ELIMINATION OF MOTHER TO CHILD TRANSMISSION (eMTCT) OF HIV AND SYPHILIS

Dual Elimination (HIV and Syphilis)

India is signatory to the UNAIDS goal of elimination of mother to child transmission of HIV and syphilis by 2020 and to end the AIDS epidemic by 2030.

Elimination is the reduction of the incidence of disease or infection in a defined geographical area to zero. However, so long as HIV and syphilis are prevalent among adults, it is not possible to reduce the incidence of Prevention of Parent To Child Transmission (PPTCT) to zero. Thus, the goal for elimination of mother-to-child transmission (eMTCT) of HIV and syphilis is to reduce incidence to a very low level such that they no longer pose a public health problem.

HIV and syphilis infection can be asymptomatic, and therefore detection is often delayed and depends on the initiative of the individual and/or the capacity of the health system to promote and facilitate testing for early detection. To date, there is no cure for HIV infection. However, ART can prolong and improve quality of life, and reduce the risk of both vertical and horizontal transmission. Syphilis infection in pregnant women and unborn infants can be cured with intramuscular injection of benzyl benzathine penicillin. Adverse birth outcomes can be prevented if treatment is given to the mother early in pregnancy.

Dual eMTCT of HIV and syphilis serves to improve a broad range of maternal and child health (MCH) services and outcomes. This achievement directly contributes to Sustainable Development Goals (SDGs) 3, 5 and 10, which aspire to ensure health and well-being for all, achieve gender equality, and empower women and girls, and reduce inequalities in access to services and commodities.


Ministry of Health & Family Welfare, NACO
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I. Overview of HIV epidemic:
India has an estimated 21.40 lakh people living with HIV. In 2017 alone, around 87,000 new HIV infections were detected and 69,110 AIDS-related deaths occurred. An estimated 22,677 pregnant women were in need of PPTCT interventions, without which nearly 25-45% of their children would acquire HIV infection through the vertical transmission route. The National Strategic Plan for HIV/AIDS and STIs (2017-24) has been developed with the vision of zero new infections, zero AIDS-related deaths, and zero discrimination.

II. Route of HIV Transmission to the baby:
The most common route of HIV infection among the paediatric age group is from mother to child during pregnancy, during delivery and during breastfeeding. Elimination of new HIV infections among children is based on a four-pronged strategy: primary HIV prevention of women in childbearing age group; prevention of unintended pregnancies among Positive Pregnant Women (PPW); prevention of parent to child transmission of HIV infection; and provision of care, treatment, and support of HIV positive women and their families.

III. Early detection leads to elimination:
Early detection of HIV and initiation of ART in the first trimester will reduce viral transmission. All pregnant women should be counselled for HIV testing during their first contact with health facilities. A triple-drug ARV for more than 24 weeks with good adherence during pregnancy, which would be continued during delivery, breastfeeding and life long will reduce mother to child HIV transmission to less than 5%.

IV. Care during labour and delivery:
Universal work precautions are strongly recommended while conducting delivery for all pregnant women, irrespective of their HIV status. In the case of women living with HIV, vaginal delivery is conducted with minimal vaginal examinations, avoiding an episiotomy, instrumental delivery, foetal blood sampling and artificial rupture of membrane unless indicated. The umbilical cord is clamped soon after birth, and the cord is not milked. Caesarean section is recommended only if there is an obstetric indication.

V. Feeding guideline:
Exclusive breastfeeding for the first six months is the recommended feeding option as per the global (WHO) and national guidelines. Exclusive artificial feeding is the option only if the mother is not alive, otherwise, the mother is not willing to give exclusive breastfeed and AFASS criteria is fulfilled (Affordable, Feasible, Acceptable, Sustainable and Safe).

VI. Infant prophylaxis:
All infants born to women living with HIV must be initiated on Nevirapine (NVP)/Azidothymidine (AZT) prophylaxis. The prophylaxis should be initiated immediately after birth and continued for 6-12 weeks as per the mother’s duration on ART during pregnancy and if the mother if breast feeding. Co-trimoxazole prophylaxis (CPT) must be initiated from 6 weeks and continued till 18 months irrespective of HIV status of the baby. CPT must be stopped at 18 months, if the child is tested negative, and continued till five years along with ART if the child’s HIV status is positive.

