

# NATIONAL GUIDELINES

## Prevention of Mother-to-Child Transmission of HIV in Nepal



His Majesty's Government

Ministry of Health

**National Centre for AIDS and STD Control**

Kathmandu, Nepal

January 2005

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# Foreword

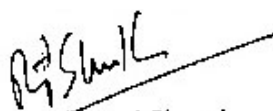
Prevention of HIV/AIDS is a priority for His Majesty's Government of Nepal. Even though the prevalence appears to be low in the general population, major efforts will be required to prevent the epidemic from spreading from high risk groups such as migrant workers, transport workers, intravenous drug users, sex workers and their clients, into the general populations. Mother-to-child transmission is one of the critical sources of HIV infection to children in Nepal. Out of estimated 900,000 annual pregnancies, 1,800 pregnancies are estimated to occur in HIV positive women leading to an annual cohort of about 450-810 infected newborns.

Realizing the growing need to start Prevention of transmission of HIV infection from mother to child (PMTCT) interventions in Nepal, The Ministry of Health, National Center for AIDS and STD Control (NCASC), officially launched PMTCT services in December 2003 at the Maternity Hospital in Kathmandu. There is a need and importance in the context of prevention and care interventions to plan, establish and expand PMTCT services in prioritized areas of the country in a phased manner. National guidelines for PMTCT are needed to regulate this service and to standardize the protocols and procedures of PMTCT all over the country, in public and private settings.

The PMTCT guidelines outline the policy on the full PMTCT package, which includes first, HIV counseling and testing, second, specific antenatal, intra-partum and postnatal interventions in the context of HIV, third, infant feeding counseling and support in the context of HIV infection, fourth, family planning counseling and referral services, and last referral for care and support of HIV infected mothers and their infants.

This Guideline is based on the current best international practice and has been adapted to suit the local Nepalese context. The Guideline will be reviewed and updated in the context of any future change in the national or legal policies regarding HIV/AIDS in Nepal. Any comments and suggestions for improvement of future editions will be highly appreciated.

We would like to express our sincere thanks to UNICEF and WHO for the support provided in the development of this guideline. Acknowledgements to others who have worked tirelessly and with demonstrated commitment in the production of these guidelines are also expressed in the "Acknowledgement" page of this document.



Dr. Ram Prasad Shrestha

Director

National Center for AIDS and STD control

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# Acknowledgements

This document was modeled after the following documents:

- WHO, CDC (2004). Prevention of mother-to-child transmission of HIV. Generic Training Package. Trainer Manual.
- UNICEF (2003). Programme recommendations for the prevention of mother-to-child transmission of HIV. A practical guide for managers.
- Preble, E.A., Piwoz, E.G. (2002). Prevention of mother-to-child transmission of HIV in Asia: Practical guidance for programmes.

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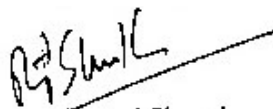
The result of this document is the hard work and commitment by members of a sub PMTCT Working Group that was constituted. Each member contributed to the writing of a chapter or two. The National Center for AIDS and STD Control would like to express its sincere appreciation for the important contributions of all the members who have participated in the process of developing these guidelines and bringing it to fruition. Special appreciation to Ms. Agatha Pratt, Chief of Health Section, UNICEF and Ms. Gudrun Nadoll, consultant, PMTCT, UNICEF who coordinated the work of the group. Dr. Debendra Karki, as a member of the PMTCT Working Group, also provided his support to the sub group and was instrumental in getting external expert help from WHO.

The professional contributors of this document include the following:

Dr. Pulkit Chaudhury, Senior Medical Officer, NCASC  
Dr. Lochana Shrestha, Program Officer, NCASC  
Dr. Sushil Shakya, Sr. Medical Officer, Teku Hospital  
Dr. Sushila Shrestha, Senior Consultant, Maternity Hospital  
Ms. Kamala Moktan, Technical Officer, FHI,  
Ms. Agatha Pratt, Chief, Health Section, UNICEF  
Ms. Gudrun Nadoll, Consultant PMTCT, UNICEF  
Ms. Sharada Pandey, Chief, Nutrition Section, Child Health Division  
Dr. L.N. Thakur, Project Manager, UNFPA  
Mr. P.O. Blomquist, Chief, Nutrition Section, UNICEF

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These guidelines will become a very important tool to guide all concerned with the implementation of PMTCT in Nepal. Close and continuing monitoring will be undertaken and, when deemed necessary, changes will be made to take into account the dynamic situation we work in.



Dr. Ram Prasad Shrestha  
Director  
National Center for AIDS and STD Control

# Abbreviations

3TC	Lamivudin
ABC	Abacavir
AIDS	Acquired immune deficiency syndrome
ANC	Antenatal care
ART	Antiretroviral therapy
ARV	Antiretroviral
BCG	Bacille Calmette Guerin
BPKIHS	B.P. Koirala Institute of Health Sciences
CD4	Cluster of differentiation
CS	Caesarean section
d4T	Stavudine
ddl	Didanosine
DPT	Diphtheria, Pertussis and Tetanus
EFV	Efavirenz
ELISA	Enzyme-linked immunosorbent assays
FBO	Faith based organization
FP	Family planning
FSW	Female sex worker
HIV	Human immunodeficiency virus
HMG	His Majesty's Government
IDU	Injecting drug user
IEC	Information, education, and communication
INGO	International non-government organization
MAC	Mycobacterium avium complex
MoH	Ministry of Health
MTCT	Mother-to-child transmission
NCASC	National Centre for AIDS and STD control
NGO	Non-government organization
NNRTI	Non-nucleoside reverse transcriptase inhibitor
NVP	Nevirapine
OPV	Oral polio vaccine
PCP	Pneumocystis carinii pneumonia
PEP	Post-exposure prophylaxis
PI	Protease inhibitor
PLWHA	People living with HIV/AIDS
PMTCT	Prevention of mother-to-child transmission
RHCC	Reproductive Health Coordination Committee
r	Ritonavir
SQV	Saquinavir
SRH	Sexual and reproductive health
STI/STD	Sexually transmitted infection / disease
TB	Tuberculosis
TMP-SMX	Trimethoprim-sulfamethoxazole
VCT	Voluntary counselling and testing
WHO	World Health Organization
ZVD	Zidovudine (also known as AZT)

# Executive Summary

The purpose of this document is to provide guidance to decision-makers in the development of PMTCT interventions in clinical settings, as well as to provide users with the correct technical information on MTCT and PMTCT.

Mother-to-child transmission is by far the largest source of HIV infection in children in Nepal. Out of estimated 900,000 annual pregnancies, 1,800 pregnancies are estimated to occur in HIV positive women<sup>1</sup> leading to an annual cohort of about 450-810 infected newborns<sup>2</sup>.

Realizing the growing need to start PMTCT interventions in Nepal, His Majesty's Government (HMG) officially launched PMTCT services in December 2003 at the Maternity Hospital in Kathmandu. Till date, 5 pregnant HIV infected women and their infants have received single dose Nevirapine regimen as recommended in the National ARV Therapy guidelines developed by HMG, MoH, NCASC (2003). The need for developing PMTCT guidelines was realized by HMG/N. The National HIV/AIDS Strategy (2002-2006) of Nepal stipulates that given the current epidemiological situation, a nationwide system for PMTCT is not feasible in the medium term. However, it nevertheless concludes that PMTCT should be available to pregnant women known to be HIV infected at a few selected facilities in the country, i.e. Maternity Hospital, Kathmandu, BPKIHS, Dharan, and Bheri Zonal Hospital, Nepalgunj.

The PMTCT guidelines outline the policy on the full PMTCT package, which includes first, HIV counselling and testing, second, specific antenatal, intra-partum and postnatal interventions in the context of HIV, third, infant feeding counselling and support in the context of HIV infection, fourth, family planning counselling and referral services, and last referral for care and support of HIV infected mothers and their infants.

It is important that PMTCT services reach men and women, since a woman's partner plays a critical role in the family's decision-making process. Regardless of the male partner's HIV status, involving him in the HIV test-related counselling can help ensure that he is supportive of his partner's dilemmas and choices related to HIV, infant feeding, and family planning.

Because of the availability of antiretroviral prophylaxis to reduce the risk for perinatal HIV transmission, all pregnant women should be recommended HIV testing regardless of the prevalence or behavioral or clinical risk. In the three hospitals mentioned above, where the full package of PMTCT services will be available, ANC clients will be offered counselling and testing routinely and will be tested for HIV, unless they specifically decline or do not consent. A routine testing strategy can help placing HIV on the same arena as other diseases and will hopefully contribute to reducing the stigma associated with this infection. Within the counseling and testing process, respect to privacy and confidentiality is of utmost importance. Counselling, particularly post test counselling, will play a pivotal role in the support of those who will test positive.

HIV testing as part of a standard package of care for pregnant women is a new approach for Nepal, therefore it is in particular this policy which needs to be reviewed and evaluated for its eligibility for the specific epidemiological context of Nepal. A review after an initial period of six months is recommended.

Specific antenatal, intrapartum and postnatal interventions to prevent MTCT in the context of HIV infection are elaborated upon in detail as they constitute the core interventions to

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<sup>1</sup> This calculation estimates the HIV prevalence among pregnant women to be 0.2 percent, based on studies undertaken in 1999 among women attending antenatal clinics in areas at high risk for HIV infection in Nepal.

<sup>2</sup> The risk of mother-to-child transmission of HIV in the absence of interventions and with breastfeeding to 18 to 24 months is estimated to be 25-45%.



prevent HIV infection in infants. Regimens for both ARV prophylaxis for PMTCT and ARV treatment for mother and child are explicated, as well as interventions during labour and in the immediate postpartum period.

The section on infant feeding in the context of HIV infection considers the need to balance the risk of HIV transmission through breast feeding with the risk of malnutrition and death from not breast feeding. It includes the current recommendations for HIV-positive women, and describes their infant feeding options.

In addition to the biological process of vertical transmission of HIV from the mother to the child, the terminology prevention of mother-to-child transmission comprises the provision of care and support to HIV-infected women, their infants and families. PMTCT services do not end with the attempt to reduce the transmission of the virus, but continues to provide services to HIV-infected women who need special attention, e.g. the prevention and treatment of opportunistic infections, antiretroviral therapy, and nutritional support. The strengthening of linkages among these and other programmes concerned with care and support services for HIV-infected women and their infants and families can ensure that the women gain access to the services they need.

