Guidelines For Prevention of Mother to Child Transmission (PMTCT) of HIV/AIDS in Kenya
MINISTRY OF HEALTH

Republic of Kenya

Guidelines for
Prevention of Mother to Child Transmission (PMTCT) of HIV/AIDS in Kenya

NATIONAL AIDS & STI CONTROL PROGRAMME
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NAIROBI

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Third edition
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Appendix VIII

A. FAMILY PLANNING

<table>
<thead>
<tr>
<th></th>
<th>NEW CLIENTS</th>
<th>RE-VISITS</th>
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<tr>
<td>PILLS</td>
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<tr>
<td>INJECTIONS</td>
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</tr>
<tr>
<td>I.U.D.</td>
<td>Insertion</td>
<td></td>
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<tr>
<td>IMPLANTS</td>
<td>Insertion</td>
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<tr>
<td>STERILIZATION</td>
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<td></td>
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<tr>
<td>CONDOMS</td>
<td>No. of Clients receiving</td>
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<td>TOTAL NO. OF CLIENTS</td>
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B. ANC / PMTCT

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<td>No. of Clients with &lt; 3 grafts</td>
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<td>No. of Clients given IPT (1st dose)</td>
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<td>No. of Clients given IPT (2nd dose)</td>
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<td>No. of Clients completed 4th Antenatal Visit</td>
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<td>No. of IFTs distributed to ANC clients</td>
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<td>No. of ANC clients Counselling for HIV</td>
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<td>No. of clients Tested for HIV</td>
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<tr>
<td>No. of clients ISSs</td>
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<td>No. of clients issued with free ARVs</td>
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<tr>
<td>No. of infants delivered</td>
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<td>No. of mothers counselled on infant feeding options</td>
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<td>No. of Partners HIV+</td>
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C. MATERNITY-PMTCT

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<td>No. of Women counselled</td>
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<tr>
<td>Women tested for HIV</td>
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<tr>
<td>Women found HIV+</td>
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<tr>
<td>No. of Women issued with preventive ARVs</td>
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<td>No. of infant Neonate administered</td>
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<td>Infants</td>
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D. BTI

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<tr>
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<tr>
<td>Re-visit 2 Referrals</td>
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<td>Re-visit 3 Referrals</td>
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<tr>
<td>Initial visit 4 Referrals</td>
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<tr>
<td>Re-visit 4 Referrals</td>
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<tr>
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E. MATERNITY / SAFE DELIVERIES

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<td>Normal Deliveries</td>
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<tr>
<td>Sacroccygeal laceration</td>
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<td>Breach Delivery</td>
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<td>Assisted vaginal delivery</td>
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<td>TOTAL DELIVERIES</td>
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<td>Line births</td>
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<td>Still Births</td>
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<td>Under Weight Babies (Weight below 2.5kg)</td>
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<td>Pre-Term babies</td>
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<td>Maternal complications</td>
<td>Alive Deaths</td>
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<tr>
<td>P.P.H.</td>
<td>Puerperal Haemorrhage</td>
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<td>Eclampsia</td>
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<tr>
<td>Ruptured Uterus</td>
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<td>Obstructed labour</td>
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<tr>
<td>Sepsis</td>
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### APPENDIX VII

**MINISTRY OF HEALTH**

**INTEGRATED MONITORING AND EVALUATION REPORT FORM (IEMUH)**

**NANCOP**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
<th>Code</th>
<th>Number</th>
<th>Date</th>
<th>Sign</th>
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</table>

N/B: This form should be completed and sent in to the IEMUH to reach by 5th of the following Month. e.g. Report of January 2006 should reach the IEMUH by 5th of February, 2006 etc. (ATT: DANCOP)


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4. Bacteriological confirmation

Appropriate clinical samples include sputum, gastric aspirates and certain other materials. Since most TB in children is in infants and young children, sputum induction may be done first or gastric aspirations and expectorations

a. Sputum Induction

Sputum induction is safe and effective in children of all ages and the bacterial yields are as good or better than for gastric aspirates.

b. Gastric aspiration

This is performed in young children who are unable or unwilling to expectorate sputum.

A gastric aspirate should be obtained on each of the three consecutive mornings.

c. Expectorations

Sputum should always be obtained in adults and older children >10 years of age suspected of having pulmonary TB.

Bacterial yields are higher in older children.

Three sputum specimens should be obtained: an on-the-spot specimen (at the first evaluation), an early morning specimen and a second on-the-spot specimen.

Sputum induction is safe and effective in children of all ages and the bacterial yields are as good or better than for gastric aspirates.
1. History
   • Ask for symptoms consistent with TB including chronic cough > 2 weeks, fever body temperature of 38 °C for 14 days after common causes such as malaria and pneumonia have been excluded, weight loss or failure to thrive (also look at the growth chart), and or night sweats.
   Enquire whether the patient has been in close contact with smear-positive pulmonary TB (usually a parent or other member of the family)

2. Clinical examination
   a. Physical signs highly suggestive of extra pulmonary TB:
      • Often the main clinical finding is just failure to thrive
      • Gibus, especially of recent onset (resulting from vertebral TB)
      • Non-painful enlarged cervical lymphadenopathy with fistula formation
   b. Physical signs requiring investigations to exclude extra pulmonary TB.
      • Meningitis not responding to antibiotics treatment
      • Pleural effusion
      • Pericardial effusion
      • Distended abdomen with ascitis
      • Non-painful enlarged lymph nodes without fistula formation
      • Non-painful enlarged joint
      Signs of tuberculin hypersensitivity

3. Mantoux test
   A mantoux test should be regarded positive as follows:
   • In high-risk children (includes HIV-infected children and severely malnourished children): >5mm diameter of induration
   • In all other children (whether they have received BCG or not): >10mm diameter of induration
Appendix VI

**Diagnostic algorithm for Pulmonary TB in Children**

- CTX
- HIV positive
- HIV Negative
- Careful history
- Clinical exam
- Mantoux test
- TB suspect
- Not TB suspect
- Expectoration
- Sputum induction
- Gastric aspiration
- Chest X-ray
- Bacteriological confirmation
- 2-3 positive samples
- Indeterminate (1 positive sample)
- 3 negative samples
- TB suggestive
- TB-HIV suggestive
- PTB+
- PTB-, HIV+
- PTB-, HIV-
- ARVs screening
- IPT Screening
- TB Treatment
- ARVs
- IPT
- Discharge
### COMMON ADVERSE EFFECTS OF ARV USE DURING PREGNANCY

#### Class

**Nucleoside/ Nucleotide Reverse Transcriptase Inhibitors (NRTIs)**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Adverse effects</th>
<th>Counseling and Follow-up Tips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zidovudine (AZT)</td>
<td>Nausea</td>
<td>May not be well-tolerated in early pregnancy when morning sickness is common</td>
</tr>
<tr>
<td>Lamivudine (3TC)</td>
<td>Diarrhoea</td>
<td>May increase risk of non-adherence</td>
</tr>
<tr>
<td>Stavudine (d4T)</td>
<td>Hypersensitivity (AZT)</td>
<td>May have inadequate blood levels</td>
</tr>
<tr>
<td>Abacavir (ABC)</td>
<td>Anaemia (AZT)</td>
<td>All ARVs should be discontinued and restarted when N&amp;V is gone or effectively treated</td>
</tr>
<tr>
<td>Tenofovir (TFV/TDF)</td>
<td></td>
<td>Follow-up labs: CBC, LFTs,</td>
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<tr>
<td>Emtricitabine (FTC)</td>
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</table>

**Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs)**

<table>
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<th>Drug</th>
<th>Adverse effects</th>
<th>Counseling and Follow-up Tips</th>
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</thead>
<tbody>
<tr>
<td>Nevirapine (NVP)</td>
<td>Rash, Elevated liver enzymes (common with NVP in high CD4 count), EFV: CNS effects (sedation, insomnia, vivid dreams, dizziness, confusion, feeling of 'disengagement'), Teratogenicity</td>
<td>If rash in 1st 2 wks do not increase NVP dose and contact clinician, Mild rash may be managed with antihistamines, Avoid corticosteroids during NVP dose escalation, EFV should be taken initially at bedtime, Avoid EFV in women of high child-bearing potential, Do not operate heavy machinery</td>
</tr>
<tr>
<td>Delavirdin</td>
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<td></td>
</tr>
<tr>
<td>Efavirenz (EFV)</td>
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</table>

**Protease Inhibitors (PIs)**

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<th>Adverse effects</th>
<th>Counseling and Follow-up Tips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saquinavir (SQV)</td>
<td>GI intolerance</td>
<td>Monitor glucose levels, Ask regularly for symptoms of hyperglycaemia</td>
</tr>
<tr>
<td>Indinavir (IDV)</td>
<td>Hepatotoxicity</td>
<td>Monitor hepatic transaminases (ALT and AST) particularly during the first 18 weeks of therapy, when this toxicity is most likely, Take with food, Antiemetics, Antimotility</td>
</tr>
<tr>
<td>Ritonavir (RTV)</td>
<td>Lipodystrophy</td>
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</tr>
<tr>
<td>Nelfinavir (NLF)</td>
<td>Dyslipidemias</td>
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<td>Lopinavir/ritonavir (LPV/r)</td>
<td>Insulin resistance, Hyperglycaemia, Lactic acidosis and hepatic steatosis</td>
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<tr>
<td>Atazanavir (ATV)</td>
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<tr>
<td>Fosamprenavir</td>
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<tr>
<td>Tipranavir (TPV)</td>
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<tr>
<td>Darunavir (DRV)</td>
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</tbody>
</table>
Table 4.4 ARV Prophylaxis for PMTCT among Pregnant Women who have not received Antenatal ART or Prophylaxis

Table 4.5 Choice of HAART for Pregnant Women based on CD4 count

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Job Aids and IEC Materials on Infant and Young Child Feeding

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USE OF ARVs FOR PMTCT OF HIV IN LABOUR AND DELIVERY UNITS

ALGORITHM

1. History with emphasis on history of HIV exposure
2. Establish mother's use of ARVs in pregnancy and give appropriate ARVs as shown in boxes below
3. Provide standard obstetrical management and care

HIV POSITIVE

- Establish Mother's use of ARVs in pregnancy and give appropriate ARVs as shown in boxes below
- Provide standard obstetrical management and care

HIV NEGATIVE

- Counselling on risk reduction

ABC

- Give mother Arv dose as per regimen

- Post partum infant: Give infant sa Nevirapine 2mg/kg within 72 hours of birth PLUS 3TC 4mg/kg BD for 1 week and AZT syrup 4mg/kg BD for 6 weeks

- Post partum mother: Continue with ARVs as per regimen

NVP

- Give mother Arv dose as per regimen

- Post partum infant: Give infant sa Nevirapine 200mg, AZT 600mg and 3TC 150mg stat

- Post partum infant: Give infant sa Nevirapine 2mg/kg within 72 hours of birth PLUS 3TC syrup 4mg/kg BD for 1 week and AZT syrup 4mg/kg BD for 6 weeks

- Post partum mother: Give mother ARVs 300mg & 3TC 150mg BID for 7 days

MOTHER RECEIVED HAART IN PREGNANCY

- Give mother sa Nevirapine 200mg, AZT 600mg and 3TC 150mg stat

- Post partum infant: Give infant sa Nevirapine 2mg/kg within 72 hours of birth PLUS 3TC syrup 4mg/kg BD for 1 week and AZT syrup 4mg/kg BD for 6 weeks

- Post partum mother: Continue with ARVs as per regimen

MOTHER RECEIVED AZT IN PREGNANCY

- Give mother sa Nevirapine 200mg, AZT 600mg and 3TC 150mg stat

- Post partum infant: Give infant sa Nevirapine 2mg/kg within 72 hours of birth PLUS 3TC syrup 4mg/kg BD for 1 week and AZT syrup 4mg/kg BD for 6 weeks

- Post partum mother: Give mother AZT 300mg & 3TC 150mg BID for 7 days

MOTHER RECEIVED NO ARVs IN PREGNANCY

• Give mother sa Nevirapine 200mg, AZT 600mg and 3TC 150mg stat

• Post partum infant: Give infant sa Nevirapine 2mg/kg within 72 hours of birth PLUS 3TC syrup 4mg/kg BD for 1 week and AZT syrup 4mg/kg BD for 6 weeks

• Post partum mother: Continue with ARVs as per regimen

FOR MORE INFORMATION CONTACT THE NATIONAL AIDS/STD CONTROL PROGRAMME (NASCOP)

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Acknowledgements

The third edition of Guidelines for Prevention of Mother-to-Child Transmission of HIV/AIDS in Kenya is a result of efforts of many individuals and organizations in the country. The Technical Working Group on PMTCT led these efforts. Members of the team reviewed all the modules, revised and in some cases re-wrote the modules based on the second edition to make them up-to-date and in line with current scientific evidence and experience. We acknowledge the contributors and reviewers of the current and previous editions. Of special mention are the following: Kenya Obstetrical and Gynaecological Society (KOGS), the University of Nairobi and Maker University.

We would like to thank the following institutions for technical as well as financial support: National AIDS and STD Control Programme (NASCOP), the Division of Reproductive Health, Centers for Disease Control and Prevention (CDC). It is not possible to mention all individuals and organizations that participated in this important exercise. To all of you, Asante Sana!

