Prevention of Mother-To-Child Transmission (PMTCT)

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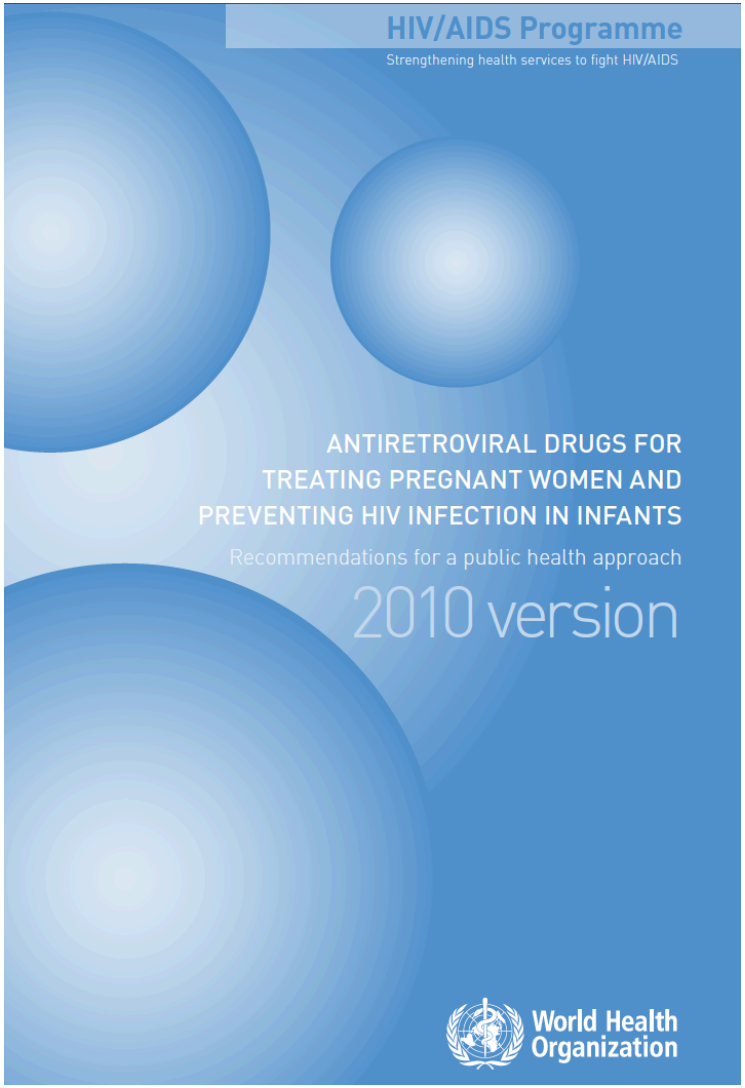
Prevention Mother-To-Child Transmission (PMTCT)

- During pregnancy
- Intra-partum
- Post-partum

New WHO guidelines on PMTCT



….Different situations in PMTCT….

- Mothers in need of ART (antiretroviral therapy) for their own health
- Mothers not-in-need of ART (antiretroviral therapy) for their own health
- Women diagnosed during labour
- Women diagnosed immediately postpartum

Note: ART = Antiretroviral Therapy = Triple ARV therapy

ARV prophylaxis = One or Two ARV

Scenario 1

- **Mothers in need of ART (antiretroviral therapy) for their own health**

ANTIRETROVIRAL DRUGS FOR TREATING PREGNANT WOMEN FOR THEIR OWN HEALTH AND TO PREVENT HIV INFECTION IN THEIR INFANTS (1)

- **When is ART indicated**
  - In pregnant women with CD4 cell counts of ≤350 cells/mmc, irrespective of the WHO clinical staging, and
  - for all women in WHO clinical stage 3 or 4, irrespective of the CD4 cell count.
- **When to start ART in pregnancy**

  as soon as feasible regardless of gestational age and continue throughout pregnancy, childbirth, breastfeeding (if breastfeeding), and thereafter.