An essential requirement for a site to provide PMTCT is a safe work environment. Creating a safe work environment involves practising universal precautions, managing the work environment, and providing ongoing infection prevention education for employees. In addition to this, post-exposure prophylaxis made available for healthcare workers will help to retain staff who are concerned about the risk of exposure to HIV in the workplace, to increase staff willingness and motivation to work with people who are HIV-infected and last, it reduces the occurrence of occupationally-acquired HIV infection in healthcare workers

Even if the first HIV-infection in Nepal has been reported 16 years ago in 1988, many rumors regarding HIV-infected people and a lack of knowledge with regard to the mode of HIV transmission still prevail. Irrational fears and stigmatising language and behaviour remain very common. Stigma and discrimination are blamed to be the major problems that hinder the uptake of HIV testing as well as disclosure of the sero-status to family and friends. However, the entry point to all HIV/AIDS programmes, including PMTCT, is the knowledge of one's HIV status. Therefore, the chapter in this guideline focusing on stigma and discrimination is very central to the success of PMTCT interventions and is crucial for the psychological well-being of the infected person.

The section on site requirements lists briefly the minimum standard of requirements for sites offering PMTCT.

The final section gives information on programme monitoring in order to ensure consistent quality of care in relation to PMTCT in healthcare settings.

# Purpose of the PMTCT Guidelines

The national situation related to MTCT in Nepal was assessed and a feasible strategy of interventions for preventing MTCT (PMTCT) that are appropriate for Nepal's *epidemiological, cultural, and health services context* was developed as reference guidelines to :

- provide users with the correct technical information on MTCT & PMTCT
- assist national departments of health and partners in the development of PMTCT interventions in a range of clinical settings, taking into account the needs and health systems constraints

The target audiences of the guideline are policy makers, programme managers, service providers and the general public.

# Chapter 1: Background

## 1.1 Global Overview of HIV Prevention in Mothers, Infants, and Young Children

### 1.1.1 Mother-to-child transmission

Globally, in 2003 an estimated 700,000 children became infected with HIV. The overwhelming majority of infected children acquire the infection through mother-to-child transmission (MTCT), which can occur during pregnancy, delivery and, post-natally, during breastfeeding.

In the absence of any intervention, rates of MTCT of HIV can vary from 15% to 30% without breastfeeding, and can reach as high as 30% to 45% with breastfeeding to 18 to 24 months.

Transmission during the peri-partum period accounts for one- to two-thirds of the overall transmission rate, depending on whether breastfeeding occurs or not, and the peri-partum and breastfeeding period has thus become the focus for efforts to prevent MTCT.

The transmission of HIV from an infected mother to her child can be reduced to 2 % or less by intensive interventions that include combination potent anti-retrovirals, obstetrical interventions including elective caesarean section at 38 weeks and complete avoidance of breastfeeding.

ARV prophylaxis alone, administered in the period around a vaginal delivery, reduces by between 30% and 50% the rate of peri-partum transmission. The impact is greater (close to 70%) when women do not breastfeed, because current ARV prophylaxis regimens only prevent HIV transmission during the early breastfeeding period. However, ARV prophylaxis given to a pregnant woman who is HIV-infected does not offer long-term benefits to the woman herself. Pregnant women with advanced HIV infection require combination ARV treatment to reduce the risk of AIDS-related illness.

In resource constrained settings, elective caesarean section is seldom available and safe, and refraining from breastfeeding is often not feasible or acceptable. Also, even where peripartum ARV prophylaxis is used, infants remain at substantial risk of acquiring infection in the breastfeeding period.

Pregnancy itself does not seem to have an effect on progression of HIV/AIDS. Women with HIV/AIDS, however, are more likely to experience pregnancy-related complications such as premature delivery.

Viral, maternal, obstetrical, foetal, and infant-related factors all influence the risk of MTCT. ***The most important risk factor for MTCT is the amount of HIV virus in the mother's blood, known as the viral load. The risk of transmission to the infant is greatest when the viral load is high—which is often the case with recent HIV infection or advanced HIV/AIDS.***

Some of the risk factors for transmission are the same and some are different during pregnancy, labour and delivery, and breastfeeding. These similarities and differences are summarised in Table 1.1.

<b>Table 1.1 Maternal factors that may increase the risk of HIV transmission</b>		
<b>Pregnancy</b>	<b>Labour and Delivery</b>	<b>Breastfeeding</b>
<ul style="list-style-type: none"> <li>▪ High maternal viral load (new or advanced HIV/AIDS)</li> <li>▪ Viral, bacterial, or parasitic placental infection (e.g., malaria)</li> <li>▪ Sexually transmitted infections (STIs)</li> <li>▪ Maternal malnutrition (indirect cause)</li> </ul>	<ul style="list-style-type: none"> <li>▪ High maternal viral load (new or advanced HIV/AIDS)</li> <li>▪ Rupture of membranes more than 4 hours before labour begins</li> <li>▪ Invasive delivery procedures that increase contact with mother's infected blood or body fluids (e.g., episiotomy, foetal scalp monitoring)</li> <li>▪ First infant in multiple birth</li> <li>▪ Chorioamnionitis (from untreated STI or other infection)</li> </ul>	<ul style="list-style-type: none"> <li>▪ High maternal viral load (new or advanced HIV/AIDS)</li> <li>▪ Duration of breastfeeding</li> <li>▪ Early mixed feeding (e.g., food or fluids in addition to breast milk)</li> <li>▪ Breast abscesses, nipple fissures, mastitis</li> <li>▪ Poor maternal nutritional status</li> <li>▪ Oral disease in the baby (e.g., thrush or sores)</li> </ul>

### 1.1.2 A Comprehensive Approach to Prevention of HIV Infection in Mothers, Infants and Young Children

The United Nations system has now adopted a four-pronged approach to PMTCT:

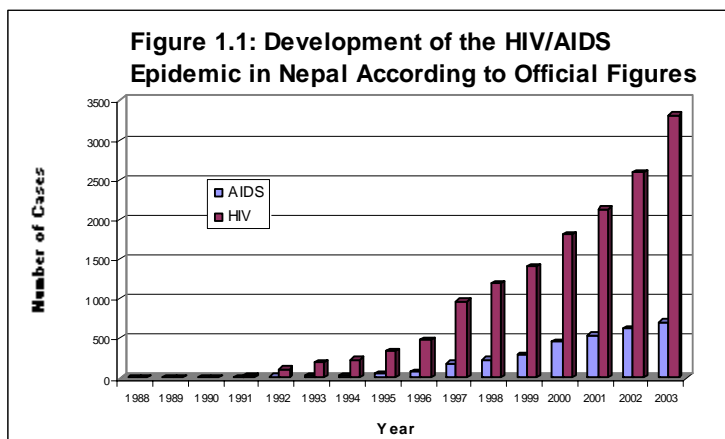
- Primary prevention of HIV in women
- Prevention of unwanted/unplanned pregnancies in HIV-infected women
- A package of specific PMTCT interventions for pregnant HIV-infected women and HIV-exposed babies
- Care and support activities for persons living with HIV/AIDS (PLWHA)

**A comprehensive approach to the prevention of HIV infection in infants and young children will be achieved through partners working in Nepal such as prevention of primary HIV infection for decreasing the number of mothers infected with HIV addressing these challenges through education and community linkages with components on safer, and responsible sexual behaviour and practices; provision of condoms; and early diagnosis and treatment of STIs.**

### 1.1.3 Partner involvement in PMTCT

Both mothers and fathers have an impact on transmission of HIV to the infant, since a woman's partner plays a critical role in the family's decision-making process. Regardless of the male partner's HIV status, involving him in the HIV test-related counselling can help ensure that he is supportive of his partner's dilemmas and choices related to HIV, infant feeding, and family planning.

## 1.2 Epidemiology of HIV/AIDS in Nepal



Nepal was formerly considered a “low-prevalence” country, but has progressed into the category of a “concentrated” epidemic, where HIV-infection has increased significantly within high risk populations such as injecting drug users (IDUs) and female sex workers (FSWs).

In just seven years (1995-2002) the HIV prevalence among male injecting drug users in Kathmandu rose from 1 to 68 percent. Some believe that Nepal is now moving toward a more “generalized” epidemic, where HIV infection reaches a high prevalence in the general population, including women of reproductive age.

There are few data on the epidemic in rural areas of Nepal. However, there is apparently a growing rural epidemic (especially in the far-Western hill districts), fueled by returning labor migrants. Neighboring countries (particularly India) that share common HIV risk factors with Nepal are now experiencing rapid rise in HIV/AIDS, raising concern that this is also likely in Nepal.

The number of women living with HIV/AIDS in Nepal is estimated to be 15,599. UNAIDS/WHO estimates for HIV in Nepal at end-2003 are presented in box 1.1.

The potential impact of HIV/AIDS on children depends on the course of the epidemic in women. The HIV sero-prevalence rate in pregnant women is estimated to be 0.2 percent, based on studies undertaken in 1999 among women attending antenatal clinics in areas at high risk for HIV infection in Nepal. The latest figures as of September 2004 indicate that among the total reported HIV cases, 27% are women. Out of those, 96% are of childbearing age (15-49). 44% of the reported cases of HIV infection among women occur in the sub group of housewives, suggesting that the epidemic is about to spread into the general population.

As more women become infected, it is anticipated that the number of infected infants and children, as well as the number of children orphaned by AIDS, also will increase.

### Box 1.1: Summary of Estimated HIV/AIDS Epidemic in Nepal

Adult prevalence rate	0.5%
Number of adults & children living with HIV	61,000
Number of women living with HIV	16,000
Number of children 0-14yrs living with HIV	940
Number of children orphaned by HIV/AIDS (0-18)	13,000

Mother-to-child transmission is by far the largest source of HIV infection in children in Nepal. Out of estimated 900,000 annual pregnancies, 1,800 pregnancies are estimated to occur in HIV positive women (0.2% HIV prevalence) leading to an annual cohort of about 450-810 infected newborns (transmission rate 25-45%). In terms of pediatric AIDS, only 28 cases have been officially reported to date. However, this may underreport the actual situation, since clinical signs and symptoms of pediatric AIDS are likely to be missed in most cases.

