

Community 432 Medicine

Doctor's notes are in **green**.
Additional information are in **orange**.
Unmentioned information are in **grey**.

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Maternal and Child health

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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 be able to enlist the global strategies in place for MCH care
- To appreciate 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





Components of MCH

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

The background features a 3D grid of light blue spheres connected by thin lines, creating a perspective effect that recedes into the distance. The overall color palette is a gradient of blue.

MATERNAL HEALTH

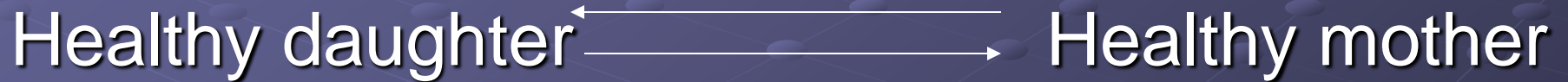
Fast Facts about Maternal Health

● Each and Every Day...

- **1,600 women die needlessly during pregnancy and childbirth:**
- Many are undernourished before and during their pregnancy
- These women often lack information and appropriate voluntary services for family planning and post-abortion care
- Many women lack information and services during their pregnancy and receive inadequate health care before, during, and after delivery
- Women continue to die at the rate of one every minute of every day due to preventable causes related to pregnancy and childbirth
- A woman's death during childbirth often means death for her newborn

Why emphasize on Maternal Health?

Healthy daughter ← → Healthy mother

A diagram illustrating the relationship between maternal health and daughter health. It features two text labels, "Healthy daughter" on the left and "Healthy mother" on the right, both in white font. Two horizontal white arrows connect them: the top arrow points from the mother to the daughter, and the bottom arrow points from the daughter to the mother, indicating a reciprocal relationship.

Provide Adequate education and Correct Information Regarding

In early Adolescence

- Nutritional requirements and proper eating
- Pubertal changes

In Later Adolescence

- Contraception
- Birth spacing and small families
- Child rearing
- Breast Feeding

INFANCY

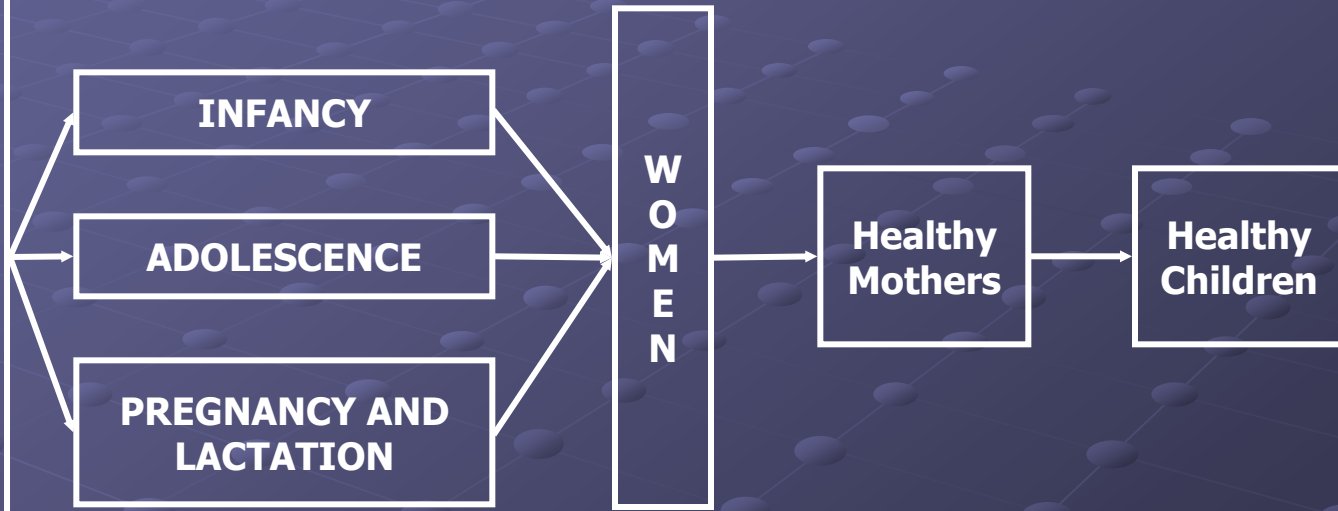
ADOLESCENCE

PREGNANCY AND LACTATION

**W
O
M
E
N**

Healthy Mothers

Healthy Children



POOR NUTRITION

- Inadequate breast feeding
(Remember that the period of breast feeding is 6 month after the babe is born)
- Delayed weaning
- Misconceptions about food
- Recurrent Infections
- Poor social status of women
- Lack of education

Other benefit of breast feeding on the child :

- 1- enhance the immunity
- 2-mental health
- 3- protect the mother from cancer

The reason of not breast feeding :

- 1- inverted nipple
- 2-death of the mother
- 3- psychological

AT BIRTH

- Nutritional deficiency(of the Mother)
- Prematurity
- Low birth weight
- Delivery problems

INFANCY

ADOLESCENCE

PREGNANCY AND LACTATION

W
O
M
E
N

- Malnutrition
- **Stunting - small pelvis**
- Nutritional deficiencies
 - Iodine
 - Iron
- large family
- Closely spaced birth

Sick mothers

Unfit Children

PSYCHOSOCIAL

- Improper education
 - child rearing
 - breast feeding
- No education
 - contraception
 - birth spacing
 - small families

AGGRAVATED

- Early marriage
- Teenage Pregnancy

IN REARING

- Cannot feed properly
- Large families
- Cannot educate child



Phases of Maternal Health

A) *Nutrition*

- fetal growth
- birth weight
- nutrition during infancy

● *Infections*

- Maternal Abs – passive immunity
 - Maternal immunizations – protects against adverse outcomes
- Before Pregnancy:**

Phases of Maternal Health

B) During pregnancy

- Nutrition – weight, anemia
 - Care of the breast (to avoid inverted nipple and the presence of any lump)
- Infections
 - Rubella (the mother should wait 6 months after the injection to get pregnant)
 - Syphilis
 - Malaria
 - UTI
 - Tetanus immunization (its very important on the babe)
- Smoking (will cause prematurity)
- Heavy work and stress
- Psychological stress

Doctor notes

- Why are female during pregnancy are at high risk of developing any Sexually Transmitted Infection STI ?