VII. HIV Exposed infants (HEI) Testing:
HEI needs testing as per the national guidelines at 6 weeks, 6 months, 12 months and at 18 months. HIV confirmation is done as per age criteria, six weeks after cessation of breastfeeding.

VIII. Syphilis:
Similar to HIV, mother to child transmission is the main cause for syphilis in children. The prevalence of syphilis among ANC in India is 0.10% (2017). Syphilis in pregnant women causes miscarriages. Morbidity and mortality are high among children born with congenital syphilis. A routine test for syphilis is recommended for all ANC women. Early diagnosis and treatment with penicillin reduce vertical transmission of syphilis.

Recommended ART Regimen:
Tenofovir (TDF) 300mg + Lamivudine (3TC) 300mg + Efavirenz (EFV) 600mg single FDC pill One pill/day
Registration of pregnant women
Routine Antenatal (AN) Services including HIV counseling and testing

Pre-test counseling for HIV Consent and HIV testing

HIV negative pregnant women
HIV positive pregnant women

- Post test counseling for HIV
- Obstetric services
- Counseling on HIV prevention
- Repeat HIV test (as per guidelines for window period and H/O risk factor)

Antenatal services for HIV positives
- Ensuring minimum of 4 hospital visits
- Pregnancy related clinical examination and lab tests
- TT immunization
- Iron and folate supplementation
- VDRL, STI and TB screening

During every hospital visit, counsel on
1. Disclosure to partner/family member
2. Follow-up counseling on safer sex and stigma
3. Infant Feeding choice
4. Involvement of family member and spouse
5. Consent for follow-ups and contact details
6. Ensuring monthly visits to ART centre
7. Refer to Positive Networks/NGOs

- Post test counseling for HIV
- Counseling on choice of continuation of pregnancy

- Choice of abortion - Family planning services as per MTP Act
- Pregnant women opting for MTP should be initiated on life long ART

Continuation of pregnancy

HIV clinical management
Refer to ART centre for CD4 testing and Opportunistic Infections

Lifelong ART initiation regardless of CD4 count or WHO clinical staging

ART Adherence counseling
Monitor for side effects
Start Cotrimoxazole prophylaxis if CD4 <350

Institutional delivery
Continue ART for mother

Post natal care of mother
- Routine postnatal care hygiene and nutrition
- Breast feeding counseling
- Continue ART lifelong

Care of HIV exposed infant
- NVP prophylaxis for minimum 6 weeks
- Cotrimoxazole prophylaxis from 6 weeks till 18 months
- Early Infant Diagnosis (EID) of HIV1 PCR testing (6 weeks, 6 months, 12 months or 6 weeks after stopping breast feeding, and confirmation with antibody test at 18 months)
- Regular Immunization as per national schedule
- Breast feeding and Growth monitoring
- Follow-up of child till 18 months for confirmation of HIV status
I. Goal of National PPTCT Program:
1. Primary prevention of HIV, especially among women of childbearing age.
2. Integration of PPTCT interventions into general health services such as basic ANC, natal and postnatal services, sexual and reproductive health, family planning, early infant diagnosis (EID), paediatric ART, adolescent reproductive and sexual health (ARSH), TB and STI/RTI services.
3. Strengthening postnatal care for the HIV-infected mother and her exposed infant.
4. Providing the essential package of PPTCT services.

II. Four prongs for PPTCT:

III. General principles for PPTCT of HIV:
1. Informed consent should be obtained from ANC before HIV testing.
2. Nurses/counsellors should provide individual or group pre-test counselling.
3. Pregnant women who opt out of HIV testing should repeatedly be offered counselling and testing at every subsequent visit.
4. Post-test counselling should be provided, regardless of the HIV test result.
5. Women who test reactive on screening should confirmed following NACO’s three test protocol.
6. Disclosure of the patient’s HIV status should only occur with counselling upon confirmation.
7. All ANC women who are confirmed positive should be linked to ART and other HIV care continuum services.
8. The partner/spouse and other children of the HIV-positive ANC woman should be tested for HIV.
9. Partner involvement in prevention of vertical transmission of HIV should be encouraged.

