration solution, or drops/syrups of vitamins, minerals or medicines.



## 4-Under-5 Mortality rate:

-Deaths below 5 years expressed as :number of deaths of children less than five years of age per 1000 live births.

-The under-five mortality rate is a key indicator for measuring child well-being, including health and nutritional status.

## 5-Children under five who are stunted:

-Percentage of children under five who are stunted.

-Number of children under five years of age whose length-for-age or height-for-age is below minus two standard deviations from the median of the World Health Organization (WHO) Child Growth Standards.

-Stunting is widely recognized as the most important anthropometric indicator for young children, because adequate linear growth depends on optimal nutrition, disease prevention and child care practices. Stunting reflects continued, long term exposure to poor health and nutrition, particularly during the first two years of life

## 6-Proportion of demand for family planning satisfied:

Definition: Percentage of women of reproductive age (15-49 years or age), who have their need for family planning satisfied.

### This indicator enables:

1-Providing contraceptive services to women and their partners who wish to make decisions about timing of pregnancies.

2-Contributes to maternal and child health by preventing unintended pregnancies and pregnancies that are too closely spaced

## 7-Antenatal care, four or more visits

Definition :Percentage of women attended at least four times during pregnancy by any provider (skilled or unskilled) for reasons related to the pregnancy.

-**WHO recommends at least four antenatal visits** based on a review of the effectiveness of different models of antenatal care.

## 8-Antiretroviral prophylaxis

Definition : Percentage of HIV-infected pregnant women provided with antiretroviral drugs to reduce the risk of mother-to-child transmission during pregnancy and delivery.

-This indicator is important measures of progress towards **MDG 6**.

-allow countries to monitor coverage with antiretroviral medicines of HIV-infected pregnant women to reduce the risk for transmission of HIV to infants, and for their own health

## 9-Postnatal care for mothers and babies within two days of birth

Definition :Percentage of mothers and babies who received postnatal care within two days of childbirth.

-The majority of maternal and newborn deaths occur within a few hours after birth The majority of maternal and newborn deaths occur within a few hours after birth, mostly within the first 48 hours

-Deaths in the newborn period (first 28 days) are a growing proportion of all child deaths.

-Postnatal care, is a critical opportunity for improving maternal and newborn health and survival and for provision of information about birth spacing.

## 10-Three doses combined of diphtheria tetanus-pertussis immunization:

Diphtheria, tetanus, and pertussis are serious diseases. Although vaccine-preventable, these diseases cause a substantial global disease burden, particularly in low and middle-income countries and among children under five years of age.

## 11- Antibiotic treatment for suspected pneumonia:

Definition : Percentage of children ages 0-59 months with suspected pneumonia receiving antibiotics.

-Pneumonia accounts for an estimated 18% of deaths among children under five.

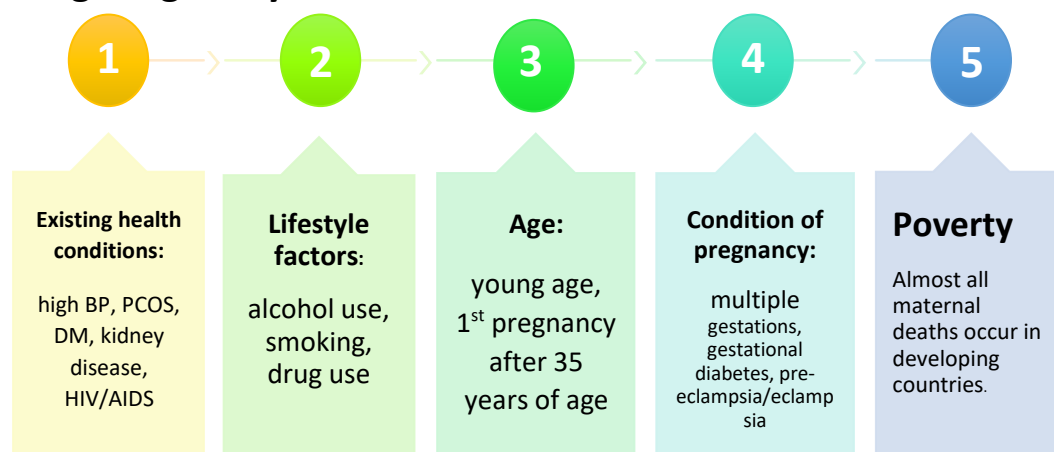
-Pneumonia prevention and treatment is therefore essential to the achievement of **MDG 4**

## Health indicators could be used to:



OBJ2 -Factors affecting pregnancy and childbirth, including preconception health status, Age, access to appropriate preconception and interconnection health care, and poverty.