Ministry of Health

September 2008

Appendix III

Appendix III

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Appendix III

Appendix III
Foreword

The Ministry of Health (MoH) is committed to development of effective PMTCT programmes. Guidelines are an important part of the Government strategy to reduce MTCT and is in line with the National Health Sector Strategic Plan II (NHSSPII) and Kenya National AIDS Strategic Plan (KNASP) 2000-2010 which focuses on priority areas of prevention of new infections, improving quality of life of those infected and affected, and mitigation of social and economic impact of the infection.

MTCT is the predominant mode of transmission of HIV in infants and young children. This transmission occurs during pregnancy, labour and delivery and, among breastfed babies, in the post-partum period.

Members of the Technical Working Group (TWG) on PMTCT reviewed the modules of the second edition, revised and in some cases re-wrote the modules based on up to date knowledge and in line with current scientific evidence and experience. The TWG consists of a group of professionals drawn from various disciplines that are implementing and/or managing PMTCT. The group adopted and adapted the latest recommendations of the WHO on MTCT as well as various national guidelines on HIV prevention, treatment and care.

A four-pronged approach through the various reproductive life cycles as proposed by the Inter-Agency Task Team (IATT) on children and HIV and AIDS was adopted in these guidelines with emphasis being placed on all the four prongs.

For any of the PMTCT interventions to be successfully implemented counseling and testing (CT) must first be done. Routine HIV testing with opt-out option is recommended. This is followed by appropriate medical, surgical interventions including antiretroviral prophylaxis, safer obstetric practices as well as infant feeding counseling and provision of appropriate infant feeding. HIV-positive women are assessed clinically using WHO staging and where feasible immunological assessment using CD4 cell count. HIV exposed infants are tested through early infant diagnosis (EID).

In these guidelines more efficacious regimens are introduced for the first time while information and counseling on infant feeding follows the AFASS (Available, feasible, acceptable, safe and sustainable) criteria.

The module on monitoring and evaluation addresses issues of data collection, collation and reporting as well as use of data for decision-making at the facility-level.

We hope that appropriate implementation instruments will be used to operationalize these guidelines.

Table 11.1: Contraceptive Methods for Use in Couples and Women Living with HIV Infection

<table>
<thead>
<tr>
<th>METHOD</th>
<th>COMMENTS</th>
<th>USE IN HIV POSITIVE PATIENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>COMMENTS</strong></td>
<td><strong>USE IN HIV POSITIVE PATIENTS</strong></td>
</tr>
<tr>
<td></td>
<td>• Male &amp; female condoms available</td>
<td>• Can and should be used at all stages of HIV infection</td>
</tr>
<tr>
<td></td>
<td>• Provide dual protection against STIs/HIV &amp; pregnancy.</td>
<td>• Can and should be used by patients on ART</td>
</tr>
<tr>
<td></td>
<td>• Require attention &amp; care for correct use each time.</td>
<td>• Correct and consistent use by HIV infected patients is recommended regardless of the use of other methods of contraception (dual contraception).</td>
</tr>
<tr>
<td></td>
<td>• May require co-operation of partner</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>METHOD</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>COMMENTS</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Very effective and easy to use</td>
<td>• Can be used without restriction in HIV+ women not on ART</td>
</tr>
<tr>
<td></td>
<td>• Suitable for short- or long-term use</td>
<td>• Can be used without restriction in all HIV+ women for emergency contraception</td>
</tr>
<tr>
<td></td>
<td>• Reversible</td>
<td>• Some ARV drugs may reduce method effectiveness.</td>
</tr>
<tr>
<td></td>
<td>• Associated with non-contraceptive health benefits</td>
<td>• DMPA/Implants can however be used with ART; re-injection of DMPA should be done at 10-12 weeks</td>
</tr>
<tr>
<td></td>
<td>• Serious complications extremely rare</td>
<td>• If hormonal method is chosen, condoms should still be used correctly and consistently</td>
</tr>
<tr>
<td></td>
<td><strong>METHOD</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>COMMENTS</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Highly effective, long-term, reversible method</td>
<td>• Attractive method for women with HIV who desire very reliable pregnancy protection</td>
</tr>
<tr>
<td></td>
<td>• Remains in place up to 12 years</td>
<td>• Can be inserted in HIV+ women who do not have WHO Stage 4 disease/AIDS defining illness</td>
</tr>
<tr>
<td></td>
<td>• Almost 100 percent effective</td>
<td>• For women with stage 4 disease IUD can be inserted once they are on ART and have controlled symptoms of severe illness</td>
</tr>
<tr>
<td></td>
<td>• Has no effect on fertility when used by nulliparous women</td>
<td>• Bacterial STIs should be screened for and treated as a precaution prior to insertion of IUCD</td>
</tr>
<tr>
<td></td>
<td>• Should not be provided to women with high risk sexual lifestyle</td>
<td>• No medical reasons to deny sterilization to clients with HIV</td>
</tr>
<tr>
<td></td>
<td>• Should not be provided to women with high risk sexual lifestyle</td>
<td>• Procedure may be delayed in event of acute HIV-related infection or stage 4 disease pending immune reconstitution</td>
</tr>
<tr>
<td></td>
<td>• Should not be provided to women with high risk sexual lifestyle</td>
<td>• Encourage condom use as well</td>
</tr>
</tbody>
</table>

* DMPA = Depot Medroxyprogesterone Acetate (Depo-Provera)
Appendix II

Contraceptive Options for People Living With HIV

It has been shown in a number of studies of cohorts of HIV positive women that some choose to continue sexual activity despite knowledge of their status. Evidence of conception has demonstrated that fertility in HIV positive women for the most part is unaffected. However, certain conditions may affect fertility such as low body mass index, AIDS and intercurrent illness, especially tuberculosis. Putting women who are HIV infected on contraceptives is one of the means of preventing mother to child transmission of HIV (PMTCT).

It is the right of HIV infected women to make their own decisions regarding reproduction. They may wish to have more babies, limit their families or avoid pregnancy altogether. The health care providers they consult should enable them to make informed choices by themselves.

The following contraceptive methods are available in Kenya: - progesterone only pills, low dose combined oral contraceptives, depot medroxyprogesterone acetate (DMPA - depo), levonorgestrel and etonogestrel implants. Emergency contraceptive pills, copper intrauterine contraceptive devices, barrier methods, female and male sterilisation are also available.

Some drugs interact with hormonal contraceptives. And concurrent use should be avoided. These drugs include:

- Protease inhibitors – Ritonavir, Nelfinavir, Lopinavir with Ritonavir
- Non-nucleotide reverse transcriptase inhibitors (NNRTIs) – Nevirapine
- Efavirenz
- Anti-TB drugs – Rifampicin and Rifabutin
- Other drugs – Griseofulvin, Phenobarbitone, Carbamazepine, Phenytoin

All the above do not apply in the face of other medical conditions that are contraindications for the various methods e.g. known cardiovascular disease, hepatic conditions, smoking, high blood pressure and thromboembolic disorders.

The following table summarises major issues regarding use of different contraceptives by HIV-positive women.

Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFASS</td>
<td>Acceptable, Feasible, Affordable, Sustainable and Safe</td>
</tr>
<tr>
<td>Ab</td>
<td>Anti-body</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>ALT</td>
<td>Alanine Transferase</td>
</tr>
<tr>
<td>ANC</td>
<td>Antenatal Care</td>
</tr>
<tr>
<td>ARM</td>
<td>Artificial Rupture of Membranes</td>
</tr>
<tr>
<td>ART</td>
<td>Antiretroviral Therapy</td>
</tr>
<tr>
<td>ARV</td>
<td>Antiretroviral</td>
</tr>
<tr>
<td>AZT</td>
<td>Azidothymidine (Zidovudine or ZDV)</td>
</tr>
<tr>
<td>AZT/3TC</td>
<td>Combivir</td>
</tr>
<tr>
<td>3TC</td>
<td>Lamivudine</td>
</tr>
<tr>
<td>BCC</td>
<td>Behaviour Change Communication</td>
</tr>
<tr>
<td>BCG</td>
<td>Bacille Calmette Guerine vaccine</td>
</tr>
<tr>
<td>BFHI</td>
<td>Baby Friendly Hospital Initiative</td>
</tr>
<tr>
<td>BID/BD</td>
<td>“Twice a day”</td>
</tr>
<tr>
<td>CDC (K)</td>
<td>Centres for Disease Control and Prevention, Kenya</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>CS</td>
<td>Caesarean Section</td>
</tr>
<tr>
<td>CT</td>
<td>Counselling and Testing</td>
</tr>
<tr>
<td>CTX/CTZ</td>
<td>Cotrimoxazole</td>
</tr>
<tr>
<td>d4T</td>
<td>Stavudine</td>
</tr>
<tr>
<td>DASCO</td>
<td>District AIDS/STI Coordinator</td>
</tr>
</tbody>
</table>
8. Cytomegalovirus infection (retinitis or infection of other organs)
9. Central nervous system toxoplasmosis
10. HIV encephalopathy
11. Extrapulmonary cryptococcosis including meningitis
12. Disseminated non-tuberculous mycobacterial infection
13. Progressive multifocal leukoencephalopathy
14. Chronic cryptosporidiosis
15. Chronic isosporiasis
16. Disseminated mycosis (extrapulmonary histoplasmosis or coccidiomycosis)
17. Recurrent septicaemia (including non-typhoidal Salmonella)
18. Lymphoma (cerebral or B-cell non-Hodgkins)
19. Invasive cervical carcinoma
20. Atypical disseminated leishmaniasis
21. Symptomatic HIV-associated nephropathy or symptomatic HIV-associated
22. Cardiomyopathy

*Please note:
Signs and symptoms of HIV wasting syndrome include: Unexplained involuntary weight loss (>10% baseline body weight) with obvious wasting of body mass index <18.5 PLUS unexplained chronic diarrhoea (loose or watery stools three or more times daily) reported for longer than one month OR reports of fever or night sweats for more than one month without other cause and lack of response to antibiotics or antimalarial agents. Malaria must be excluded in malaria prone areas. *For the purpose of the WHO staging system, adolescents and adults are defined as adults aged ≥15 years.
CLINICAL STAGE 3

1. Unexplained severe weight loss (>10% of presumed or measured body weight)
2. Unexplained chronic diarrhoea for longer than one month
3. Unexplained persistent fever (above 37.5°C intermittent or constant for longer than one month)
4. Persistent oral candidiasis
5. Oral hairy leukoplakia
6. Pulmonary tuberculosis
7. Tuberculous Lymphadenopathy
8. Severe bacterial infections (such as pneumonia, empyema, pyomyositis, bone or joint infection, meningitis or bacteraemia)
9. Acute necrotizing ulcerative stomatitis, gingivitis or periodontitis
10. Unexplained anaemia (<8g/dl), neutropaenia (<0.5 x 10⁹ per litre) and/or chronic thrombocytopaenia (<50x10⁹ per litre).

CLINICAL STAGE 4

1. HIV wasting syndrome*
2. Pneumocystis pneumonia
3. Recurrent severe bacterial pneumonia
4. Chronic herpes simplex infection (orolabial, genital or anorectal of more than one month’s duration or visceral at any site)
5. Oesophageal candidiasis (or candidiasis of trachea, bronchi or lungs)
6. Extrapulmonary tuberculosis except Tuberculous Lymph adenopathy
7. Kaposi’s sarcoma
Appendix I

WHO Clinical Staging of HIV/AIDS for Adults and Adolescents with Confirmed HIV Infection

CLINICAL STAGE 1
- Asymptomatic
- Persistent generalized lymphadenopathy

CLINICAL STAGE 2
1. Unexplained moderate weight loss (<10% of presumed or measured body weight)
2. Recurrent upper respiratory tract infections (sinusitis, tonsillitis, otitis media and pharyngitis)
3. Herpes Zoster
4. Angular Cheilitis
5. Recurrent oral ulceration
6. Papular pruritic eruptions
7. Seborrhoeic dermatitis
8. Fungal nail infections
Bibliography

Job Aids/References
1. MoH ANC Registers.
2. MoH Maternity Registers.
5. Reproductive Health Services monthly report.
6. MoH Form 726. (Appendix IV).
7. MoH Form 727.
8. MOH Form 711

Executive Summary

The Revised Guidelines (3rd edition) for Prevention of Mother to Child Transmission (PMTCT) of HIV and AIDS addresses the risks of mother-to-child transmission (MTCT) of HIV and AIDS using more efficacious interventions than in the previous editions. The Guidelines are in line with Kenya’s National Health Sector Strategic Plan II (NHSSP II) and are anchored on the Kenya National AIDS Strategic Plan (KNASP) 2000-2010 which focuses on the priority areas of prevention of new infections, improving the quality of life of people infected and affected by HIV and AIDS, and mitigation of the social and economic impact of the infection. One of the priority areas of NHSSP II is adherence to set clinical and public health standards. The Guidelines were developed through a participatory and consultative process that drew participants from public health institutions, NGOs, FBOs, academic and research institutions and development partners. The process was co-ordinated by NASCOP with technical and financial support from CDC (K).

HIV infection has reversed gains realised in child health and survival in the last decade in Kenya. The infection has also contributed significantly to the common complications of pregnancy in many countries. Globally, more than 630,000 children were infected with HIV through MTCT in 2003. In 2007, Kenya had a population estimated at 34 million, the number of births per annum was 1.73 million, the HIV prevalence among pregnant mothers was 6.7 per cent and the total number of births to HIV-infected mothers exposed to MTCT was 163,800. Assuming a transmission rate of 40 per cent, and in the absence of any intervention, the number of HIV positive infants per annum would be 65,520. Kenya AIDS Indicator survey (KAIS) 2007 HIV seroprevalence among adults aged 15-49 years is 7.8%.

