

TET 103: CHILD DEVELOPMENT (0–3 YEARS)

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The first stage - Labour

- The first stage is referred to as labour
- It is the hardest physical work that a woman may ever do
- A complex series of hormonal changes initiate the process
- The whole system of the uterus which supported and protected the fetus now turns to getting the baby out of the uterus
- This is the longest stage of labour lasting an average of 12 to 14 hours with a first baby and 4-6 hrs with later births. It begins with mild uterine contractions of 15 to 20 minutes apart.

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Lecture 8: Child Birth Process

Lecture objectives

- At the end of this lecture the learner should be able to:
 1. Explain the three stages of child birth process
 2. Describe hormones that initiate the labour process
 3. Discuss five complications related to child birth process
 4. Explain types of baby birth options

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The first stage - Labour

- As labour progresses, the contractions increase in frequency and intensity until they occur only 3-5 minutes apart, and finally 16-60 seconds
- The climax of the first stage of labour is a brief period called transition, in which the frequency and strength of contractions are at their peak and the cervix opens completely
- This is the most uncomfortable part of childbirth, and it is only necessary that the mother tries to relax since the muscular contractions of labour are involuntary.

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THE PROCESS OF BIRTH

- The process of childbirth is usually described in three stages, i.e.
 1. Labour
 2. Actual birth of the baby
 3. After birth

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The first stage - Labour

- During labour, two events occur:
 - First, a mucus plug (Operculum) that covers the cervix is released. This process, called showing, may cause some bleeding.
 - Secondly the amniotic sac or 'bag of water', which has enclosed the fetus may break and some amniotic fluid may rush forth

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The Second stage - Birth of the Baby

- This is the actual birth of the baby once the cervix is fully open/dilated, the infant is ready to be born
- This period is shorter than the first one lasting for about 10-50 minutes.
- Strong contractions of the uterus continue tending to be longer and more intense than those in the first stage
- At this stage the mother has a natural urge to squeeze and push with her abdominal muscles during each contraction
- This finally forces the baby down and out.

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The Third Stage - After Birth

- This stage occurs after the baby is born
- Labour comes to an end with a few final contraction which cause the placenta to separate from the uterine wall and be expelled pulling the other fetal membranes with it
- These are delivered as the after birth
- These are checked for any abnormalities which might signal damage to the newborn.

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The Second stage - Birth of the Baby

- The first part of the baby to emerge from the birth canal is the head. Once the baby's head emerges the baby is assisted to come out faster by:
 - a) **Making an incision** called **episiotomy** - which is a cut to enlarge the vaginal opening without tearing mother's tissues
 - b) **Use of forceps** - a metal device around the baby's head to pull the infant from the birth canal - to speed up delivery
 - c) **Vacuum extractor** - This is a more recent instrument which consists of a plastic cup placed on the baby's head and connected to suction.

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Birth Complications

- Though most babies are born without any serious problems, some are in such poor physical condition such that they die soon after birth
- Others are at risk of later developing mental problems, sometimes even fatal ones
- Babies are considered to be at risk; if they:
 - a) Suffer from any of a variety of problems, including **asphyxiation** or head injury during delivery (either of which may result to brain damage)

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The Second stage - Birth of the Baby

- In most normal births, the baby is born head first in a face-down position
- After the head is clear, the baby's face turns to the side so that its body emerges with the least resistance
- More difficult births occur when the baby is positioned in a breach presentation (buttocks first or a posterior presentation (facing toward the mother's abdomen instead of toward her back) in each of these cases, the birth is usually assisted, to prevent any injury to the mother or baby.

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Birth Complications

- b) Have acute difficulty breathing after birth or difficulty digesting food owing to an immature digestive system.
- c) Are born premature and or underweight
- d) When they baby remains in the uterus for far too long.

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Impact of Birth Complications

1) Oxygen deprivation

- Oxygen deprivation can be caused by:
 - Squeezing of the umbilical cord in breech birth
 - A newborn baby failing to start breathing immediately after birth due prenatal damage to the baby's respiratory systems or infant's premature lungs leading to a disorder called **respiratory distress syndrome**

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Impact of Birth Complications

NB:

- Most oxygen deprived newborns may remain with a permanent physical handicap. Some infants remain behind their age mates in intellectual and motor development throughout early childhood
- However by the school years, most catch up in development. When lasting problems result, the oxygen deprivation was probably extreme.

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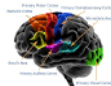
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Impact of Birth Complications

- Deprivation of oxygen at birth lead to:
 - a) Death
 - b) Cerebral palsy

CEREBRAL PALSY (CP)

- **Cerebral** - Latin *Cerebrum*;
– **Affected part of brain**



- **Palsy** -Gr. *para-* beyond,
lysis – loosening
– **Lack of muscle control**



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Impact of Birth Complications

2) Prematurity and low birth weight

- From the time of conception to birth the period is known as the baby's gestational age
- The normal gestational age is 37 - 42 weeks and babies born before the 37th week and weighting less than 2.5kg are referred to as premature or preterm
- Premature babies also tend to be small but not all small babies are premature
- Premature and underweight babies are at risk of many problems.

