Maternal and child health

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435 Lecture Notes by Qusay Ajlan

Original Content | Titles | Additional Notes | Important

objectives

- To appreciate the importance of Maternal and Child health
- To appreciate the link between the health issues of mothers and children and understand the consequences of ill health
- To enlist and understand application of the global strategies in place for MCH care
- To list the strategies of MCH care in KSA

Specific Objectives of MCH

- Reduction of maternal, perinatal, infant and childhood mortality and morbidity
- Promotion of Reproductive health
- Promotion of the physical and psychological development of the child and adolescent within the family

Maternal and child health

MCH

Definition mcq

"Maternal and Child health (MCH) refers to the ***promotive***, ***preventive***, ***curative***, and ***rehabilitative health*** care for ***mothers*** and ***children***. It includes the sub areas of maternal health, child health, family planning, ***school health***, handicapped children, adolescence, and health aspects of care of children in special settings such as day care."

Why is mch imp ? because if there is any problem (disease)they will be the first to be affected (vulnerable)

Components of MCH

- Maternal health
- ***Family planning***
- Child health
- ***School health***
- Handicapped children
- Care of children in special setting such as Day care

Maternal health

Maternal health refers to the health of women ***during pregnancy***, childbirth and the postpartum period. While motherhood is often a positive and fulfilling experience, for too many women it is associated with suffering, ill-health and even death.

Facts about global Maternal health

Fact 1: Nearly **830** women die every day due to complications during pregnancy and childbirth About 303 000 women will die worldwide in 2015 due to complications during pregnancy and childbirth. In developing countries, conditions related to pregnancy and childbirth constitute the second leading causes (after HIV/AIDS) of death among women of reproductive age.

Fact 2: Women die in pregnancy and childbirth for 5 main reasons (MCQ), These are **severe bleeding**, **infections**, **unsafe abortion**, **hypertensive disorders** (pre-eclampsia and eclampsia), and **medical complications** like **cardiac disease**, **diabetes**, or **HIV/AIDS** complicating or complicated by pregnancy.

Cont.

Fact 3: More than 135 million women give birth per year, About 20 million of them are estimated to experience pregnancy-related illness after childbirth. The list of morbidities is long and diverse, and includes fever, anaemia, fistula, incontinence, infertility and depression. Women who suffer from fistula are often stigmatized and ostracized by their husbands, families and communities.

Fact 4: About 16 million girls aged between 15 and 19 give birth each year ,They account for more than 10% of all births. In the developing world, about 90% of the births to adolescents occur in marriage. In low- and middle-income countries, **complications from pregnancy and childbirth are the leading cause of death among girls 15-19.**

Fact 5: Maternal health **mirrors the gap between the rich and the poor** , Less than 1% of maternal deaths occur in high-income countries. The maternal mortality ratio in developing countries is 239 per 100 000 births versus 12 per 100 000 in developed countries. Also, maternal mortality is higher in rural areas and among poorer and less educated communities.

Cont.

Other issues:

- *Smoking*
- Depression
- Violence
- Discrimination

(nutrition, education, social rights, culturally)

Smoking and Pregnancy

Smoking can cause problems for a woman trying to become pregnant or who is already pregnant, and for her baby before and after birth.

Smoking causes these health effects.

Smoking could cause these health effects, but more studies are needed to be sure.

Effects on Women

- Difficulty getting pregnant
- Placenta separates from the womb too early, causing bleeding
- Placenta covers the cervix, causing complications
- Water breaks too early
- Pregnancy occurs outside of the womb

Effects on Babies

- Baby born too small
- Baby born too early
- Sudden Infant Death Syndrome
- Stillbirth
- Infant death
- Cleft lip/palate
- Certain birth defects, such as:
  - Clubfoot
  - Gastroschisis
  - Some heart defects
- Attention Deficit/ Hyperactivity Disorder (ADHD)
- Miscarriage

Quitting Smoking Can Be Hard, But It Is One of the Best Ways a Woman Can Protect Herself and Her Baby's Health.

If you or someone you know wants to quit smoking, talk to your healthcare provider about strategies. For support in quitting, including free quit coaching, a free quit plan, free educational materials, and referrals to local resources, please call 1-800-QUIT-NOW (1-800-784-8669); TTY 1-800-332-8615.