## Factors Affecting Pregnancy and Childbirth



<b>High BP</b>	it shows that older women are at higher risk for certain problems than younger women, including: <b>Multiple gestations , Gestational diabetes, Preeclampsia</b>
<b>Kidney disease</b>	can cause difficulties getting and staying pregnant as well as problems during pregnancy, including <b>preterm delivery, low birth weight, and preeclampsia</b>
<b>DM</b>	<b>Babies</b> <b>Macrosomia</b> and likely to have <b>low blood sugar</b> soon after birth.
<b>Pregnant teens</b>	are more likely to develop pregnancy-related <b>high blood pressure and anemia</b> and to go through <b>preterm labor and delivery</b> than women who are older, <b>low birth weight , pre-eclmpsia.</b>
<b>PCOS</b>	have higher rates of <b>pregnancy loss before 20 weeks of pregnancy, gestational diabetes, preeclampsia, and cesarean section.</b>
<b>After 35</b>	it shows that older women are at higher risk for certain problems than younger women, including: <b>Birth defects , Miscarriage, Multiple gestations , Gestational diabetes, Preeclampsia.</b>

## Stages of maternal care

### -Preconception health

refers to the health of women and men during their reproductive years, which are the years they can have a child, And **Defined as:**

1. Giving protection: against **infectious** diseases, and **congenital** anomalies
2. Managing conditions: **DM, HTN, and STD**
3. Avoiding exposures to teratogenic: **Medications, Tobacco and Alcohol**

**To achieve an optimal outcome of pregnancy for mother and child**

### Interconception 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.

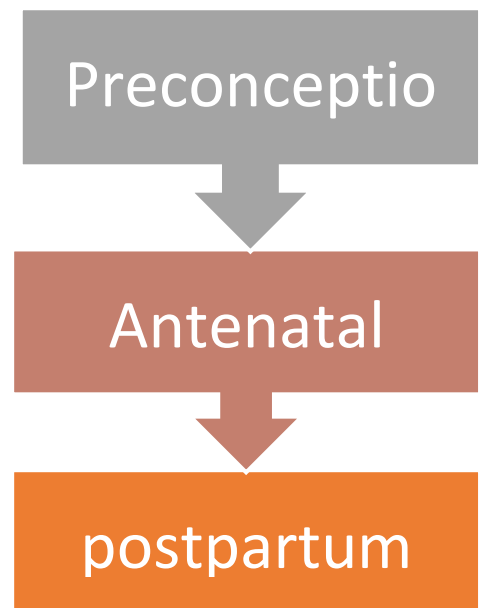
### Access to preconception health care:

- Preconception health should be provided **to all women** irrespective of pregnancy plans
- Talking to a health-care provider before becoming pregnant **at least 6 months.**
- Women are **not likely** to come for preconception care
- Part of routine primary care for women of reproductive age
- Identify modifiable and non-modifiable risk factors

### Antenatal Care:

**Is the care received from healthcare professionals during 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.



## Poverty:

Mothers are likely to face multiple stressful life events

-Including teenage pregnancies, unemployment, crowded or polluted environments

-According to (WHO) every year environmental risks such as indoor and out door air pollution , second hand smoke and unsafe water take the lives of 1.7 million child

### Increased risks of:

-Preterm birth, intrauterine growth restriction, and neonatal or infant death

-Delayed cognitive development and poor school performance

OBJ3: 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.

## Hypertension:

-An important cause of maternal and fetal morbidity and mortality.

-The overall prevalence of hypertension during pregnancy in Saudi Arabia is 2.4%.

hypertension in pregnancy BP $\geq$ 140/90		
chronic hypertension	gestational hypertension	pre-eclampsia
present at booking visit or before 20 weeks gestation	presenting after 20 weeks gestation without clinically relevant proteinuria	presenting after 20 weeks gestation with clinically relevant proteinuria

## Heart Disease:

-CO increases between 30–50%.