ANTIRETROVIRAL DRUGS FOR TREATING PREGNANT WOMEN FOR THEIR OWN HEALTH AND TO PREVENT HIV INFECTION IN THEIR INFANTS (2)

- **What ART regimen to initiate**
  - Zidovudine (AZT) + Lamivudine (3TC) + Nevirapine (NVP)

    or
  - AZT + 3TC + Efavirenz (EFV).

Alternative recommended regimens are

- Tenofovir (TDF) + 3TC (or emtricitabine - FTC) + EFV

  or
- TDF + 3TC (or FTC) + NVP.

(Note: avoid the use of EFV in the first trimester (because of foetal toxicity) and use NVP instead.)

ANTIRETROVIRAL DRUGS FOR TREATING PREGNANT WOMEN FOR THEIR OWN HEALTH AND TO PREVENT HIV INFECTION IN THEIR INFANTS (3)

- **What ARV prophylaxis to give infants of HIV-infected women receiving ART**

  All infants (regardless of whether breastfeeding or receiving only replacement feeding) born to HIV-infected women receiving ART for their own health should be given from birth or as soon as feasible thereafter until 4 to 6 weeks of age:

  - daily NVP

  or

  - twice-daily AZT.

Scenario 2

- **Mothers not-in-need of ART (antiretroviral therapy) for their own health**

MATERNAL AND INFANT ARV PROPHYLAXIS FOR HIV-INFECTED PREGNANT WOMEN WHO DO NOT NEED TREATMENT FOR THEIR OWN HEALTH (1)

- HIV-infected pregnant women who are not in need of ART for their own health require effective ARV prophylaxis to prevent HIV infection in their infants.

- ARV prophylaxis should be started from as early as 14 weeks of gestation (second trimester) or as soon as feasible during pregnancy, labour and delivery or thereafter.

MATERNAL AND INFANT ARV PROPHYLAXIS FOR HIV-INFECTED PREGNANT WOMEN WHO DO NOT NEED TREATMENT FOR THEIR OWN HEALTH (2)

Option A: maternal AZT + infant ARV prophylaxis

- **Mother:** antepartum twice-daily AZT, plus sd-NVP at the onset of labour, plus twice daily AZT + 3TC during labour and delivery and continued for 7 days postpartum.
- In **breastfeeding infants,** daily administration of NVP to the infant from birth is recommended
  - until 1 week after all exposure to breast milk has ended, or
  - for 4 to 6 weeks if breastfeeding stops before 6 weeks (but at least 1 week after the early cessation of breastfeeding)
- In **formula feeding infants,** from birth until 4 to 6 weeks of age
  - daily administration of NVP
  - or sd-NVP at birth plus twice-daily AZT

MATERNAL AND INFANT ARV PROPHYLAXIS FOR HIV-INFECTED PREGNANT WOMEN WHO DO NOT NEED TREATMENT FOR THEIR OWN HEALTH (3)

Option B: maternal triple ARV (ART: antiretroviral therapy) prophylaxis

- **Mother**: antepartum daily triple ARV prophylaxis until delivery, or, if breastfeeding, until 1 week after all exposure to breast milk has ended. Recommended regimens include
  - AZT + 3TC + Lopinavir/ritonavir (LPV/r)

    or Abacavir (ABC) or EFV
  - TDF + 3TC (or FTC) + EFV.

  NVP-based regimens are not recommended because of the risk of hepatotoxicity for women with high CD4 counts (>350 cells/mmc)
- In **infants**, regardless of infant feeding practices (BF or FF), the maternal ART should be combined with the administration to the infant from birth until 4 to 6 weeks of age
  - Daily NVP or
  - twice-daily AZT

Scenario 3

- **Women diagnosed during labour**

Women diagnosed during labour (1)

- **Option A (Maternal AZT plus infant ARV prophylaxis)**

  - **Mother:** sd-NVP as soon as possible during labour and AZT + 3TC twice daily for 1 week
  - **Breastfed Infant :**
    - daily NVP from birth until 1 week after all exposure to breast milk,
    - daily NVP for 4 to 6 weeks if breastfeeding ceases before 6 weeks (always continue for 1 week after all exposure to breast milk has ended).
  - **Formula fed infant** from birth until 4 to 6 weeks of age :
    - Sd-NVP plus twice daily AZT or
    - daily NVP

Women diagnosed during labour (2)

- A clinical assessment should be done postpartum and a CD4 count obtained. Women who are found to require ART for their own health should be start on an appropriate life-long ART regimen.