For additional resources to help quit smoking, visit www.cdc.gov/reproductivehealth/TobaccoUsePregnancy/Resources.htm

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Updated based on 2014 Surgeon General's Report

CS245221

Fast Facts about Maternal Health
WHO Fact sheet 2015

The first 5 points are all repeated you can check slide 5 and 6

- Every day, approximately 830 women die from preventable causes related to pregnancy and childbirth.
- 99% of all maternal deaths occur in developing countries.
- Maternal mortality is higher in women living in rural areas and among poorer communities.
- Young adolescents face a higher risk of complications and death as a result of pregnancy than other women.
- Skilled care before, during and after childbirth can save the lives of women and newborn babies.
- Between 1990 and 2015, maternal mortality worldwide dropped by about **44%.**
- Between 2016 and 2030, as part of the Sustainable Development Agenda, the target is to reduce the global maternal mortality ratio to less than 70 per 100 000 live births.

Maternal mortality ratio (per 100 000 live births), 2015

- 1 - 19
- 20 - 99
- 100 - 299
- 300 - 499
- 500 - 999
- ≥1000
- Population <100 000 not included in the assessment
- Data not available
- Not applicable

0 875 1,750 3,500 Kilometers

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Health Statistics and Information Systems (HSI)
World Health Organization

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This pic shows you the maternal mortality ratio in different countries worldwide

We conclude that its much higher in developing countries in comparison to developed (rich) countries (fact 5)

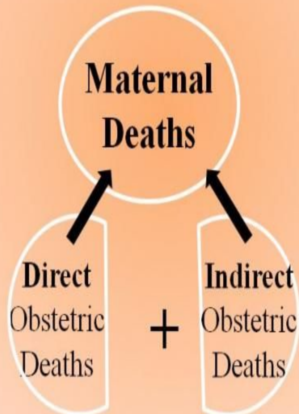
Ksa = 1-19

Maternal death

Defined as death of either a **pregnant woman** or **death of woman within 42 days of delivery**,spontaneous abortion or termination providing the death is associated with pregnancy or its treatment.

Maternal death: the death of a woman while pregnant, (or within 42 days of termination of pregnancy).

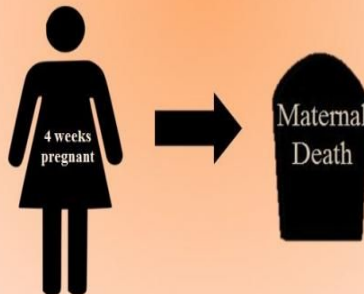
- All maternal deaths are either direct obstetric deaths or indirect obstetric deaths



Population Research Institute: pop.org

Maternal death: the death of a woman while pregnant, (or within 42 days of termination of pregnancy).

- irrespective of the duration and the site of the pregnancy



Population Research Institute: pop.org

Maternal death: the death of a woman while pregnant, (or within 42 days of termination of pregnancy).

Accidental or incidental causes of death are not classified as maternal deaths.

Population Research Institute: pop.org

Cont.

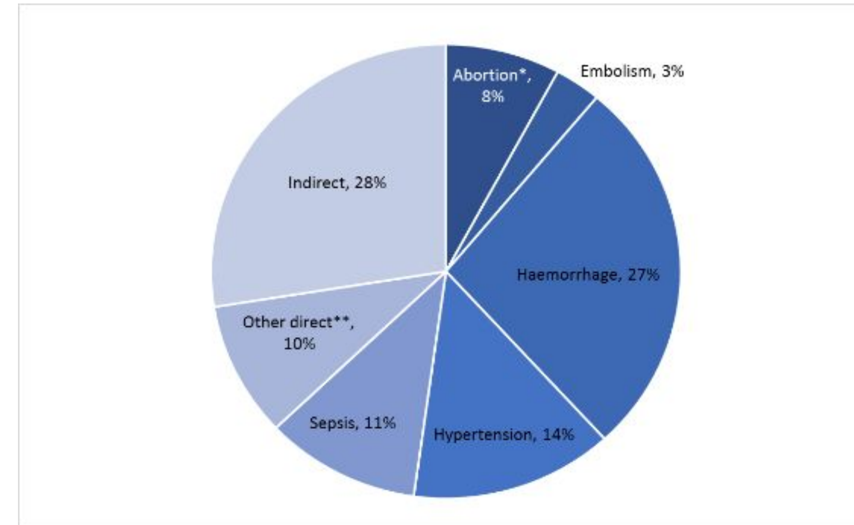
Why women are dying ?