-increase in blood volume with approximately 40%.

-The heart rate increases by 10 to 20 bpm.

These normal physiologic changes of pregnancy could further compromise the hemodynamics of various cardiovascular conditions

## Gestational Diabetes:

-According to WHO it is defined as hyperglycemia with onset or first identified during pregnancy

-Globally the prevalence is approximately 7%

-in Saudi Arabia the prevalence is between 10.3% and high 51%

GLYCEMIC TARGETS IN PREGNANCY *Recommendations by the ADA*

1.fasting plasma glucose **<95 mg/dL**

2.1-h postprandial glucose **<140 mg/dL** or 2-h postprandial glucose **<120 mg/dL**

3.A1C target in pregnancy is **<7%**

## Management:

**Non-pharmacological (1st line)** Dietary modification  
Physical activity

**pharmacological (if glucose levels uncontrolled)**

Insulin is the 1st line pharmacological therapy given its inability to cross the placenta

## Postpartum depression (PPD):

A thief that steals motherhood, is a non-psychotic depressive disorder defined as an episode of major depression with onset within 4 weeks of child birth

-The prevalence of PPD among Saudi women is 38.5%.

### Postpartum depression is inversely associated with women's functioning.

-marital and personal relationships.

-mother-infant interaction quality.

-children's social, behavioral, and cognitive development.

### Management:

Baby blues The baby blues usually fade on their own within a few days to one to two weeks. In the meantime:

-Get as much rest as you can.

-Accept help from family and friends.

-Connect with other new moms.

### Postpartum depression

is often treated with psychotherapy (also called talk therapy or mental health counseling), medication or both.

## Genetic conditions:

-Factors that increase risk of genetic disorder :

◦ Family history

◦ Prior child with a genetic disorder

◦ Maternal age (35 or older)

Multiple miscarriages

◦ Teratogenic disorders exposed to substances during pregnancy

◦ Single gene disorders e.g. cystic fibrosis & sickle cell anemia

◦ Chromosomal abnormalities missing or extra chromosomes e.g. Down syndrome

## STD:

Screening for STDs in **first prenatal visit** for all pregnant women

Health care providers use a variety of methods, such as physical exams, tests of sores or fluids, Pap smear tests, and blood tests, to diagnose STDs/STIs.

they are associated with adverse outcomes including:

**Stillbirth**

**low birth weight**

**transmitted to infants leading to blindness and developmental delays.**

## Maternal Diet:

**maternal diet before and during early pregnancy plays a significant role in fetal development**

1. folic acid can reduce the risk of NTDs. A dose of **400 mcg is recommended for pregnant women** .

4 mg/day for high risk pregnancy

2. vitamin D

3. Calcium

4. Iron if anemic

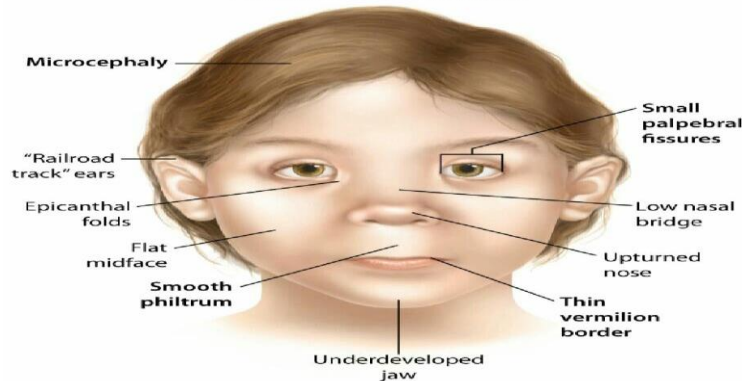


## Tobacco use:

On the mother	On child
Deep vein thrombosis	preterm birth
pulmonary embolism	still birth
myocardial infraction	Growth retardation
ectopic pregnancy	congenital heart disease
placenta previa	