- Because of the time lag to reduction in maternal viral load, if **breastfeeding,** the infant should continue daily NVP until the mother has received at least 6 weeks of ART before discontinuing infant prophylaxis (always continue for 1 week after all exposure to breast milk has ended).
- If **formula fed,** the infant should continue prophylaxis (twice daily AZT or daily NVP) until 4 to 6 weeks of age

Women diagnosed during labour (3)

- **Option B (maternal triple ARV prophylaxis, relevant only if breastfeeding)**
  - **Mother:** Triple ARV prophylaxis during labour until 1 week after all exposure to breast milk has ended.
  - **Infant:** daily NVP from birth until 6 weeks of age (since the infant is breastfeeding and immediate protection is desirable, NVP would be the preferred infant prophylaxis and given for a full 6 weeks).
- A clinical assessment should be done postpartum and a CD4 count obtained. Women who are found to require ART for their own health should not discontinue their triple drug ARV regimen but continue on an appropriate life-long ART regimen.

Scenario 4

- **Women diagnosed immediately postpartum**

Women diagnosed immediately postpartum (1)

- **Option A (infant ARV prophylaxis)**
  - **Breast fed** infant: daily NVP from birth until 1 week after all exposure to breast milk has ended, or for 4 to 6 weeks if breastfeeding ceases before 6 weeks.
  - **Formula fed** infant: from birth until 4 to 6 weeks of age
    - sd-NVP plus twice daily AZT or
    - daily NVP

Women diagnosed immediately postpartum (2)

- A clinical assessment should be done postpartum and a CD4 count obtained. Women who are found to require ART for their own health should be started on an appropriate life-long ART regimen.

- Because of the time lag to reduction in maternal viral load, if **breastfeeding,** the infant should continue daily NVP until the mother has received at least 6 weeks of ART before discontinuing infant prophylaxis (always continue for 1 week after all exposure to breast milk has ended).
- If **formula fed,** the infant should continue prophylaxis (twice daily AZT or daily NVP) until 4 to 6 weeks of age

Infant ARV (NVP and AZT) daily dosing for PMTCT

Table 13. Extended simplified infant NVP dosing recommendations*

Infant age	NVP daily dosing
Birth** to 6 weeks • Birth weight 2000–2499 g • Birth weight ≥2500 g	 10 mg once daily 15 mg once daily
>6 weeks to 6 months	20 mg once daily
>6 months to 9 months	30 mg once daily
>9 months to end of BF	40 mg once daily

* Based on the dosing required to sustain exposure in the infant of >100 ng/ml with the least dose changes.

** Low birth weight infants should receive mg/kg dosing, suggested starting dose is 2 mg/kg once daily. Therapeutic drug monitoring is recommended

Table 14. Simplified infant AZT dosing recommendations*

Infant age	AZT daily dosing
Birth to 6 weeks • Birth weight 2000–2499 g • Birth weight ≥2500 g	 10 mg twice daily 15 mg twice daily

* Low birth weight infants should receive mg/kg dosing.

…It is needing and urgent to revise national PMTCT guidelines for facilitating the access to a ART for all HIV+ pregnant women…

….this, together with infant prophylaxis, can reduced really significantly the rate of vertical transmission of HIV…

ARVs for PMTCT

In the 59 low- and middle-income countries that provided disaggregated data for their prevention of mother-to-child regimens around 30% of pregnant women received single-dose Nevirapine, while 54% received a combination regimen to avoid vertical transmission of HIV.

About 15% of all mothers received ongoing antiretroviral therapy (ART) based on eligibility criteria for treatment.