Women die as ***a result of complications*** during and following pregnancy and childbirth. The major complications that account for nearly 75% of all maternal deaths are:

- severe bleeding (mostly bleeding after childbirth) ***the leading cause***
- **infections** (usually after childbirth)
- **high blood pressure during pregnancy** (pre-eclampsia and eclampsia)
- **complications from delivery**
- **unsafe abortion**
- The remainder are caused by or associated

with diseases such as malaria, and AIDS during Pregnancy.

Global causes of maternal mortality



Why do women not get the care they need?

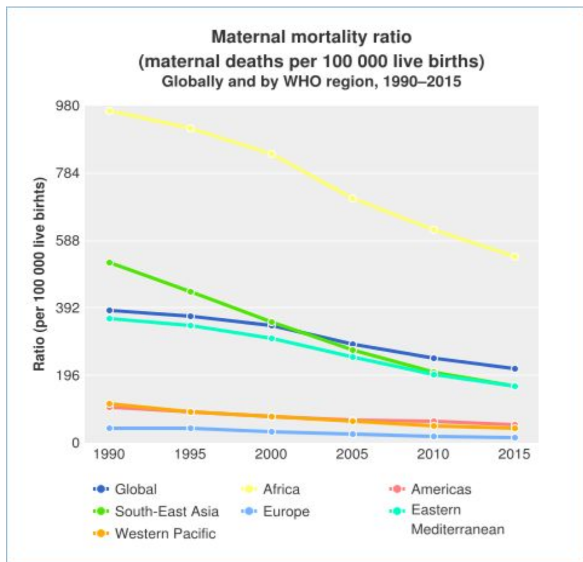
Three Delays Model **(three main causes)**

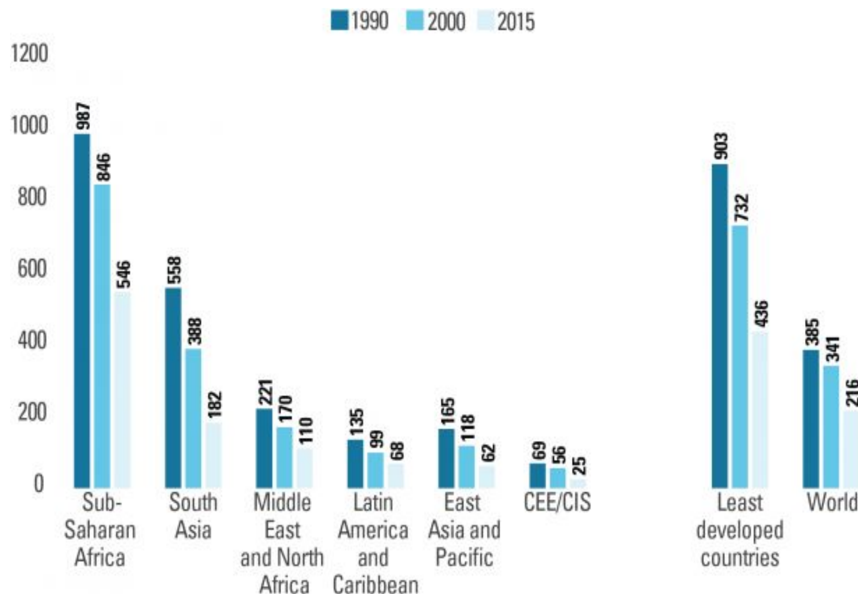
1. **Delay in decision to seek care** **if the number of those seeking antenatal care (clinics) is very low this means there is a problem**
    - Lack of understanding of complications
    - Acceptance of maternal death
    - Low status of women
    - Socio-cultural barriers to seeking care
2. **Delay in reaching care**
    - Mountains, islands, rivers — poor organization
3. **Delay in receiving care**
    - Supplies, personnel
    - Poorly trained personnel with punitive attitude
    - Finances

Trends in maternal mortality 1990 - 2015

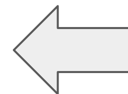
Maternal mortality fell by almost half between 1990 and 2015

Maternal mortality ratio (maternal deaths per 100,000 live births in women aged 15 to 49), by region, 1990, 2010 and 2015





The doctor said to remember this number 216 Which is the number of maternal mortality at year 2015 worldwide



Where do Maternal Mortality data come from?