1- the immune system is depressed

2-the mucosa of the vaginal tract and reproductive tract its

Easy get eroding because its thins out

- **Malaria :**

anemia is main manifestation so the baby is dying because of lack of blood

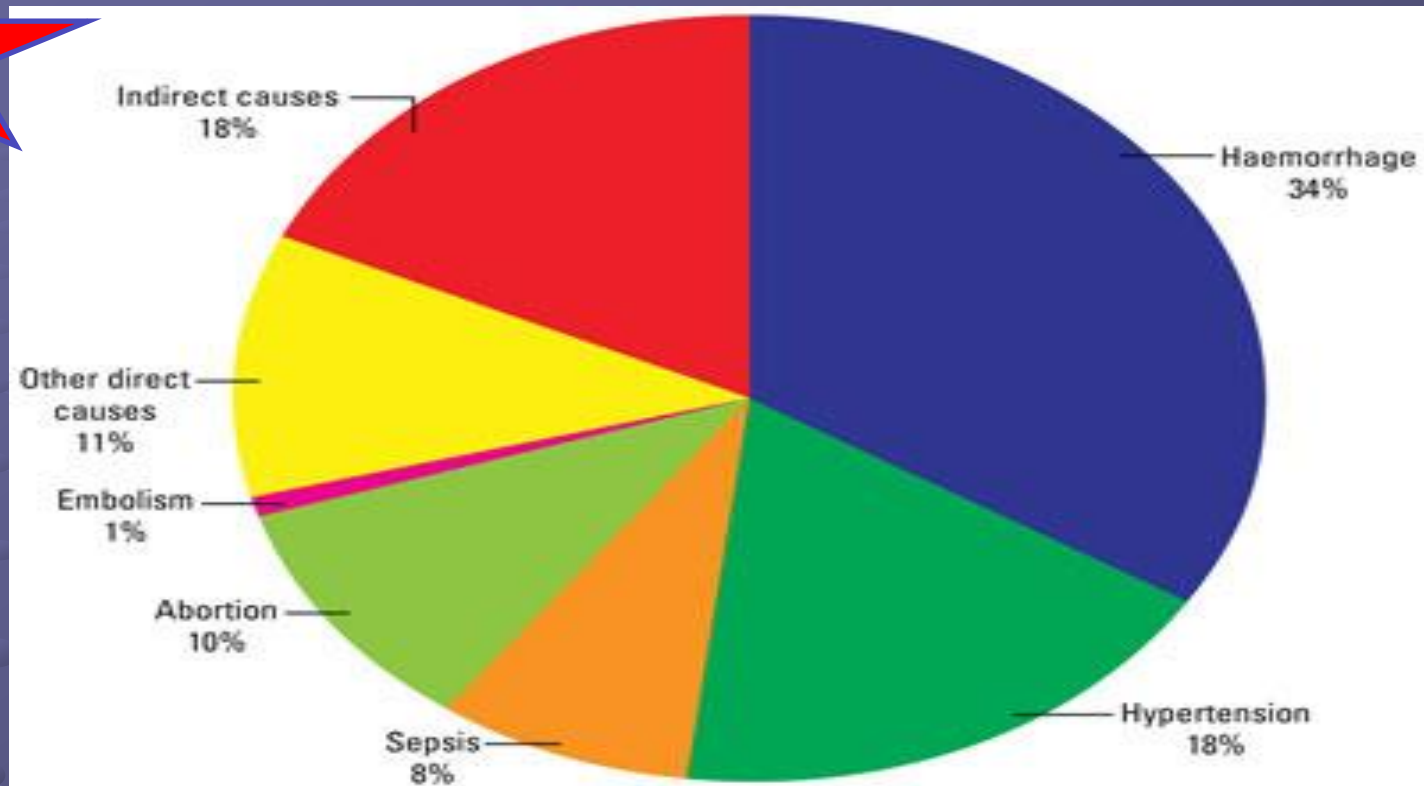
It's the number one killer of African women pregnant female

Phases of Maternal Health

C) Labour and post partum

- Infections – Ophthalmia neonatorum, tetanus neonatorum
- Bleeding
- Trauma
- Asphyxia
- Lactation
- Birth spacing – family planning

Global Causes of Maternal Mortality



Source: WHO, Systematic Review of Causes of Maternal Death (preliminary data), 2010.

What is the leading cause of maternal death ?

Hemorrhage (bleeding during pregnancy, labor and after labor)

Is this preventable cause ?