### 1.3 Current PMTCT Policies, Training and Services of His Majesty's Government of Nepal

HMG/N is committed to provide care, support and treatment to people infected and affected by HIV/AIDS. Realizing the growing need to start PMTCT interventions in Nepal, His Majesty's Government (HMG) officially launched PMTCT services on 1 December 2003 (World AIDS Day) at the Maternity Hospital in Kathmandu. Till date, 5 pregnant HIV infected women and their infants have received single dose Nevirapine regimen as recommended in the National ARV Therapy guidelines developed by HMG, MoH, NCASC (2003). The need for developing PMTCT guidelines was realized by HMG/N, and a technical committee was formed to assess the situation of PMTCT in Nepal. Under this PMTCT working group, a sub committee was formed to draft the PMTCT guidelines for Nepal. It is based on the National HIV/AIDS Strategy (2002-2006) of Nepal, which stipulates that given the current epidemiological situation, a nationwide system for PMTCT is not feasible in the medium term. However, it nevertheless concludes that PMTCT should be available to pregnant women known to be HIV infected at a few selected facilities in the country, i.e. Maternity Hospital, Kathmandu, BPKIHS, Dharan, and Bheri Zonal Hospital, Nepalgunj. The revised one year National Operation plan of Nepal has set the target to provide PMTCT interventions to up to 250 pregnant women this year (2004-2005).

Specific PMTCT strategies outlined by the HMG include:

- Develop a standard protocol for ARV treatment and ensure sufficient resources for free services in selected facilities
- Increase awareness
- Develop information, education and communication materials appropriate for use during ANC
- Ensure that ANC clients receive information about HIV/AIDS and have access to other HIV prevention services
- Integrate into the Safe Motherhood Strategy the fact that HIV infection may be an indication for a caesarean section delivery

The objective will be to:

- Reduce the number of children born with HIV
- Increase the number of children with HIV/AIDS living longer and healthier lives due to early diagnosis and supportive therapy.
- Mothers with HIV are living longer and healthier lives and are better able to nurture and care for their children

A full PMTCT package for mothers, infants and partners will include:

- HIV counselling and testing
- Antiretroviral prophylaxis for HIV-infected mother and infant
- Infant feeding counselling and support
- Safe obstetrical care
- Family planning counselling and referred services
- Referral for Care and support of HIV infected mothers and infant

Support for health workers and health care settings that provide PMTCT includes:

- Specific training and supervision
- Availability of necessary supplies
- Focus on infection control (universal precautions)
- Making links between antenatal care (ANC), obstetric care, well- baby care, family planning, care and support
- Availability of post-exposure prophylaxis (PEP) to treat incidents of occupational exposure of HIV

# Chapter 2: HIV Counselling and Testing in the Context of PMTCT Services

## 2.1 Overview of HIV Counselling and Testing of Pregnant Women

In the context of MTCT prevention, counseling and testing will be provided at MCH settings where pregnant women and women of childbearing age receive services - antenatal, labour and delivery, postnatal, family planning, and others. Pre-test information and post-test counselling will be provided. Further, counselling for couples or partners will be offered.

All pregnant women presenting to ANC shall receive information on the following:

- Safer sex practices
- Prevention and treatment of sexually transmitted infections (STIs)
- Prevention of HIV in infants and young children including interventions for PMTCT
- HIV testing, post-test counselling, and follow-up services

## 2.2 Guiding Principles for Counselling and Testing for PMTCT

### 2.2.1 Opt-out approach as a standard of care

Opt-out service, whereby antenatal women are offered counselling and testing routinely and are tested for HIV, unless they specifically decline or do not consent will be used at the PMTCT sites. It will be offered in combination with information on HIV, as a part of a standard package of care.

- Opt-out testing helps normalize HIV testing and makes the test a standard ANC component.
- It is likely to increase the number of women who are tested for HIV.
- PMTCT programme staff must adhere to the guiding principles of counseling and testing (informed consent, confidentiality, and the provision of post-test services).

The woman will be given the opportunity to decline the test should she choose to do so. The opt-out approach emphasizes that HIV testing is an expected part of ANC. However, testing is still voluntary under the opt-out approach: the woman has a right to refuse testing. The provider shall identify the problem and solve issues that are preventing a woman from accepting testing.

### 2.2.2 Informed consent

Informed consent is another guiding principle of counselling and testing. Clear and accurate information about HIV testing will be given, to ensure that the patient understands she has the right and the opportunity to decline testing. In the context of PMTCT, written informed consent is not required but it is the responsibility of the program staff to make certain that the following elements of informed consent are addressed:

- Ensuring an understanding of the purpose and benefits of services
- Ensuring an understanding of the counselling and testing process
- Respecting the patient's testing decision



### 2.2.3 Confidentiality

Maintaining confidentiality is an important responsibility of all healthcare workers and is essential to establishing patient trust. Information that is shared between healthcare workers and patients must be kept private. It is essential that a private venue/room is used for all discussions of HIV-related matters, particularly HIV diagnosis.

Patients shall be informed that personal and medical information, including HIV test results, may be disclosed to other healthcare providers to ensure that they receive appropriate medical care. Healthcare workers shall emphasize, however, that only those healthcare workers who are directly involved in the patient's care will have access to the patient's records - therefore, only those workers will know about a patient's sero-status if this knowledge provides a direct clinical benefit to the patient.

## 2.3 Pre-Test Information and Counselling

Providing pre-test information helps prepare women and their partners to understand the counseling and testing process. Basic information about HIV/AIDS will be offered. Printed materials, videos, presentations, and role-playing exercises shall be used to present content in a group setting. The information shall be presented again during the initial and subsequent ANC visits.

A healthcare worker with basic training in HIV counselling will provide pre-test information in group sessions. Healthcare workers and counsellors will jointly work together to identify patients who need individual pre-test counselling and referral.

### 2.2.1 HIV education in ANC setting including education methods on preventing MTCT

At a minimum level, the counselor will provide information of family planning, unintended pregnancy in HIV women, primary prevention of HIV and STIs, PMTCT service for sero-positive women. Pregnant women with positive sero-status will be offered ARV therapy and appropriate contraceptive counselling, discussion on feeding options, whether to carry or terminate pregnancy, preference of vaginal delivery versus caesarean section and opportunity get ARV therapy.

### 2.2.2. Public Service / Mass Education Method

ANC waiting areas or in registration areas will be used for mass education methods and assisted by Nurse or Health educators.

- Display of PMTCT related materials in the ANC settings
- Distribution of IEC materials on PMTCT
- Individual education session during ANC check up by the health care providers
- Distribute IEC on MTCT interventions

Health education messages will be provided with audio visual materials and followed by group discussion to clarify their queries. The session will cover basic information about HIV AIDS and its route of transmission along with risk reduction strategies, HIV testing procedures, advantage and disadvantage of the testing. The group counselling or group session will reduce counselor's time and she can provide individual counselling.

### 2.2.3 Small group sessions

General information will be provided to groups in the form of health education talks. The pre test group session includes

- Basic facts about HIV infection and AIDS including window period
- Risk reduction approaches (consistent condom use and demonstration)
- The benefits and potential issues related to testing
- HIV testing procedures and procedures for result provision

- Clarifying the meaning of the offered PMTCT interventions, including the meaning of ARV therapy and its benefits for pregnant mother and unborn baby and feeding options
- Discussion about sharing of HIV test results with health care workers including the confidentiality offered to the clients
- Sharing HIV status with partner and /or family or friends
- Information on referral for related health care and social support
- Discussion on comprehensive family planning options, particularly condom for dual protection for unintended pregnancy and HIV and STI prevention in future.

Each woman should receive all the information she needs to make an informed decision about being tested for HIV. Providers shall support and encourage women to be tested at the initial visit because many women begin ANC late in pregnancy or are seen only once before delivery. However, the decision to be tested may require support from family members and entail a return visit with family decision makers. Family decision-makers will be provided the same information and pre-test counselling that would be given to the woman individually. Each woman will be reassured that declining an HIV test will not affect her access to ANC or related services. She will also be informed that if she changes her mind, an HIV test can be provided during a later visit.

#### 2.2.4 Individual pre-test counselling

Individual pre-test counselling will be incorporated into routine ANC visits. Where this is not practical, healthcare workers may refer patients for individual pre-test counselling or for clarification of information provided in group sessions.

#### 2.2.5 Couple Counselling

The women's partner's HIV status is a critical part of the family's decision making framework. Involving the partner in the HIV test related counselling can help ensure that he is supportive of his partner's dilemmas and choices related to HIV, infant feeding, and family planning, decision as whether or not to get pregnant or to terminate a pregnancy. Strategies for increasing partner involvement might include providing ANC women with a card to take home to partners inviting them to "new fathers evenings", "fathers health checks" or couples information sessions.

Clients coming for HIV/AIDS counselling will be encouraged, but not forced, to come with their partners or as couples to attend the ANC testing and counselling sessions as:

Counselling male partners of pregnant women provides an opportunity to encourage men to practice safer sex by using condoms and by limiting the number of partners.

During counselling, healthcare workers can emphasize the man's responsibility for protecting the health of his wife or partner and their family.

Testing both partners together as a couple may reduce the likelihood that the woman will be "blamed" for bringing HIV infection into the family.

Identifying discordant couples during counselling (one partner is HIV-negative and the other one is HIV-positive) will provide the opportunity to discuss safer sex practices.

### 2.3 HIV Testing

The HIV testing will follow the national guidelines for counseling and testing. Elisa and other mechanisms are not convenient, thus, a serial rapid testing mechanism will be used. A positive rapid test result is confirmed by a different rapid test. If the results of the two tests differ, a third rapid test will be used.

### 2.3.1 Who should be involved in HIV testing?

Providing a rapid on the spot HIV test service depends on the test being carried out by staff based in the VCT site. It is not practical or efficient to have a laboratory technologist at each site. In order to expand the availability and accessibility of VCT services, various health care staff (doctors, nurses, laboratory technicians and other qualified professional staff) could potentially become involved in HIV testing procedures using rapid assays. In order to qualify for testing personnel must undergo a standardized training course on the testing procedures approved by the Ministry of Health.

**Currently, the minimal requirement for approval to perform HIV testing is basic training as a Laboratory Assistant/ Laboratory Technician.**

The participation of other medical personnel and trained non-medical personnel in providing testing in VCT projects is currently being piloted and assessed by the Ministry of Health, The National Public Health Laboratory, Kathmandu has developed a curriculum and training course for such staff.