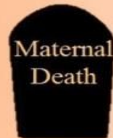
- Vital registration data - **MM Rate and MM Ratio**
- Health service data – maternity registers - **MM Ratio**
- Special studies
  - Hospital studies – tracing deaths, interviews
  - Research, longitudinal studies, verbal autopsy
- Surveys & censuses
  - Direct estimation - **Rate and Ratio**
  - Sisterhood method (indirect) – **Rate and Ratio**

Maternal Mortality Indicators

- **Maternal mortality ratio** look at the pics below
- **Maternal mortality rate** look at the pics below
- Life-time risk of maternal morality
- Proportion maternal

Maternal mortality ratio: the number of maternal deaths per ***live births***

Numerator: Maternal deaths



Denominator: Live births

Population Research Institute: pop.org

Maternal mortality rate: the number of maternal deaths in a given period per population of ***women who are of reproductive age***

Numerator: Maternal deaths

Denominator: Women of reproductive age

Population Research Institute: pop.org

Other Maternal Mortality Indicators

- **Life time risk of maternal mortality** = (N of maternal deaths over the reproductive life span) / (women entering the reproductive period) ??? the doctor is confused at this point as he said how can we calculate women entering the reproductive period ???

- **Proportion maternal** = 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

Facts about Child health

- 5.9 million children under the age of 5 died in 2015.
- More than half of these early child deaths are due to conditions that could be prevented or treated with access to simple, affordable interventions.
- Leading causes of death in under-5 children are preterm birth complications, pneumonia, birth asphyxia, diarrhoea and malaria. About 45% of all child deaths are linked to malnutrition.
- Children in sub-Saharan Africa are more than 14 times more likely to die before the age of 5 than children in developed regions.

cont

The leading cause in neonatal is prematurity
While in postneonatal its pneumonia

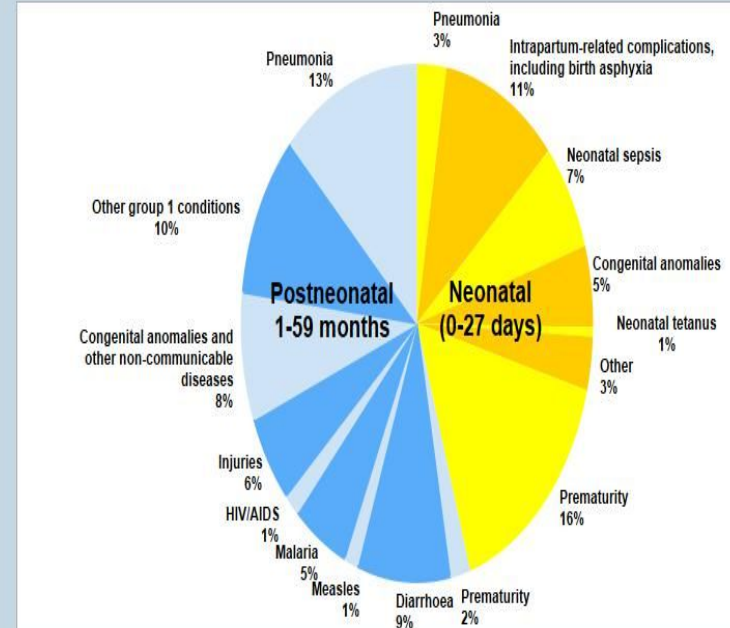
-Malnutrition:

e.g. protein energy malnutrition, iron deficiency anemia, rickets and vitamins deficiencies.

