Special issues in HIV:

Pregnancy and PMTCT

Objectives

- Discuss mother-to-child transmission (MTCT) of HIV infection.
- Describe the four elements of a comprehensive approach to the prevention of HIV in infants and young children.
- Describe the role of maternal and child health (MCH) services in the prevention of HIV in infants and young children.

Mother to Child Transmission

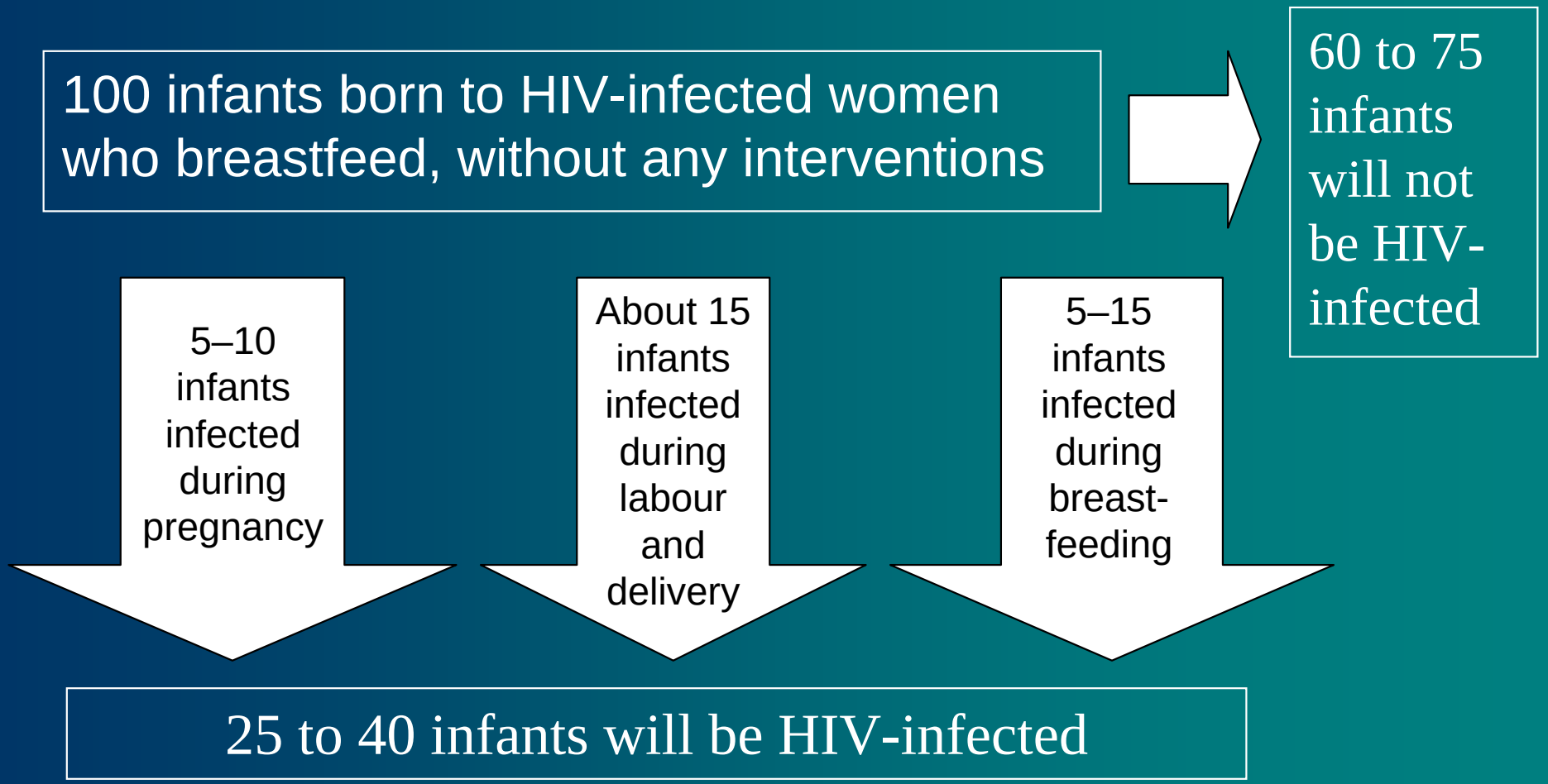
- MTCT can occur during:
  - Pregnancy
  - Labour and delivery
  - Breastfeeding

