

# Maternal and Child Health L-3

A close-up photograph of a baby crawling on a white surface. The baby is smiling and looking towards the camera. A light blue towel is draped over the baby's head and shoulders, framing their face. The background is a soft, out-of-focus white surface.

## CHILD HEALTH

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## **Objectives :**

- Identify objectives of child health services**
- Outline health of newborn(causes, and measurement of different mortality rates )**
- Recognize the priority areas to improve newborn health.**
- Define infant mortality, its causes and key elements for reduction through MCH.**

**The childhood is divided into the following age-periods:**

**I. Infancy (up to 1 year of age)**

**a. Neonatal period (first 28 days of life)**

**b. Post neonatal period (28th day to 1 year)**

**2. Pre-school age (1-4 years)**

**3. School age (5-14 years)**

## **Why is children's health important?**

**For children, the right to health is vital because they are vulnerable beings, more at risk to illness and health complications.**

**When children are safe from disease, they can grow into healthy adults, and in this way, contribute to the development of dynamic and productive societies.**

# Objectives of Child Health Services

- 1. Promote the health of children to ensure that they achieve optimal growth and development both physical and mental.**
- 2. Protect children from major hazards through specific measures (immunization, chemoprophylaxis, & dietary supplements) and through improvement in the level of care provided by the mother and the family.**
- 3. Treat diseases and disorders with emphasis on early diagnosis, the aim is to provide an effective remedy at an early stage before complications occur.**

## The Risk Factors that may Influence the Child Health

- **Birth weight less than 2.5 kg.**
- **Fifth child & more.**
- **Brothers or sisters under nourished.**
- **Birth less than 2 years after last birth.**
- **Twin.**
- **3 or more children in the family died.**
- **Single parent.**

# HEALTH OF NEW BORN



**The infancy is the 1st year of human life, the infancy traditionally divided into two periods, which are:**

➤ **Neonatal**

➤ **Post neonatal**

**The neonatal period comprises the first (28 days) of life, in terms of health and disease, it is the single most important period of all infancy and childhood during which the highest mortality occurs.**

**The first month of life is the most vulnerable period for child survival, with 2.4 million newborns dying in 2020.**

**There are approximately 6700 newborn deaths every day, amounting to 47% of all child deaths under the age of 5 years**



# Causes of Neonatal Morbidity and Mortality

**The most important common causes are:**

**1- Prematurity and intrauterine growth retardation**

**2-Low birth weight**

**Approximately 80% of infants who die within 48 hours of birth weight less than 2500g**

**3-Neonatal Infection**

**4-Respiratory Distress Syndrome (RDS)**

**5-Congenital Abnormality**

**6-hyperbilirubinaemia**

**7-Birth Asphyxia**

**8-Babies born to mothers with chronic disease**

## **Health risks to newborns are minimized by:**

- Quality care during pregnancy.**
- Safe delivery.**
- Strong neonatal care.**



## **Essential newborn care**

**All babies should receive the following care :**

**1-Thermal protection (e.g. promoting skin-to-skin contact between mother and infant)**

**2-Hygienic umbilical cord and skin care**

**3-Early and exclusive breastfeeding**

**4-Assessment for signs of serious health problems or need of additional care (e.g. those that are low-birth-weight, sick or have an HIV-infected mother)**

**5-Preventive treatment (e.g. immunization BCG and Hepatitis B, vitamin k and ocular prophylaxis)**

## **Families should be advised to:**

- **Seek prompt medical care if necessary (danger signs include feeding problems, or if the newborn has reduced activity, difficult breathing, a fever, fits or convulsions, or feels cold)**
- **Register the birth**
- **Bring the baby for timely vaccination according to national schedules.**

**Some newborns require additional attention and care during hospitalization and at home to minimize their health risks.**

# Measures of mortality during Infancy

## 1. PERINATAL MORTALITY

- **Perinatal period is lasting from 28<sup>th</sup> week of gestation to the seventh day after birth.**
- **Perinatal mortality includes both late fetal deaths (Still birth) and early neonatal deaths.**

**In 2018, 5.1 million babies were stillborn or die in their first month of life.**

**Causes of perinatal deaths are :**

- **Intrauterine and birth asphyxia**
- **Low birth weight**
- **Birth trauma**
- **Intrauterine and neonatal infection**

# Peri- Natal Mortality Rate

Late fetal deaths (28 wks. gestation & more) +  
early neonatal deaths (first week) in one year

$$\text{PNMR} = \frac{\text{Late fetal deaths + Live Births (total birth) In The Same Year}}{\text{Late fetal deaths + Live Births (total birth) In The Same Year}} \times 1000$$

# Neonatal Mortality

- **These are deaths occurring during the neonatal period, beginning at birth and ending 28 completed days after birth. This usually divided into:**
  - ☞ **Early neonatal death-1<sup>st</sup> seven days**
  - ☞ **Late neonatal death 8-28 days**

**A child's risk of death in the first four weeks of life is nearly 15 times greater than any other time before his or her first birthday.**

**Most neonatal deaths (75%) occur during the first week of life, and in 2019, about 1 million newborns died within the first 24 hours.**