IV. Estimated Risk of Mother to child transmission in absence of any intervention

<table>
<thead>
<tr>
<th>Pregnancy/postpartum time point</th>
<th>Risk of transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>During pregnancy</td>
<td>5-10%</td>
</tr>
<tr>
<td>During labour and delivery</td>
<td>10-15%</td>
</tr>
<tr>
<td>During breast feeding</td>
<td>5-20%</td>
</tr>
<tr>
<td>Overall risk without breast feeding</td>
<td>15-25%</td>
</tr>
<tr>
<td>Overall risk with breast feeding to 6 months</td>
<td>20-35%</td>
</tr>
<tr>
<td>Overall risk with breast feeding to 18 to 24 months</td>
<td>30-45%</td>
</tr>
</tbody>
</table>

V. Factors that Increase Transmission of HIV to the child from the mother

<table>
<thead>
<tr>
<th>Period</th>
<th>Risk factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy</td>
<td>• Viral or bacterial placental infections</td>
</tr>
<tr>
<td></td>
<td>• STI, Malnutrition</td>
</tr>
<tr>
<td>Labour</td>
<td>• Prolonged rupture of membranes for &gt;4 hours</td>
</tr>
<tr>
<td></td>
<td>• Prolonged labour, Pre-term delivery,</td>
</tr>
<tr>
<td></td>
<td>• Acute chorio-amnionitis</td>
</tr>
<tr>
<td>Breast Feeding</td>
<td>• Mixed feeding</td>
</tr>
<tr>
<td></td>
<td>• Breast abscesses, nipple fissures</td>
</tr>
<tr>
<td></td>
<td>• Oral disease in the baby</td>
</tr>
<tr>
<td>High maternal viral load (new infection or advanced AIDS)</td>
<td>in all stages</td>
</tr>
</tbody>
</table>
## Antiretroviral Therapy (ART)/Antiretroviral (ARV) Regimen and duration for mother and baby

<table>
<thead>
<tr>
<th>Type</th>
<th>Scenario</th>
<th>ART Regimen for Mother*</th>
<th>ARV prophylaxis for Baby on EBF</th>
<th>Ante Natal</th>
<th>Duration of the Prophylaxis</th>
</tr>
</thead>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mother is on ART for 24 weeks</td>
</tr>
<tr>
<td>HIV 1</td>
<td>Newly Diagnosed</td>
<td>TLE</td>
<td>NVP (6 weeks)</td>
<td></td>
<td>6 weeks</td>
</tr>
<tr>
<td></td>
<td>History of prior exposure to</td>
<td>TL+LPV/r</td>
<td>AZT (if AZT not available) then</td>
<td></td>
<td>6 weeks</td>
</tr>
<tr>
<td></td>
<td>Single Dose of NVP (or) ZL+NVP</td>
<td></td>
<td>LPV/r</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Women already on ART first line</td>
<td>Continue Same Regimen</td>
<td>NVP</td>
<td></td>
<td>6 weeks</td>
</tr>
<tr>
<td></td>
<td>Women already on ART second line</td>
<td>Continue Same Regimen</td>
<td>AZT (if AZT not available) then</td>
<td></td>
<td>6 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LPV/r</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV 2</td>
<td>Newly Diagnosed</td>
<td>TL+LPV/r</td>
<td>AZT (if AZT not available) then</td>
<td></td>
<td>6 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LPV/r</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Women already on ART</td>
<td>Continue Same Regimen</td>
<td>AZT (if AZT not available) then</td>
<td></td>
<td>6 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LPV/r</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV 1 &amp; 2</td>
<td>Newly Diagnosed</td>
<td>TL+LPV/r</td>
<td>AZT (if AZT not available) then</td>
<td></td>
<td>6 weeks</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>LPV/r</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Women already on ART</td>
<td>Continue Same Regimen</td>
<td>AZT (if AZT not available) then</td>
<td></td>
<td>6 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LPV/r</td>
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**Notes:**
- TLE = Tenofovir (300mg) + Lamivudine (300mg) + Efavirenz (600mg)
- TL+LPV/r = Tenofovir (300mg) + Lamivudine (300mg) + Lopinavir/Ritonavir (400/100 mg)
- NVP = Nevirapine
- AZT = Azidothymidine