Various interventions have been put in place to respond to the emerging challenges and constraints to MTCT across the country. Analysis of effectiveness of the various approaches needed to manage risks of MTCT provides valuable insights that necessitate the adoption of more efficacious care and treatment regimens. These insights have informed the development of new Guidelines. The Guidelines incorporate these changes and are recommended for use by health professionals and health institutions at all levels of care. The Guidelines will enhance the capacity of health care providers to give more efficient and effective services to HIV positive expectant mothers and newborns.

The Guidelines have ten chapters and cover the following; justifying the need for specific management of HIV positive women; care before, during and after pregnancy; use of antiretroviral therapy in pregnancy; postnatal care; family planning; early infant diagnosis; feeding, care and follow-up of HIV-infected infants; and monitoring and evaluation. Additional information on WHO staging, contraceptive options for PLWAs and a summary of ARV use in PMTCT is given in the appendices.
The Guidelines have also incorporated basic information that program managers need in order to make their institutions PMTCT-friendly. This information is found in the boxes and appendices. Summaries of the information contained in the text are found in the tables.

The Guidelines provide a background to the PMTCT problem in the world, in Africa and in Kenya. They also give details on HIV in pregnancy, the transmission patterns of MTCT and describe the benefits of preventing mother-to-child transmission (PMTCT). They also provide information on interventions necessary to reduce MTCT that include counselling and testing, laboratory investigations, obstetric interventions and treatment/prophylaxis.

The antenatal management for HIV positive women, including policy guide, job aids with summarised essential package of integrated antenatal care services are detailed in Chapter 2.

Chapter 3 provides information on intrapartum care. This is the management of women from the onset of labour to delivery. At this stage, it is important to establish the HIV status of women prior to delivery or during labour. Guidelines should be followed for all women admitted to labour and delivery. To conduct vaginal deliveries for HIV positive women, modified routine care is given. The guidelines provide a reminder on the activities essential to carry out for safe vaginal delivery for all women, not just for those infected with HIV. It is recommended that there should be no discrimination or isolation of HIV positive women during labour and delivery. Delivery through elective caesarean section reduces the risk of HIV MTCT as compared to vaginal delivery among HIV positive women. Where CS is performed as an emergency or electively, antibiotics should be given.

Antiretroviral (ARV) therapy is discussed in detail in Chapter 4. This includes therapy for the mother before labour, during labour and after delivery, and for the infant after delivery. Currently, Nevirapine is the recommended regimen. However, short course efficacious ARV drug regimens can be implemented in resource limited settings. ARVs are used both for treatment and for PMTCT in HIV infected pregnant women and their neonates.

Guidelines for the postpartum care of the mother and care for HIV exposed infants are detailed in Chapter 5. In Chapter 6, the Guide provides detailed information on late postnatal care and family planning. HIV positive women can use all types of family planning based on standard eligibility criteria as explicitly outlined in the text.

Guidelines for infant diagnosis, care and treatment are discussed in Chapter 7. Currently there is no test to differentiate between antibodies from the mother and those produced by the baby. To identify HIV infected infants less than 18 months, DNA or RNA – PCR test is currently recommended. HIV exposed infants at 6 weeks and sick infants at 12 months should have access to DBS for DNA PCR. HIV exposed infants should be started on cotrimoxazole from 6 weeks. All mothers with 6 week old infants...
With the measurements listed above, the following performance indicators for monitoring PMTCT activities are calculated:

A Uptake of counselling and testing in Antenatal clinic:
Ratio of antenatal clients who were counselled and tested for HIV.

Numerator: This is number of pregnant women attending their first antenatal clinic visit who are tested for HIV.

Denominator: Number of new visits to the antenatal clinic.

B Antenatal HIV seroprevalence:
Ratio of Antenatal pregnant women tested for HIV that are HIV infected.

Numerator: Number of clients who test HIV positive

Denominator: Total number of pregnant women tested for HIV in antenatal clinic

C Antenatal mother ARV prophylaxis uptake:
Ratio of known HIV infected pregnant women in antenatal clinic receiving ARV preventive prophylaxis.

Numerator: Total number of HIV-infected pregnant women in antenatal clinic receiving mother preventive ARV prophylaxis.

Denominator: Total number of pregnant women who are HIV-infected in the antenatal clinic.

D Antenatal infant ARV prophylaxis uptake:
Ratio of known HIV-infected pregnant women in antenatal clinic who receive infant dose(s) of preventive ARV prophylaxis.

Numerator: Total number of HIV infected pregnant women in antenatal clinic receiving infant dose(s) preventive ARV prophylaxis.

Denominator: Total number of pregnant women who are HIV-infected in the antenatal clinic.

should have routine HIV antibody test.

Guidelines for feeding infants and young children born to HIV infected mothers are discussed in Chapter 8. The Ministry of Health recommends promotion of exclusive breastfeeding for the first 6 months of life. Where replacement feeding is acceptable, feasible, affordable, sustainable and safe (AFASS), avoidance of breastfeeding by HIV-infected women is recommended (WHO 2006). Discussion on different types of feeding alternatives to breastfeeding is captured in the text. These options exist for the mother to choose with the aid of counselling. Ideally, couple decision-making is encouraged for the HIV positive mother. For the HIV negative mother, exclusive breastfeeding is recommended for 6 months or less followed by weaning.

Care and follow-up of children of HIV-infected mothers is discussed in detail in Chapter 9. All children born to HIV infected mothers should be followed up closely from birth through 2 years. Table 9.2 provides the WHO recommended follow up details. Similarly, the mothers should be supported to provide optimal infant feeding and to avoid mixed feeding within 6 months.

In Chapter 10, the Guidelines explain the benefits of monitoring and evaluation of PMTCT programs. M&E provides an opportunity to measure and appraise performance within defined time frame to ensure accomplishment of set goals and objectives. PMTCT services must be guided by timely and accurate data reported from the health facilities, through the district and provincial levels, to the national level at NASCOP.
(xiii) **HIV infected in maternity ward**: Number of pregnant women admitted into maternity clinic who are HIV infected. Includes both those who were admitted already knowing they are HIV-infected and those who were tested and received their results in maternity clinic. This is obtained from the maternity register.

(xiv) **Preventive ARV prophylaxis in maternity ward (mother dose)**: Number of pregnant women admitted in maternity taking or reported to have taken the mother dose(s) of preventive ARV prophylaxis. This is obtained from the maternity register.

(xv) **Infant preventive ARV prophylaxis in maternity clinic/ward**: Number of infants born in maternity receiving the infant preventive ARV prophylaxis in the maternity clinic. This is obtained from the maternity register.

(xvi) **Deliveries**: Total number of pregnant women delivering at the health facility.

(xvii) **Counselling on infant feeding options**: Number of mothers delivering at the health facility counselled on infant feeding options. This is obtained from the maternity register.

(xviii) **Infant testing at 6 weeks**: 
- Number of infants tested for HIV at 6 weeks old
- Number of infants testing HIV-positive. This is obtained from laboratory register

(xix) **Referred for care and treatment**: 
- Number of HIV infected women attending antenatal clinic that is referred for HIV care and treatment
- Number of HIV infected women in maternity that is referred for HIV care and treatment
- Number HIV infected infants referred for HIV care and treatment. This is obtained from antenatal and maternity registers

(xx) **Initiated on Cotrimoxazole**: 
Number of HIV infected pregnant women attending antenatal clinic that has been initiated on Cotrimoxazole. This is obtained from the antenatal register.
Chapter 1

Background

1.1 The Global Pandemic

Over 38 million people are living with HIV/AIDS worldwide, and about two-thirds or 25 million of PLWHA live in sub-Saharan Africa. HIV/AIDS mainly affects people of reproductive age and increasingly affects women, who now account for 57% of new infections in sub-Saharan Africa, where women are 30% more likely to be living with HIV/AIDS than men, and young women aged 15-24 are nearly four times more likely to be infected than their male counterparts. Young, married women, who are often monogamous, have become one of the groups most vulnerable to HIV in the region.

To reach young married women, who may not be aware of their vulnerability, HIV/AIDS prevention, care and support activities must be integrated into already established health services that are used by the general population. An estimated 630,000 children worldwide became infected with HIV in 2003 — most through MTCT. The risk of an HIV-infected mother passing the virus to her infant during pregnancy, labour and delivery or in the postnatal period is 1 in 3 if nothing is done to reduce this risk. In other words, out of 100 infants born to women with HIV/AIDS and without intervention, 60-75 of them will not be infected. Of the one-third who become infected, about 5-10 babies will be infected during pregnancy, 15 will be infected during labour and delivery while 5-15 will be infected during breastfeeding, largely being dependent on breastfeeding practices and on the duration of breastfeeding.

In 2003, nearly 500,000 children died of AIDS-related causes. Most children born with HIV die before they reach their fifth birthday, with most not surviving beyond two years.

The high rates of MTCT in developing countries, compared to much lower rates in richer countries, illustrate growing inequalities in global health. In the wealthy countries, the rate of MTCT is less than 2% because of widespread access to antiretroviral therapy (ART), planned caesarean sections (CS), the means to safely formula feed, and access to quality medical services. In poorer countries like Kenya, there is a 30-40% chance that an HIV-positive breastfeeding mother will pass HIV to her child in the absence of these services. In such settings, it is critical that prevention procedures be integrated into existing sexual and reproductive health (SRH) and maternal and child health (MCH) services, reaching as many women as possible and lowering transmission rates. Although pharmaceutical company donations, donor support, and other government initiatives have helped expand access to HIV testing for pregnant women and use of antiretroviral drugs like Nevirapine, which reduce the chance of HIV transmission, still only 10% of pregnant women globally have access to these drugs.

The data is presented using defined performance indicators that include the following:

(i) New clients/first antenatal clinic visits: Number of pregnant women attending their first antenatal visit for the current pregnancy at the health facility. This is obtained from the antenatal register.

(ii) Return visits/revisits: Number of return antenatal clinic visits/revisits attended by the pregnant women at the facility. This is obtained from the antenatal register.

(iii) Counselling and testing for HIV in antenatal clinic: Total number of pregnant women counselled and tested for HIV at the antenatal clinic, whether this is done on the first antenatal visit or a later visit. This is obtained from the antenatal register.

(iv) HIV counselling and testing at first antenatal clinic visit: Number of pregnant women attending their first antenatal clinic visit for current pregnancy who are tested for HIV. This is obtained from the antenatal register.

(v) Learning HIV status in antenatal clinic: Number of antenatal clinic pregnant women tested for HIV who receive their HIV results, whether this is done on the first antenatal clinic visit or at a later visit. This is obtained from the antenatal register.

(vi) HIV infected in antenatal clinic: Number of antenatal clinic pregnant women who are HIV-infected on the latest test during the pregnancy. This is obtained from the antenatal register.

(vii) Preventive ARV prophylaxis in antenatal clinic (mother dose): Number of pregnant women in the antenatal clinic receiving the mother dose(s) of preventive ARV prophylaxis. This is obtained from the antenatal register.

(viii) Preventive ARV prophylaxis in antenatal clinic (infant dose): Number of pregnant women in the Antenatal clinic issued with the infant dose(s) of preventive ARV prophylaxis. This is obtained from the antenatal register.

(ix) New clients in maternity clinic: Number of pregnant women attending the Maternity clinic for the first time. This is obtained from the maternity register.

(x) Unknown HIV status at maternity: Number of pregnant women admitted into the maternity with unknown HIV status. This is obtained from the maternity register.

(xi) Counselling and testing for HIV in maternity ward: Total number of pregnant women admitted into maternity with unknown status that are counselled and tested for HIV during labour or after delivery. This is obtained from the maternity register.

(xii) Learning HIV status in maternity ward: Number of pregnant women admitted into maternity and tested for HIV who received their HIV results. This is obtained from the maternity register.
HIV/AIDS transmission from mother to child in Kenya is one of the biggest health and development challenges in Kenya. According to the 2003 Demographic and Health Survey, 6.7% or over 1.2 million Kenyan adults were living with HIV/AIDS in 2003. There has been a steady decline in HIV seroprevalence in Kenya. In 2005, the prevalence rate was estimated at 5.9% and as per the 2006 statistics the prevalence rate among adults had dropped to 5.1%. According to 2007 Kenya AIDS Indicator Survey (KAIS), the HIV seroprevalence in Kenya is currently 7.8% among adults aged 15-49 years, being higher in women (8.7%) than in men (5.6%). Young women are more vulnerable in Kenya than men, as evidenced by a nearly 9% prevalence rate among women and under 5% among men.

There are wide variations between urban and rural areas, between regions, between adults and young people and between men and women. There has been a notable drop in the number of new infections, with an estimated 60,000 new infections in 2005, dropping to 55,000 in 2006. Infants and young children under 15 years account for 16% of all new HIV infections mainly as a result of MTCT. Most of the new infections occur among young people, in whom the main mode of transmission is through sexual intercourse.

