

Infant and Child Care



Infant-Toddler Dev 7 D.Richardson



Learning objectives

After this lecture, you will be able to:

1. Be familiar with the Well Baby Clinic concept.
2. Identify age specific mortality rates.
3. Identify the causes of perinatal mortality.
4. Describe the needs of the newborn.
5. Identify interventions utilised to reduce infant mortality.

Child Care

- ▶ The period of early childhood development is the most important period of life.
- ▶ In order to reach their full potential, children need appropriate support from families, education and healthcare professionals during this period.
- ▶ Research has consistently shown that good early childhood development will have a direct positive impact on a child's long-term health outcomes and will improve future opportunities and school attainment.
- ▶ Particularly important is the impact of this period on a child's emotional and social development, which is vital for their future confidence, communication, relationships, and mental health.
- ▶ Early childhood experiences have a profound impact on brain development – affecting learning, health, behavior, and, ultimately, productivity and income.

- ▶ A child's brain develops in response to both genes and the environment. It is the interaction between the genes and environment that really shape the developing brain.
- ▶ While genes provide the initial map for development, it is the experiences and relationships babies and children have every day that literally shape their brains.
- ▶ For optimal brain development: a stimulating environment, adequate nutrients , attentive caregivers & social interactions are required
- ▶ Families have an extremely important ongoing influence on children's development. The community and service environments in which children and families interact also play a key role in supporting optimal development.

Infant and Child Care:

W.B.C (Well Baby Clinic).



- ▶ A Well Baby Clinic deals with the total well-being of every child.
- ▶ Well-baby exams are an important way to monitor baby's growth and development and check for serious problems.
- ▶ These regular check-ups also provide an opportunity to develop a relationship with baby's doctor.
- ▶ Baby's doctor will likely recommend the first well-baby exam within 7 to 10 days after birth.
- ▶ Additional well-baby exams will be needed every few weeks and, later, every few months for the first year.
- ▶ child's doctor will recommend a schedule for well-child visits

Well-Baby Clinic

▶ WBC services include:

- 1- Physical Examination
- 2- Growth and Development
- 3- Vaccination
- 4- Nutrition
- 5- Health Education (breastfeeding education, maternal hygiene & smoking cessation ...etc)

Definitions

- ▶ Neonatal mortality (death < 28 days).
- ▶ Post neonatal mortality (deaths between 28 days and one year).
- ▶ Infant mortality (deaths between 0 and 12 months).
- ▶ Under-five mortality (the mortality of children under the age of five)
- ▶ Low birth weight (<2500 g).
- ▶ Preterm birth, premature delivery (<36 weeks gestation).
- ▶ Perinatal mortality (PNM) : is the number of late foetal deaths (also called still births) and early neonatal deaths (day 7) per 1000 births

Infant mortality

- ▶ Infant deaths are divided into two groups: those occurring at less than 28 days after birth, referred to as **neonatal deaths**; and those occurring at ages 28 days and over but under one year, referred to as **post neonatal deaths**.

(Kurinczuk, Hollowell, Brocklehurst, & Gray, 2009)

Continued

- ▶ **Neonatal** mortality rates are especially sensitive to events during **pregnancy, delivery** and the **neonatal** period, and to the care given to mothers and their babies.
- ▶ **Post neonatal** mortality is thought to be influenced to a greater extent by **parental circumstances**, including their *socioeconomic position*, and the *care* they provide for their infant.
- ▶ The earlier a baby is born, in terms of completed weeks of pregnancy, the higher the risk of infant death.

(Kurinczuk, Hollowell, Brocklehurst&Gray, 2009)

Causes of Perinatal mortality (PNM)

Pregnancy complications :

- Premature delivery (esp. multiple gestation) results in **low birth weight**.
- Uncontrolled hypertension (results in preeclampsia & **low birth weight**)
- Uncontrolled diabetes.
- Antepartum haemorrhage.
- Intra uterine growth restriction IUGR “foetal growth restriction” ,results in **low birth weight**.
- Oligohydramnios
- Foetal anomalies (e.g. Anencephaly)
- Post date.

Continued,

Delivery complication :

(during normal delivery) is mainly **Asphyxia** .

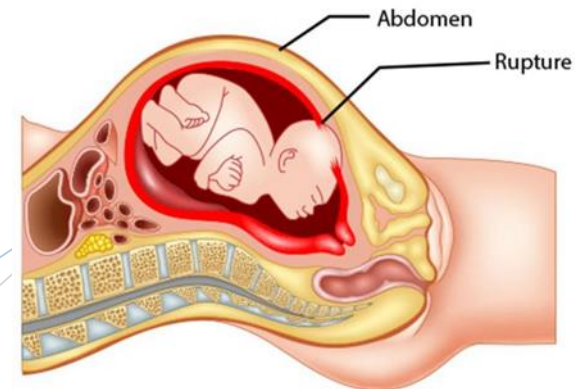
Asphyxia could be due to :

- Cord prolapse
- Ruptured uterus
- Placental abruption
- Sepsis (mostly due to prolonged rupture membrane) .



A prolapsed cord occurs when the umbilical cord is below the presenting part of the fetus.