(*)Duration of ART for Mother - life long

Note: HIV positive and pregnant women who opt for MTP to be initiated on life long ART. If mother interrupts ART during breast feeding, continue ARV for 6 weeks after initiation of maternal ART or 1 week after breast feeding has ended.
### Antiretroviral Therapy (ART)/Antiretroviral (ARV) Regimen and duration for mother and baby

#### Direct in Labour/post-partum (within 72 hours of birth) vs. HIV exposed infant presenting after 72 hours of birth or later 6 weeks/6 months

<table>
<thead>
<tr>
<th>ART Regimen for Mother*</th>
<th>ARV Prophylaxis &amp; Duration for Baby</th>
<th>ART Regimen for Mother</th>
<th>Baby on</th>
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<tr>
<td></td>
<td>on EBF</td>
<td>on ERF</td>
<td>With EBF *</td>
</tr>
<tr>
<td>TLE &amp; refer to ART centre</td>
<td>NVP (12 weeks)</td>
<td>NVP (6 weeks)</td>
<td>TLE</td>
</tr>
<tr>
<td></td>
<td>AZT (if AZT not available)then LPV/r (12 weeks)</td>
<td>AZT (if AZT not available)then LPV/r (6 weeks)</td>
<td>TL+LPV/r</td>
</tr>
<tr>
<td></td>
<td>TL+LPV/r</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TL+LPV/r</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TL+LPV/r</td>
<td></td>
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*TLE=Tenofovir (300mg)+Lamivudine (300mg)+Efavirenz (600mg)
TL+LPV/r= Tenofovir (300mg)+Lamivudine (300mg)+Lopinavir/Ritonavir (400/100 mg)
NVP=Nevirapine
AZT=Azidothymidine

(*Duration of ART for Mother - life long)

Note: HIV positive and pregnant women who opts for MTP to be initiated on life long ART.
If mother interrupts ART during breast feeding, continue ARV for 6 weeks after initiation of maternal ART or 1 week after breast feeding has ended.
I. Care during pregnancy:
- Anti RetroViral Treatment for all the pregnant women irrespective of the CD4 count and WHO clinical stage
- Screening of all PPW for Tuberculosis and treat if necessary
- Co-trimoxazole if the CD4 count is less than 350 cells/mm³
- Screening for syphilis and other sexually transmitted infections
- Counselling for ART adherence, Institutional delivery, exclusive breast feeding, safe sex practice, disclosure to partner, and screening partner and other children for HIV
- Regular antenatal check-ups and follow up
- TT, iron and Folic acid, nutrition supplementation and other treatment as required

II. Care during delivery:
- Check the HIV status, if not done already or if reports are unavailable, screen for HIV
- If known positive, and on ART, continue the same
- If Positive Pregnant Women (PPW) is not on ART, initiate ART at the earliest

III. Recommendations for normal delivery:
- Follow Universal Work Precautions.
- Minimize vaginal examinations as much as possible.
- Do not rupture membranes artificially. Keep membranes intact for as long as possible. Artificial rupture of membrane is reserved for cases of foetal distress or delays in the progress of labour.
- Avoid invasive procedures like foetal blood sampling and/or foetal scalp electrodes.
- Avoid episiotomy as much as possible.
- Avoid instrumental delivery as much as possible. Use low cavity outlet forceps if there is foetal distress and maternal fatigue.
- Do not milk the umbilical cord. The cord should be clamped soon after birth. Use a gloved hand to cover the cord with gauze before cutting to avoid splattering.
- Suctioning the new-born with a nasogastric tube should be avoided unless the meconium is stained.