### Table 1.1: Adult HIV-Prevalence Estimate by Province in 2006

<table>
<thead>
<tr>
<th>Province</th>
<th>Number of HIV+</th>
<th>Prevalence (%)</th>
<th>Male</th>
<th>Female</th>
<th>Male/Female Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1.1 million</td>
<td></td>
<td>8.7%</td>
<td>4.9%</td>
<td>1.75</td>
</tr>
<tr>
<td>Nairobi</td>
<td>197,000</td>
<td>8.0</td>
<td>12.3</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>96,000</td>
<td>1.7</td>
<td>6.5</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Coast</td>
<td>93,000</td>
<td>5.0</td>
<td>6.9</td>
<td>1.4</td>
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<tr>
<td>Eastern</td>
<td>72,000</td>
<td>1.1</td>
<td>4.4</td>
<td>4.0</td>
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</tr>
<tr>
<td>N. Eastern</td>
<td>9,000</td>
<td>0.9</td>
<td>1.8</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Nyanza</td>
<td>183,000</td>
<td>6.1</td>
<td>9.6</td>
<td>1.6</td>
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</tr>
<tr>
<td>Rift Valley</td>
<td>171,000</td>
<td>2.6</td>
<td>4.9</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Western</td>
<td>112,000</td>
<td>4.2</td>
<td>6.4</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

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Guidelines for Prevention of Mother to Child Transmission (PMTCT) of HIV/AIDS in Kenya (3rd Edition) 86
10.2 Operational Guidelines

The following guidelines should be followed in the monitoring and evaluation of PMTCT services:

1. Within PMTCT programs, data is collected and reported at the following levels: Individual, facility, district, provincial and national.

2. Individual level: The combined mother and child health booklet provides detailed information on the woman and child including the HIV status, other HIV care services, drugs, delivery information, immunisation, growth monitoring and other parameters.

3. Facility level data capture tools: The MoH has standardised registers for recording data at facilities. These include the Revised ANC Register, Revised Maternity Register and Post Natal Register and Workload. Other registers include Child Health and Nutrition Information System and In-patient Morbidity and Mortality. Form 711 and the Reproductive Health Services monthly reports are used for making facility level summaries on PMTCT and reproductive health services.

4. District level data: Form 727 is used to summarise and report district level data. Other summary/reporting tools are also used to report district level information. At the district level, the DASCO’s office aggregates data from several health facility specific Form 726 onto Form 727 that is used to summarise and report district level data.

5. Provincial level data: At the provincial level, the PASCO receives Form 727 data from the respective DASCO’s offices in the province for their own data use and records. A copy of the same is sent to the National Office (NASCOP) by the DASCO’s office. At the provincial level, the district level data is aggregated to give the provincial level data.

6. National level data: At the national level, the M&E Manager receives data from the PASCOs for each of the provinces. Data is also received from the Referral hospitals and other facilities at the referral hospital or tertiary level. The data received at the national level is also copied to the Head of NASCOP and PMTCT programme manager. The M&E manager at NASCOP aggregates

1.2 Magnitude of HIV in Pregnancy in Kenya

Kenya National AIDS/STI Control Programme (NASCOP) estimates that there were 1.2 million babies born in 2006 in Kenya and that as many as 9% of pregnant women in Kenya were living with HIV/AIDS. At least 50,000 to 60,000 infants in Kenya were thought to have been infected with HIV as a result of MTCT that year. With an estimated population of 37.2 million in the year 2007, the number of births in 2007 was 1.73 million. With an HIV prevalence of 6.7%, the number of HIV-exposed babies is 114,101 and at least 45,640 HIV-positive babies are born, assuming a 40% transmission (Table 1.2).

<table>
<thead>
<tr>
<th>Table 1.2: Estimated magnitude of MTCT in Kenya, 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (Estimates 2007)</td>
</tr>
<tr>
<td>Births per annum</td>
</tr>
<tr>
<td>HIV prevalence in mothers</td>
</tr>
<tr>
<td>Total number of births to HIV-infected mothers exposed to MTCT assuming no multiple pregnancy</td>
</tr>
<tr>
<td>Number of HIV positive infants per annum in Kenya assuming 40% transmission</td>
</tr>
</tbody>
</table>
1.3 Risks of Transmission of MTCT at Different Time Periods

In Kenya, an estimated 40,000 to 50,000 infants are infected with HIV annually due to mother-to-child transmission. This can occur in utero, during labour and delivery and through breastfeeding. During pregnancy, about 5 to 8 percent of HIV-exposed babies become infected through transmission across the placenta. Labour and delivery poses the greatest risk for transmission with 10 to 20 percent of exposed infants becoming infected at this time.

Breastfeeding also exposes infants to HIV. When mothers breastfeed for 18 to 24 months another 10 to 15 percent of infants become infected. Thus, in non-breastfeeding populations, without antiretroviral treatment, approximately 15 to 30 percent infants will become infected; with prolonged breastfeeding, 25 to 45 percent infants will become infected.

Table 1.3: Transmission patterns in breastfeeding and non-breastfeeding populations

<table>
<thead>
<tr>
<th>Timing</th>
<th>No Breastfeeding</th>
<th>Breastfeeding through 6 months</th>
<th>Breastfeeding through 18 to 24 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>During pregnancy</td>
<td>05 to 10</td>
<td>05 to 10</td>
<td>05 to 10</td>
</tr>
<tr>
<td>During labour</td>
<td>10 to 20</td>
<td>10 to 20</td>
<td>10 to 20</td>
</tr>
<tr>
<td>Through breastfeeding</td>
<td>10 to 20</td>
<td>05 to 10</td>
<td>05 to 10</td>
</tr>
<tr>
<td>Early (first 2 months)</td>
<td>10 to 20</td>
<td>05 to 10</td>
<td>05 to 10</td>
</tr>
<tr>
<td>Late (after 2 months)</td>
<td>10 to 20</td>
<td>01 to 05</td>
<td>05 to 10</td>
</tr>
<tr>
<td>Overall</td>
<td>15 to 30</td>
<td>25 to 35</td>
<td>30 to 45</td>
</tr>
</tbody>
</table>

Source: De Cock K.M (2002)

Form MoH 711 has been recommended to replace Form MoH 726

HIV M&E data flow pipeline from the individual health facilities, to the district and provincial levels up to the central or national levels at NASCOP and NACC is summarised in Figure 10.1.

Figure 10.1: HIV Monitoring and Evaluation data flow pipeline in Kenya
Chapter 10

Monitoring and Evaluation of PMTCT Services

10.1 INTRODUCTION

PMTCT program monitoring and evaluation activities provide the opportunity to measure and appraise performance within defined parameters that ensure accomplishment of goals and objectives.

Kenya is committed to the “Three-ones” principles which are:

- One agreed AIDS Action Framework that provides the basis for coordinating the work plan of all partners.
- One National AIDS Coordinating Authority with a broad-based multisectoral mandate.
- One agreed country-level Monitoring and Evaluation (M&E) system.

In line with this, the country has developed the National HIV/AIDS Monitoring and Evaluation Framework that provides stakeholders with a tool for well coordinated, interlinked and functional HIV/AIDS M&E system that allows for efficient monitoring of interventions in achieving the national programmatic goals using defined targets. This provides the framework for M&E activities within PMTCT programs.

National PMTCT data is reported using MoH Integrated Monitoring and Evaluation Reporting Forms, Form MoH 711 or Form MoH 727. Individual PMTCT data is collected at the health facilities offering PMTCT services using standard MoH registers (ANC, Maternity and Postnatal Registers).

On monthly basis, the health facilities will aggregate the data from the registers on to Form MoH 711 or MOH 726 which is then forwarded upwards to the DASCO’s office. A copy is left at the health facility for their own data use. At the district level, the DASCO’s office aggregates data from several health facility specific Form 726 onto Form MoH 727 (or Form 711) that is used to summarise and report district level data. Both Form 726 and Form MoH 727 are then sent to NASCOP. A copy of the Form 727 or Form 711 is sent to the PASCO and another to the health facilities in the district for their own data use.

1.4 RISK FACTORS FOR MTCT OF HIV

Many factors are known or suspected to increase the risk of an HIV infected mother transmitting the virus to her infant. These factors include the HIV viral load in the mother, as well as other maternal, obstetrical, viral and infant factors (Table 1.4).

The most significant risk factor appears to be the HIV viral load in the mother, though the other factors may also contribute to increasing an infant’s exposure or susceptibility to acquiring HIV. Some factors may cause a breakdown in the protection offered to the foetus by the placenta, which in normal circumstances would not allow HIV to cross the placenta from mother to foetus.

Transmission during labour and delivery occurs when the infant sucks, imbibes or aspirates maternal blood or cervical secretions that contain HIV, or when it has other mucous membrane exposure. Table 1.4: Risk factors for MTCT of HIV

<table>
<thead>
<tr>
<th>Strong evidence</th>
<th>Limited evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIRAL</td>
<td>High viral load</td>
</tr>
<tr>
<td>MATERNAL</td>
<td>Immune deficiency (low CD4 count), HIV infection acquired during pregnancy or breastfeeding period</td>
</tr>
<tr>
<td>OBSTETRICAL</td>
<td>Vaginal delivery (compared to elective caesarean section), rupture of the membranes for more than 4 hours</td>
</tr>
<tr>
<td>FETAL/INFANT</td>
<td>Prematurity</td>
</tr>
<tr>
<td>BREAST-FEEDING</td>
<td>Duration of breastfeeding, mixed feeding, breast disease (mastitis/cracked nipples)</td>
</tr>
</tbody>
</table>
1.5 Benefits of Preventing Mother-to-Child Transmission of HIV

AIDS related deaths are reversing gains made in child health and survival in Kenya. Caring for HIV-infected children has major economic and social impacts on families and health systems. Thus at the national level, preventing MTCT has the potential to increase the understanding and acceptance of the HIV/AIDS epidemic and those living with HIV/AIDS. Counselling, testing and community sensitisation can contribute to reducing stigma.

Reduction of MTCT of HIV:
- Decreases numbers of HIV infected children
- Increases child health and survival
- Decreases the load on the health system
- Gives an opportunity to improve and expand health services as well as to strengthen the existing health infrastructure

1.6 Benefits of HIV Counselling and Testing (CT)

(a) It promotes behaviour change by:
- Reducing high risk behaviour for HIV
- Identifying HIV discordant couples
- Increasing the use of dual methods of family planning and STI prevention
- Improving antenatal care
- Guiding infant feeding

(b) It enables preventive therapy for:
- Malaria
- Opportunistic infections (e.g. Pneumocystis jirovecii pneumonia)
- TB

Footnotes
9 Use other options for children over 9 kilograms
10 Use regular or double-strength tablets for children over 16 kilograms
The framework below illustrates points of integration of comprehensive HIV care package into existing child health services

## Framework for integration

### From Pediatric HIV Prevention to Care: A Conceptual Framework

#### Woman

- **Pregnancy**
  - Receive ANC including
  - STI/syphilis
  - Malaria treatment & prevention including IPT & ITNs

- **Labour and Delivery**
  - Delivery care
  - EOC-Emergency obstetric care
  - Referral system

- **Post Natal Care**
  - Breast health
  - Sexual health
  - Family planning

- **Newborn/Infant**
  - Two weeks
    - Infant feeding counseling
  - Three weeks
    - Diagnosis (antibody), CT for negative women and partners
  - Six weeks
    - Immunization/growth monitoring
    - Infant feeding counseling
    - CTZ prophylaxis, IFC - infant feeding counseling
    - CT for untested mothers; CT for partner

#### Newborn Care

- Universal precautions
- CT for untested mothers including partner
- ARV prophylaxis (mother and infant)
- ART/CTZ prophylaxis
- Exclusive breastfeeding or replacement feeding

#### Post Natal Care

- Breast exam
- Pap smear

### Guidelines for Prevention of Mother to Child Transmission (PMTCT) of HIV/AIDS in Kenya (3rd Edition)

#### Framework for integration

- **The Four-Pronged Approach to PMTCT**
  - The Inter Agency Task Team on Prevention of HIV Transmission in pregnant women, mothers and their children (IATT) has proposed a four-pronged approach for the prevention of HIV transmission that targets non-pregnant and pregnant women, mothers and their children.

The four prongs are:

1. Primary prevention of HIV infection in women
2. Prevention of unintended pregnancy among HIV-infected women
3. Interventions to reduce transmission from HIV-infected pregnant and lactating women to their children
4. Care and support of women, children and families infected and affected by HIV and AIDS (The PMTCT-plus)

Overall, the coverage of PMTCT programmes and the uptake of services provided through these programmes including HIV testing and counselling and ARV prophylaxis are still very low. In 2006, worldwide, less than 10% of pregnant women testing HIV-positive received ARV drugs for PMTCT.

In Kenya, according to the 2007 Kenya AIDS Indicator Survey (KAIS), there has been a small increase in HIV testing among women and men compared to the 2003 KDHS KAIS shows that though a vast majority (83%) of HIV-infected women and men in Kenya do not know their HIV status, there has been a clear and dramatic increase in coverage of HIV-testing among ANC clinic attendees.

PMTCT services are therefore important entry points for HIV prevention and treatment. Overall ARV coverage for HIV infected people who need treatment in Kenya is only 35%

- 90% of Kenyan women who delivered in the last 4 years attend ANC
- 57% of those attending ANC tested for HIV
- Among HIV infected women with recent births, 47% were tested in ANC

(8) HIV disease staging in HIV-infected children:

Disease staging, with or without laboratory support, follows HIV diagnosis. Staging HIV disease provides a guide to the prognosis and interventions needed at the different stages. (Refer to Chapter 5 and 8)

(9) ARV therapy:

Children who are eligible for ART should be linked with the ART program and provided with treatment according to National Guidelines as soon as an HIV diagnosis is made. Early treatment significantly reduces mortality in HIV infected children.