### Fetal alcohol syndrome



## Antenatal screening tests:

-weight , blood pressure, fetal assessment

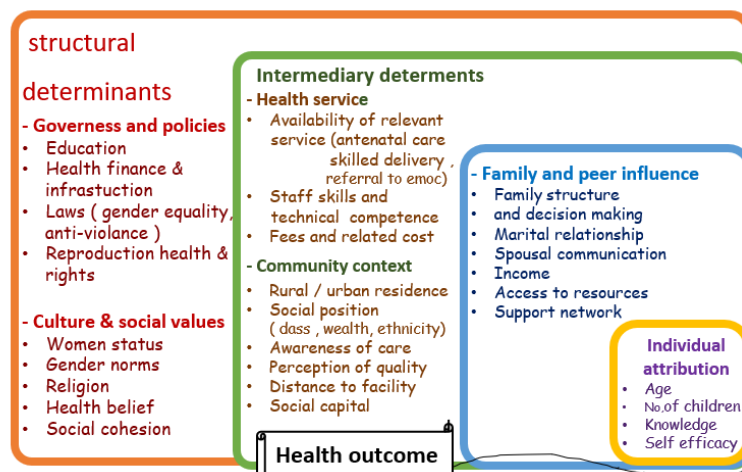
-2-h 75-g OGTT should be performed on all women at 24 to 28 weeks gestation, this screening assesses your risk for gestational diabetes. for obese women, diabetes screening should be done at the first visit.

-Urine test. urine sample will be tested for signs of diabetes, urinary tract infections, and preeclampsia.

## OBJ4: Social and physical determinants of maternal and child health.

the epidemiology of maternal health demonstrates that distribution of maternal mortality is deeply unequal across the world's geographical regions and within individual countries . As these large differences cannot be explained by biological or behavioral risks alone, they must be due to social dynamics related to how societies are structured and governed.

### Framework approach to maternal health





## What are the SDCH ?

-Early studies were largely confined to family income and social class, because has more influence than other factor.

-nowadays , more recent research have broadened the boundaries of what constitutes social determinants. others than Social class codes and it extends beyond simple measures of income or occupation to include family wealth and assets, education and health literacy, employment, the degree of autonomy in one's job and use of time, and the quality and nature of housing (apartment versus house, rented versus owned).

Community / Race/ethnicity is also classed as a social detriments

## When SDCH start to impact on child health ?

Social determinants start to influence from the early phase of conception, pregnancy, and post-natal period of children's development till reaching the school age.

OBJ5: How to improve the health and well-being of women, infants, children families

## How to improve women health ?

### 1. During pregnancy care



Folic acid supplements



Patient education



Screening for gestational diseases

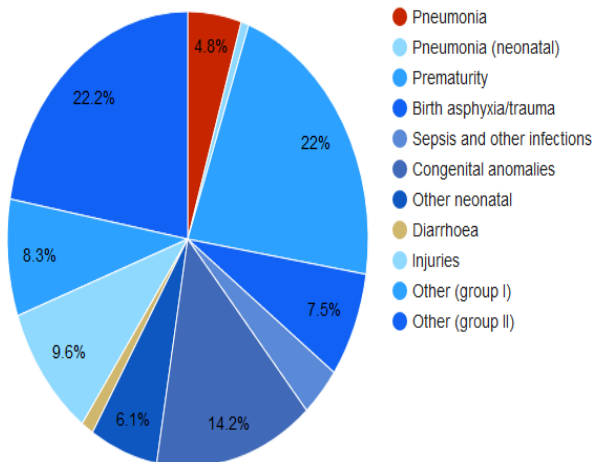
#### TO DO LIST

Follow Up  
Follow Up  
Follow Up . . .

Schedule follow-ups

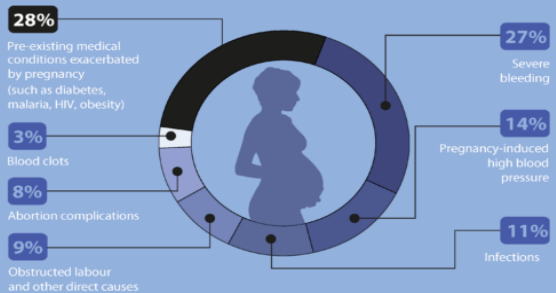
+ flu & tetanus vaccines

Causes of death for children under 5



## SAVING MOTHERS' LIVES

### WHAT ARE PREGNANT WOMEN DYING FROM?





# How to improve children health?

## 1. Milestones

2. A growth chart is used by pediatricians and other health care providers to follow a child's growth over time.

Growth charts have been constructed by observing the growth of large numbers of normal children over time.