-Injuries:

Of several categories including:-

- Wounds and fractures
- Chemical poisoning
- Swallowing of objects
- Road Traffic Accidents
- Burns
- Drowning



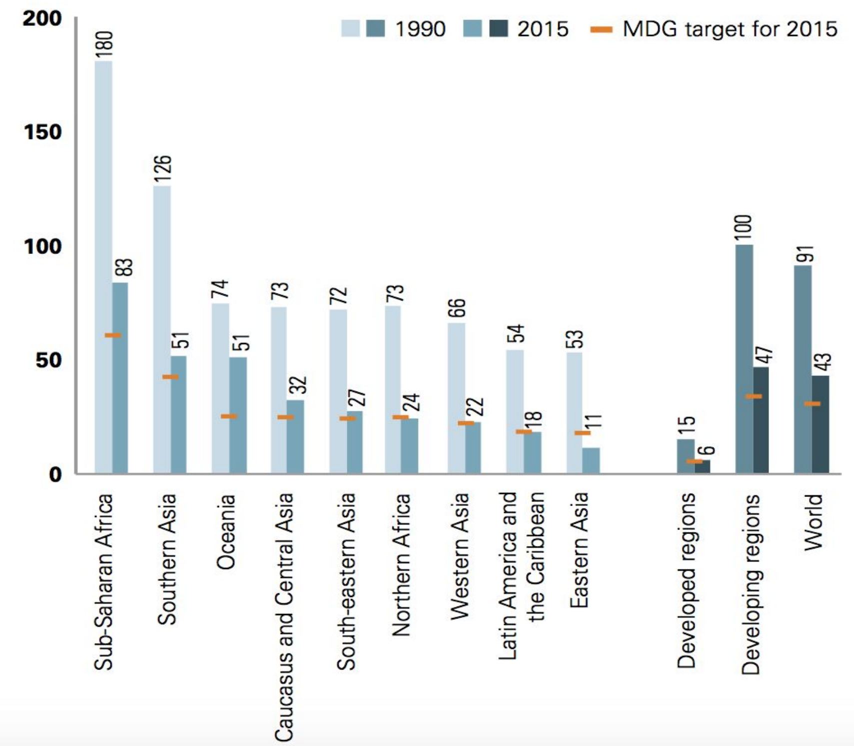
Share of global under-five deaths by WHO region 1990–2015