Scope of MTCT

- ~5,000,000 births/yr in Nigeria
- ~5% HIV prevalence
- ~250,000 HIV-exposed babies/yr
- Without intervention, estimated number of Nigerian infants born with HIV each year:

  67,000 - 125,000

Mother to Child Transmission



Risk Factors for MTCT

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Pregnancy

- High viral load
- Infection
- STIs
- Malnutrition
- Haemorrhage

Labour and Delivery

- High viral load
- Prolonged rupture of membranes
- Invasive delivery procedures
- 1st infant in multiple birth
- Chorioamnionitis

Breastfeeding

- High maternal viral load
- Duration
- Early mixed feeding
- Breast fissures, infections
- Poor maternal nutrition
- Oral disease in infant

Elements for Comprehensive Approach to Prevention of HIV Infection in Infants and Young children

- **Element 1** Primary prevention of HIV infection
- **Element 2** Prevention of unintended pregnancies among women infected with HIV
- **Element 3** Prevention of HIV transmission from women infected with HIV to their infants
- **Element 4** Provision of treatment, care and support to women infected with HIV, their infants and their families

Element 1: Prevention of Primary HIV Infection

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ABCs of primary HIV prevention for parents-to-be:

A = Abstain

B = Be faithful to one HIV-uninfected partner

C = Condom use – use condoms consistently and correctly

Adapt approach to local culture and target groups at risk

Element 2: Prevention of Unintended Pregnancies Among Women Infected with HIV

- Access to counselling and referral for family planning
- Safe, consistent, effective contraception

Element 3: Prevention of HIV Transmission from Women Infected with HIV to Their Infants

Core Interventions

- HIV testing and counselling
- Antiretrovirals
- Safer delivery practices
- Safer infant-feeding practices

Combination interventions can reduce the MTCT rate to as low as 2% in the absence of breastfeeding.

Element 4: Treatment, Care and Support for Women Infected with HIV and their Families

- Prevention and treatment of OIs
- ARV treatment
- Treatment of symptoms
- Palliative care
- Nutritional support
- Reproductive healthcare
- Psychosocial and community support

Antiretroviral (ARV) Treatment and Prophylaxis

- *ARV Treatment*

  Long-term use of antiretroviral drugs to treat maternal HIV/AIDS and prevent MTCT

- *ARV Prophylaxis*

  Short-term use of antiretroviral drugs to reduce HIV transmission from mother to infant (correlates with PEP)

Antiretroviral (ARV) Treatment

- Reduces viral replication and viral load.
- Treats maternal infection
- Protects the HIV-exposed infant
- Improves overall health of mother
- Requires ongoing care and monitoring

Principles of ARV use in pregnancy

- Strict adherence critical but a challenge in pregnancy
- Some ARVs have side effects that are more common in pregnant women
  - NVP: increased risk of hepatotoxicity
  - EFV: potential of teratogenicity in first trimester
- Resistance may be spread to baby and to partner

With excellent adherence and monitoring, risks of ARV are minimized and benefits are maximized

ARV Prophylaxis for PMTCT

ACTION
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In accordance with the Nigerian National PMTCT Guidelines, recommended ARV is based on various clinical settings

ARV Prophylaxis for PMTCT

Clinical setting I

Pregnant woman who is HAART-eligible but not currently on ART

- The preferred regimen is ZDV + 3TC + NVP beginning in the second trimester if CD4<250 for either treatment or prophylaxis
  - If CD4>250:
    - Substitute a PI for NVP if available OR
    - Substitute EFV for NVP (3rd trimester only) OR
    - Monitor carefully for hepatotoxicity

ARV Prophylaxis for PMTCT

Clinical setting II

Pregnant woman not eligible for HAART for her own disease

- **Option 1** (*facilities with HAART expertise*): **Initiate HAART per Clinical setting I after the first trimester and discontinue after delivery.**
- **Option 2** (*facilities without HAART expertise*): **ZDV from 28 weeks gestation, continued during labour plus single dose NVP at onset of labour.**