IV. Recommendations for caesarean sections:
Caesarean sections are not recommended for PPW unless there is an obstetric indication. If, however, a PPW must undergo a caesarean section:
- For elective caesarean sections, ensure ARV drugs and prophylactic antibiotics before surgery.
- Follow universal work precautions and use ‘dry’ haemostatic techniques to minimize bleeding.
- Leave the membranes intact until the head is delivered through the surgical incision.
- Clamp the cord as early as possible after delivery and do not milk the cord.
- Use round-tip blunt needles for stitches.
- Use forceps instead of fingers to receive and hold the needle.
- Observe good practice when transferring sharps to the surgical assistant (e.g. use a holding container).
- For disposal of tissues, the placenta and other medical/infectious waste material from the delivery, standard waste disposal management guidelines should be followed.

V. Post-partum care:
- Initiate exclusive breast feeding.
- Initiate exclusive replacement feeding if AFASS criteria are met.
- Initiate NVP/AZT for baby as soon as possible.
- Vaccinate the child as per the guidelines.
- Lifelong ART for the mother with good adherence.

Follow up and treatment of mother for post-partum complications and depression, as needed.
PROPHYLAXIS FOR HIV EXPOSED INFANTS

HIV Exposed Infant (HEI):
HIV Exposed Infants / child born to mothers infected with HIV, until HIV infection can be reliably excluded and the infants and children are not exposed to HIV through breast feeding.

NVP/AZT prophylaxis should be initiated immediately after birth for all HIV-exposed children, irrespective of the mother’s ART status. NVP and AZT should be available at all delivery sites conducting positive deliveries.

I. Duration of ARV (NVP/AZT) Prophylaxis

<table>
<thead>
<tr>
<th>Duration</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Weeks (Regular)</td>
<td>If mother has received adequate ART during pregnancy with adherence for more than 24 weeks, regardless of whether exclusively breast feed or exclusive replacement feed</td>
</tr>
<tr>
<td>12 Weeks (Extended for breast feeding infants only)</td>
<td>Inadequate ART to mother (Less than 24 weeks) during pregnancy, mother diagnosed during delivery or mother who have discontinued treatment during delivery or with poor adherence</td>
</tr>
</tbody>
</table>

II. Dose and duration of the ARV prophylaxis for infants

<table>
<thead>
<tr>
<th>Birth Weight (gm)</th>
<th>NVP (Once Daily)</th>
<th>AZT* (Twice Daily)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tablet (mg)</td>
<td>Syrup (1ml=10 mg)</td>
</tr>
<tr>
<td>≤ 2000</td>
<td>2 mg/kg</td>
<td>0.2 ml/kg</td>
</tr>
<tr>
<td>2000-2500</td>
<td>10 mg</td>
<td>1 ml</td>
</tr>
<tr>
<td>≥ 2500</td>
<td>15 mg</td>
<td>1.5 ml</td>
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</table>

Note: AZT – if the mother has already been exposed to NVP or Mother is infected with HIV-2

III. Co-trimoxazole Preventive Therapy (CPT): Initiate Co-trimoxazole at 6 weeks for all HIV exposed infants, irrespective of breast feeding or replacement feeding practice and discontinue when HIV infection has been ruled out at 18 months.

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>Approx. Age</th>
<th>Co-trimoxazole once daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5</td>
<td>6 weeks - 2 months</td>
<td>2.5 ml</td>
</tr>
<tr>
<td>0.5-10</td>
<td>2-12 months</td>
<td>5 ml</td>
</tr>
<tr>
<td>10 -15</td>
<td>1-2 years</td>
<td>7.5 ml</td>
</tr>
<tr>
<td>15-22</td>
<td>2-5 years</td>
<td>10 ml</td>
</tr>
<tr>
<td>&gt;22</td>
<td>&gt;5 years</td>
<td>15 ml</td>
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National HIV Testing Guideline for HIV-1 Exposed Infants and Children <18 Months

Less than 6 months old and born to HIV positive mother

- HIV-1 detected
  - Collect and send Dried Blood Spot (DBS) of babies between 6 weeks to <6 months of age for HIV-1 PCR (At ICTC)
  - Lab will request for fresh DBS from ICTC centre if result is discordant and rely on the second Confirmatory DBS test result
  - Infant is HIV-1 infected
  - Refer to ART centre