**In the context of labor in a MTCT – prevention setting, it is advised to give a single dose of Nevirapine on the basis of a single positive rapid test. This should then be confirmed after delivery.**

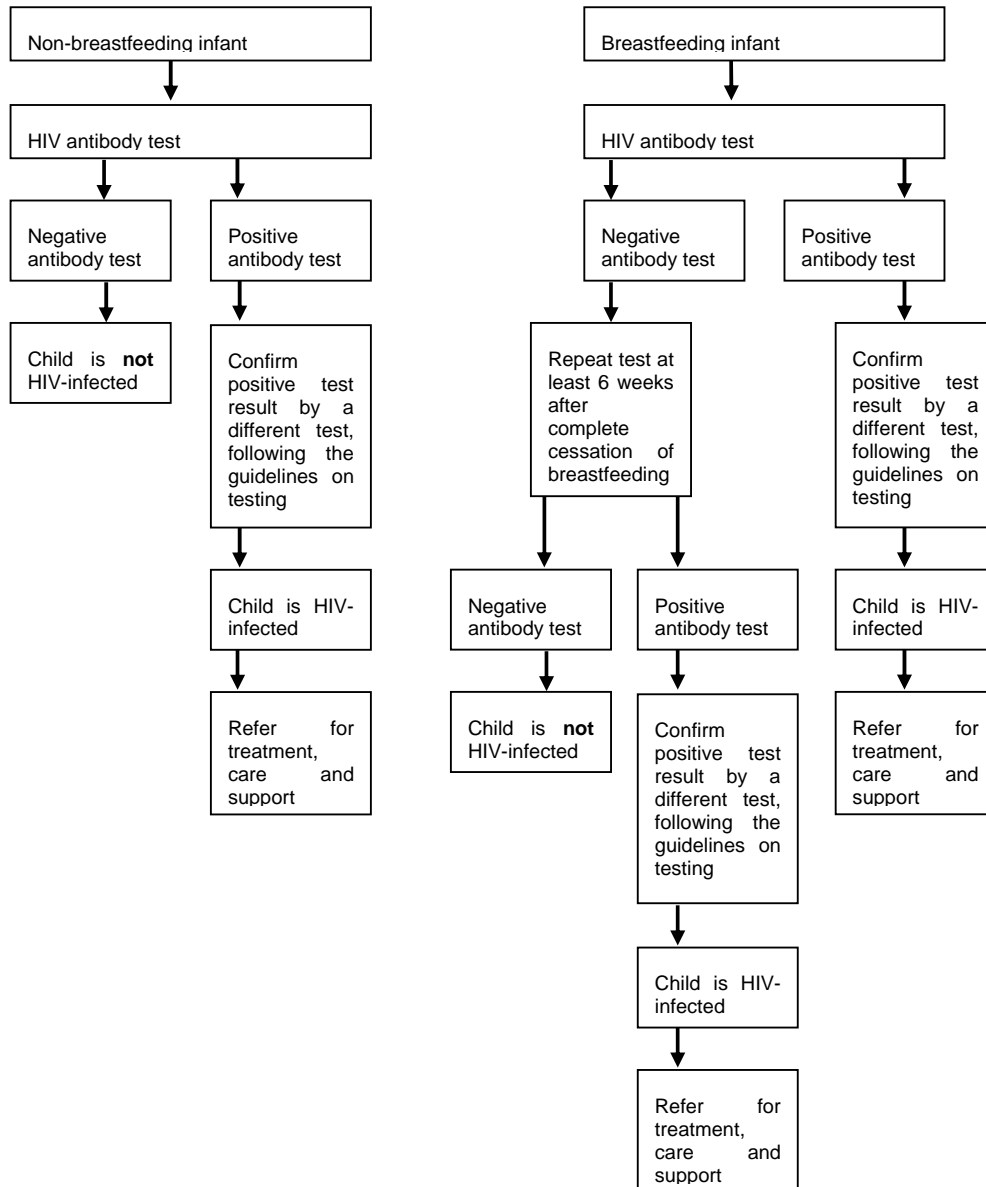
### 2.3.2 Diagnostic testing of infant and young children exposed to HIV

The laboratory diagnosis of HIV infection in infants below 18 months of age is difficult because of persistence of maternal antibody. In this age group virological tests are required to make a definitive diagnosis.

In Nepal, virological testing is not available, thus the antibody testing algorithm for children 18 months and older in Figure 2.1 will be followed:

Because maternal antibodies persist, antibody testing prior to 18 months cannot provide a reliable diagnosis of infant infection status, especially when the child is breastfeeding. In Nepal, where breastfeeding is common, initial antibody testing is recommended at 18 months.

Figure 2.1: HIV diagnosis in children 18 months and older with antibody tests in resource-constraint settings



**For children who are *not* breastfeeding or where breastfeeding cessation occurred at least 6 weeks previously:**

A negative HIV antibody test result for a child 18 months or older indicates that the child is not HIV-positive.

A positive HIV antibody test at 9-18 months indicates that the child may have antibodies from the mother and the test should be repeated at 18 months.

### **For children who are breastfeeding:**

If the test is negative at 18 months of age or older and the infant was breastfeeding in the last 6 weeks, the antibody test should be repeated 6 weeks after complete cessation of breastfeeding.

A positive HIV antibody test result at 18 months indicates that the child is HIV-infected.

### 2.3.3 Ensuring high quality testing

The Ministry of Health requires that laboratories at all levels (e.g., HIV laboratories in hospitals, blood transfusion services, and private HIV laboratories and VCT sites) participate in a national external quality assurance of their performance. All private and public laboratories performing HIV test needs to participate in further quality control, and **will send 3 out of every 10 positive samples and one out of every 10 negative samples to a reference laboratory for quality assurance on quarterly basis.**

Laboratories at all levels (national, regional, and local) that conduct HIV testing must have a functioning internal quality assurance program.

## 2.4 Post-Test Information and Counselling

Because low rates of return for test results occur in many settings offering HIV VCT, where a third tiebreaker test is not available, providers should work to ensure that clients tested for HIV infection receive their test results, particularly HIV-infected clients who might benefit from earlier entry into care and initiation of antiretroviral therapy. Strict confidentiality of the receipt of the HIV test and the HIV test result must be maintained, regardless of the method used. Adequate reporting mechanisms will be established by the Ministry of Health and national and regional laboratories will provide regular monitoring, supervision and evaluation according to set standards.

All HIV test results, whether positive or negative, must be given in person. The initial post-test counselling sessions are provided to each patient separately and privately.

### 2.4.1 Negative test result

A negative result on an HIV antibody test means that a woman is not infected with HIV.

Post-test counselling provides an opportunity for a woman who is HIV-negative to learn how to protect herself and her infant from HIV infection. Post-test counselling - even for those who test negative for HIV - provides women with a powerful incentive to adopt safer sex practices, discuss family planning, understand the issue of discordance, and encourage partner testing.

#### **Components of post-test counselling for women testing HIV-negative**

- Communicate with the client that the test result is ready now
- Provide test results clearly and simply and show her test results
- Review the meaning of test result and discuss window period if she is in most recent risk exposure. Explain client if there is no significant risk in the previous 3 months , then no repeated test is required unless the client has a later exposure to HIV, if there is recent risk exposure revealed at the time of post test counselling a specific date to be fix up for retesting
- Discuss and negotiate a specific, concrete risk reduction plan (skills of condom use , condom use demonstration as necessary and supply of condom for dual protection)

- Inform sero negative woman that about the implication of acquiring HIV during pregnancy and breast feeding.
- Discuss test result disclosure for partner and partner testing for HIV testing

#### 2.4.2 Positive test result

A woman who tests HIV-positive is infected with HIV. The healthcare worker must remain non-judgmental, supportive, and confident throughout the counselling process. Because women may present late in pregnancy or only attend ANC once, key PMTCT messages will need to be provided during the post-test counselling session. Also during the post-test counselling session, the healthcare worker should encourage the woman who is HIV-positive to attend subsequent ANC visits. During those visits, key PMTCT messages can be reinforced and follow-up counselling provided. Referral for HIV treatment, care, and support is necessary.

The client should get her test result as soon as test result is ready. This is very significant time to clarify with client that the information provided in the beginning of the pretest counselling session.

#### **Components of post-test counselling for women testing HIV-positive**

- Inform client that the test results are ready
- Provide test result clearly and explore client's understanding of test result
- Discuss the meaning of the test result and provide time to acknowledge test result
- Determine whether she understands the meaning of the result and let her talk about her feelings.
- Talk about her immediate concerns.
- Inform her about essential PMTCT issues. Discuss benefits of ARV therapy and infant feeding options and its transmission rate should be discussed carefully. The MTCT counselor should get training course on counselling HIV positive women.
- Discuss disclosure and partner testing. Discuss possible approaches to disclosure of test result in most MTCT intervention almost impossible to keep their status confidential due to need for on going follow and treatment.
- Encourage her to attend subsequent ANC visits and the importance of delivering in a PMTCT facility.

#### **Disclosure of HIV status**

During the initial post-test counselling session, the counsellor and the HIV positive mother should begin the discussion about disclosure as this may help to:

- Encourage the partner(s) to be HIV tested.
- Prevent the transmission of HIV to her partner(s).
- Access PMTCT interventions.
- Receive support from her partner(s) and family when accessing PMTCT and HIV treatment, care, and support services.

It is important to respect the woman's choice regarding the timing and process of disclosure. A woman may perceive disadvantages in disclosing her HIV diagnosis. In some communities, women who are HIV-infected and their families may face stigmatization and

discrimination. If the woman has indicated that her partner(s) and family may react negatively to her HIV status, the counsellor can help the woman problem-solve and build skills to use when she discloses her HIV status.

## 2.5 Counselling and testing for women of unknown HIV status at the time of labour and delivery

If women who have not been tested during ANC or did not attend ANC present to the health service at the time of labour with unknown HIV status, it is recommended that the opt-out approach to testing be used during labour and that post-test counselling be provided after delivery. In these circumstances, in some cases it will be possible to provide ARV prophylaxis to the mother and the infant, and in other cases it will only be possible to provide ARV prophylaxis to the infant.

## 2.6 Quality Assurance for counselling services

It is essential that the quality of both testing and counselling can be assured with appropriate monitoring and evaluation as a key and planned component of interventions. Counselors and other health care providers involved in MTCT interventions sites must have adequate training, onsite coaching and technical support with supportive supervision should be provided to ensure the quality services.

# Chapter 3: Specific Antenatal, Intrapartum and Postnatal Interventions in the Context of HIV Infection

## 3.1. Antenatal Management of Women who are HIV-Infected and Women with Unknown HIV Status

### Antenatal care

Antenatal interventions can reduce the risk of MTCT. Good maternal health care helps women with HIV infection stay healthy longer and care for their children better.