ARV Prophylaxis for PMTCT

Clinical setting III

Mother receiving HAART at the time of the current pregnancy

- **Continue with the current HAART regimen.**
- **ZDV should be a component of the regimen whenever possible.**
- **EFV is contraindicated in the 1st trimester and should be replaced with NVP.**

ARV Prophylaxis for PMTCT

Clinical setting IV

HIV-Infected Woman Who Presents in Labour

- **Give single dose NVP in labour followed by ZDV + 3TC for 4 days.**

Clinical setting V

HIV-Infected Woman Who Presents AFTER Delivery

- **If mother eligible for HAART for her own disease, follow appropriate guidelines.**

ARV Prophylaxis for PMTCT

Clinical setting VI

HIV-Infected Woman With Active TB

- **Treat the TB first if possible.**
- **Delay HAART until the 3rd trimester.**
- **Replace NVP with EFV (800 mg.)**

ARV Prophylaxis for PMTCT

STOPPING NEVIRAPINE

For ALL Women Stopping NVP or EFV or receiving a single dose of NVP intra-partum:

- **Give or continue ZDV + 3TC for 4** days post-partum to reduce the risk of NVP resistance.**

*** actually better to do for 7-14 days*

ARV Prophylaxis for NEWBORN INFANTS

ALL CLINICAL SETTINGS

- Single dose NVP syrup (2mg./kg.) as soon as possible after birth.
- Followed by ZDV syrup (4mg./kg. twice daily) for 6 weeks, then STOP.

Antenatal Care for Women Infected with HIV

- Includes the basic services recommended for all pregnant women
- Obstetric and medical care should be expanded to address the specific needs of women infected with HIV
- The earlier ARVs are started, the greater the reduction in MTCT

Goals of Labour and Delivery

- Reduce MTCT risk by providing ARV prophylaxis or treatment
- Minimise exposure of newborn to maternal blood and body fluids
- Support safer delivery practices

Reducing MTCT Risk During Labour and Delivery

- Provide ARV as indicated based on the treatment strategy in place.
- Minimise vaginal exams and invasive procedures
- Use partogram to monitor labour progress
- *Avoid*:
  - Premature rupture of membranes
  - Prolonged labour
  - Unnecessary trauma during childbirth

Reducing MTCT Risk During Labour and Delivery

- Minimise risk of postnatal haemorrhage
- Use safe transfusion practices (blood screened for HIV and syphilis, malaria, hepatitis B & C when possible)

Elective Caesarean Section vs. Vaginal Delivery

- **Elective caesarean section**
  - **Consider elective caesarean delivery when safe and feasible**
  - **Done before the onset of labour or membrane rupture**
- **Vaginal delivery**
  - **When ARV prophylaxis or treatment has effectively reduced the viral load**

Reducing MTCT Risk in Women with Unknown HIV Status

- Offer rapid HIV testing with right to refuse
- Discuss benefits to knowing HIV status
- If HIV-positive, ARVs can be given for PMTCT and refer for treatment and care
- Describe the testing process
- Rapid antibody test in L&D with consent
- Provide post-test counselling
- If HIV-positive, provide ARV prophylaxis based on Nigerian national guidelines

Women of Unknown HIV Status: Benefits of HIV Testing *after* Delivery

ACTION
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- Initiate ARV prophylaxis for infant if indicated.
- Mother may need ARVs for own health
- Encourage safer feeding selection option should she test positive.
- Encourage exclusive breastfeeding if she tests negative or refuses to be tested.

