

## Prematurity, Low Birth Weight, & PMBs

Babies born before 37 weeks of pregnancy are considered premature or born too early. There are four categories of prematurity, depending on how early the baby is born which are late preterm (born between 34 and 36 weeks of pregnancy), moderately preterm (born between 32 and 34 weeks of pregnancy), very preterm (born before 32 weeks of pregnancy), and extremely preterm (born at or before 25 weeks of pregnancy). Most premature births occur in the late preterm stage. Globally, 1 in 10 babies is born prematurely every year. In South Africa, it is estimated that 1 in 7 babies are born prematurely, and the most common cause of death in these babies is extreme prematurity.

### Low birth weight

The leading cause of low birth weight (LBW) is premature birth. LBW refers to a birth weight less than 2500g, regardless of how far the pregnancy was. LBW is further classified into very low birth weight (VLBW), where the baby weighs less than 1500g and extremely low birth weight (ELBW), where the baby's weight is less than 1000g. It is estimated that 15 to 20% of births worldwide are LBW infants.

In Sub-Saharan Africa, an estimated 13% of infants are born with LBW. In South Africa, the risk of death is higher in ELBW infants compared to developed countries. If the sustainable development goal (SDG) of reducing newborn deaths to 12 per 1 000 live births by 2030 is to be realised, urgent attention must be focused on reducing the deaths of ELBW babies.



### What are the risk factors for prematurity and LBW?

The risk factors can be attributed to maternal (mother's) health, the environment where the mother lives, and the baby.

#### **Maternal risk factors:**

- Women over 35 years of age, and teenagers below 18 years of age
- Poor nutritional status, inadequate weight gain during pregnancy
- Presence of medical conditions, such as high blood

pressure and diabetes

- Infections, especially of the amniotic fluid and lower genital tract
- Multiple miscarriages or abortions
- Having a previous premature birth
- Pregnancy with twins, triplets, or other multiples
- An interval of less than six months between pregnancies
- Conceiving through in vitro fertilisation
- Problems with the uterus, cervix, or placenta
- Not attending a clinic during pregnancy

### **Environmental factors**

- Education level and household income
- Mothers experiencing domestic violence and/or psychological abuse, and stressful life events such as the death of a loved one
- Physical injury or trauma
- Alcohol consumption, tobacco smoking, using illicit drugs and abusing prescription drugs.

### **Risk factors associated with the baby**

- Female gender
- Intrauterine growth retardation (IUGR), that is, hampered growth of the baby in the womb.
- Infection of the baby while still in the uterus
- Developmental abnormalities and death

### **Complications of prematurity**

Complications of prematurity vary; however, those born too early have a higher risk of complications. Birth weight also plays an important role. The baby can experience short-term and long-term health problems.

#### **Short-term complications**

- Breathing problems - the baby may have trouble breathing due to an immature respiratory system. Some preterm babies may experience prolonged pauses in their breathing, known as apnoea.
- Feeding problems - some babies do not have the strength or coordination to breastfeed or bottle-feed successfully.
- Heart problems - the most common heart problems are patent ductus arteriosus (PDA), a persistent opening between the major blood vessels from the heart (aorta and pulmonary artery), and low blood pressure.
- Brain problems - bleeding in the brain may be mild and resolve easily, but some babies may have an extensive brain bleed that causes permanent brain injury.
- Temperature control problems – the rapid loss of body heat because premature babies do not have sufficient stored body fat and cannot generate enough heat. A drop in body temperature can lead to breathing problems and low blood sugar levels.
- Gastrointestinal problems - premature infants are more likely to have an immature gastrointestinal (GIT) system. They are more likely to experience acid reflux as they may spit up a large amount of the milk before it is digested. They may also develop necrotising enterocolitis (NEC) which is a potentially serious health condition in which cells lining the bowel wall are injured and this can occur after the baby starts feeding.
- Blood problems – there is a risk of blood problems such as anaemia. While all newborn babies experience a slow drop in red blood cell count during the first months

of life, the decrease may be more significant in premature babies.