For the successful implementation of PMTCT programmes, the following elements will be included as part of ANC:

- Health information and education
  - Education about safer sex practices and HIV
  - Education about injection safety
  - HIV counselling and testing
  - Partner HIV counselling and testing
  - Interventions to reduce the risk of MTCT
  - Infant-feeding counselling and support for Safe Motherhood including malaria and TB treatment
  - Diagnosis and treatment of sexually transmitted infections (STIs)
- Antenatal care of women infected with HIV**

ANC for women infected with HIV includes the basic services recommended for all pregnant women. However, obstetric and medical care will be expanded to address the specific needs of women infected with HIV.

When HIV status is known, mothers can be evaluated for ARV eligibility and offered the ARV treatment and prophylaxis. In some situations, because a woman refuses to be tested, her HIV status may remain unknown. In such circumstances, the woman will be considered at risk for MTCT, and she will be counselled accordingly during ANC. Women of unknown HIV status should be made aware that testing is available at later ANC visits and be reminded of the benefits of knowing their HIV status.

## 3.2. Antiretroviral Treatment in Pregnant Women

In the case of non-pregnant women, therapeutic decision should be based on the guidelines of HIV therapy in adults and adolescents. The special circumstances of pregnancy or breast feeding raise additional issues concerning toxicity to mother and child, the choice of ARV drugs, and prevention of HIV transmission from mothers to infants.

Pregnant women who are HIV-infected and need ARV treatment for their own health should receive it. ARV treatment should be initiated after the first trimester. However, in seriously ill women, the benefit of early therapy for the woman outweighs any potential risk to the foetus, so therapy should be initiated in such cases. ARV treatment during pregnancy, when indicated, will improve the health of the woman and will also decrease the risk of transmission of HIV to the infant.

The recommended WHO first line regimen for ARV treatment of pregnant women is:

(d4t or ZDV) + 3TC +NVP).



The dual NRTI combination of d4T/ddI should be avoided in pregnancy because of increased risk of lactic acidosis. This combination should be used when no other alternative exists.

Efavirenz (EFV), an antiretroviral drug that is considered potentially teratogenic is not recommended until after the first trimester of pregnancy and should be avoided in women of childbearing age unless effective contraception can be ensured. The use of antiretroviral drugs in pregnant women and women of childbearing age will follow the National ART guidelines.

In the women of child bearing age, the choice of ART should be done by considering possibility that the ARV drugs may be received early in first trimester before recognition of pregnancy and during the initial period of foetal organ development. EFV should be avoided because of its teratogenicity. Women on ART and who do not want to be pregnant should have effective and proper contraception. If contraception is assured, EFV remains a better option in NNRTI components. ART given to women who become pregnant should be discontinued in the first trimester of pregnancy. If EFV has been part of regimen it should be replaced by NVP when re-continuing the regimen.

Symptomatic hepatotoxicity and skin rashes because of NVP are found to be more common in women than in men and cases have been reported in pregnant women also.

SQV/r or NFV are reasonable choice if PI based regimen is preferred during pregnancy. ARV drugs have the potential to either decrease or increase the bioavailability of steroid hormones in hormonal contraception. Studies are underway. If women on ARV treatment decide to initiate or continue hormonal contraceptives, the consistent use of condom must be recommended for prevention of infection of the partner with HIV, and to compensate the possible reduction in the effectiveness of the hormonal contraception.

### 3.3. Prophylaxis for Primary and Secondary Opportunistic Infection in Pregnant Women

- |                                       |   |
|---------------------------------------|---|
| <b>Pneumocystis carinii Pneumonia</b> | <ul style="list-style-type: none"><li>- Some prefer to delay until after the first trimester.</li><li>- Should use full dose of TMP-SMX, 1 double strength tablet once daily.</li><li>- Standard guideline should be followed</li><li>- TMP-SMX, Dapsone, aerosolized pentamidine considered to be safe.</li></ul>  |
| <b>Tuberculosis</b>                   | <ul style="list-style-type: none"><li>- Chest X-ray should be done with the appropriate lead aprons for pelvic protection</li><li>- Diagnosed cases should be treated according to National TB program following DOTS</li></ul>   |
| <b>Toxoplasmos</b>                    | <ul style="list-style-type: none"><li>- Delay primary prophylaxis with pyrimethamine (risk cannot be excluded but potential benefits may outweigh risk) containing regimens owing to risk associated with this drug and low probability of toxoplasmosis.</li><li>- Secondary prophylaxis – Most could continue pyrimethamine because of high rate of relapse when drug is stopped.</li></ul> |
| <b>Herpes simplex</b>                 | <ul style="list-style-type: none"><li>- Use of Acyclovir is controversial but experience has shown that it is safe</li></ul>  |

- Varicella zoster** - Zoster immunoglobuline is not contraindicated in pregnancy and should be given to a susceptible pregnant woman after exposure.
- Fungal infection**
  - Fluconazole has been associated with fetal deaths and fetal abnormalities in animal studies, but potential benefits outweigh risk.
  - Itraconazole shows embryotoxicity and teratogenicity in pregnant animal.
  - Amphoterecin B is preferred when fungal infection therapy is needed.
- Infuenzae vaccine** - Safe in pregnancy
- Hepatitis B** - Immunoglobulin should be given to a susceptible pregnant women after exposure
- Mycobacterium avium complex**
  - Azithromycine is preferred for MAC prophylaxis.
  - Clarithromycine is teratogenic in animals and must be used in pregnancy with caution.
  - Rifabutin has had limited experience in pregnancy.
  - For Secondary prophylaxis – Use Azithromycine and ethambutol.

### 3.4 ARV prophylaxis for PMTCT

ARV prophylaxis is the short-term use of antiretroviral drugs to *reduce HIV transmission* from mother to infant. Short courses of ARV drugs started in late pregnancy or during labour reduce the risk of in utero and peripartum HIV transmission two- to three-fold.

HIV-infected pregnant women who do not have indications for ARV treatment, or do not have access to treatment shall be offered ARV prophylaxis to prevent MTCT using one of several ARV regimens known to be safe and effective.

The WHO-recommended first-line ARV treatment regimens are NNRTI based (containing either Efavirenz (EFV) or NVP, and NVP is the NNRTI drug most commonly used for MTCT prophylaxis. Contraindications to NVP use include the presence of known allergy to NVP or to benzodiazepine derivatives, which could result in an idiosyncratic allergic reaction regardless of the dose received.

- o Short-course ARV prophylaxis with NVP involves administration of a single dose of NVP to women during labour and to the newborn infant. No significant clinical or laboratory toxicity has been observed with the use of this regimen among more than 1,600 women and infants participating in comparative clinical trials. It is not known whether pregnancy increases the risk of hepatic toxicity among women receiving NVP.

ZDV from 32 – 34 weeks of pregnancy ( national protocol ) plus single-dose NVP during labour and single-dose NVP and one-week ZDV for the infant. This regimen is highly efficacious, as is initiating ZDV later in pregnancy.

Regimens based on ZDV alone, short-course ZDV + 3TC are alternatives recommended.

A combination regimen of ZDV plus single-dose maternal and infant NVP is more efficacious than single drug regimens and, in general, longer regimens are more efficacious than shorter

regimens. Information on the safety of various ARV regimens shows that short-course regimens are, in general, well tolerated, with few mild and transient side-effects for the woman and her infant. There is more concern about the safety of ARV drugs taken by pregnant women for extended periods, especially those who do not yet require ARV treatment.

Practical considerations in choosing ARV regimens for the prevention of MTCT include:

- availability of HIV counseling and testing services;
- proportion of HIV-infected women who are aware of their serostatus at various stages of pregnancy;
- proportion of women seeking antenatal care;
- timing of the first antenatal visit;
- frequency of antenatal visits;
- quality of antenatal care;
- proportion of births occurring in health care facilities;
- access to early postpartum care;
- acceptability and ease of dosage schedules; and
- efficacy and safety of different ARV drug regimens, including their
- potential to compromise future treatment options.

Short-course ARV prophylaxis regimens that include nucleoside analogue drugs generally contain ZDV, or both ZDV and 3TC. The most frequent side-effects of ZDV and 3TC are nausea, headache, myalgia and insomnia; the incidence of these side-effects usually decreases with time. Contraindications to ZDV or ZDV plus 3TC for MTCT prophylaxis include known allergy to these drugs, severe disorders of the blood and blood-forming organs (haemoglobin <70 g/L or severe neutropaenia with neutrophils <750 10<sup>6</sup> cells/L) and severe liver or kidney dysfunction. The major short term toxicity among infants exposed to prophylactic ZDV to reduce MTCT is anaemia, which is greater for longer exposures.

Rare but more serious toxic effects with more prolonged use of combination drug regimens that include ZDV and 3TC or other nucleoside analogue drugs include lactic acidosis, hepatic steatosis, pancreatitis and other disorders associated with mitochondrial dysfunction.

Thus, taking into account, feasibility, efficacy, time of presentation of pregnant women and cost, ARV prophylaxis using single-dose maternal and infant NVP remains a practical alternative. Nevirapine, a non-nucleoside reverse transcriptase inhibitor will be the choice of ARV regimen for mother and infant, to be use in the selected clinical settings. Because of NVP's adverse effects such as hepatitis, it should be avoided in cases with liver disease. Patient with adverse effect may present with jaundice, liver enlargement. GI symptoms, fatigue, myalgia, arthralgia, anorexia, and occasionally, with drug rashes.

The table below shows combinations of ARV prophylaxis regimes to be used by the PMTCT sites.

### Antiretroviral prophylaxis regimens to prevent MTCT

COURSE	ANTENATAL	INTRAPARTUM	POSTPARTUM	POSTNATAL
<b>1. NVP</b>	None	<b>Mother:</b> Single-dose NVP 200 mg at onset of labour	None	<b>Infant:</b> NVP 2 mg/kg oral suspension immediately after birth
<b>2. ZDV and NVP for infant</b>  (when mother has received no ARV prophylaxis)	None	None	None	<b>Infant:</b> NVP 2 mg/kg oral suspension immediately after birth,  and ZDV 4 mg/kg twice a day for 7 days  <b>When ZDV oral suspension not available:</b> NVP 2 mg/kg oral suspension as soon as possible after delivery,  and One dose of NVP oral suspension 72 hours after birth

One of the important issues in PMTCT where NVP is used is its impact on the subsequent treatment of mothers and their infected infants.