- HIV-1 not detected by DBS
  - Collect blood and test for HIV antibodies using 3 Serological tests. Also prepare a Dried Blood Spot (DBS) for HIV-1 PCR (At ICTC)
  - Antibody (3 test algorithm) positive
  - Send Dried Blood Spot (DBS) of child for HIV-1 PCR
  - HIV-1 detected
  - HIV-1 not detected

- HIV-1 not detected by DBS
  - Infant is HIV-1 infected
  - Collect and send DBS for Confirmatory HIV-1 PCR
  - Lab will request for fresh DBS from ICTC centre if result is discordant and rely on the second Confirmatory DBS test result
  - HIV-1 detected
  - HIV-1 not detected

6 months old or more and born to HIV positive mother

- HIV-1 not detected
  - If child develops signs and symptoms of HIV infection at <6 months of age repeat HIV-1 PCR by DBS or
  - In asymptomatic child repeat testing as below at 6 months of age
  - Collect blood and test for HIV antibodies using 3 Serological tests. Also prepare a Dried Blood Spot (DBS) for HIV-1 PCR (At ICTC)
  - Antibody (3 test algorithm) negative-does not need HIV-1 PCR
  - HIV-1 detected
  - HIV-1 not detected

X
I. HIV Antibody testing for definitive diagnosis at 18 months of age or later

- Baby presents at 18 months of age or later
  - Already confirmed by 2 PCR tests
  - HIV not detected already by PCR or Never tested for HIV
  - No need to do antibody test. Continue ART
  - Antibody test using three different methods

1. If all three tests are reactive; baby is infected with HIV and initiate life-long ART and Co-trimoxazole prophylaxis
2. If any one or two of the test is reactive; Indeterminate and repeat the antibody test after 2-4 weeks
3. If all three tests are non-reactive; the baby is HIV negative and discontinue Co-trimoxazole prophylaxis

II. National Infant Feeding Guideline

The Infant and Young Child Feeding Guidelines, 2016, recommends:

- Exclusive breastfeeding in the first 6 months, irrespective of the fact that mother is on ART early or infant is provided with anti-retroviral prophylaxis for 6 weeks, continue breastfeeding for 2 years of age along with complementary feeds in HIV negative babies also. For children who are confirmed to be HIV positive, initiate ART and continue breastfeeding until 2 years of age.
- Exclusive replacement feeding is applicable if the AFASS (Affordable, Feasible, Acceptable, Sustainable, and Safe) criteria can be fulfilled or where Exclusive Breast Feeding (EBF) cannot be done due to maternal death or severe maternal illness.
- No MIXED FEEDING (No mixing of breast feeding and other alternate feeding like milk powder/cow’s milk during the first 6 months)

III. Family Planning:

Ensure family planning counselling and practices during discharge and post-natal follow-up visits. Also, ensure condom usage as a safer sex method along with choice of contraceptive method for dual protection against HIV and STIs.
I. Introduction:
Syphilis is an easily preventable, diagnostable, and curable disease. In pregnancy, if the infection remains untreated, adverse pregnancy outcomes including stillbirth, early neonatal death, preterm or low-birth-weight infants, and serious neonatal infection are frequent. However, screening for maternal syphilis early in pregnancy and prompt treatment of seropositive mothers can prevent most complications associated with vertical transmission of syphilis.

II. Syphilis in Pregnancy:
- All pregnant women should be tested for syphilis at the first ANC visit.
- Women at high risk of acquiring STIs, including syphilis, are women with a current or past history of STIs, those who have had past adverse pregnancy outcomes, or those who were not tested earlier, syphilis positive women whose partners are not treated should be tested/retested for syphilis in the third trimester or at the time of delivery.
- Testing of the spouse or partner of syphilis-positive pregnant women should be mandatory and followed by treatment as per protocol if they are found reactive.

III. Serological Test for Syphilis:
Serologic tests for syphilis demonstrate the presence of antibodies against Treponema pallidum. Two types of serologic tests are available for the diagnosis of syphilis: treponemal and non-treponemal tests.

**Non-treponemal tests:** The non-treponemal (aka standard test for syphilis (STS)), detects the presence of non-specific anti-cardiolipin antibodies (reaginic antibodies) in the serum.