Percentage of global under-five deaths

100%
80%
60%
40%
20%
0%

1990 1995 2000 2005 2010 2015

Western Pacific
South-East Asia
Africa
Eastern Mediterranean
Europe
Americas



Remember this number 43 which represent the mortality worldwide

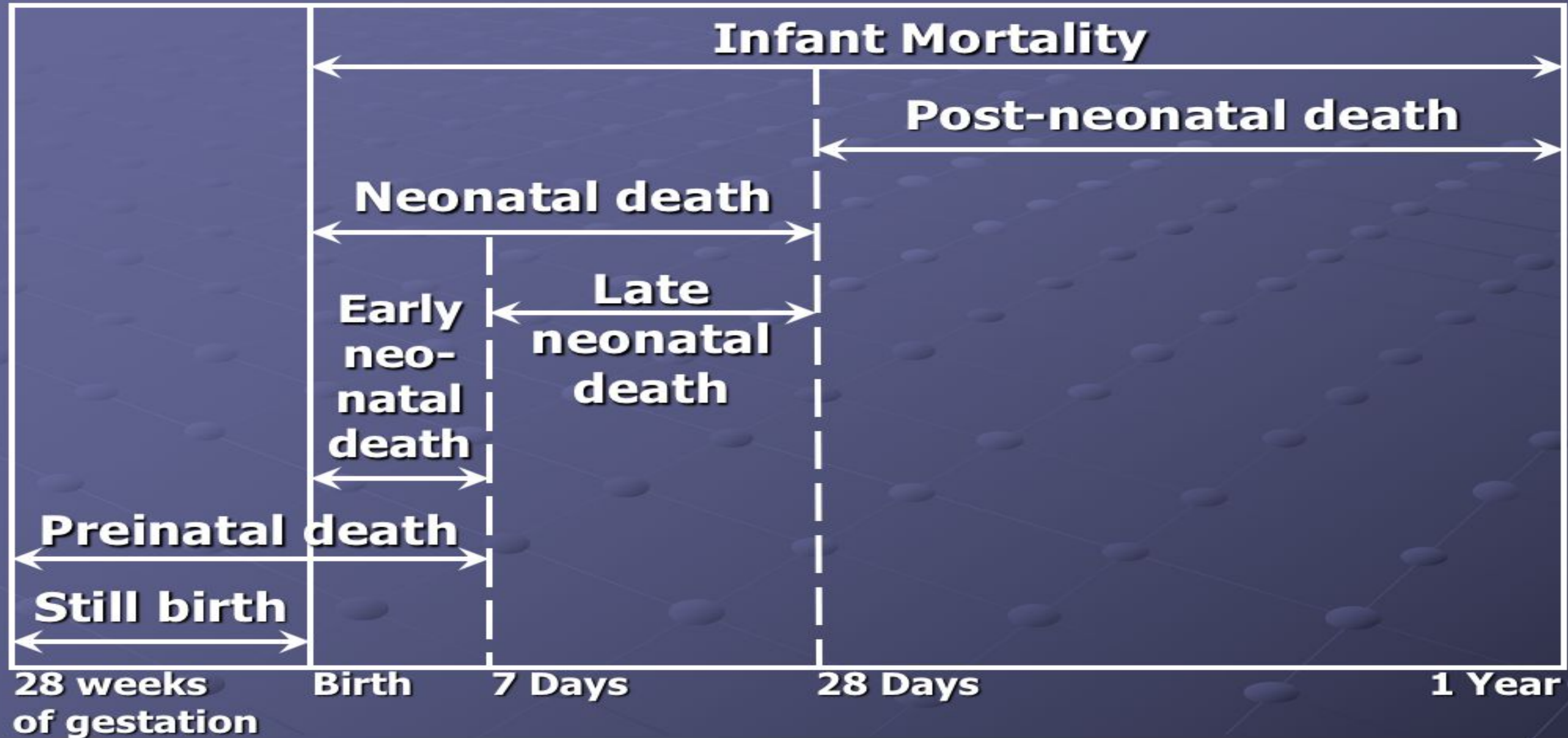
Emerging Issues in child health

- Congenital anomalies
- Injuries
- Non-communicable diseases (chronic respiratory diseases, acquired heart diseases, childhood cancers, diabetes, and obesity)

Indicators of Child Health

- Mortality in infancy and childhood
  - Prenatal mortality rate
  - Neonatal mortality rate
  - Infant mortality rate
  - Under 5 mortality rate

Mortality in and around infancy



Why has the maternal and child mortality declined?

Global response ???

Global Interventions for Maternal and Child care

Global response

- **Sustainable Development Goal 3**
- **3.1** By 2030, reduce the global maternal mortality ratio to less than 70 per 100 000 live births.
- **3.2** By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births

Other Interventions for Maternal Care

Antenatal care

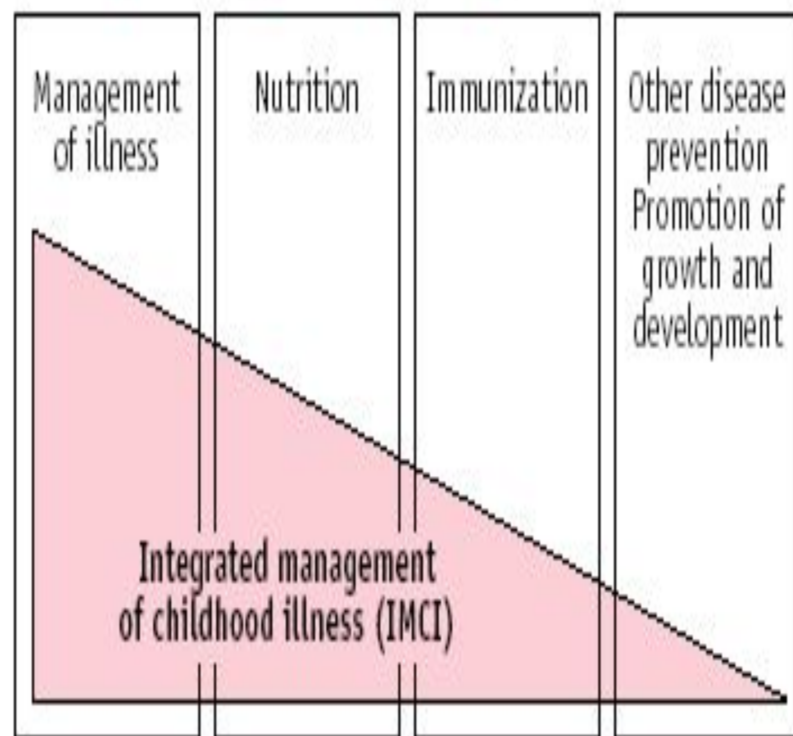
- Nutrition support (anemia)
- Personal hygiene, dental care, rest and sleep
- Immunization (mother and the newborn)
- Education on delivery and care of the newborn
- Identifying high risk pregnancies
- Emphasizing on ANC visits and maintenance of AN card
- Importance and management of lactation
- Advise on birth spacing (not giving birth each year (taking time between each birth))