Many studies have shown that there are higher rates of mutation of viruses associated with use of NVP,3TC,ZDV as single or in combination dose for prevention of mother to child transmission. Mutation of virus and resistance development are more if single dose NVP is used at the period when the virus level was significantly at the detectable level during pregnancy.

There is a lack of information regarding consequence of selection of this resistance mutation for response to future ARV therapy in women or infected infants. The mutation fade with time, but remaining subpopulation of resistance virus has got potential to re-emerge when subsequent regimen contains NNRTI or 3TC. Researches are on progress. Until definite data are available, the women receiving single dose NVP or 3TC for PMTCT should be considered eligible for NNRTI-based regimens.

Some countries have already considered use of short course triple combination therapy for PMTCT in women who do not need treatment for their own infection, and the cessation of therapy postpartum. This will prevent development of resistance and also highly effective in reducing perinatal HIV transmission to infants. But this intervention exposes both mother and foetus to potential drug toxicities. Studies are on progress in this approach.

## 3.5 Management of Labour and Delivery of Women Infected with HIV and Women with Unknown HIV Status

### 3.5.1 Interventions that can reduce MTCT include the following:

- **Use good infection prevention practices for all patient care.**  
Use universal precautions, which include use of protective gear, safe use and disposal of sharps, sterilisation of equipment, and safe disposal of contaminated materials.
- **Minimise cervical examinations.**  
Perform cervical examination only when absolutely necessary and with appropriate clean technique.
- **Avoid prolonged labour.**  
Consider using oxytocin to shorten labour when appropriate.  
Use non-invasive foetal monitoring to assess need for early intervention.
- **Avoid routine rupture of membranes.**  
Use a partogram to measure the progress of labour.  
Avoid artificial rupture of membranes, unless necessary.
- **Avoid unnecessary trauma during delivery.**  
Avoid invasive procedures, including scalp electrodes or scalp sampling.  
Avoid routine episiotomy.  
Minimise the use of forceps or vacuum extractors.
- **Minimise the risk of postpartum haemorrhage.**  
Actively manage the third stage of labour.  
Give oxytocin immediately after delivery.  
Use controlled cord traction.  
Perform uterine massage.  
Repair genital tract lacerations.  
Carefully remove all products of conception.
- **Use safe transfusion practices.**  
Minimise the use of blood transfusions.  
Use only blood screened for HIV and when available syphilis, malaria, and hepatitis B and C.

### 3.5.2 Considerations regarding elective Caesarean Section

Caesarean section, when performed before the onset of labour or membrane rupture, has been associated with reduced MTCT. However many clinicians agree that it should be reserved for HIV infected women who fail to achieve viral suppression through drug therapy at the time of delivery. The cost and lack of surgical facilities preclude CS delivery for most women in Nepal. In addition CS delivery carries a higher chance of postoperative complications in HIV infected women and these are likely to be more difficult to manage in a country like Nepal. So routine elective CS in HIV infected pregnant women especially in cases with low viral load (<1000) and high CD4 count (>500) does not provide additional benefit. Also conducting Cs on high viral load and low Cd4 count cases are associated with increased rate of maternal mortality and morbidity.

However, whenever a woman comes with family decision to have CS, and with known viral load, near the time of delivery may require special consideration after considering the benefits and risks of vaginal delivery versus elective caesarean section, including the safety of the blood supply and the risk of complications.

### 3.5.3 Strategies to reduce MTCT risk in women with unknown HIV status

In some cases, a woman presents to the health service at the time of labour without knowing her HIV status. She may not have received ANC or been offered HIV counselling and testing, she may have refused HIV testing, or may not have received her test result. In order to prevent MTCT in women with unknown HIV status the following steps will be taken:

- **Counselling and testing during labour**

It may be difficult to offer counselling or obtain informed consent during labour. The healthcare worker should remain sensitive and supportive to the woman. Rapid testing can be done in labour with post-test counselling provided after delivery.

- Offer rapid HIV testing with right to refuse.
- Mention benefits of the HIV test such as if positive, ARVs can be administered for PMTCT and referral for treatment and care can be made
- Describe the testing process
- Provide post-test counselling

- **Providing ARVs at labour and delivery**

ARV prophylaxis can be provided to the mother who is HIV-infected and the infant to prevent MTCT.

## 3.6. Immediate Postpartum Care of Women who are HIV-Infected and Women with Unknown HIV Status

When providing postpartum care to women infected with HIV, healthcare workers may follow routine protocols, but several areas require additional attention:

### 3.6.1 Newborn feeding

- Ensure that the mother chooses feeding options before she leaves the facility or hospital after delivery.
- Support the mother's choice of feeding option.
- Provide training and observe proper feeding technique prior to discharge.

### 3.6.2 Family planning and SRH

SRH and FP information, counselling and services should be considered for every woman during antenatal care and again in the immediate postpartum period with the following purpose:

- *Primary Prevention:* Emphasis should be made for the importance of informed reproductive health choices and promoting use of an effective family planning method (e.g., tubal ligation, Depo Provera, Oral Contraceptives or Norplant).
- *Secondary prevention:* Ensuring that HIV-infected females and their partners make informed reproductive choices.
- *Pre- and post-test counselling:* Make informed choices about contraception and condom use.
- *Pregnant women (test HIV-negative):* Understand and maintain safer sex behavior (including abstinence, partner reduction and condom use) in order to prevent HIV infection in the future.

- *Pregnant women (test HIV-positive):* Make informed choices about sexual behavior (condom use) and future fertility, including tubal ligation or other long-term method such as Depo Provera, Norplant etc.

HIV-infected mothers who do not breastfeed are deprived of protection from lactation amenorrhea. If they do not use appropriate family planning methods, they may have a shorter interval between births and at increased risk of an early pregnancy. Therefore, it is important to ensure that she has access to appropriate contraceptives within six weeks of delivery.

Information and counselling on **Dual protection** should be emphasized to prevent against unintended pregnancy and HIV/STIs. Dual protection includes not only condom use along with another effective family planning method (dual use), but also mutual monogamy and use of an effective family planning method, abstinence and/or delay of sexual activity.

There are no contraindications for an HIV-infected woman for using any of the available contraceptives. Women known to be infected with HIV may safely use IUDs if they have continued access to medical care and are in a stable, mutually monogamous relationship. However, women who are at risk of STIs, especially adolescents, should avoid using IUDs.

Back-up contraception is advisable if a woman is using certain medications, such as rifampicin, or any anticonvulsant medication other than valproic acid; if she has severe diarrhea; or if she is taking a broad-spectrum antibiotic such as ampicillin or tetracycline.

### 3.6.3 Postpartum care of women with unknown HIV status

Women whose HIV status is unknown should receive the same postpartum care as women with HIV infection (outlined above). They should be encouraged to be tested for HIV and to follow national recommendations for feeding their infants.

## 3.7 Immediate Newborn Care of Infants who are HIV-Exposed and Infants with Unknown HIV Status

The immediate care of the newborn exposed to HIV follows standard practice. Regardless of the mother's HIV status, all infants are kept warm after birth and are handled with gloves until maternal blood and secretions have been washed off.

Immediate newborn care consists of the following:

- Maintain universal precautions throughout care and treatment. Wear gloves when giving injections, and clean all injection sites with surgical spirits. Dispose of all needles according to facility policy.
- Wipe infant's mouth and nostrils with gauze when the head is delivered.
- Clamp cord immediately after birth, and avoid milking the cord. Cover the cord with gloved hand or gauze before cutting.
- Use suction only when meconium-stained liquid is present. Use either mechanical suction at less than 100 mm Hg pressure or bulb suction, rather than mouth-operated suction.
- Wipe the infant dry with a towel.
- Determine the mother's feeding choice. If she is using breast milk substitute, place the infant on her body for skin-to-skin contact and provide help with the first feeding. If she is breastfeeding, place the infant on the mother's breast.

- Administer vitamin K, silver nitrate eye ointment, and Bacille Calmette Guérin (BCG) according to national guidelines.

### ARV prophylaxis

ARV prophylaxis should be administered to the newborn according to protocol outlined in chapter 3.4.

## 3.8 ARV treatment of children

3.8.1 Recommendations for initiating ART in infants and children are as follows:

<b>CD4 testing</b>	<b>Age</b>	<b>HIV testing</b>	<b>Treatment Recommendations</b>
If CD4 testing is available	< 18 months	HIV virological testing not available but infants is HIV seropositive (Note HIV antibody test must be repeated at age 18 months to obtain definitive diagnosis of HIV infection)	WHO paediatric stage II & III diseases with CD4<20%
		Positive HIV virological test 2	WHO paediatric stage III (i.e. AIDS) irrespective of CD4 % WHO paediatric stage II, with consideration of using CD4 <20% to assist in decision making 1, 3 WHO paediatric stage I (asymptomatic), CD4 <20% 1, 4
	≥ 18 months	HIV antibody-seropositive	WHO paediatric stage III disease, irrespective of CD4 % WHO paediatric stage II disease, with consideration of using CD4 <15% to assist in decision making 1, 3 WHO paediatric stage I disease with CD4 <15% 1, 4
If CD4 testing is not available	<18 months	HIV virological testing not available but infant HIV antibody-seropositive	Treatment not recommended 4, 5
		Positive HIV virological test	WHO paediatric stage III, irrespective of total lymphocyte count. WHO paediatric stage II disease, with consideration of using total lymphocyte count <2500/mm <sup>3</sup> to assist in decision making 6



<b>CD4 testing</b>	<b>Age</b>	<b>HIV testing</b>	<b>Treatment Recommendations</b>
If CD4 testing is not available	≥ 18 months	HIV antibody-seropositive	WHO paediatric stage III irrespective of total lymphocyte count WHO paediatric stage II disease, with consideration of using total lymphocyte count <1500/mm <sup>3</sup> to assist in decision-making 6

1. A CD4 cell percentage < 20% corresponds to an absolute CD4 count of approximately <1000/mm<sup>3</sup> for children aged <12 months and <750/mm<sup>3</sup> for children aged 12 – 18 months; CD4<15% corresponds to <500/mm<sup>3</sup> for children aged 1 – 5 years and to <200/mm<sup>3</sup> for children aged >6 years.
2. HIV DNA PCR or HIV RNA amplification assays or immune complex dissociated p24 antigen assays.
3. CD4 cell percentage is advised to assist with determining the need for immediate therapy.
4. If a child is asymptomatic and treatment is being initiated on basis of CD4 criteria consideration should be given to performing a confirmatory CD4 assay if resource permits.
5. Many of the clinical symptoms in the WHO paediatric stage II and III disease classification are not specific for HIV infection and significantly overlap those seen in children without HIV infection in resource-limited settings; thus in the absence virological testing and CD4 cell assay availability, symptomatic HIV-seropositive infants <18 months of age should only be considered for ARV therapy in exceptional circumstances (e.g. a child with a classic AIDS-defining opportunistic infection such as Kaposi's sarcoma, Pneumocystis carinii pneumonia or Cryptococcus meningitis). If ARVs are given to a symptomatic HIV-seropositive infant in the absence of a definitive virological diagnosis, HIV antibody testing should be repeated at the age of 18 months to confirm infection status; ARV therapy should only be continued in infants with confirmed HIV infection.
6. A total lymphocyte count of <2500/mm<sup>3</sup> for children aged <8 months or of<1500/mm<sup>3</sup> for children aged ≥ 18 months can be substituted for CD4% when the latter is unavailable and HIV related symptoms exist. Its utility in asymptomatic children is unknown. In the absence of CD4 cell testing, therefore, asymptomatic HIV-infected children (WHO paediatric stage I) should not be treated because no other reliable marker is currently available in severely resource constrained settings.