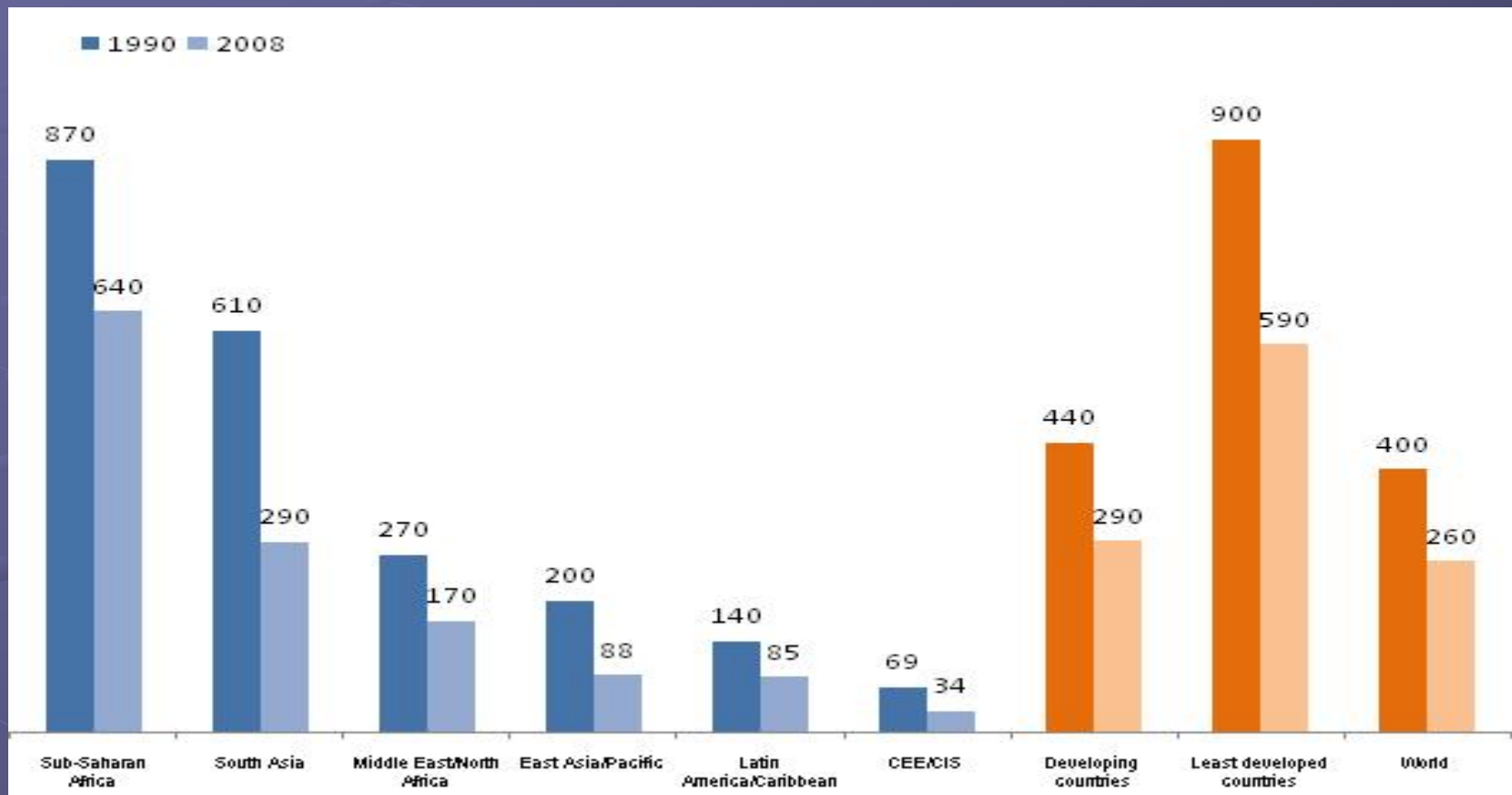
Yes by:

1- good trained doctors 2- blood transfusion at the proper time 3- screening during pregnancy

Second cause of death is hypertension

Declines in maternal mortality ratio across all developing regions

Maternal deaths per 100,000 live births, 1990 to 2008



Source: *Trends in Maternal Mortality 1990-2008*. WHO, UNICEF, UNFPA and The World Bank.

Table 2. Estimates of maternal mortality ratio (MMR, deaths per 100 000 live births), number of maternal deaths, and lifetime risk by United Nations MDG regions, 2008

Region	Estimated MMR ^a	Number of maternal deaths ^a	Lifetime risk of maternal death ^a : 1 in:	Range of uncertainty on MMR estimates	
				Lower estimate	Upper estimate
WORLD TOTAL	260	358 000	140	200	370
Developed regions ^b	14	1700	4300	13	16
Countries of the Commonwealth of Independent States (CIS) ^c	40	1500	1500	34	48
Developing regions	290	355 000	120	220	410
Africa	590	207 000	36	430	850
Northern Africa ^d	92	3400	390	60	140
Sub-Saharan Africa	640	204 000	31	470	930
Asia	190	139 000	220	130	270
Eastern Asia	41	7800	1400	27	66
South Asia	280	109 000	120	190	420
South-Eastern Asia	160	18 000	260	110	240
Western Asia	68	3300	460	45	110
Latin America and the Caribbean	85	9200	490	72	100
Oceania	230	550	110	100	500

Trends in Maternal Mortality 1990 – 2008 ; WHO, UNICEF, UNFPA, and World Bank

Why do these women die?

Three Delays Model

- **Delay in decision to seek care**
 - Lack of understanding of complications
 - Acceptance of maternal death
 - Low status of women
 - Socio-cultural barriers to seeking care
- **Delay in reaching care**
 - Mountains, islands, rivers — poor organization
- **Delay in receiving care**
 - Supplies, personnel
 - Poorly trained personnel with punitive attitude
 - Finances

Global Targets

- Target 6 of the MDGs

- ***To reduce the maternal mortality ratio by three-quarters between 1990 and 2015.***

Defining Maternal Death

- According to the Tenth Revision of the ICD:

Maternal Death:

A maternal death is 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, from any cause related to or aggravated by the pregnancy or its management but not from accidental causes (WHO 1993).

Pregnancy-related death: “time of death” definition; Irrespective of cause.