Ref: WHO recommendations on maternal helath, guidelines to improve maternal health. 2017.
Available at: http://apps.who.int/iris/bitstream/10665/259268/1/WHO-MCA-17.10-eng.pdf?ua=1

Table 6.1 Core interventions to improve child survival

- **Nurturing newborns and their mothers:** skilled attendance during pregnancy, childbirth and the immediate postpartum period (not costed in this chapter).
- **Infant feeding:** exclusive breastfeeding during the first six months of a child's life, with appropriate complementary feeding from six months and continued breast-feeding for two years or beyond, with supplementation with vitamin A and other micronutrients as needed.
- **Vital vaccines:** increased coverage of measles and tetanus vaccines, as well as immunization against common vaccine-preventable diseases.
- **Combating diarrhoea:** case management of diarrhoea, including therapeutic zinc supplementation and antibiotics for dysentery.
- **Combating pneumonia and sepsis:** case management of childhood pneumonia and neonatal sepsis with antibiotics.
- **Combating malaria:** use of insecticide-treated bednets, intermittent preventive malaria treatment in pregnancy, and prompt treatment of malaria.
- **Prevention and care for HIV:** treatment, care, infant feeding counselling and support for HIV-infected women and their infants.

Integrated management of childhood illness (IMCI) as a key strategy for improving child health



Essential, evidence-based interventions to reduce reproductive, maternal, newborn and child mortality, and promote reproductive health

Continuum of care	Adolescence & pre-pregnancy	Pregnancy (antenatal)	Childbirth	Postnatal (mother)	Postnatal (newborn)	Infancy & childhood
All levels: Community Primary Referral	• Family planning (advice, hormonal and barrier methods) • Prevent and manage sexually transmitted infections, HIV • Folic acid fortification/ supplementation to prevent neural tube defects	• Iron and folic acid supplementation • Tetanus vaccination • Prevention and management of malaria with insecticide treated nets and antimalarial medicines • Prevention and management of sexually transmitted infections and HIV, including with antiretroviral medicines • Calcium supplementation to prevent hypertension (high blood pressure) • Interventions for cessation of smoking	• Prophylactic uterotonics to prevent postpartum haemorrhage (excessive bleeding after birth) • Manage postpartum haemorrhage using uterine massage and uterotonics • Social support during childbirth	• Family planning advice and contraceptives • Nutrition counselling	• Immediate thermal care (to keep the baby warm) • Initiation of early breastfeeding (within the first hour) • Hygienic cord and skin care	• Exclusive breastfeeding for 6 months • Continued breastfeeding and complementary feeding from 6 months • Prevention and case management of childhood malaria • Vitamin A supplementation from 6 months of age • Routine immunization plus *H.influenzae*, meningococcal, pneumococcal and rotavirus vaccines • Management of severe acute malnutrition • Case management of childhood pneumonia • Case management of diarrhoea
Primary and referral	• Family planning (hormonal, barrier and selected surgical methods)	• Screening for and treatment of syphilis • Low dose aspirin to prevent pre-eclampsia • Antihypertensive drugs (to treat high blood pressure) • Magnesium sulphate for eclampsia • Antibiotics for preterm prelabour rupture of membranes • Corticosteroids to prevent respiratory distress syndrome in preterm babies • Safe abortion • Post abortion care	• Active management of third stage of labour (to deliver the placenta) to prevent postpartum haemorrhage (*as above plus controlled cord traction*) • Management of postpartum haemorrhage (*as above plus manual removal of placenta*) • Screen and manage HIV (if not already tested)	• Screen for and initiate or continue antiretroviral therapy for HIV • Treat maternal anaemia	• Neonatal resuscitation with bag and mask (by professional health workers for babies who do not breathe at birth) • Kangaroo mother care for preterm (premature) and for less than 2000g babies • Extra support for feeding small and preterm babies • Management of newborns with jaundice ("yellow" newborns) • Initiate prophylactic antiretroviral therapy for babies exposed to HIV	• Comprehensive care of children infected with, or exposed to, HIV
Referral*	• Family planning (surgical methods)	• Reduce malpresentation at term with External Cephalic Version • Induction of labour to manage prelabour rupture of membranes at term (initiate labour)	• Caesarean section for maternal/foetal indication (to save the life of the mother/baby) • Prophylactic antibiotic for caesarean section • Induction of labour for prolonged pregnancy (initiate labour) • Management of postpartum haemorrhage (*as above plus surgical procedures*)	• Detect and manage postpartum sepsis (serious infections after birth)	• Presumptive antibiotic therapy for newborns at risk of bacterial infection • Use of surfactant (respiratory medication) to prevent respiratory distress syndrome in preterm babies • Continuous positive airway pressure (CPAP) to manage babies with respiratory distress syndrome • Case management of neonatal sepsis, meningitis and pneumonia	• Case management of meningitis
Community strategies	• Home visits for women and children across the continuum of care • Women's groups					