**Treponemal tests:** All serum samples that are reactive or weakly reactive for non-treponemal tests should be confirmed by a treponemal test. Treponemal tests are specific and, once someone is seropositive, they remain as such even after successful treatment. Thus, in order to monitor a patient's response to treatment, it is necessary to use non-treponemal tests.

Skin and mucous membrane lesions present in a child born to a seropositive mother should be examined by dark-field microscopy, direct Immunofluorescence, or polymerase chain reaction (PCR) for direct evidence of infection with T. pallidum. Modifications of the FTA-Abs test (FTA-IgM), specific ELISAs, and line immunoassays that only detect IgM may be used to detect specific anti-treponemal IgM. Since anti-treponemal IgM is unable to cross the placental barrier, identification of these antibodies in the baby’s circulation is an indication of congenital infection.
I. Management of maternal syphilis:

Benzathine penicillin injection is the only effective treatment for prevention of congenital syphilis, perinatal deaths, still births and preterm deliveries in pregnant women with syphilis. Although severe allergy to penicillin is rare, the emergency drugs for management of anaphylaxis should be kept ready prior to administration of penicillin.

For primary and secondary syphilis, a single intramuscular injection of Benzathine penicillin G 2.4 million units is sufficient. In pregnant women with late syphilis (more than 2 years or an unknown duration), a total of three intramuscular injections of Benzathine penicillin G 2.4 million units once weekly for three consecutive weeks.

For penicillin-allergic pregnant women, alternatives to penicillin should be considered.

Regimen 1:
Early stage syphilis: 500 mg of Erythromycin orally 4 times daily for 15 days
Late stage syphilis: 500 mg of Erythromycin orally, 4 times daily for 30 days

Regimen 2:
Primary syphilis: (Syphilitic chancre) single dose of 2g of Azithromycin.

II. Management of Congenital Syphilis:

Institutional delivery should be ensured for all syphilis positive pregnant women.

Live born Infant from Syphilis infected mother

Conduct physical examination of the infant and collect 2 ml venous blood of the infant for RPR/VDRL test

Infant is asymptomatic and infant RPR is <4-fold higher than mother’s titre

All symptomatic infants (new-born and older), RPR titre is 4-fold higher than mother’s titre

Mother was adequately treated for syphilis with penicillin during the current pregnancy at least 4 weeks prior to delivery

Regimen: 1 Treat infant with a single dose of Benzathine penicillin G 50,000 units/kg IM

Mother not treated (or) inadequately treated during pregnancy less than 4 weeks before delivery

Regimen: 2
- Treat infant with Procaine penicillin G 50,000 units/kg intramuscularly as a single dose daily for 10 days.
- Aqueous crystalline penicillin G 1,00,000 to 1,50,000 million units/kg/day delivered intravenously as 50,000 units/kg/dose every 12 hours during the first 7 days, and thereafter every 8 hours for 3 days to complete a total of 10 days of treatment.
Śvetana is an initiative to scale-up Prevention of Parent To Child Transmission of HIV (PPTCT) services in public and private health sectors in India with the support of The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM). The project’s mandate is to complement the national HIV/AIDS program to accelerate India’s progress towards goal of a) Elimination of Mother to Child Transmission of HIV (eMTCT) and keeping their mother alive and b) Initiating and retaining PLHIV in care cascade for sustained viral suppression. The four main objectives of Svetana are:

- Increase HIV testing among pregnant women
- Increase HIV testing among spouses of positive pregnant women
- Increase the proportion of HIV-positive pregnant women on ART
- Increase the proportion of HIV-exposed infants who completed their first EID within 2 months

In the first phase (October 2015 – December 2017) Svetana focused on scale up of public private partnership (PPP) in 12 states and 2 union territories. The program helped to fill the critical in PPTCT coverage of pregnant women availing maternity services in the private sector.