- **Late maternal death:** *The death of a woman from direct or indirect obstetric causes more than 42 days but less than one year after termination of pregnancy.*

Maternal Mortality Indicators

- Maternal mortality ratio
- Maternal mortality rate
- Life-time risk of maternal mortality
- Proportion maternal

Maternal Mortality Ratio

$$\frac{\text{N of maternal deaths in a specified period} * 100,000}{\text{N of live births in same period}}$$

● Interpretation:

MMRatio = 50-250 per 100,000 live births

Problems with quality of care

MMRatio > 250 per 100,000 live births

Problems with quality of care & access

Maternal Mortality Rate

N of maternal deaths in a specified period * 1000

N of women of reproductive age

● Relationship Between MMRate & MMRatio:

MM Rate = MM ratio * GFR

MM Ratio = MMRate / GFR

● General fertility rate = (N of live births in a period) / (N of women of reproductive ages in a period) * 1,000

Other Maternal Mortality Indicators

- **Life time risk of maternal mortality** = (N of maternal deaths over the reproductive life span) / (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

Where do Maternal Mortality data come from?

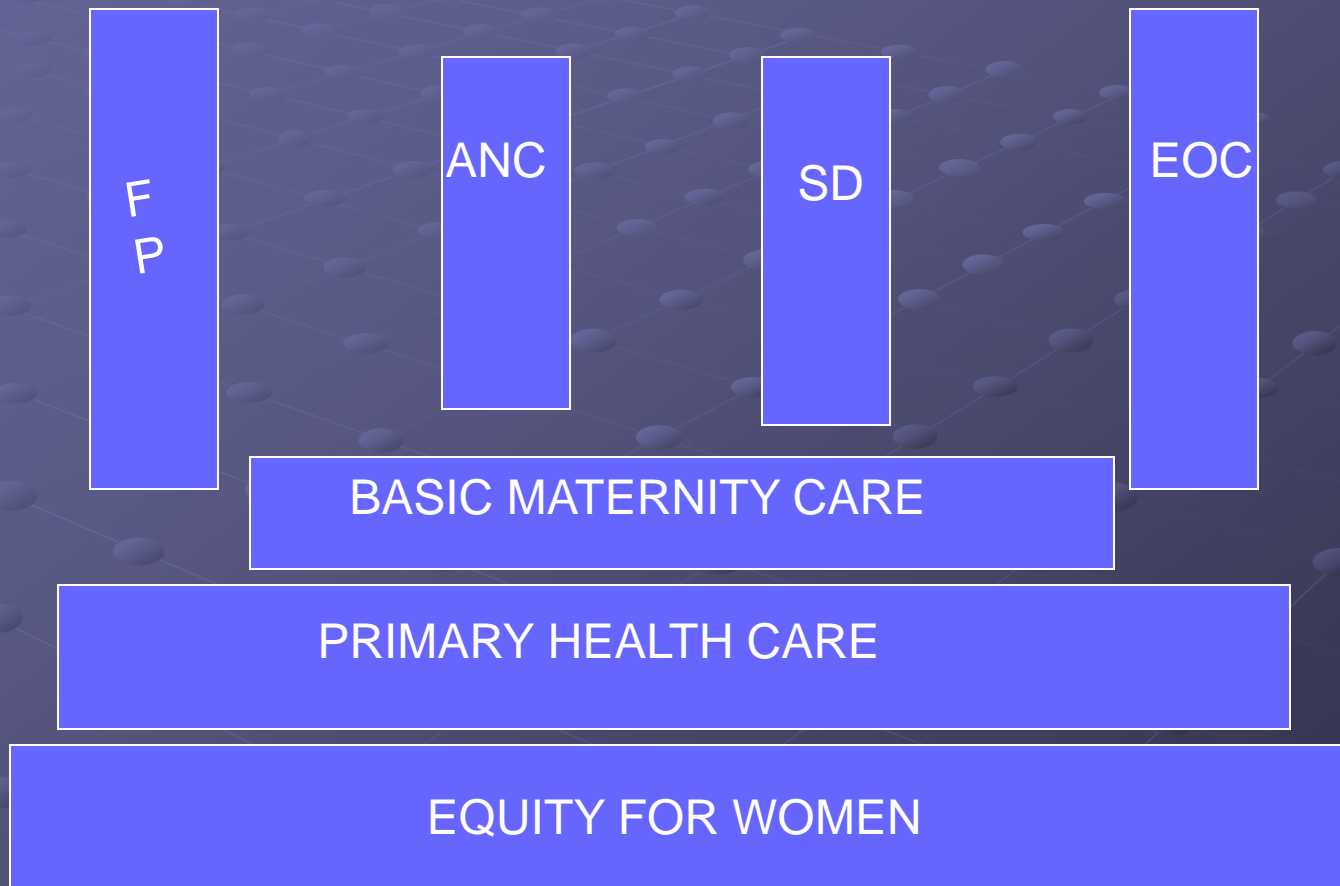
- Vital registration data - **MM Rate and MM Ratio**
- Health service data – maternity registers - **MM Ratio**
- Special studies
 - Hospital studies – tracing deaths, interviews
 - Research, longitudinal studies, verbal autopsy
- Surveys & censuses
 - Direct estimation - **Rate and Ratio**
 - Sisterhood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

Interventions for Maternal Care





SAFE MOTHERHOOD



FP: Family planning, ANC: Antenatal care, SD : Clean safe delivery, EOC:Emergency obstetrics care

Interventions for Maternal Care

Antenatal care

- Nutrition support (anemia)
- Personal hygiene, dental care, rest and sleep
- Immunization (mother and the new born)
- Education on delivery and care of the new born
- Identifying high risk pregnancies
- Emphasizing on ANC visits and maintenance of AN card
- Importance and management of lactation
- Advise on birth spacing

Child Health



*The health of the child
is the power of the nation*



Fast Facts about Newborn Survival

● Each and Every Day...