# Neonatal Mortality Rate

Number of deaths of children under  
28 days of age in a year

**NMR =**

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Total live births in the same year

**x 1000**



## **Causes of neonatal mortality :**

- **Low birth weight**
- **Birth asphyxia**
- **Atelectasis**
- **Birth injuries**
- **Congenital malformation**
  
- **Infections ( tetanus , diarrhea)**
  
- ❖ **NMR is more in boys as they are biologically more fragile than girls**



## **Early Neonatal Mortality Rate**

$$\text{ENMR} = \frac{\text{Number of deaths of children} \\ \text{<1 wk. of age in a year}}{\text{Total live births in the same year}} \times 1000$$

## **Late Neonatal Mortality Rate**

$$\text{LNMR} = \frac{\text{Number of deaths of children} \\ \text{after 7}^{\text{th}} \text{ day till 28}^{\text{th}} \text{ day of age in a year}}{\text{Total live births in the same year}} \times 1000$$

**Perinatal and neonatal mortality reflect causes of deaths related to maternal health prior to pregnancy as well as events during pregnancy, delivery and early neonatal period.**

**Children who die within the first 28 days of birth suffer from conditions and diseases associated with lack of quality care at birth or skilled care and treatment immediately after birth and in the first days of life.**

# Priority Areas to Improve Newborn Health

- **Before & during Pregnancy**
- **During Pregnancy**
- **During & soon after Delivery**
- **During the First Month of Life**

# Before & during Pregnancy

- **Well-timed, well-spaced, & wanted pregnancies(family planning)**
- **Well-nourished & healthy Mother**
- **Tetanus & rubella immunization for the mothers**
- **Prevention of mother to child transmission of infection (HIV)&HB.**
- **Female education**

# During Pregnancy

A-Early contact with health system(ANC) for :

**1-Birth & emergency preparation**

**2-Early detection & treatment of maternal complications**

**3-Monitoring of fetal well-being & timely interventions for fetal complications**

**4-Tetanus immunizations**

**5-Prevention & treatment of infections**

B-Good diet during pregnancy

C-Prevention of violence against women

# During & Soon After Delivery

- 1- Safe & clean delivery by skilled attendant**
- 2- Early detection & prompt management of delivery & fetal complications**
- 3- Emergency obstetric care for maternal & fetal conditions(EmOC)**
- 4- Newborn resuscitation**
- 5- Newborn care ensuring warmth & cleanliness**
- 6- Newborn cord, eye & skin care**
- 7- Early initiation of exclusive breast feeding**

**8- Early detection & treatment of newborn complications**

**9- Prevention & control of infections**

**10- Information & counseling on home care, danger signs & care seeking**

**• During the First Month of Life**

**1-Early post-natal contact**

**2-Protection, Promotion & support of exclusive breast feeding**

**3-Prompt detection & management of disease in newborn infant**

**4-Immunization**

**5-Protection of girl child**



# Post neonatal period

The major contributors to the health during post neonatal period are **malnutrition, infectious disease, and problems with the home environment.**

**Causes of Infant Death in The Post neonatal Period: Post neonatal deaths are caused by two major factors:**

**1-Infection**

**2- Malnutrition**

**The immediate causes of deaths in this age group are:**

- **Diarrheal diseases culminating in dehydration**
- **Acute lower respiratory infections [pneumonia]**
- **Other communicable diseases like measles.**

**Post neonatal mortality** is the death of children aged 29 days to one year.

**This rate is more closely linked to environmental factors especially socioeconomic disadvantages.**

**The probability of dying after the first month and before reaching age 1 was 11 per 1,000 in 2018**

# Post Neonatal Mortality Rate

Total number of deaths of children between  
28 days and one year of age in a given year

$$\text{PNMR} = \frac{\text{Total number of deaths of children between 28 days and one year of age in a given year}}{\text{Total live births in the same year}} \times 1000$$