(10) Communication:

Communicating with care-providers and providing psychosocial support for the child, mother/caregiver and family are a crucial component of care.

Parents/caregivers and/or the child need to participate in making decisions and planning appropriate care for the child, including decisions about therapy and where the child should receive care. In this respect, health workers must ensure that the family considers the social needs of HIV infected and affected children.

Health care workers should ensure that they provide adequate time for caregivers to ask questions so that they can fully understand the implications of HIV and HIV testing, for themselves and for their children. Health care workers should counsel caregivers on disclosure, including disclosure to the child.

(11) Referrals:

Referrals are an important part of managing an HIV exposed or infected child.

These include referrals to:

- Higher levels of specialised care for further investigations and treatment
- Social support programmes
- Community-based care programmes
- PITC sites for parents and siblings
Table 9.2: WHO Recommendations for Follow-up of an HIV-Exposed Child

<table>
<thead>
<tr>
<th>From</th>
<th>Monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 weeks–12 months</td>
<td>Monthly</td>
</tr>
<tr>
<td>12–24 months</td>
<td>Every 3 months</td>
</tr>
<tr>
<td>24 months and onwards</td>
<td>Yearly, if not symptomatic</td>
</tr>
<tr>
<td></td>
<td>If symptomatic, follow up as needed</td>
</tr>
</tbody>
</table>

1.8 Overview of the New PMTCT Guidelines

Kenya’s Ministry of Health (MOH), through NASCOP, has taken several actions to expand and strengthen PMTCT interventions in the country. In 2000, a National Technical Working Group (TWG) on PMTCT was formed. The TWG, co-chaired by NASCOP and the Division of Reproductive Health, coordinates implementation and provides technical support to the National PMTCT Program. The TWG serves as a forum to update stakeholders and discuss challenges and upcoming activities. The TWG is also responsible for updating national guidelines for PMTCT. The national PMTCT program was officially launched in 2002. NASCOP also established several pilot PMTCT sites throughout the country and prepared national PMTCT guidelines.

The goal of the national PMTCT program is in line with the goal, set out at the United Nations General Assembly Special Session on HIV/AIDS (UNGASS) in 2001, to reduce the proportion of infants infected with HIV by 20% by the year 2005 and 50% by 2010. In Kenya, the national PMTCT program planned to extend its services to at least 80% of all health facilities by 2007. According to the 2003 PMTCT service statistics, approximately 9% of all pregnant women received PMTCT services in that year. Currently more than 50% of all pregnant women in Kenya receive PMTCT services.

These guidelines are based on a public health approach to care, taking into consideration issues of feasibility and acceptability, in addition to efficacy and cost-benefit in different settings. The guidelines are expected to improve the uptake, quality and effectiveness of PMTCT services in the country.

1.9 Objectives and Organisation of the Guidelines

The PMTCT guidelines are part of the implementation instruments towards universal access to PMTCT services, and a response to the call to action towards HIV-free and AIDS-free generation. Together with two other guidelines (ARV Therapy in Adults and Adolescents and ARV Therapy in Infants and Young Children), they form a trilogy aimed at contextualising and mainstreaming the WHO trilogy of guidelines on HIV/AIDS prevention and treatment.

The context, resources and demands of PMTCT programmes differ greatly across countries and even across programmes within the same country. Considering this variability, these guidelines include the current consensus on best practices as well as alternatives which might be more appropriate in particular settings. Experts agree that the “state of the art” in PMTCT is changing rapidly and that recommendations will certainly alter with advances in medical science and as more programme experience is documented and disseminated. The areas of ARV prophylaxis and infant feeding are particularly subject to rapid change.

In 2005, the WHO issued proposed revisions to its recommendations on the use of antiretroviral drugs for PMTCT. The recommendations were the product of experts who...
convened to discuss important new information concerning the development of resistance in women and children using single dose nevirapine (SdNVP) for PMTCT as well as new clinical findings on strategies that might reduce the development of resistance.

Based on the new WHO guidelines, Kenya’s TWG has developed simple, practical and evidence-based recommendations on PMTCT that would work in a variety of resource-limited environments and clinical situations that confront healthcare workers, not only in Kenya but also in other developing countries.

1.10 Using the Guidelines

These guidelines are intended primarily for use by PMTCT providers. These include nurses, midwives, clinical officers, doctors, counsellors, nutritionists and other healthcare professionals. They will also be useful as a reference for programme managers at facility, district, provincial and national levels throughout the health sector. The guidelines are divided into ten chapters as outlined in Table 1.5.

The specific objectives of the new PMTCT guidelines are to:

- Outline the policy issues in providing PMTCT services
- Recommend operational guidelines to be followed by health care providers of PMTCT services
- Enable providers of PMTCT to select and prescribe ARVs for prophylaxis against MTCT and for treatment of pregnant women, infants and young children
- Standardise the care and counselling given by PMTCT service providers regarding risk of MTCT and on PMTCT
- Improve PMTCT services using easy-to-use job aids and a standardised M&E system

(6) Treatment of acute infections and other HIV-related conditions:

HIV-exposed children are susceptible to common infections as well as OIs for the HIV infected, and HIV may alter the incidence, presentation and response to conventional therapy. In some cases, more aggressive and longer treatment courses may be necessary, as treatment failures are more frequent.

(7) Regular follow-up care & referrals:

Regular follow-up is the backbone to caring for the HIV exposed children and ensures optimal healthcare and psychosocial support to the family. WHO has made recommendations on frequency of follow-up, as shown in Table 9.2. This is the minimum and more frequent contact with the health care system may be indicated for HIV infected children and especially if they are on anti-retroviral treatment.

---

Preventing TB:

For children exposed to smear positive tuberculosis:

- Exclude active TB through careful history, physical exam and investigations
- If there is no evidence of active TB, start on INH for prophylaxis for 6 months (IPT)
- If TB is present, start on TB treatment as per National TB guidelines

If a child is born to a mother with active TB:

- Start on INH prophylaxis (IPT) and give for 3 months
- After 3 months do a mantoux
- If mantoux is negative, stop INH and give BCG
- If mantoux is positive at 3 months, continue for a further 3 months
- At the end of prophylaxis re-evaluate for active TB
  - If no evidence of active TB, do not treat for TB
  - If there is evidence of active TB, treat for TB as per National TB guidelines
Prophylaxis against Pneumocystis jirovecii Pneumonia (PCP) in children where Cotrimoxazole is contraindicated

Alternative drugs to use if CTX is contraindicated are given below:

A second choice would be either dapsone or atovaquone

Dapsone
- Children > 1 month: 2 mg/kg/24 hours orally once daily.
- If both CTX and Dapsone are contraindicated (e.g., in children with G6PD deficiency who get haemolysis with CTX and Dapsone), then use either:

Atovaquone
- 30mg/kg/day for age 1-3 months
- Higher dose 45mg/kg/day for age 4-24 months

OR

Aerosolized Pentamidine
- 300 mg in 6 ml water via inhalation nebulizer once monthly
- children > 5 years
For each of these chapters (except chapter one on background), the guidelines give an introduction followed by policy statements, then operational guidelines of what providers should do to reduce mother-to-child transmission of HIV and/or to improve their performance and the effectiveness of their services.

A list of job aids for use by the healthcare provider follows the operational guidelines and, where necessary, a list of appendices and additional documents that may be referred to but are considered too big or detailed to be included within the main body of the guidelines.

Footnotes
3. It is important to recognise that the use of the phrase MCT in no way is intended to place blame on the mother, who may or may not know her HIV status, who transmits the virus to her child. Pathfinder acknowledges that many times pregnant women may have been infected by their male partner, and do not have the ability to negotiate safer sex, or to seek MTCT services for fear of violence, stigma, or abandonment if their status is revealed. Pathfinder upholds the reproductive rights of all women to choose if and when to have children, regardless of HIV-status.
8a Kenya AIDS Indicator Survey 2007

Who Needs PCP Prophylaxis?

- All infants born to HIV-infected mothers, irrespective of any antiretroviral therapy during pregnancy and labour. Prophylaxis continues until the infant is 12 months or is PCR negative or antibody negative, whichever comes earlier.
- All infants identified as HIV-infected during the first year of life by a PCR test or by a clinical diagnosis of HIV infection and a positive antibody test.
- Children older than 12 months, with symptomatic HIV disease or an AIDS-defining illness (WHO stage II and III; see chapter 5) or with CD4 < 15% or TLC 1500/mm3.
- Any child with a history of PCP should continue with secondary prophylaxis (daily CT) for life.

Clinicians should clearly inform HIV infected mothers at delivery that their children need prophylaxis against PCP starting at 6 weeks of age until it is established that the child is not HIV infected. A practical way to ensure that mothers and other health workers are informed is to make a note on the child’s immunization card at birth stating “Please give co-trimoxazole (3 mg/kg/day orally daily) from 6 weeks of age.”

Table 9.1: Dose of Cotrimoxazole for PCP Prophylaxis

<table>
<thead>
<tr>
<th>Weight of Child (kg)</th>
<th>CT tablets 20 mg TMP/100 mg SMX pediatric strength (120 mg)</th>
<th>Cotrimoxazole suspension 40 mg TMP/200mg SMX 5ml (240 mg)</th>
<th>CT tablets 80 mg TMP400 mg SMX regular strength (480 mg)</th>
<th>CT Tablets 160 mg TMP800 mg SMX Double strength (960 mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–4</td>
<td>1 tab</td>
<td>2.5 ml</td>
<td>¼ tab</td>
<td>-</td>
</tr>
<tr>
<td>5–8</td>
<td>2 tabs</td>
<td>5 ml</td>
<td>½ tab</td>
<td>¼ tab</td>
</tr>
<tr>
<td>9–16</td>
<td>2 tabs</td>
<td>10 ml</td>
<td>1 tab</td>
<td>½ tab</td>
</tr>
<tr>
<td>17–50</td>
<td>2 tabs</td>
<td>2 tabs</td>
<td>1 tab</td>
<td></td>
</tr>
<tr>
<td>&gt; 50</td>
<td>2 tabs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In rare cases, as in children with G6PD deficiency, CTX may be contraindicated.
(3) Monitor the child’s growth and development as a means of identifying the child who is failing to thrive and also as a tool for monitoring the effect of interventions

(4) Ensure that immunisations are started and **completed** according to the recommendations of the national immunisation schedule

- Additional considerations are as follows:
  - When considering BCG vaccination at a later age (re-vaccination for no scar or missed earlier vaccination), **exclude symptomatic HIV infection**
  - Do not give yellow fever vaccine to symptomatic HIV-infected children. However, asymptomatic children in endemic areas should receive the yellow fever vaccine at 9 months of age
  - Measles vaccine should be given to HIV infected children at 6 and 9 months since HIV infected children experience much more severe disease with wild measles virus, which outweighs the risk of a milder illness from the vaccine

(5) Provide prophylaxis for opportunistic infections:

- **Prophylaxis against Pneumocystis jirovecii Pneumonia**
  - *Pneumocystis jirovecii* (formerly *Pneumocystis carinii*) pneumonia (PCP), is a significant cause of morbidity and mortality among young infants in Africa. Co-trimoxazole (CTX) prophylaxis significantly reduces the incidence and severity of PCP. Additional benefits of co-trimoxazole include protection against common bacterial infections, toxoplasmosis, and malaria. All children born to HIV infected mothers should receive prophylaxis against PCP, at least during the first year of life, or until they are proven to be uninfected (see box below)
  - CTX is clearly the drug of choice for prophylaxis because of its high efficacy, relative safety, low cost and broad antimicrobial spectrum. In case of CTX hypersensitivity desensitization is recommended

### CHAPTER 2

**Antenatal Care and Prevention of MTCT of HIV**

#### 2.1 Introduction

HIV infection has emerged in Kenya as the most important health risk factor for mothers and their children and has a great impact on the long term outcome of pregnancy and child survival. All pregnant women should be encouraged to learn their HIV infection status, as well as that of their sexual partners. Only by knowing one’s HIV status can the health workers make appropriate health care management recommendations and the couple make appropriate decisions about maintaining their health and that of their unborn baby. Pre-conception care is encouraged where an opportunity arises and a birth plan is discussed with the pregnant woman.

In most cases, the pregnant woman will not have HIV infection. Pregnancy offers an opportune time to discuss prevention of HIV infection as many women come into contact with health services for the first (and in some cases the only) time during pregnancy. In Kenya, 50% of married HIV positive persons have an HIV negative spouse. Therefore, knowing the HIV infection status of one’s partner is critical. Additionally, this forms an important entry point for establishing prevention with positive (PWP) programs among couples as well as providing access to HIV prevention, care and treatment services for the whole family.

PMTCT provides an opportunity for preventing new paediatric HIV infections as well as for reaching the 10 to 20% of HIV positive pregnant women who meet WHO eligibility criteria for initiating ART for their own health. New infections and high viral loads during pregnancy pose the greatest risk of MTCT to the unborn baby, thus primary prevention, ARV prophylaxis as well as treatment at this time is critical. Given that 25 percent of women in Kenya have an unwanted pregnancy; strengthening the link to FP services and condom access for dual protection offers a chance to further prevent MTCT.