- **11,000 newborns under 4 weeks of age die and there are 11,000 stillbirths:**
- Siblings born too close together place mothers and infants at increased risk of complications
- **More than half of babies who die have low birth weight** and many babies are born to undernourished and unhealthy mothers
- Many newborns are not breastfed immediately after birth nor exclusively, or are fed inappropriate foods, leading to malnutrition and illness
- Many mothers and their newborns receive inadequate health care to address complications arising from delivery or in the first days and weeks of life
- Most causes of newborn death including birth asphyxia and injuries, infection, complications of prematurity, and congenital abnormalities are preventable

Childhood health problems

1. Infectious Diseases:

- **Congenital Infections(Rubella)** —————> abortions, still births, congenital diseases and malformations
- **Neonatal infections** (e.g. ophthalmia neonatorum, tetanus)
- **vaccine related diseases** (**immunizable diseases that bring down the infant mortality ?**
TB ,Rubella, hepatitis B , hepatitis A MMR)

Childhood health problems

2. Malnutrition:

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

3. Injuries:

Of several categories including:-

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

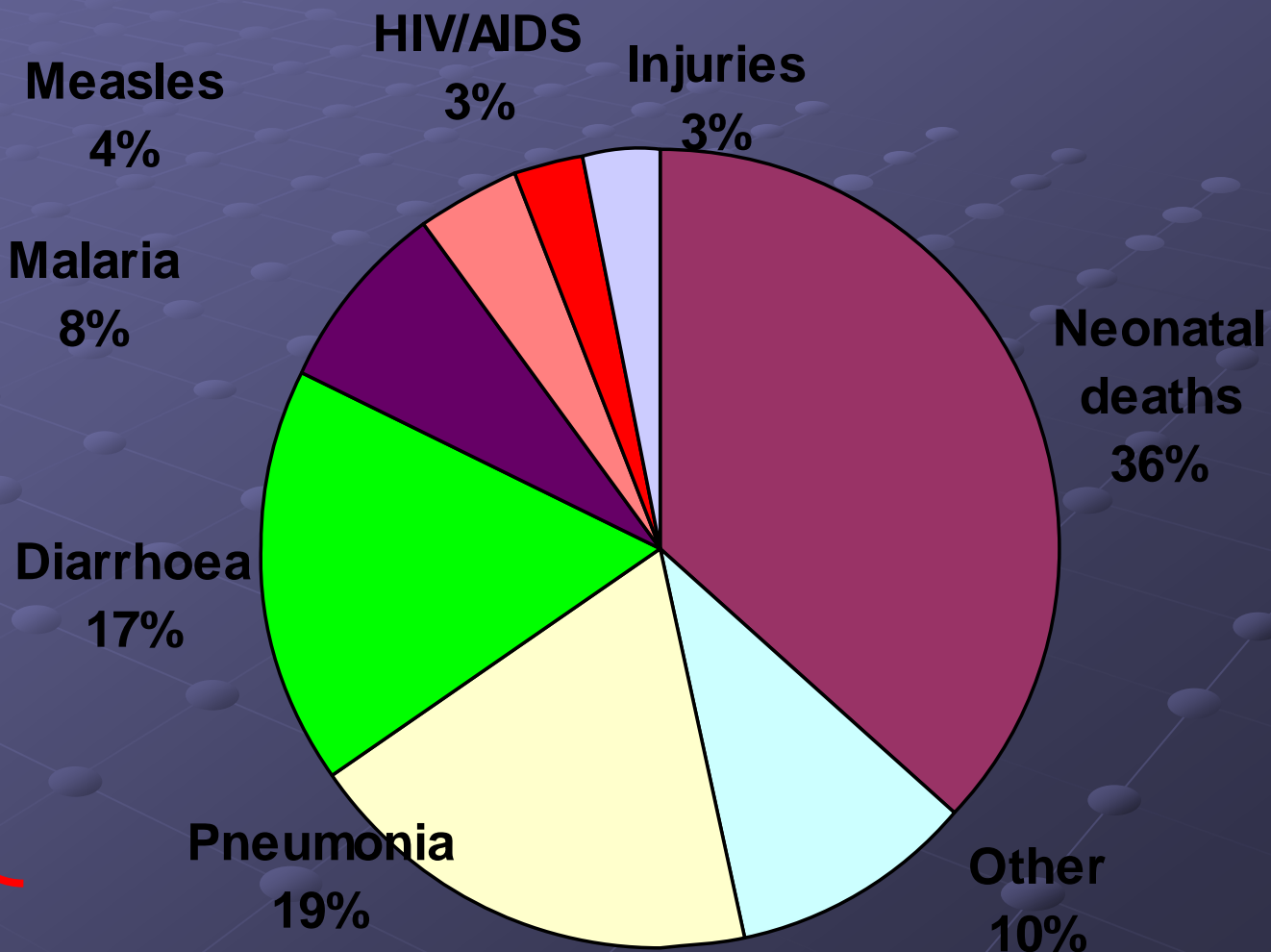
10 million child deaths – Why?