The key accomplishments in phase I were

- HIV counselling and testing services were provided to 47,02,942 pregnant women in the private sector
- The coverage of HIV counselling and testing among pregnant women seeking maternity service in private sector increased from 37% in December 2015 to 68% in December 2017 through engagement of 20,600 private facilities
- Nearly 3380 positive pregnant women were identified and 3126 were put on ART
- 224 District level Sensitization (DLS) meetings were conducted and 11,759 Health Care Professionals were sensitized on HIV care
- 207 support letters were received from National, state and District level chapters of Professional Medical Associations (PMAs)

Geographic coverage of Svetana and implementing partners:

Swami Vivekananda Youth Movement (SVYM) work in Karnataka
Prayas works in the six district of Maharashtra (Pune, Satara, Sangli, Solapur, Kolhapur and Ahmednagar)
National Coalition of people living with HIV in India (NCPI +) works in Chandigarh, Punjab, Jammu and Kashmir, Himachal Pradesh
Gujarat State Network of people living with HIV/AIDS (GSNP+) works in 15 districts of Gujarat, Daman and Dadra Nagar Haveli
SAATHII works in Tamil Nadu, Andaman and Nicobar, Puducherry, Telangana, Andhra Pradesh, West Bengal, Delhi, Uttarakhand, Rajasthan, Haryana, Kerala, Lakshadweep, Goa, 30 districts of Maharashtra and 18 districts in Gujarat including Diu
MECHANISMS FOR PRIVATE SECTOR ENGAGEMENT

I. Rationale For Private Facility Engagement
The PPP program aims to having in place multi-sectoral model involving the government and private health care providers to provide care, support and treatment to HIV-infected pregnant women and their families. Its objectives include:

- Improve the technical capacities, skills and practices, to provide comprehensive PPTCT services, in private sector hospitals
- Increase the linkages and referrals to Integrated Counselling and Testing Centres (ICTCs), ART Centres, Care and Support Centres and other HIV/AIDS service providers in order to ensure the continuum of care

II. How a Private Facility Can Join the PPP Program:
A private hospital or a clinic providing maternal and child health services is identified for partnership based upon the models formulated by NACO in order to engage with the private sector. PPP Models are those private hospitals providing mother and child health services and willing to provide PPTCT services to HIV-positive pregnant women as per the national guidelines and to report to the government.

- **Model A** - Market Led Model: Sites will use their own testing kits and will maintain and report in the registers issued by respective SACS / NACO and report every month through SIMS. Sites will be provided with technical assistance.
- **Model B** - Market Sharing Model: Sites will use NACO test kits and will maintain and report in the registers issued by respective SACS / NACO, reporting every month through SIMS. Sites will be provided with technical assistance.
- **Model C** - Data Sharing Model: Sites will use their own testing kits and will maintain their own registers/formats recommended by NACO and report through HIV PULSE

III. HIV Pulse: Simple Reporting Tool for Private Sector
HIV Pulse is a simplified reporting system through the Web, by SMS or through mobile application, introduced by NACO for private health facilities that are registered as Model C under the PPP program. The number of general clients and pregnant women tested for HIV and syphilis and their status are shared to NACO before 5th of every month through HIV Pulse. More than 13,000 Private Health Facilities have been registered in HIV Pulse and nearly 10,000 have started reporting HIV service information to national program till December 2018.
MESSAGE FROM FOGSI NATIONAL PRESIDENT

FOGSI and SAATHII have been working together since 2015 for the elimination of mother to child transmission of HIV and syphilis in India. I would like to convey my sincere gratitude and appreciation to SAATHII for its engagement with the private health sector. Efforts to prevent vertical transmission of HIV and syphilis among women seeking antenatal, natal and post-natal care include HIV counselling and testing, immediate initiation of anti-retroviral therapy regardless of viral load or CD4 count, safer delivery and family planning practices and appropriate modalities of infant and young child feeding. These interventions are guided by the national PPTCT guidelines that draw on global best practices and ensure standardized care.

I hope this booklet, continued involvement of the private health sector, and joint efforts of SAATHII, FOGSI and the government will contribute to the national goal of eliminating pediatric HIV and syphilis, ensuring an AIDS-free generation.

Dr. Nandita Palshetkar

Join us and be a partner in Elimination of Mother to Child Transmission (eMTCT) of HIV and Syphilis

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