### 3.8.2 Recommended first-line ARV regimens in infant and children:

Many different regimens have demonstrated significant improvement in morbidity and mortality of children. Doses must be adjusted with growth in order to avoid risk of under-dosage and development of resistance. Doses in children are based on either body surface area or weight.

Formulation appropriate for young children are not widely available in resource limited settings. The tablets which require cutting up can result in under dosing or overdosing of children leading to risk of resistance or toxicity. More over the doses adjustment with growing age of child may be difficult.

However, WHO suggests splitting of adult dose solid formulation which may be only way of treating HIV infected child until appropriate formulation can be made more widely available.

The preferred first-line treatment option includes d4T or ZDV + 3TC plus NNRTI (NVP or EFV) as in adult. The EFV cannot be used currently in children under 3 years of age because of lack of appropriate formulation of dosing information which are under study.

Consequently for children under 3 years of age or weighing less than 10kg, NVP should be the NNRTI of choice. The ZDV/3TC/ABC combination previously used as first line therapy is now considered as secondary alternative.

In children receiving anti TB therapy containing rifampicin the EFV is the choice of NNRTI. For children under 3yrs of age with TB and requires ARV, the use of ZDV/3TC/ABC should be considered as SQVr is not available in a formulation that is appropriate for children of this age.

Table: Recommended first-line ARV Regimens for infants and children.

<b>First line Regimen</b>	<b>Comment</b>
d4T or ZDV	
Plus 3TC	
Plus NVP or EFV	NNRTI choice: <ul style="list-style-type: none"> <li>• If age &lt;3 years or weight &lt;10kg, NVP</li> <li>• If age &gt;3 years or Weight &gt;10kg, NVP or EFV</li> </ul>

If a mother has received ARV during pregnancy either for HIV disease or PMTCT, there is a chance of baby being infected with drug resistance virus. Additionally resistance could occur in infant exposed to an ARV for prophylaxis before the infection status of infant is known. This is a particular problem if NVP or 3TC has been used either alone or as a component of a two drug regimen for PMTCT because single point mutation is associated with resistance to these two drugs. It is not known what to be done but studies are progressing or planned to have better solution whether the single dose NVP for PMTCT should be followed by HAART with NNRTI based regimen. Such research is necessary. Till we don't have definitive answer NNRTI based regimen should be considered eligible.

### 3.8.3 Clinical assessment of Infant and children receiving ARV therapy:

Important clinical signs of improvement are;

- Improvement in growth who have been failing to grow.
- Improvement in neurological symptoms/developmental milestones.
- Decreased frequency of infection (bacterial infections, oral thrush, and /or other opportunistic infections).

Laboratory assessments are same as those for Adult. In addition to clinical assessment recommended for adults, the clinical monitoring of ARV treatment in children should cover:

- Nutrition and Nutritional status.
- Weight and height growth.
- Developmental milestones.
- Neurological symptoms.

Changing ARV therapy in children, Treatment failure, second line ARV therapy for children are out of scope of these guidelines. For detailed knowledge, proper and available guidelines should be followed.

The excretion of ARVs in breast milk has not been quantified for most ARVs, such as NVP are present in breast milk, the concentration and quantity of drug ingested by infants may be sub therapeutic which may lead to development of resistance. If breast fed infant is ill enough to require ARVs standard paediatric doses should be initiated. It is not known whether breast fed child who does not require ARV should be treated with ARVs or not if mother is receiving ARVs. Further research is needed on this subject.

# Chapter 4: Infant Feeding in the Context of HIV Infection

## 4.1. Recommendations for Infant and Young Child Feeding

ARV prophylaxis does not provide long-term protection for the infant who is breastfeeding. Without intervention, 10 to 20 percent of infants breastfed by HIV-positive mothers will become infected. Although this argues for alternative feeding methods, increased morbidity and mortality is also associated with formula feeding when done under unsafe conditions. Feeding choice is therefore difficult, and several factors need to be considered before the choice is made. This section highlights the considerations to be taken when providing feeding counselling to HIV-positive mothers.

### 4.1.1 Basic facts on malnutrition, infant feeding, and child survival

- General malnutrition is still common in Nepal, where half of the children below the age of five are stunted and 48 percent are underweight (DHS 2001).
- Malnutrition is the underlying cause of death in about 60% of children below 5 years worldwide. Although there is no data from Nepal, it is likely that the situation is similar or that malnutrition is an even larger cause of child death, considering the very high rates of child malnutrition.
- Poor feeding practices, such as those that provide insufficient calories and micronutrients or contribute to diarrhoea, are the major cause of the malnutrition. Breastfeeding is universal in Nepal, where over 98 percent of the mothers initiate breastfeeding and where the mean duration of breastfeeding is 32 months. The problem of malnutrition is largely associated with the initiation of complementary feeding, with food that is too often bulky and over diluted, and prepared under unhygienic conditions.
- Counselling and support for infant feeding can improve feeding practices and, in turn, prevent malnutrition and reduce the risk of death in children.

### 4.1.2 UN infant-feeding recommendations for mothers who are HIV negative and mothers with unknown HIV status

- Breastfeed exclusively for the first six months of life. Exclusive breastfeeding means the mother gives her infant only breastmilk, except for drops or syrups consisting of vitamins, mineral supplements, or medicines. The exclusively breastfed child receives no food or drink other than breastmilk — not even water.
- Continue breastfeeding for up to 2 years or longer.
- After the infant reaches 6 months of age, introduce complementary foods that provide sufficient calories and micronutrients and are safe.

### 4.1.3 UN infant-feeding recommendations for mothers who are HIV-infected

- When replacement feeding is acceptable, feasible, affordable, sustainable, and safe, avoiding all breastfeeding by mothers who are HIV-positive is recommended.

#### Definitions

- **Acceptable:** The mother perceives no significant barrier(s) to choosing a feeding option for cultural or social reasons or for fear of stigma and discrimination

- **Feasible:** The mother (or other family member) has adequate time, knowledge, skills, and other resources to prepare feedings and to feed the infant as well as the support to cope with family, community, and social pressures
  - **Affordable:** The mother and family, with available community and/or health system support, can pay for the costs of the replacement feedings -including all ingredients, fuel and clean water - without compromising the family's health and nutrition spending.
  - **Sustainable:** The mother has access to a continuous and uninterrupted supply of all ingredients and commodities needed to implement the feeding option safely for as long as the infant needs it.
  - **Safe:** Replacement foods are correctly and hygienically stored and prepared in nutritionally adequate quantities; infants are fed with clean hands using clean utensils, preferably with cups.
- Otherwise, exclusive breastfeeding is recommended during the first six months of life.
  - To minimise HIV transmission risk, mothers who are HIV-positive and who breastfeed should discontinue exclusive breastfeeding as soon as feasible, taking into account local circumstances, the individual woman's situation, and the risks of replacement feeding (which include malnutrition and infections other than HIV).
  - All mothers who are HIV-positive should receive counselling, which includes general information about the risks and benefits of infant-feeding options and specific guidance on selecting the option most likely to be suitable for their situation.
  - Whatever choice a mother makes, she should be supported.

**Many Nepali women will have limited capacity to fully accept replacement feeding, and with the present infant morbidity and mortality, correct and updated information and counselling is important for the mother to make the safest infant feeding choice for her infant.**

## 4.2. Infant-Feeding Counselling and Support

### 4.2.1 Counselling about infant feeding

Infant-feeding counselling for women who are HIV-positive is an integral part of PMTCT. A woman who is HIV-positive should receive counselling that includes the following:

- Information about the risk of HIV transmission through breastfeeding
- Information about possible feeding options:
  - Breastfeeding
    - Exclusive with early cessation
  - Breastmilk feeding options
    - Expressed and heat-treated breastmilk
    - Wet nursing
    - Breastmilk banks
  - Replacement feeding
    - Industrially formulated breast milk substitute (formula)
    - Home-modified animal milk
- Advantages and disadvantages of each infant-feeding option
- Guidance in selecting and adhering to the option most suitable for her situation
- Respect for local customs, practices, and beliefs when presenting infant-feeding choices

- Demonstrations and/or opportunities for practice regarding safe storage, preparation and feeding, including cup feeding
- Encouragement of partner or family involvement in infant-feeding decisions

The final decision about her infant-feeding strategy should be the woman's, and she must receive support for her choice.

#### **4.2.2 Counselling visits**

Mothers who are HIV-positive should receive infant-feeding counselling over the course of several sessions. At least one counselling session will take place during the antenatal period. If possible, it will be done sometime after post-test counselling, but not immediately after the mother learns her test results.

It will be advised to schedule monthly follow-up sessions whenever the mother brings the child to the clinic for well-baby checkups or immunisations. Additional sessions may be required during special high-risk periods, such as when the:

- Child is sick
- Mother returns to work
- Mother decides to change feeding methods

Networks and linkages will be strengthened with sectors and NGOs working in HIV/AIDS as well as Safe Motherhood programs for continued care and support referrals.