- Newborn jaundice can also be a problem. Jaundice is a yellowish discolouration of the baby's skin and eyes due to the blood containing excess bilirubin (a yellow-coloured substance from the liver or red blood cells).
- Metabolism problems - some premature babies may develop an abnormally low blood sugar level. This can happen because they have less stored glucose than full-term babies. Premature babies also have more difficulty converting their stored glucose into more-usable, active forms of glucose.
- Immune system problems are common in premature babies and can lead to a higher risk of infection.

#### **Long-term complications**

In the long term, premature birth may lead to the following complications:

- Cerebral palsy - is a disorder of movement, muscle tone or posture caused by an infection, inadequate blood flow or injury to the newborn's developing brain. This can happen early during pregnancy or during infancy.
- Impaired learning – these babies are more likely to lag behind their full-term counterparts and might have learning disabilities.
- Vision problems - may develop retinopathy of prematurity, a disease that occurs when blood vessels swell and overgrow in the light-sensitive layer of nerves at the back of the eye called the retina.
- Hearing problems – there is an increased risk of some degree of hearing loss.
- Dental problems - premature infants who have been critically ill are at increased risk of developing dental problems, such as delayed tooth eruption, tooth discolouration and improperly aligned teeth.
- Behavioural and psychological problems - premature babies may be more likely than full-term infants to have specific behavioural or psychological issues and developmental delays.
- Chronic health issues - infections, asthma and feeding problems are more likely to develop or persist.

#### **Special care for the preterm baby**

A preterm baby needs extra help adapting to the outside environment after delivery. In South Africa, the standard of care for premature babies is based on the available State hospital guidelines.

Due to resource constraints in the State sector, their guidelines take into consideration resource constraints. Babies are generally admitted to the neonatal high-dependency ward where nasal-prong oxygen, nasal continuous positive

airway pressure (nCPAP), and surfactant are administered according to hospital protocol. Surfactant replacement therapy (SRT) is key to managing respiratory distress syndrome (RDS).

Under exceptional circumstances and depending on bed availability, infants not meeting the Neonatal Intensive Care Unit (NICU) admission criteria are considered on a case-by-case basis. These include babies born to mothers with a history of recurrent pregnancy loss or following fertility treatment. Babies with poor prognosis such as those with severe congenital abnormalities, severe brain bleeding, or requiring extensive resuscitation following delivery, are not

eligible for NICU admission irrespective of birth weight or gestational age.

### What are the Prescribed Minimum Benefits (PMBs)?

Medical schemes are required by law to pay for the diagnosis, treatment and care of PMBs according to the PMB Regulations. In making funding decisions, medical schemes are required to fund the diagnosis, treatment and care which are evidence-based, cost-effective and affordable. The use of Designated Service Providers (DSPs) is also important to have PMBs paid in full. The table below shows the conditions included in the PMBs.

Code	Diagnosis	Treatment
67N	# Low birth weight (under 1000g) with respiratory difficulties	# Medical management not including ventilation
967N	# Low birth weight (under 2500 grams and > 1000g) with respiratory difficulties	# Medical management, including ventilation; intensive care therapy
71N	Birth trauma for the baby	Medical management; surgery
901N	Congenital systemic infections affecting the newborn	Medical management, ventilation
904N	Haematological disorders of the newborn	Medical management
54N	Necrotizing enterocolitis in newborn	Medical and surgical management
74N	Neonatal and infant GIT abnormalities and disorders, including malrotation and atresia	Medical and surgical management
902N	Neonatal endocrine, metabolic and toxin-induced conditions	Medical management
903N	Neurological abnormalities in the newborn	Medical management
56N	Respiratory conditions of the newborn	Medical management; ventilation

*Point 6 of the Explanatory notes and definitions to Annexure A* explains that “in certain cases, specified categories shall take precedence over others present. Such “overriding” categories are preceded by the sign “#” in their descriptions within Annexure. It, therefore, means that where the baby is suffering from “Respiratory conditions of the newborn” (category 56N), due to “# Low birth weight (under 1000g) with respiratory difficulties” (category 67N) which is an overriding category, the entitlements guaranteed by category 56N are overridden by category 67N.

### References

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