#### 2.2 Operational Guidelines

Antenatal care and prevention of MTCT during this period can be summarised using an essential package of integrated antenatal care services as shown in Table 2.1. This outlines the package of care to be provided to every woman attending ANC services.
Table 2.1 Essential Package of Integrated Antenatal Care Services

<table>
<thead>
<tr>
<th>Group education:</th>
<th>Include information on four ANC visits, breastfeeding, maternal and infant nutrition, personal hygiene, birth preparedness, danger signs, prevention of complications, skilled birth attendance, family planning, immunization schedule, postnatal care and HIV and AIDS management.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client history:</td>
<td>Obtain routine data including medical, obstetric, and psychosocial history. Determine drug history, known allergies, and use of alternative medicines such as herbal products.</td>
</tr>
<tr>
<td>Physical examination:</td>
<td>Include vital signs, inspection, auscultation and palpation.</td>
</tr>
<tr>
<td>Abdominal and genital examination:</td>
<td>Include inspection, palpation, foetal auscultation, speculum and bimanual examinations, where indicated.</td>
</tr>
<tr>
<td>ANC Profile:</td>
<td>Routine tests for syphilis, Hb, blood group and Rhesus factor, urinalysis and provide rapid HIV testing to the pregnant woman and her partner if accompanying her. If indicated check sputum for AAFB and CD4 count.</td>
</tr>
<tr>
<td>Counseling on birth preparedness:</td>
<td>Support the pregnant woman and her partner to develop an individual birth plan that includes place of delivery with skilled birth attendance, emergency transport, birth companionship and readiness for infant care.</td>
</tr>
<tr>
<td>Counseling on pregnancy danger signs:</td>
<td>Provide women with information and instructions on seeking early care for pregnancy complications such as bleeding, fever, severe headache, swollen feet, fits or convulsions.</td>
</tr>
<tr>
<td>Counseling on infant feeding:</td>
<td>All women require infant-feeding counseling and support. Exclusive breastfeeding for six months should be promoted as the norm for all women regardless of HIV status. Women infected with HIV need to be guided in the selection of safer infant-feeding options (refer to WHO guidelines and MOH circular on infant and young child feeding).</td>
</tr>
<tr>
<td>Counseling on HIV and AIDS:</td>
<td>Provide women with information and instructions on seeking health care for symptoms of HIV disease progression, such as frequent and recurrent illnesses, chronic persistent diarrhoea, candidiasis, fever, wasting or signs of any opportunistic infection. Link women to AIDS treatment and other support programmes where available.</td>
</tr>
<tr>
<td>Counseling the HIV negative woman and her partner:</td>
<td>Provide information on repeat testing, risk reduction and partner testing.</td>
</tr>
<tr>
<td>RTI screening:</td>
<td>All women with high risk sexual history or presenting with signs of RTI such as abnormal genital discharge, genital ulcers and pelvic inflammatory disease should be screened and managed according to Kenya protocols.</td>
</tr>
<tr>
<td>Tuberculosis (TB):</td>
<td>All women presenting for ANC services with a cough of more than 2 weeks' duration should be screened for TB regardless of HIV status. Follow Kenya protocols for screening, prophylaxis and treatment.</td>
</tr>
<tr>
<td>Tetanus toxoid immunisations:</td>
<td>Administer according to current KEPITTT Immunisation Schedule.</td>
</tr>
<tr>
<td>Deworming:</td>
<td>All pregnant women should receive anti-helminthes after first trimester as per the guidelines on maternal nutrition.</td>
</tr>
<tr>
<td>Antimalarials, ITNs:</td>
<td>All pregnant women in malaria endemic areas should sleep under an ITN and receive SP intermittent presumptive treatment according to the National Malaria guidelines.</td>
</tr>
<tr>
<td>ARV and Opportunistic Infections prophylaxis (during pregnancy):</td>
<td>Provide ARV, CTX, and other prophylactic medications according to the Kenya ART protocol on OI prophylaxis and use of ARVs in pregnancy.</td>
</tr>
<tr>
<td>ARV treatment during pregnancy:</td>
<td>Provide HAART within the MCH setting according to the Kenya protocol on use of ARVs. Establish clear referral networks with senior clinicians.</td>
</tr>
<tr>
<td>Prevention with Positives:</td>
<td>Encourage positive living, disclosure, correct and consistent condom use, and provide psychosocial support to the affected families. For the HIV-infected and affected families, establish and/or strengthen linkages to care, treatment and support services including post-partum follow up.</td>
</tr>
<tr>
<td>Effective contraception plan:</td>
<td>Counsel about other family planning methods emphasizing on partner involvement and dual protection methods to avoid unwanted pregnancy, new infection, re-infection and further transmission.</td>
</tr>
</tbody>
</table>

9.2 Operational Guidelines

The following guidelines should be followed in the care and follow-up of children of HIV-infected mothers:

- All children born to HIV infected mothers should be seen in the health care facility within two weeks of delivery
- For all HIV exposed infants, monthly follow up visits are recommended beginning at six weeks through 2 years
- Where possible, visits should be linked to the immunisation and growth monitoring visits
- All HIV exposed infants should be started on Cotrimoxazole prophylaxis from 6 weeks of age
- For infants who test HIV positive by DNA PCR before 18 months or by antibody test after 18 months of age, co-trimoxazole should be given daily for life
- For infants who test HIV negative:
  - If they have stopped breastfeeding for 2 months or more, stop Cotrimoxazole
  - If still breastfeeding, continue Cotrimoxazole until two months after complete cessation of breastfeeding
- Comprehensive care for the HIV exposed or infected infants should be provided in the broader context of other child health care strategies

Health workers should provide the following package of care as a minimum to these children:

1. Confirm HIV status as early as possible. (Refer to Chapter 7)
2. Mothers should be supported to provide optimal infant feeding and particularly to avoid mixed feeding in the first 6 months of life. It is important that infant feeding choices at initiation of feeding, following early infant diagnosis, at weaning and at the time of introduction of complementary foods are guided by the AFASS criteria. (Refer to Chapter 8)

Source: Kenya National PMTCT Training Curriculum, 2005
Chapter 9

Care and Follow-up of Children of HIV-infected Mothers

9.1  INTRODUCTION

PMTCT interventions reduce but do not eliminate the risk of HIV transmission from mothers to their infants and young children. Both HIV-infected and uninfected exposed children have increased risks of infection and death from common childhood infections. The survival of HIV-exposed children, whether or not they are infected, is closely linked to the health and survival of their mothers. Therefore, long-term benefits of PMTCT programs will only be sustained if there is ongoing comprehensive care for the children and their mothers and/or care givers.

HIV exposed children are vulnerable to the common illnesses affecting other children. These infections include neonatal infections, malaria, pneumonia, diarrhoea, measles and other vaccine preventable diseases. HIV infected children are likely to suffer more severely and have a higher likelihood of dying from common childhood illnesses than non-infected children. Whereas malnutrition causes 53% of all childhood deaths, HIV exposed children are more vulnerable to it than non-infected children. This is because HIV exposed children have higher caloric requirements as a result of their HIV infection, the presence of opportunistic infections and other complications related to AIDS.

Regular follow up care is critical for an infant born to a mother with HIV/AIDS. The comprehensive care of HIV exposed children including nutrition, immunisation, monitoring of growth and development, prevention and treatment of opportunistic infections and early infant diagnosis of HIV is feasible in resource-constrained settings and significantly improves the survival of these children.

2.3  JOB AIDS

Providers are encouraged to refer to the appropriate job aid(s) when dealing with specific issues:

- PMTCT testing and counselling tools
- Couple counselling tools
- ANC algorithms for ARV prophylaxis and infant feeding guidelines as adapted from WHO guidelines
- Prevention with positives tool kit on disclosure
- Focused ante-natal care
- Malaria in pregnancy
- TB in pregnancy
- KEPI Schedule
Figure 3.2 Rapid HIV testing algorithm: Serial testing
How to Breastfeed Your Baby

1. Check that your baby is breathing well by looking at the chest movements. If you are not sure, you can ask a health worker to check.
2. Keep your baby in a good position by placing him/her against your chest. Make sure the baby's mouth is open and the breast is not blocking the baby's mouth.
3. Support the baby's head by placing a hand under the baby's neck. This will help the baby to have a good吸吮

Mother and Child Health Booklet

Mother And Child
Health Booklet

Afya Ya Mama
Na Mtoto

Onyesha kitabu hiki kila mara; maelezo kikubwa ya shughuli za vyema na watoto.

CARRY THIS BOOKLET AT ALL TIMES DURING A VISIT TO THE MOTHER AND CHILD HEALTH CLINIC.
Chapter references


National AIDS & STD Control Programme, Kenya AIDS Indicator Survey

Footnotes
1, 2Kenya Demographic and Health Survey (KDHS), 2003
CHAPTER 3

Intrapartum Care

3.1 Introduction

Intrapartum care is the management of women from the onset of labour to delivery. This period poses the greatest risk for transmission of HIV from the mother to the child (MTCT) with 10 to 20 percent of exposed infants becoming infected at this time in the absence of any intervention. In the context of HIV/AIDS, it is, therefore, important to establish the HIV status of women prior to, or during labour and delivery and provide interventions aimed at reducing the risk of transmission. With appropriate interventions, the risk of MTCT can be reduced significantly.

3.2 Operational Guidelines

a) Optimal Intrapartum Care

The following guidelines should be followed for all women admitted to labour and delivery units:

1. Minimise vaginal examinations
2. Use aseptic techniques in conducting delivery
3. Avoid routine artificial rupture of membranes (ARM)
4. Avoid prolonged labour
5. Avoid unnecessary trauma during delivery
6. Minimise the risk of postpartum haemorrhage
7. Use safe blood transfusion practices
b) Specific Management of HIV Positive Pregnant Women

Prophylactic Antiretroviral therapies

The ARV prophylactic regimen depends on whether the mother had ARVs during pregnancy or not. Thus, the health care worker should establish the regimen used during the ANC, whether the woman had taken the SdNVP and AZT at the onset of labour and determine the appropriate intra-partum ARV care as per the algorithms on page 80 (Appendix III), page 81 (Appendix IV) and as summarised below.

No ARVs taken in pregnancy

Mother in early labour (up to 4cm cervical dilatation)

- **Intrapartum period:** Give mother SdNVP 200mg, AZT 600mg and 3TC 150mg stat
- **Postpartum mother:** Give mother AZT 300mg and 3TC 150mg BD for 7 days
- **Postpartum period:** Give infant Sd Nevirapine 2 mg/kg within 72 hours of birth PLUS 3TC 4mg/kg BD for 1 week and AZT syrup 4 mg/kg BD for 6 weeks

Mother received AZT 300mg BD in Pregnancy

- **Postpartum:** Give infant Sd Nevirapine 2mg/kg within 72 hours of birth, PLUS 3TC 4mg/kg BD for 1 week and AZT syrup 4 mg/kg BD for 6 weeks

Mother received HAART in Pregnancy

Regardless of duration received HAART

- Give mother ARV dose as per regimen
- **Postpartum:** Give Infant Sd Nevirapine 2mg/kg within 72 hours of birth, PLUS 3TC 4mg/kg BD for 1 week and AZT syrup 4 mg/kg BD for 6 weeks

Mode of delivery

Elective caesarean section (CS) reduces the risk of HIV MTCT as compared to vaginal delivery, but will not be available in many settings in our country. Where CS is performed (elective or emergency) in HIV positive women, they should receive prophylactic antibiotics. If the CS is performed after prolonged labour or rupture of membranes, longer courses of antibiotics should be considered.
Support during labour

Emotional support during labour is important for all women, and may be even more necessary for an HIV positive woman who is concerned about her condition and risk of HIV transmission to child. Whenever possible, during labour, ward staff must be sensitive to the fears and concerns of the HIV positive mother about her infection, and how much she had told her partner.

Induction of labour

Induction of labour may be associated with increased risk of HIV MTCT. Careful assessment of the need for and desirability of induction rather than CS is necessary. When induction of labour is chosen, membranes should be left intact for as long as possible. Syntocinon should not be used with intact membranes.

Indications for elective CS

Although elective CS will not be available in most health facilities as a routine for HIV positive women, there may be some cases that merit consideration for CS. These include pregnancies where labour is expected to be prolonged or where other obstetric complications may be associated with increased risk of transmission (e.g. abruptio placentae, placenta praevia, pre-term rupture of membranes, previous CS and breech presentation).

Management of labour and delivery

Labour and delivery management should follow optimal obstetric management guidelines. (Refer to Optimal Intrapartum care above and National Guidelines for Quality Obstetrics and IMPAC Care Manual).

Role of the Community

A large proportion (60%) of women in Kenya is delivered outside the health systems by family members, neighbours and TBAs.