Uterine Rupture



Low Birth Weight (LBW)

- Low birth weight is an extremely important factor predisposing for PNM.
- Perinatal mortality rate for low-birth weight babies is 100 times higher than for fetuses or infants of normal weight.
- Premature birth and foetal growth restriction are the most common causes of low birth weight
- Foetal growth restriction (FGR), previously called intrauterine growth restriction, is a term that describes an unborn baby who isn't growing at the normal rate inside the uterus. These babies usually have a low weight at birth. Causes of IUGR include hypertension and syphilis
- Low-birth weight infants who survive may have serious neurological problems and hearing and visual defects and may be subject to slow development throughout life.
- Other maternal factors that causes low birth weight :
 - low pregnancy weight ,anemia , inadequate weight gain during pregnancy

Basic needs of a newborn that can help ensure a healthy start in life.

- ▶ **During labour and delivery, mothers and newborns need:**
- ▶ **Skilled attendance** – provide safe management of normal delivery and timely referral for complications.
- ▶ **Support and care** – promote family support and a baby and woman-friendly environment for birth and maternal and new-born care.

Continued

- ▶ **Infection control** – ensure clean delivery, including clean surface, hands, blade, and cord tie.
- ▶ **Management of complications** – identify and manage complications, including bleeding, high blood pressure, prolonged labour, and foetal distress

Interventions to Reduce Stillbirths and Newborn Mortality and Morbidity

- ▶ Addressing stillbirths and neonatal mortality requires interventions across the continuum of care (**preconception, antenatal, intrapartum, immediate postnatal period, and after**) (Black, Laxminarayan, Temmerman, & Walker, 2016).
- ▶ The **continuum of care** has recently been highlighted as a core principle of programmes for maternal, newborn, and child health, and as a means to reduce the burden of mortality.

Antenatal Interventions

A photograph of a doctor in a white lab coat smiling and talking to a pregnant woman. The doctor is standing and gesturing with her hands, while the woman is sitting and looking at the doctor. The background shows a clinical setting with a computer monitor and medical equipment.

▶ Routine Antenatal Care (ANC) Visits

Reduced antenatal visits may be associated with an increase in perinatal mortality, compared with standard care (Gaxiola, Dowswell, & Peña-Rosas, 2010).

Evidence-Based *Antenatal* Interventions that Reduce Perinatal Morbidity and Mortality

Nutritional Interventions

▶ *Folic acid*

- Supplementation of diets with folic acid reduces the risk of neural tube defects that account for a small proportion of stillbirths or neonatal deaths (Gaxiola, Dowswell, & Peña-Rosas, 2010).

▶ *Maternal calcium supplementation*

- The WHO recommends maternal calcium supplementation from 20 weeks' gestation in populations in which calcium intake is low to reduce the risk of hypertensive disorders in pregnancy (Khan, Wojdyla, Say, Gülmezoglu, & Van Look, 2006).
- Calcium supplementation during pregnancy was also associated with a significant reduction in neonatal mortality and risk of pre-term birth.

Nutritional Interventions (continued)

- ▶ *Maternal zinc supplementation*

Zinc supplementation resulted in significant reduction in preterm birth (Ota et al., 2015). *Dietary advice and balanced energy supplementation*

- ▶ **Balanced energy and protein supplementation (BES)**, defined as a diet that provides up to 25 percent of total energy in the form of protein, is an important intervention for the prevention of adverse perinatal outcomes in populations with high rates of food insecurity and maternal undernutrition (Imdad & Bhutta, 2012).

Antenatal Treatment of Maternal Infections

- ▶ Maternal infections frequently have adverse effects on perinatal outcomes, and striking mortality reductions can be obtained by antenatal interventions related to tetanus, syphilis, and HIV.

Tetanus

- ▶ Neonatal tetanus infection results from umbilical cord contamination during unsanitary delivery, coupled with a lack of maternal immunization.
- ▶ Immunizing pregnant women or women of childbearing age with at least two doses of tetanus toxoid was estimated to reduce mortality from neonatal tetanus by 94 percent.

Syphilis

- ▶ Pregnant women with untreated syphilis have a 21 percent increased risk of stillbirths (Gomez et al., 2013).
- ▶ Congenital syphilis (CS) is a disease that occurs when a mother with syphilis passes the infection on to her baby during pregnancy.
- ▶ Up to half of all babies infected with syphilis while they are in the womb die shortly before or after birth.
- ▶ Treatment of syphilis with penicillin suggests a significant reduction in stillbirths, pre-term births, congenital syphilis, and neonatal mortality (Blencowe, Cousens, Kamb, Berman, & Lawn, 2011).

HIV

- ▶ Most children with HIV acquire it from their mothers, and Antiretroviral Therapy (ART) is vital in preventing vertical (mother-to-child) transmission.
- ▶ Short ART courses commencing before labor, with treatment extended to newborns during the first week of life, have been shown to significantly reduce mother-to-child HIV transmission

(Siegfried, van der Merwe, Brocklehurst, & Sint, 2011)

Treatment of Diabetes Mellitus and Gestational Diabetes Mellitus (GDM)

- ▶ Optimal blood glucose control in pregnancy compared with suboptimal control was associated with a 60 percent reduction in the risk of perinatal mortality (Syed, Javed, Yakoob, & Bhutta, 2011).
- ▶ Lifestyle change is an essential component of management of gestational diabetes mellitus and may suffice for the treatment of many women. Medications should be added if needed to achieve glycemic targets (American Diabetes Association, 2019)



THANK
YOU