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Impact of Birth Complications

- Cerebral Palsy condition involves difficulties in muscle co-ordination and control such as clumsy walk, uncoordinated movements and unclear speech
- The disorder can range from very mild tremors to severe crippling condition accompanied by mental retardation
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Impact of Birth Complications

- Some factors that may lead to premature and underweight babies are:
 - i. Twins are likely to be born about 3 weeks earlier, triplets and quadruplets even earlier because of the restricted space inside the uterus
 - ii. Very young women whose reproductive systems are immature and women who have had many pregnancies close together are more likely to have premature babies
 - iii. Women who smoke and drink alcohol with poor health or who have intrauterine infections

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Impact of Birth Complications

- iv. Poor women who are malnourished, chronically ill and those who have inadequate health care before and during pregnancy,
- v. Women who suffer from infections and those who experience complication during pregnancy

NB: The leading cause of death, among pre-terms is the functional immaturity of their lungs. The other main obstacles to their survival is immaturity of their digestive and immune systems

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Types of Childbirth Options

1) Vaginal Delivery

- In a vaginal birth, the baby is born through the birth canal
- It is recommended that pregnant women plan for vaginal birth unless there is a medical reason for a cesarean
- Benefits of vaginal delivery:
 - shorter hospital stays
 - lower infection rates
 - quicker recovery
 - babies born vaginally have a lower risk of respiratory problems

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Impact of Birth Complications

2) Post-term infants

- Infants after 42 weeks are post-term. About 10% of babies fall under this category
- Most post-term babies are quite normal though a small proportion however start to lose weight at the end of pregnancy because the placenta no longer functions properly
- As the baby becomes more overdue, the amount of amniotic fluid drops sharply
- This increases the chances that the infants movements in the uterus will squeeze the umbilical cord-deprive nutrients and more so oxygen supply.

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Types of Childbirth Options

2) Cesarean Section (C-Section)

- A cesarean section or C-section is the delivery of a baby through a surgical incision in the mother's abdomen and uterus. In certain circumstances, a C-section is scheduled in advance. In others, it's done in response to an unforeseen complication
- Events that may require C-Section:
 - Multiples (twins, triplets, etc)
 - A very large baby
 - Previous surgery, C-Sections, or other uterine conditions

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Impact of Birth Complications

- For some overdue babies their heads and bodies grow larger during the extra weeks, spent in the uterus, thus may have difficulty, moving through the birth canal
- The possibly of oxygen deprivation and head injuries in a post-term birth is likely to be greater
- Because of the likely complications of post-term infants doctors usually induce labour in such mothers who give birth to babies who do well.
- **NB:** As long as birth complications (injuries) are not very serious a supportive home environment can restore children's growth.

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Types of Childbirth Options

- Baby is in breech (bottom first) or transverse (sideways) position
- Placenta previa (when the placenta is low in the uterus and covers the cervix)
- Fibroid or other large obstruction
- Mother's aesthetic reasons

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Types of Childbirth Options

3) Vaginal Birth After Caesarian

- Most of the times, once a woman has had a caesarean delivery, her chances of having vaginal deliveries after that are pretty much nullified
- But in recent times, certain techniques are making it possible for women to have successful vaginal deliveries even after the previous delivery had been a C-section.
- It means delivering your next baby vaginally after having a baby through a caesarian delivery.

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Types of Childbirth Options

5) Forceps Delivery

- A forceps delivery is a type of operative vaginal delivery.
- It's sometimes needed in the course of vaginal childbirth
- In a forceps delivery, a health care provider applies forceps (an instrument shaped like a pair of large spoons or salad tongs) to the baby's head to help guide the baby out of the birth canal.

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Types of Childbirth Options

- A VBAC is more likely to be successful in the following cases:
 - If your previous C-section was not done due to difficult labour, delayed or stuck labour
 - You are not experiencing the same medical condition (such as pre-eclampsia) as the last delivery which led to the C-section
 - You have already had a VBAC before
 - You go into labour on your own
 - If your age is less than 35
 - If you are not obese
 - If your foetus is not very large or is less than 4 kgs
 - If your pregnancy is less than 40 weeks
 - Your previous pregnancy happened more than 1.5 years earlier
 - Your baby is in the head down position

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Self-reflection Questions

1. Explain the three stages of child birth process
2. Describe hormones that initiate the labour process
3. discuss five complicated related to child birth process
4. Explain Types of baby delivery options

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Types of Childbirth Options

4) Vacuum Extraction

- A vacuum extraction is a procedure sometimes done during the course of vaginal childbirth.
- During vacuum extraction, a health care provider applies the vacuum (a soft or rigid cup with a handle and a vacuum pump) to the baby's head to help guide the baby out of the birth canal.

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