# Infant Mortality

**Death of the child under 1 year of age. This rate indicates the following**

**1-Health status of community**

**2-Level of living**

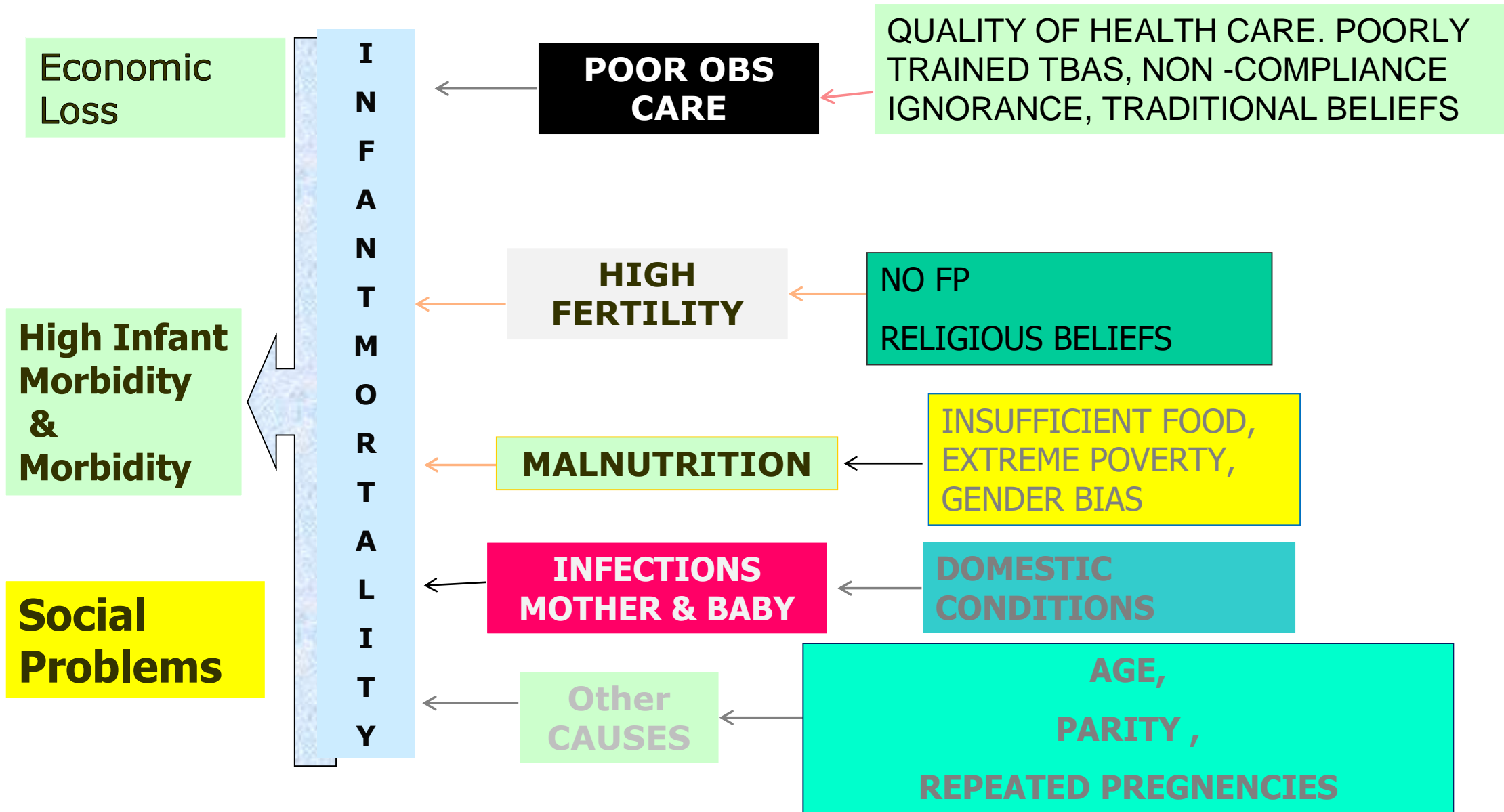
**3-Effectiveness of MCH services.**

**4-The overall state of maternal health as well as quality and accessibility of PHC available to pregnant women and infants.**

**Infant mortality is given a specific and separate ATTENTION because:**

- **It is largest single age category of mortality**
- **Deaths are due to peculiar set of disease and conditions**
- **It is affected quickly by special health programme.**

# Multiple Causation Web Model For Infant Mortality



# Predisposing Factors of Infant Mortality

## 1-Biological Factors

**Birth weight, Age of the mother, Birth order, Birth spacing, Multiple births, Family size, High Fertility.**

## 2-Economic Factors

**Low socioeconomic factors, quality & availability of health care**

## 3-Cultural & Social Factors

**Breast feeding, Early marriage, maternal education**

# INFANT MORTALITY RATE

$$\text{IMR} = \frac{\text{Number of deaths of children less than 1 year of age in a year}}{\text{Number of live births in the same year}} \times 1000$$

In 2020, infant mortality rate for Iraq was 22.47 deaths per thousand live births. Infant mortality rate of Iraq fell gradually from 76.67 deaths per thousand live births in 1971 to 22.47 deaths per thousand live births in 2020.



# Infant Mortality Rate

**Used for international comparisons; a high rate indicates unmet health needs and poor environmental conditions.**

$$\text{Infant mortality} = \frac{\text{Number of infant deaths among infants aged 0-365 days during the year}}{\text{Number of live births during the year}} \times 1,000 \text{ live births}$$

# Specific Measures for Reduction of Infant Death through MCH Services



**1.Promotion and protection of breast feeding at least the first six months [exclusive breast feeding].**

**2.Ensuring the introduction of appropriate supplementary foods at six months of age [complementary food].**

**3.Nutritional and health education of mothers with emphasis on correct weaning [ weaning refers to termination of BF, WHO recommends that no child be fully weaned before the age of 2years] and feeding with adequate food & hygiene precautions.**

**4.Promoting maximum immunization coverage of all infants for the childhood diseases.**

**5-Screening for hypothyroidism and PKU**

**6-Monitoring child growth and development**



**7-Integrates management of the most common childhood problems through Maternal Neonatal and Child Health (MNCH) (pneumonia, diarrhea, measles, malnutrition, anemia, ear problems) through PHC .**



Any question ?