* Family planning interventions at Referral level include those provided at the Primary level

Three-year study identifies key interventions to reduce maternal, newborn and child deaths
http://www.who.int/mediacentre/news/releases/2011/essential_interventions_onepager.pdf?ua=1

“There can be no keener revelation of a society’s soul than the way it treats its children”

Nelson Mandela, 1988

MCH In KSA

Maternal mortality in 1990-2015

WHO, UNICEF, UNFPA, World Bank Group, and United Nations Population Division
Maternal Mortality Estimation Inter-Agency Group

SAUDI ARABIA

Year	Maternal mortality ratio (MMR)[a]	Maternal deaths	AIDS-related indirect maternal deaths	Live births[b]	Proportion of maternal deaths among deaths of female reproductive age (PM %)
	Per 100 000 live births (lb)	Numbers	Numbers	Thousands	
1990	46 [32-67]	270	0	579	5.6
1995	33 [23-46]	190	0	581	4.2
2000	23 [16-34]	130	0	566	2.9
2005	18 [12-27]	100	0	578	2.3
2010	14 [8-23]	84	0	613	1.9
2015	12 [7-20]	72	0	619	1.6

[a] MMR and PM are calculated for women 15-49 years.
[b] Live birth data are from World Population Prospects: the 2015 Revision. New York, Population Division, Department of Economic and Social Affairs, United Nations Secretariat; 2015.

Annual Rate of Reduction	(%)
1990-2015	5.5 [3.7 - 7.5]
1990-2000	6.8 [4.2 - 9.6]
2000-2015	4.7 [2.3 - 7.1]
2005-2015	4.2 [1.4 - 7.1]

The doctor noted that The number here is 14 in the next slide its 24 also he said we wont be asked about numbers and he will make sure that happens -_- lol

MCH Indicators in KSA

Under-5 mortality rank	141
Under-5 mortality rate (2012)	9
Infant Mortality rate per 1000 live births (under 1), (2012)	16.2
Annual rate of reduction (%) Under-5 mortality rate, (1990-2012)	7.7
Maternal mortality ratio (2010, adjusted)	**24**
Antenatal care coverage (%) at least 1 visit, 2008	97

- http://www.unicef.org/infobycountry/saudiarabia_statistics.html, 2013
- Ministry of health KSA, 2012

Mother and Child Health Passport Project

- **Launched : 14 March 2011**
- Provide necessary follow-up care for both mother and child by monitoring the mother's health condition during pregnancy and the child's subsequent health progress until the age of six.
- Reduce both maternal and infant mortality rates.

THANK YOU