ARV Prophylaxis for the Infant who is HIV-Exposed

All babies born to HIV-seropositive mothers are exposed to infection and must receive post-exposure prophylaxis as follows:

- Single dose NVP – as soon as possible after birth, plus ZDV for 6 weeks

Alternative (less effective):

- Single dose NVP – as soon as possible after birth, plus ZDV for 1 week

Follow-up Care of HIV-Exposed Infants

- Routine assessment for signs/symptoms of HIV (persistent diarrhoea, failure to thrive)
- According to Nigerian guidelines
  - HIV testing
  - PCP prophylaxis (starting at 6 weeks)
  - Prevention and treatment of TB or malaria

Infant Feeding Challenges

Infant Feeding, Malnutrition, and Child Survival

- Malnutrition is an underlying cause of 50% of deaths in children under 5 years in Africa.
- Poor feeding practices contribute to insufficient nutritional balance, diarrhoea, low weight, morbidity and mortality.

Introduction to Infant Feeding

ACTION
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- Breast milk is the best nutrition source for infants
- Nigeria: 97% breastfeed, but only 17% exclusively for first 6 months
- Breastfeeding accounts for 1/3 of MTCT, but lack of breastfeeding corresponds to other morbidity/mortality
- ARV prophylaxis and adherence to national infant feeding recommendations and guidelines can reduce MTCT

Infant Feeding: Mothers who are not HIV-Infected

National infant and young child feeding policy:

- Exclusive breastfeeding for 6 months
- Combination of breastfeeding and complementary foods from 6-9 months
- Continue breastfeeding for up to 2 years or beyond while additionally giving household foods

Policy recommends modification of infant feeding guidelines on medical grounds, including maternal HIV infection. Every effort must be made to encourage EBF in HIV negative women as well as women with unknown HIV, since this has obvious advantages over formula feeds in these infants

Factors that increase MTCT through breastfeeding

- High maternal viral load
- Duration of breastfeeding
- Mixed feeding
- Maternal mastitis
- Oral infections in infant

Infant Feeding

- All women who are HIV-positive need infant- feeding counselling and support
- Risk of HIV transmission continues the entire time an HIV-positive mother breastfeeds her child
- A mother (and father) have the right to choose how they want to feed their infant; the healthcare worker's job is to support their choice

Infant Feeding

- Mothers who are HIV-positive should avoid breastfeeding when replacement feeding is **a**cceptable, **f**easible, **a**ffordable, **s**ustainable, and **s**afe – or AFASS
- Exclusive breastfeeding and early breastfeeding cessation are appropriate when breastfeeding is the chosen option

Infant Feeding

- Infant formula can be made safer by careful attention to the following issues:
  * Manufacturers' details
  * Clean hands and utensils
  * Safe water and food
  * Safe storage
  * Cup feeding
- Counselling, education, and support are key to establishing and maintaining safer infant-feeding practices
- Postnatal counselling and infant follow-up are required throughout the first 2 years of the infant's life

Infant Feeding

- Prevent misuse of replacement feeding by:
  - Promote exclusive breastfeeding for the general population
  - Discourage use of replacement milk supplies by mothers whose infants don't need them

Key Points

- A comprehensive approach is needed to prevent HIV infection in infants and young children.
- The four elements of the comprehensive approach to PMTCT are:
  - Primary prevention of HIV infection
  - Prevention of unintended pregnancies among women infected with HIV
  - Prevention of HIV transmission from women infected with HIV to their infants
  - Provision of treatment, care and support to women infected with HIV, their infants and their families

Key Points

- Without intervention the risk of MTCT is 25–40%.
- Combination interventions can reduce the MTCT rate to as low as 2% in the absence of breastfeeding.

Key Points

- Integrating PMTCT services into the essential package of ANC services promotes improved care for all pregnant women and provides the best opportunity for a successful PMTCT programme
- Specific interventions to reduce MTCT include ARV treatment and prophylaxis, safer delivery procedures, and counselling and support for safe infant feeding

Key Points

- Using antiretroviral treatment and prophylaxis reduces the risk of MTCT. Longer-course combination regimens are effective, but short-course prophylaxis regimens may be more feasible in some resource-constrained settings
- The prevention and treatment of TB and malaria are part of comprehensive care for mothers infected with HIV and their infants

Key Points

- Safer delivery procedures include avoiding unnecessary invasive obstetrical procedures and offering the option of elective caesarean section when safe and feasible
- Infant-feeding options to minimise the risk of MTCT require support and guidance throughout ANC, labour and delivery, and postpartum