- There is need to educate the community on the risk of MTCT and ways of prevention
- Those assisting the deliveries need to understand their own risk of infection and how to protect themselves
- The community should be encouraged to facilitate mothers to deliver in health facilities
- The community should be encouraged to refer to health facilities all children born at home
Chapter references

Footnotes
8.5 Extracts from Research on Infant Feeding and HIV/AIDS

Evidence available from current research data shows that:

- Increased risk of mortality with replacement feeding is significant
- HIV free survival rate at 18 months of age does not significantly vary between a breastfed and replacement fed child
- Modified animal's milk does not provide adequate nutrition for children less than 6 months hence micronutrients should be given under these circumstances
- Abrupt cessation of breastfeeding is no longer recommended
- Exclusive breastfeeding up to 6 months is recommended unless replacement feeding can meet AFASS criteria

Chapter 4

Use of Antiretroviral Drugs in Pregnancy for Treatment and for Prevention of Mother-to-Child Transmission of HIV Infection

4.1 Introduction

Without any intervention, up to 40 percent of HIV positive women will transmit the infection to their children during pregnancy, labour and breastfeeding. Use of antiretroviral drugs (ARVs), obstetric interventions and avoidance of all breastfeeding for prevention of mother to child transmission of HIV infection (PMTCT) has reduced the risk of mother to child transmission of HIV infection (MTCT) to less than 2 percent in developed countries.

Short course efficacious ARV drug regimens can reduce the risk of MTCT to 2-4 percent and can be implemented in resource-limited settings on a population-based public health scale. ARVs are used both for the treatment of HIV disease and for PMTCT in HIV-infected pregnant women and their neonates. Antiretroviral treatment (ART) for women, who qualify for it, prolongs and improves the quality of their lives. The survival of the child is closely interlinked with the health and survival of the mother. Women eligible for ART should be started on treatment as soon as possible. Pregnancy is not a reason to delay ART. Women who are already on ART before becoming pregnant should continue with their treatment. In certain situations, modifications may be needed to make treatment safer for the mother and the unborn baby.

The benefits of using ARVs to treat HIV-infected pregnant women and/or PMTCT outweigh the risks. However, when ART or other short course ARV regimens are used, baseline evaluation and monitoring is encouraged to ensure the safety of the mothers and their newborns. Linkages of HIV-infected pregnant women and their children to other care and support programs at health facility and community levels should be ensured.
4.2 Operational Guidelines

All HIV-infected pregnant women should be counselled on comprehensive HIV care including use of ARVs for their own health and for PMTCT.

All HIV-infected pregnant women should have their HIV disease staged using:

- WHO clinical staging (see Appendix 1) and
- Immunological staging (CD4 count) (see table 1)

The women should also be screened and treated for opportunistic infections (OIs) including Tuberculosis (TB).

All HIV-infected pregnant women should have baseline laboratory and other necessary diagnostic evaluations.

These diagnostics should include:

- Routine antenatal care laboratory investigations that are normally done for all pregnant women: haemoglobin (Hb), rhesus blood group and ABO typing, VDRL, urine analysis and screening for STI
- ALT and creatinine levels for women eligible for HAART

Prophylaxis & micronutrient supplementation:

- Cotrimoxazole (CTX) one double strength or two single strength tablets once daily
- Multivitamins

8.3 Operational Guidelines on Feeding Children 6 months and Older

The following should guide feeding for children 6 months and older:

- At 6 months, other forms of milk alone are not adequate to meet the baby’s nutritional requirements
- Complementary foods should be introduced with continued breastfeeding or with replacement feeding until a nutritionally adequate diet can be sustained without milk
- Abrupt cessation of breastfeeding should be discouraged to avoid trauma for both the mother and the baby
- Milk should continue as an important component of the diet
- Complementary foods should be enriched from locally available family foods

8.4 Nutritional Care and Support of HIV Infected Children

- Energy needs for asymptomatic HIV infected children increase by 10 percent to maintain growth as compared to the non-infected children
- There is no evidence of increased protein requirements. The requirements should be based on individual symptoms and needs
- Micronutrient requirements do not change. WHO recommends not more than one RDA. (For further details, refer to Kenyan Guidelines on nutrition and HIV/AIDS)
The following should guide infant feeding for the first 6 months:

- All women and men irrespective of their HIV status should receive counseling and demonstrations on how to safely feed their babies during the antenatal and postnatal follow up

- The most appropriate infant feeding option for an HIV infected mother should continue to depend on individual circumstances and the available support

- Every HIV infected woman should be evaluated at every visit to check whether her social, economic and health status has changed sufficiently enough to affect her infant feeding option

- Exclusive breastfeeding for HIV infected women for the first 6 months of the infant’s life is advisable, unless replacement feeding is acceptable, feasible, affordable, sustainable and safe for them and their infants before that time

- When replacement feeding is acceptable, feasible, affordable, sustainable and safe, avoidance of exclusive breastfeeding by HIV infected women is recommended

- If the conditions for replacement feeding are still not met for 6 months then, continuation of breastfeeding with additional complementary feeding is recommended, giving priority to the locally available foods

- Infant feeding decisions for all HIV exposed infants should be based on the AFASS criteria even where early infant diagnosis (EID) is available

- Breastfeeding mothers of infants and young children who are known to be HIV infected should be strongly encouraged to continue breast feeding. However, breastfeeding HIV infected mothers should be given nutrition support (nutritional counseling, education, food and nutritional supplements)

Sulphur-based intermittent presumptive malaria treatment (IPT) should not be given to women who are on CTX prophylaxis.

ARV use:

- ARVs are used for treating HIV-infected eligible women and/or for prevention of mother-to-child transmission

- HIV-infected pregnant women eligible for ART should initiate ART as soon as possible as shown in Table 4.1

- HIV-infected pregnant women already on ART before becoming pregnant should continue ART. The baby should be given ARV prophylaxis soon after birth as shown in Table 4.2

Table 4.1: Recommendations for initiating ARV treatment in pregnant women based on clinical stage and availability of CD4 Count

<table>
<thead>
<tr>
<th>WHO Clinical Stage</th>
<th>CD4 testing not available</th>
<th>CD4 testing available</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Do not Treat</td>
<td>Treat if CD4 ≤ 350 cells /mm³</td>
</tr>
<tr>
<td>2</td>
<td>Do not Treat</td>
<td>Treat if CD4 ≤ 350 cells /mm³</td>
</tr>
<tr>
<td>3</td>
<td>Treat</td>
<td>Treat irrespective of CD4 count (consider CD4 values for better management)</td>
</tr>
<tr>
<td>4</td>
<td>Treat</td>
<td>Treat irrespective of CD4 cell count</td>
</tr>
</tbody>
</table>

Source: Adopted from WHO, Anti-retroviral drugs for treating pregnant women and preventing HIV infections
Table 4.2: Recommended first-line ART regimen for treating pregnant women and prophylactic regimen for infants

<table>
<thead>
<tr>
<th>Mother</th>
<th>Dosages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antepartum</td>
<td>AZT + 3TC + NVP Daily</td>
</tr>
<tr>
<td>Intrapartum</td>
<td>AZT + 3TC + NVP Daily</td>
</tr>
<tr>
<td>Postpartum</td>
<td>AZT + 3TC + NVP Daily</td>
</tr>
<tr>
<td>Infant prophylaxis</td>
<td>Sd NVP 2mg/kg stat within 72 hours 3TC X 1 week (4mg/kg BID) AZT X 6 weeks (4mg/kg BID)</td>
</tr>
</tbody>
</table>

Maternal dosages:

<table>
<thead>
<tr>
<th>Dosages</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZT 300 mg BID</td>
</tr>
<tr>
<td>3TC 150 mg BID</td>
</tr>
<tr>
<td>NVP 200 mg OD for two weeks, thereafter 200 mg BID</td>
</tr>
</tbody>
</table>

Infant Dosages:

<table>
<thead>
<tr>
<th>Dosages</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVP 2mg/kg stat within 72 hours</td>
</tr>
<tr>
<td>AZT 4mg/kg BID X 6 weeks</td>
</tr>
<tr>
<td>3TC 4mg/kg BID X 1 week</td>
</tr>
</tbody>
</table>

Chapter 8

Feeding Infants and Young Children Born to HIV Infected Mothers

8.1 INTRODUCTION: TRANSMISSION OF HIV THROUGH BREASTFEEDING

In Africa, 3 to 4 out of every 10 infants born to HIV infected women acquire HIV infection. There is, therefore, a 5 – 20 percent risk of infants born to HIV positive mothers acquiring infection through breastfeeding if there are no interventions in place. For women who are infected with HIV for the first time or who are re-infected with a different strain of HIV during the breastfeeding phase, the risk increases up to 29 per cent. Half (1/2) of HIV breast milk transmission takes place by 6 weeks and three quarters (3/4) by 6 months. Mixed feeding increases the risk of breast milk transmission of HIV.
7.2.3 Comprehensive care for HIV-exposed children

For prophylaxis the recommendations are ranked and will depend on time of first contact with the woman. HIV-infected pregnant women who are not eligible for ART or in whom it is not possible to start ART immediately and the mother is being seen between 28 and 38 weeks of pregnancy, should be started on recommended more efficacious short course prophylactic ARV regimens as shown in Table 4.3a. The baby should also be given ARV prophylaxis soon after birth as shown in the same table. The regimens as outlined below are for prophylaxis and not for treatment.

Table 4.3a: Recommended First Line ARV prophylaxis to prevent HIV infection in infants Among Pregnant Women Presenting Before 38 Weeks

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Time of Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy</td>
<td>Labour</td>
</tr>
<tr>
<td><strong>Recommended</strong></td>
<td><strong>AZT(28-38 weeks gestation)</strong></td>
</tr>
<tr>
<td><strong>Alternative</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td></td>
</tr>
</tbody>
</table>

HIV-infected pregnant women who are seen for the first time after 38 weeks of pregnancy or in labour should be given ARV prophylactic regimens as shown in Table 4.4. The baby should also be given ARV prophylaxis soon after birth as shown in the same table.
Table 4.4: ARV prophylaxis for PMTCT among pregnant women who have not received antenatal ART or prophylaxis

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Time of Administration</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour</td>
<td>Postpartum</td>
</tr>
<tr>
<td><strong>Recommended</strong></td>
<td>sdNVP + AZT+3TC</td>
<td>AZT+3TC X 7 days</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>sdNVP</td>
<td>-</td>
</tr>
</tbody>
</table>

Dosages:

<table>
<thead>
<tr>
<th></th>
<th>Mother</th>
<th>Baby</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NVP</td>
<td>200 mg stat</td>
<td>2mg/kg stat within 72 hours</td>
<td></td>
</tr>
<tr>
<td>AZT</td>
<td>300 mg BID</td>
<td>4mg/kg BID X 6 weeks</td>
<td></td>
</tr>
<tr>
<td>3TC</td>
<td>150 mg BID</td>
<td>4mg/kg BID X 1 week</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.5: Recommended HAART for Pregnant Women based on CD4 Count and Stage of Pregnancy

<table>
<thead>
<tr>
<th>CD4 Count Cells/mm³</th>
<th>1st Trimester</th>
<th>2nd Trimester</th>
<th>3rd Trimester</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;250</td>
<td>AZT*+3TC+NVP**</td>
<td>AZT+3TC+NVP</td>
<td>AZT+3TC+NVP</td>
</tr>
<tr>
<td>250-350</td>
<td>AZT+3TC+LPV/r OR ABC+3TC+LPV/r</td>
<td>AZT+3TC+LPV/r OR ABC+3TC+LPV/r</td>
<td>AZT+3TC+LPV/r OR ABC+3TC+LPV/r</td>
</tr>
<tr>
<td>&gt; 350***</td>
<td>AZT+3TC+LPV/r OR ABC+3TC+LPV/r</td>
<td>AZT+3TC+LPV/r OR ABC+3TC+LPV/r</td>
<td>AZT+3TC+LPV/r OR ABC+3TC+LPV/r</td>
</tr>
</tbody>
</table>

7.2.2 HIV positive infant by DNA PCR

- All HIV positive infants should be evaluated for eligibility for antiretroviral treatment and linked to care and treatment as appropriate.
- WHO clinical staging should be done for all HIV positive infants. Children who are at WHO Clinical stage 3 or 4 are eligible for antiretroviral treatment.
- All HIV positive infants should be assessed for CD4 count where possible and available. Refer to ART guidelines for CD4 counts that determine eligibility for ART for children of different age brackets.
- All HIV-positive infants should have a visible guardian or caretaker before they can be started on ART.
- All HIV-positive infants should be started on Cotrimoxazole from 6 weeks or on first contact thereafter.
- Breastfeeding should be encouraged for all HIV-positive infants for a minimum of two years. (Refer to Chapter 8)
- For all HIV-positive infants, perform antibody testing at 9 months, 12 months and confirm at 18 months.
7.2 OPERATIONAL GUIDELINES

7.2.0 GUIDELINES FOR HIV DIAGNOSIS IN CHILDREN

- Perform routine rapid HIV antibody tests for all mothers of 6 week old infants presenting with unknown status
- Perform routine dry blood spots (DBS) for DNA PCR for all infants known to be HIV-exposed at 6 weeks
- Perform routine antibody testing for all sick infants in outpatient and paediatric wards to establish HIV exposure/infection status
- Perform DBS for all HIV-exposed sick infants under 12 months
- All HIV-exposed infants should be started on Cotrimoxazole from 6 weeks of age or on first contact thereafter
- Refer to chapter on care and follow up of the HIV-exposed/infected infant.

7.2.1 HIV NEGATIVE INFANT AT AGE 6 WEEKS OR FIRST CONTACT

Perform antibody testing at 9 months and 12 months of age
- If HIV negative at 12 months and still breastfeeding, continue Cotrimoxazole.
- If not breastfeeding for at least 2 months, stop Cotrimoxazole
- Perform confirmatory antibody testing at 18 months.