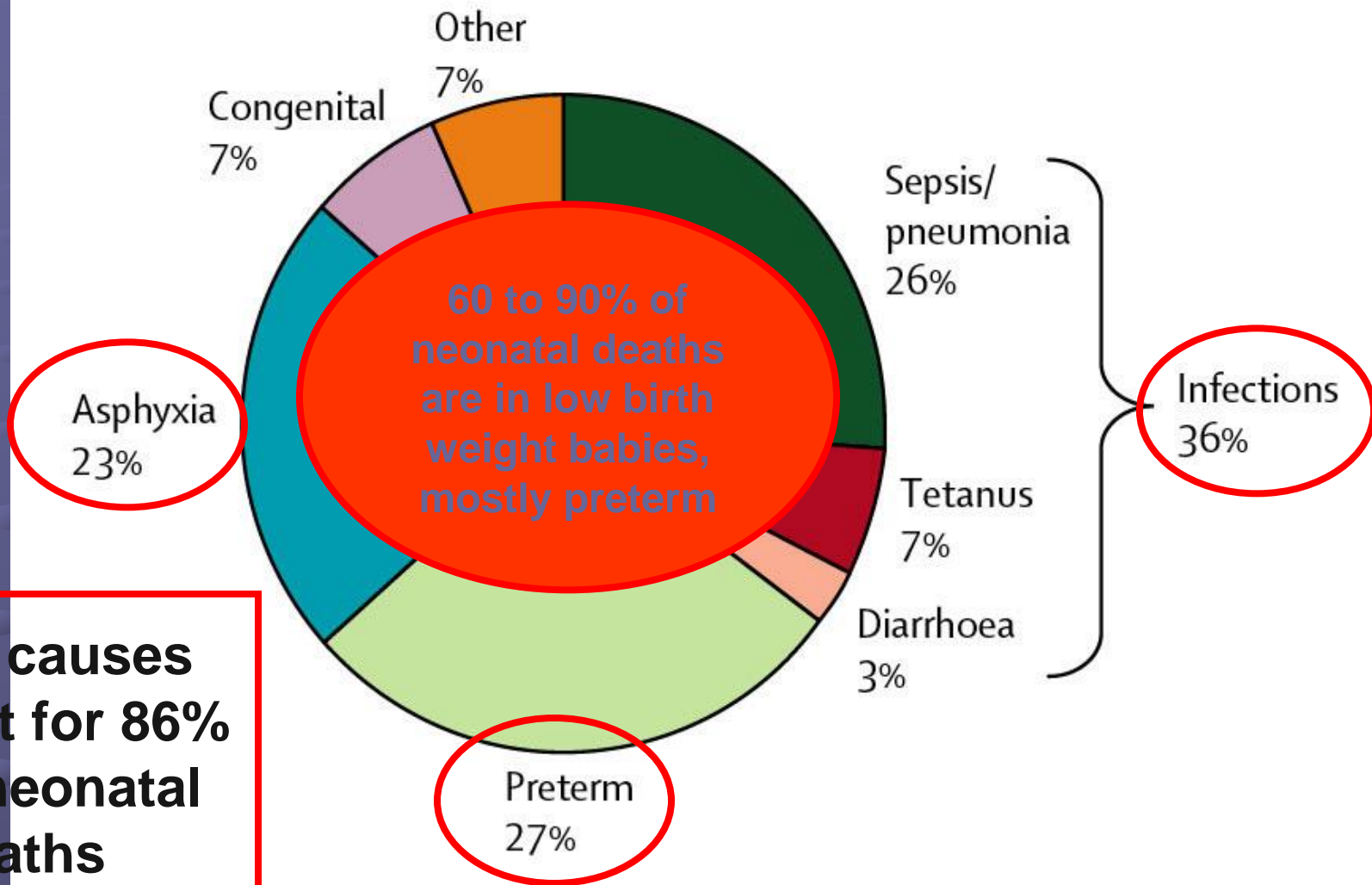
For these 4 causes, ~ 53% of deaths are malnourished children

The causes of neonatal deaths ?

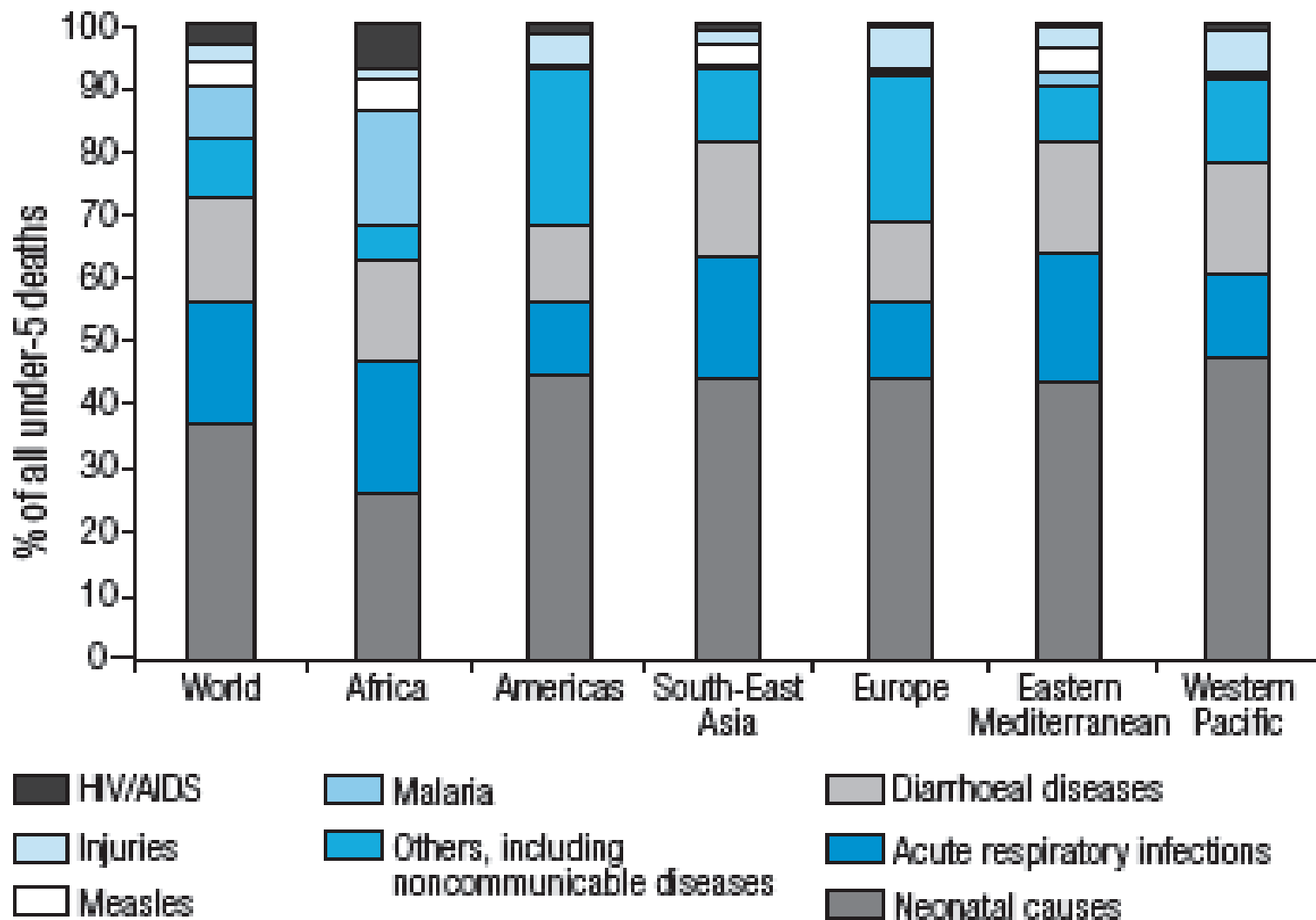
- 1- diarrhoea
- 2- pneumonia
- 3- malaria
- 4- measles
- 5- HIV