Notes: Important considerations that modify choice of ARVs during pregnancy include CD4 count, maternal anaemia and stage of pregnancy

- 2 NRTIs (AZT and 3TC) acting as a “treatment backbone”, with addition of an NNRTI (NVP) remains the preferred first-line ARV therapy in resource-poor settings
- Protease inhibitors based regimens are preferable when CD4 count is higher than 250
- *Replace AZT with d4T if Hb< 8 gm/dL
- **EFV may be used instead of NVP after first trimester
- *** Usually ARV should be withheld if CD4 count is not available or not done. ARV is however used for PMTCT and/or in advanced HIV disease (WHO Stage 3 or 4) irrespective of CD4 count.

Babies whose mothers did not receive antepartum or intrapartum ARV prophylaxis should be given ARV prophylaxis as shown in Table 4.6.

<table>
<thead>
<tr>
<th>Maternal dosages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>AZT* 300 mg BID</td>
</tr>
<tr>
<td>3TC 150 mg BID</td>
</tr>
<tr>
<td>NVP** 200 mg OD for two weeks, thereafter 200 mg BID</td>
</tr>
<tr>
<td>ABC 300 mg BID</td>
</tr>
<tr>
<td>LPV/r (400/100) 2 tablets BID</td>
</tr>
<tr>
<td>EFV 600mg QID</td>
</tr>
</tbody>
</table>
Table 4.6: ARV prophylactic regimens for infants born to HIV-positive women who have not received antepartum or intrapartum ART or ARV prophylaxis

<table>
<thead>
<tr>
<th>Ranking</th>
<th>*Time of administration and Infant dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended</td>
<td>sdNVP (2mg/kg stat) PLUS 3TC (4mg/kg BID) X 1 week + AZT (4mg/kg BID) X 6 weeks</td>
</tr>
<tr>
<td>Minimum</td>
<td>sdNVP (2 mg/kg stat)</td>
</tr>
</tbody>
</table>

*sdNVP is given to the infant within 72 hours of birth

Please note:

At first contact, all HIV infected pregnant women should be given sdNVP tablets to take home with them. They should be instructed to take the tablets at the onset of labour, if labour occurs outside health facility settings. They should also be given NVP, 3TC and AZT syrup for their babies to be administered soon after birth.

Some women with a CD4 count greater than 250 cells / µl on Nevirapine (NVP)-based ART may develop NVP hypersensitive reactions that can be life threatening. In these guidelines it is recommended that for pregnant women with CD4 more than 250, NVP-based regimen may still be used but with close monitoring. Otherwise the recommended regimen to use with CD4 count above 250 is a PI-based HAART regimen.

When single dose NVP (sdNVP) is used in PMTCT, some women and children may develop resistance to NVP that may limit future use of Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) to treat them. The risk of NNRTI resistance is particularly high if two doses of sdNVP are given. Therefore sdNVP should never be used more than once in any one pregnancy. Where possible, AZT /3TC should be given for 7 days to cover the NVP tail both in the mother and the baby. The baby is then continued on AZT for a total of 6 weeks for prophylaxis against MTCT.

HIV-infected pregnant women starting zidovudine (AZT) containing regimens should have haemoglobin (Hb) levels above 8 gm/dl. The Hb level should be checked monthly for the first three months. Where possible, AZT should be used instead of stavudine (d4T).

Clinical judgement can be used to estimate Hb levels and initiate ARV prophylaxis if laboratory tests are unavailable.

Efavirenz (EFV) may be teratogenic if used in the first trimester. If the patient is on

Chapter 7

HIV Diagnosis in Children

7.1 INTRODUCTION

In general, a child may be tested under a number of circumstances. These include: shortly after birth for early diagnosis of HIV; for the purposes of individual diagnosis in a child who is ill (e.g. those presenting with an HIV related illness); in cases where a child has either been exposed or is potentially exposed to HIV e.g. through mother-to-child transmission, sexual abuse, sexual activity, within a healthcare setting (e.g. through contaminated needles or receipt of potentially infectious blood), through other means, and in orphans.

Early infant diagnosis (EID) refers to the making of HIV diagnosis in infants and young children before 18 months of age. EID gives an opportunity for early identification of HIV infected infants (despite PMTCT) and early linkage to care and treatment. Disease progression in HIV infected infants is fast, with a high mortality rate (> 50%) by 2 years of age. The median age of death in the first two years is 6 months. HIV antibody testing among children aged 18 months or more is able to determine whether a child is infected or not.

During pregnancy, mothers give their babies antibodies to infections they have experienced and these antibodies wane with time. Antibody testing in children aged less than 18 months identifies children who have been exposed to their mothers’ HIV infection or who may be truly infected and are making HIV antibodies. Currently, there is no test to differentiate the mother’s antibodies from those produced by the baby. In order to identify the HIV-infected child aged less than 18 months, a second test is required for all babies testing positive on antibody testing or known to be HIV-exposed (mother is HIV-positive). Infant DNA (or RNA) PCR testing is the current recommended method for EID.

Since most babies lose maternal antibodies (Ab) by 12 months, a negative antibody test will identify uninfected babies as long as they are not still breastfeeding. A positive antibody test at 12 months, although highly likely to be diagnostic, may still be due to passively carried maternal antibodies. Such tests need to be confirmed by PCR testing or repeat antibody test at 18 months.
HIV-positive mothers require care and support which includes:

- Counseling
- Prophylaxis and treatment
- Link to support groups and assessment of the need for ART
- Early infant diagnosis should be provided at six weeks using DNA-PCR testing

**Care, Support and Treatment for HIV Positive Mother and Child**

EFV before becoming pregnant, it should be substituted with NVP in the 1st trimester.

In case of severe hyperemesis gravidarum, ART may need to be briefly interrupted.

On average mother-to-child transmission rates are 15% for sdNVP, 6.5% for more efficacious dual regimens and 2.4% for 3-drug ARV combination

**Future Perspectives:**

Extended prophylaxis with 3 ARV drug combinations starting during pregnancy and continuing after delivery for a period of up to 6 months, among HIV-infected breastfeeding mothers, has been shown in a few recent and isolated studies and pilot programme, to lead to lower breastfeeding-related postnatal MTCT. This approach may be considered where this is feasible, acceptable, safe and where adherence can be assured. More studies on this issue are expected.

Three ARV drug combinations given to HIV positive pregnant women who are not yet eligible for initiation of ARTs for their own health also lead to lower MTCT and may be considered in programmes with the capacity to initiate the regimen and follow up such women. Such intervention is initiated at around 28 weeks, or soon after and stopped after birth if CD4 count is still above 350 cells/mm³.

**Appendices**

- Appendix I: WHO Clinical Staging of HIV/AIDS for Adults and Adolescents with confirmed HIV infection.
- Appendix II: Contraceptive Options for People Living with HIV.
- Appendix III: Summary of ARV Drug Use for PMTCT of HIV.

**Chapter references**


**Footnotes**

1. Preble and Piwoz, 2001
2. WHO: Contraceptive Eligibility Criteria Guide
Chapter 5

Immediate Postnatal and Neonatal Care

5.1 INTRODUCTION

Immediate postnatal and neonatal care refers to the package of services provided to the mother and infant before they leave the health facility (up to 48 hours) after delivery. The period provides an opportunity to educate all mothers about HIV, to provide counselling and testing if it was not done previously, and to reinforce the education provided during the antenatal period. Both HIV infected and HIV uninfected mothers should receive this education and counselling before discharge.

5.2 OPERATIONAL GUIDELINES

The following guidelines should be followed for all women and infants in the immediate postpartum period:

a) Optimal postpartum care

- Routine care including breast examination, examination of the uterus, examination of the perineum and lochia, passage of urine regularly, proper hygiene to prevent infection, checking for signs of anaemia, fever and tachycardia
- Discuss maternal nutrition
- Establish the HIV status of the mothers including those giving birth outside the health institution setting
- Provide HIV CT for mothers with unknown HIV status
- Encourage HIV results disclosure and partner testing
- Follow the standard guidelines on the care of a newborn (IMPAC Care Manual)
- All babies should receive their routine immunization (OPV and BCG) in their first hours of life

Contraception

All mothers, regardless of their HIV status, have a right to receive adequate information on available methods of family planning and to make an informed choice on what is best for them. HIV-infected women who are not breastfeeding should initiate a reliable contraceptive method by 2-4 weeks postpartum. This is in addition to the proper and consistent use of the condom as a form of dual protection. All methods of contraception can be used by HIV positive women based on standard medical eligibility criteria including taking care of drug interactions as outlined below:

- Lactational Amenorrhea Method (LAM): Suitable for exclusively breastfeeding HIV infected women who have not resumed menses.
- Hormonal contraception: All hormonal contraceptives can be used in HIV positive women including those on HAART. Combined oral contraceptives are contraindicated for use with drugs that induce hepatic micro-enzyme that may reduce the effectiveness of hormonal contraceptives: Some anti-TBs, antiretrovirals, antifungals and anti-epileptics, and in conditions that cause malabsorption.
- Intra-uterine contraceptive devices (IUCDs): IUCDs are not contraindicated in HIV positive women. In severely immuno suppressed women, use should not be discontinued but new insertion is discouraged as it may be associated with increased risk of infection during the insertion process.
- Surgical methods: Surgical contraception should be offered to HIV positive women and their partners.
- Barrier methods: Female and male condoms provide protection against STDs and reduce the risk of HIV transmission and should be encouraged alone or together with other contraceptive methods.
- Spermicides: Used in conjunction with barrier methods, spermicides will provide additional contraceptive protection. However, spermicides should not be used alone as they can increase the risk of HIV acquisition.
- Emergency contraception: HIV positive women should be informed about emergency contraception, where it is available and how to obtain and use it.
Breast care in breastfeeding mothers

- Encourage daily cleaning of the breasts and avoiding the application of lotions
- Treat maternal vaginal candidiasis and infant oral candidiasis
- Educate mother on optimal breastfeeding technique including latching on technique, exclusive breastfeeding and removing baby from breast
- Educate the mother on breast care to prevent complications (cracking and engorgement)
- Express and heat treat the milk if breast has mastitis or abscess

Optimal postpartum care for HIV positive women

Lochia

- Put emphasis on good perineal hygiene and proper handling of body fluids
- Avoid contaminating the baby with body fluids or with bedding soiled with lochia
- Sharing of beds by mothers in the hospital should be discouraged

Caesarean Section

- Broad spectrum antibiotics should be used routinely after CS

Essential maternal education and follow-up

- Monitor for breast and pelvic infection at all post natal clinic visits
- Educate on prompt health seeking behaviour
- Health education on hygiene, lochia and breast care
- Avoid sexual intercourse for at least 2 weeks after birth or until there is no longer any lochia rubra or serosa
- Do pap smear or VIA at 4-6 weeks
- For every sexual activity, the couple should use condoms
- Discuss family planning at every opportunity and provide the

Support infant feeding options. For all HIV negative women, women of unknown HIV status and HIV positive mothers opting for exclusive breastfeeding, initiate breastfeeding within half hour of birth and follow other guidelines as per Baby Friendly Hospital Initiative (BFHI).

- Give information on family planning and dual protection
- Counsel on HIV risk reduction
- Schedule postnatal clinic visits at 2 weeks and at 4-6 weeks and complete mother-child booklet (refer to DRH manual)

(b) Specific postpartum care for HIV positive women

- Support exclusive breastfeeding unless mother has appropriately opted for and been counselled on replacement feeding antenatally
- Initiate or continue co-trimoxazole prophylaxis -1 double strength tablet daily
- For HIV positive mothers that received sd nevirapine intrapartum, initiate AZT 300mg and 3TC 150 mg BD for 1 week
- For newly diagnosed mothers, do HIV staging, CD4 count and refer appropriately for continued care

(c) Specific care for HIV exposed infants

- For HIV exposed infants, administer sdNVP 2mg/kg stat within 72 hours. Give AZT 4 mg/kg BID for 6 weeks and 3TC 4 mg/kg BID for 1 week. Refer to Chapter 4
- Refer to Chapter 8 for details on infant feeding options
Late Postnatal Care and Family Planning

6.1 INTRODUCTION

Late postnatal care is provided to the mother and the child 48 hours to 6 weeks after delivery. During this period, the health of the mother and child is assessed and closely monitored.

The risk of MTCT during the postpartum period can be reduced by providing HIV counselling and testing, post-exposure prophylaxis for exposed babies, counselling on appropriate infant feeding options and breast care. Postpartum care for HIV positive women should include clinical staging, CD4 count and ART for those who qualify.

Family planning services are among the core interventions of PMTCT provided to help women determine future childbearing patterns including the prevention of HIV-infected births. Reproductive health counselling can help a woman practise safer sex and determine her future childbearing patterns on a more responsible and informed basis.

6.2 OPERATIONAL GUIDELINES

Optimal postpartum care for all women

This entails routine care including breast examination, examination of the uterus, examination of the perineum and lochia, passage of urine regularly, proper hygiene to prevent infection, checking for signs of anemia, fever and tachycardia and doing perineal exercises.

Additional care includes:

- Counselling and testing for mothers of unknown HIV status
- Provision of condoms and risk reduction counselling
- Counselling on contraceptive options, including dual method use
- Discussing maternal nutrition
- Malaria prevention
- Screening for STI and cervical cancer