4 million newborn deaths – why?



Major causes of death among children under five, by WHO region, 2000–2003



Child survival strategies

During 1970s

PHC movement with its commitment to tackle underlying social economic and political causes of poor health emerged largely focusing child health

During early 1980s

focus was shifted from PHC to vertical “single issue” programs to achieve cheaper and faster results

leading to Child Survival Revolution of 1980s spearheaded by UNICEF

build around a package of intervention grouped under the acronym - **GOBI** – Growth monitoring, ORS, Breast Feeding & Immunization

Child survival strategies

cont...

- The inherent limitations of these vertical approaches soon become apparent as health workers have to deal with large range of health problems and single issue programs were not designed to provide such guidance
- A more comprehensive view of the needs of child was required –
Dealing with children , not just with disease!!

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

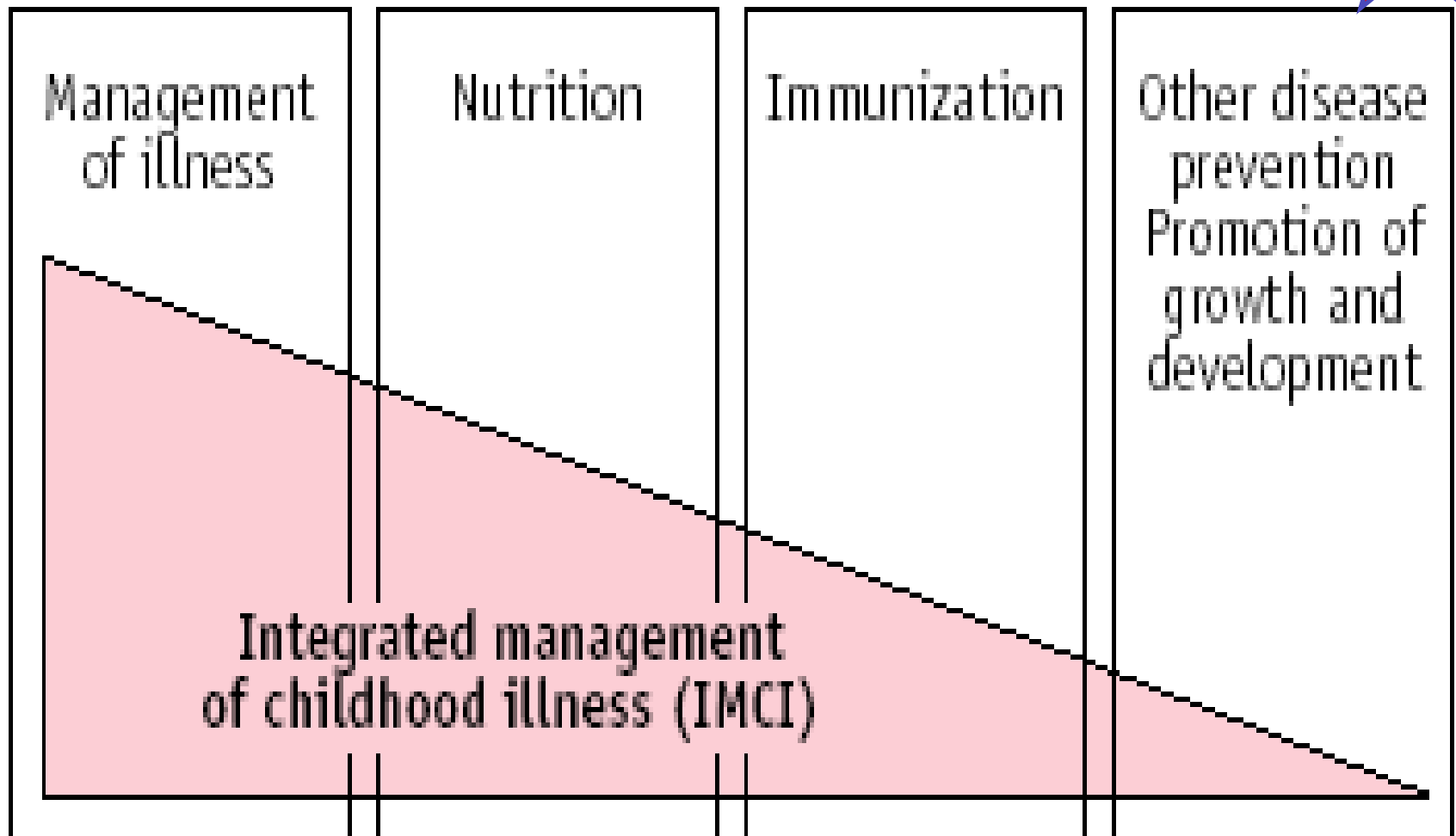


Table 6.1 Core interventions to improve child survival

- **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 breastfeeding 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.
-

Full coverage with proven intervention could reduce Under Five Mortality by 66% equivalent to 6 million child deaths per year

Prevention

- Breast feeding
- Insecticide treated nets and repellents for Malaria
- Zinc
- Complementary feeding
- Water & sanitation
- Hygiene

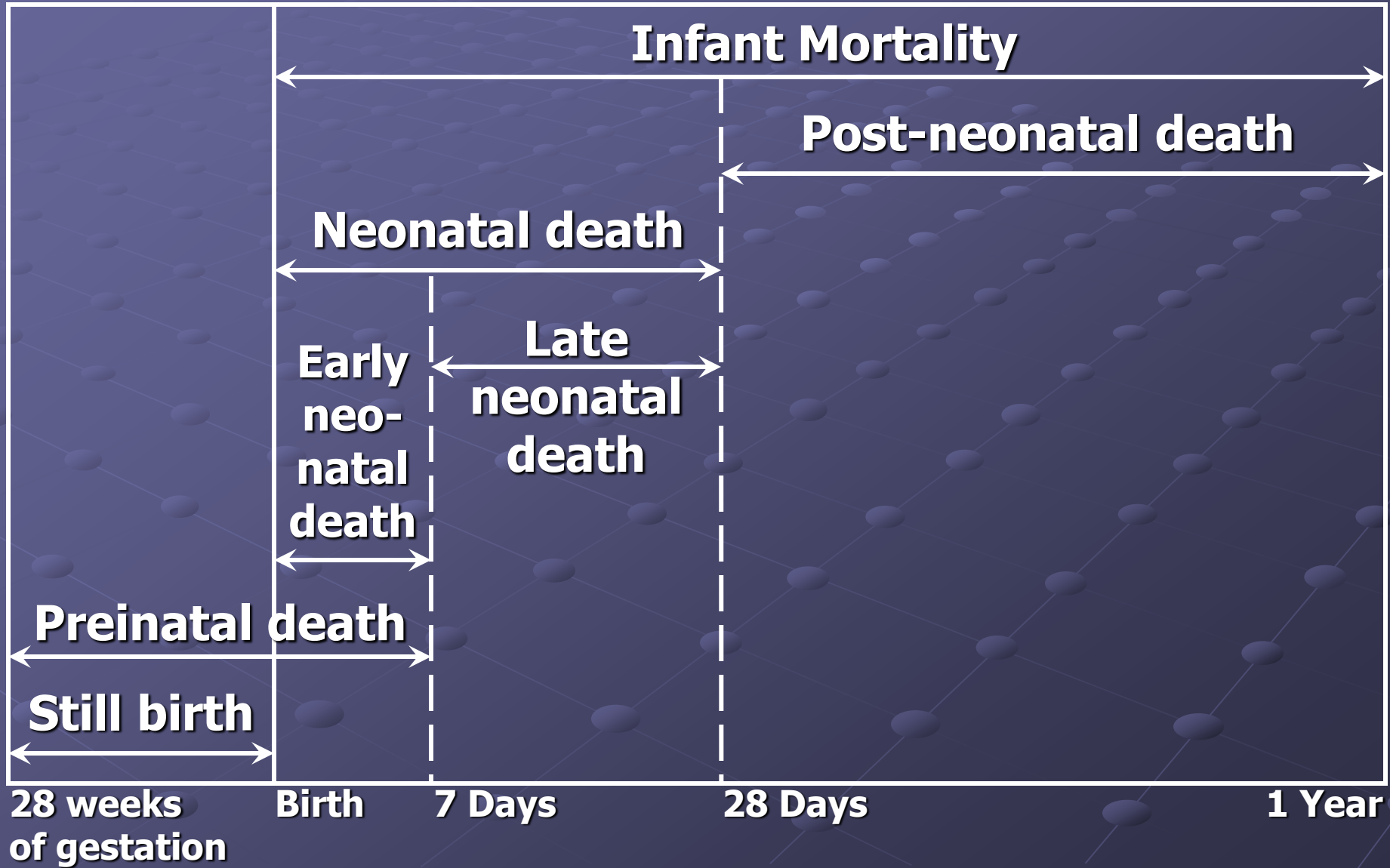
Treatment

- ORT
- Antibiotics for Pneumonia / Sepsis
- Newborn care
- Antimalarials
- Antibiotics for dysentery
- Zinc

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



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

Nelson Mandela,
1988





MCH in KSA

MCH Indicators in KSA

Under-5 mortality rank	100
Under-5 mortality rate (2005)	26
Infant Mortality rate (under 1), 2005	21
Neonatal Mortality rate, 2000	12
Maternal mortality ratio (2000, adjusted)	23
Antenatal care coverage (%), 1997-2005*	90

Source UNICEF 2005

Integrated PHC and MCH services in KSA

- 1980s – Comprehensive PHC services, focus on CDD, Immunization and MCH
- 1990s – Baby friendly hospitals (BFHI), Acute respiratory infections (ARI) programmes
- Mid 1990s – more PHC related programmes introduced
 - Reproductive health
 - Safe motherhood
 - Adolescent health
 - Women's' health
 - Chronic diseases control
 - Development of district health system and strengthening of referral system
 - School health revived
 - Elderly care

References

- TAKING STOCK OF MATERNAL, NEWBORN AND CHILD SURVIVAL *2000–2010 DECADE REPORT*http://whqlibdoc.who.int/publications/2010/9789241599573_eng.pdf
- Khan, Khalid S. et al. *WHO Analysis of Causes of Maternal Deaths: A Systematic Review*, The Lancet, 2006 Vol. 367. Issue 9516, pp. 1066-1074.
- Refer to the binder for more