#### **4.2.3 Postnatal visits**

During each postnatal visit, clinic staff will review information from the infant-feeding counselling session and focus on issues most relevant to the mother. Reinforcing essential and relevant information supports optimal infant nutrition, growth, and development while minimising risks.

# Chapter 5: Linkages to Care and Support for Mothers and Families with HIV Infection

## 5.1 Establishing Linkages

PMTCT needs multidisciplinary and multi-sectoral initiatives. Linkages with various stakeholders are very important for ensuring adequate resources and allocate them for PMTCT. All related sectors like education, health, population and environment, law and justice, women and children and social welfare should make collaborative efforts to address the problems of MTCT. In order to ensure that NGO and private sector activities supplement and complement the PMTCT programme, the proposed guidelines should be the guiding document for all partners in this initiative. It has to be made sure that confidentiality is respected at all times within the referral process. A monitoring mechanism will be established to ensure that the linkages are in place and active.

### **Linkages are being fostered in many ways:**

- Integrate PMTCT services into existing maternal and child health (MCH) services.
- Include necessary referrals and then follow up to ensure families have easy access to linked services.
- Community workers, including lay counsellors, can assist women in obtaining treatment, care, and support services.

### 5.1.1 Linkages between MCH and HIV services

- MCH services are entry points for PMTCT and for the treatment, care, and support of women who are HIV-infected and their infants and other family members.
- PMTCT is integrated into MCH services through training (building human capacity) and programme development.
- Caring for and treating families affected by HIV is a shared responsibility.
- All children born to women who are HIV-infected require close follow up and appropriate care.
- Community MCH workers may be encouraged to provide information on health promotion and disease prevention, as well as care and support services to these families.
- Specialists in HIV who care for women and children may provide consultation, antiretroviral treatment, and help with the ongoing management of HIV infection.

### 5.1.2 Linkages with other health programmes for special needs

- Some programmes target specific health needs, such as family planning, treatment of sexually transmitted infections (STIs), or assistance with substance abuse.
- Disease-specific programmes, such as those for people with tuberculosis (TB) may benefit women who are HIV-infected. TB, which is highly prevalent in certain countries, is a leading cause of mortality in persons infected with HIV.
- Nutritional support programmes for mothers and children are especially important for people living with HIV/AIDS (PLWHA).

### 5.1.3 Linkages to community-based AIDS service organisations

Linkages to community-based organisations can provide the resources to help women who are HIV-infected and their families cope with the isolation, social stigma, and emotional pressures

that often accompany a diagnosis of HIV. They also may provide women infected with HIV a way to become involved in voluntary or paid HIV-related work.

- Non-governmental organisations (NGOs), faith-based organisations (FBOs), and similar agencies often provide treatment, care, and support services for mothers who are HIV-infected and family members.
- Linkages between healthcare programmes and other community based and faith-based organisations may improve patient care.
- Faith-based organisations and traditional healers may offer another important source of social and community support.
- Many community agencies may also provide education, counselling, and testing about HIV prevention and safer sex.
- Linkages to programmes for preventing and treating malaria or TB, or to programmes that offer nutritional support help women gain access to needed services.
- Relationships between health clinics and community programmes may offer connections to counselling, peer education support groups, and networks for PLWHA.
- Organisations of PLWHA are one of the most important sources of support for mothers diagnosed with HIV infection in PMTCT programmes and for their families.
- Community organisations often help PLWHA with specific needs such as housing, transportation, food assistance, legal assistance and advice, and income-generating activities.

## 5.2 Treatment, Care, and Support of the Mother with HIV Infection

### 5.2.1 Postpartum care of the mother with HIV infection

Healthcare workers should ensure that women who are infected with HIV and have given birth in a healthcare facility return for postpartum appointments or are visited at home.

Women who have given birth at home should be evaluated 1 week after the birth and again at 6 weeks.

Include the following during visits:

#### **Assessment of healing**

Check wound healing.

Monitor uterine involution.

Confirm cessation of postpartum bleeding.

#### **Infant-feeding support**

Assess progress of infant feeding.

For women who have elected to breastfeed, ensure that they use a good breastfeeding technique to prevent breast abscesses, nipple fissures, and mastitis. If those complications occur, treat them promptly. There is evidence that these breast conditions increase the risk of HIV transmission through breastfeeding.

Assist the mother to safely implement her chosen feeding option.

Assess family support for the infant-feeding option.

Work with the mother to develop a plan to address challenges.

## **Sexual and reproductive care**

Discuss condom use as dual protection (against STIs, including HIV, and for family planning).

Support the mother's choice of contraceptive method.

Discuss the importance of safer sex to prevent the spread of HIV and other STIs.

Provide advice regarding early STI treatment, including symptom recognition and where to go for STI assessment and treatment.

Answer any questions the woman may have about safer sex behaviours.

### **5.2.2 Related services for HIV treatment, care, and support**

*The postpartum period is an ideal time to link the woman who is HIV-infected to comprehensive care that will support her health, prevent complications, and improve her ability to live with HIV.*

A range of related services should be provided directly or by referral, including those listed below:

- Prevention and treatment of opportunistic infections
- ARV treatment when indicated and available
- Treatment of symptoms and palliative care
- Nutritional support
- Social and psychosocial support
- Faith-based support
- Home-based care

## **Prevention and treatment of opportunistic infections**

Infections are a major complication of HIV. Treatment and health education for opportunistic and other infections will be provided to help a woman stay healthier and preserve her immune system. Follow guidelines outlined in chapter 3.3.

## **Antiretroviral treatment**

Women initially followed in PMTCT settings should be linked to treatment services for themselves and their families (PMTCT-Plus). ARV treatment according to the guidelines outlined in chapter 3.2 should be administered.

## **Treatment of symptoms and palliative care**

PLWHA are subject to HIV symptoms that can limit participation in family and community activities. Healthcare interventions that focus on managing symptoms and relieving discomfort can improve a woman's quality of life. Simple management of common HIV symptoms, such as nausea, vomiting, fatigue and skin problems can ease discomfort. Assessment and management of more complex issues such as pain, weight loss and wasting resulting from disease progression can improve comfort, function and emotional well-being.

## **Nutritional counselling, care, and support**

Often, people with HIV infection or AIDS have symptoms that make food preparation and eating difficult. Women receiving HIV-related medications require counselling on specific dietary practices and nutritional needs, in order to successfully manage side effects and



avoid nutrition-related complications. Antenatal counselling for safer infant-feeding practices and postnatal support for the feeding option a woman selects may help ensure adequate nutrition and the proper growth and development of her child.

PLWHA are especially vulnerable to bacterial infections because their immune systems become weakened. Emphasise to PLWHA the importance of cleanliness during food preparation and storage. Adequate nutrition, exercise, rest, good hygiene practices, and abstinence from harmful habits such as smoking, alcohol and drug abuse support overall health and improve immune function.

### **Social and psychosocial support**

Because people with HIV face stigma in many communities, women who are HIV-infected often are reluctant to disclose their sero-status to partners, family, or friends.

The following services shall be offered directly or by referral:

- Support to help the woman come to terms with her diagnosis and consider her options for disclosure
- Psychosocial support for the mother and for the infant who is exposed to HIV in cases when the infant's HIV status is uncertain and when a positive diagnosis is made
- Community support, including referrals to community-based and faith-based programmes
- Peer group counselling and support from health agencies or NGOs
- Support and counselling to assist women who are HIV-infected and their partners with disclosure issues

### **Faith-based support**

Faith-based involvement provides mothers who are HIV-infected with spiritual and psychosocial support. It also may provide them with an important sense of belonging to a larger community that offers them compassionate care. In many programmes, faith-based organisations are providing comprehensive treatment, care, and support services.

### **Home-based care**

Home-based care provides services to PLWHA when hospital and outpatient services are expensive or not accessible. The advantages of home-based care for patients and families, and for communities and the healthcare system include:

- Care is provided in a familiar, supportive environment that allows for continued participation in family matters
- Medical expenses are reduced
- The local community is involved in caring for PLWHA, which may help counter myths and misconceptions
- The burden on the healthcare system is eased

## **5.3 Treatment, Care, and Support of the Infant and Young Child Exposed to HIV**

PMTCT interventions reduce, but do not eliminate, the risk of HIV transmission from mother to infant. Regular follow-up care is critical for an infant born to a mother with HIV/AIDS and

for infants whose mothers' HIV status is unknown. This includes infants who have received ARV prophylaxis, because HIV exposure increases an infant's risk of illness and failure to thrive, whether or not the infant has HIV infection.

### 5.3.1 Infants born to mothers with unknown HIV status

In the immediate postpartum period, the goal is to reduce MTCT by minimising newborn exposure to maternal blood and body fluids and by providing ARV prophylaxis to the newborn. When HIV testing is unavailable or the mother's HIV status is unknown, newborn care should follow national or local policy. Newborns of mothers with unknown HIV status should be tested as soon as possible after birth, if the mother consents. The mother should receive counselling about feeding her infant in line with the national guidelines

#### Regular visits for health assessment and health promotion

To ensure that infants receive essential care, adequate nutrition, and support for feeding, the newborn should be seen in the healthcare facility or at home. The schedule for healthcare visits should be in accordance with national policy or as suggested below:

- If the infant was born at home, an assessment at the time of delivery followed by a visit in 7 days to monitor feeding progress is strongly advised. Special considerations apply when the infant is receiving ARV prophylaxis.
- It is recommended that subsequent visits be scheduled to coincide with a country's recommended schedule for immunisations. WHO recommends subsequent visits as follows:
  - At ages 6, 10, and 14 weeks
  - Once a month from 14 weeks to 1 year
  - Every 3 months from the ages of 1 to 2
- Anytime the infant becomes ill or the mother suspects a problem, seeking early medical intervention is strongly encouraged.

#### Immunisation

Infants born to mothers who are HIV-infected should be immunised according to national or local guidelines. Please refer to WHO immunisation recommendations below:

Age of Infant	Vaccine
Birth	BCG*, OPV-0
6 weeks	DPT-1, OPV-1
10 weeks	DPT-2, OPV-2
14 weeks	DPT-3, OPV-3
9 months <sup>2</sup>	Measles <sup>2</sup>
<b>Key:</b> BCG = Bacille Calmette Guerin OPV = oral polio vaccine DPT = diphtheria, pertussis, tetanus	

<sup>1</sup> Additional immunisations, for yellow fever or other diseases, for example, may be included in national recommendations that account for local disease prevalence.

<sup>2</sup> An additional, early dose of measles vaccine should be given at age 6 months if the following conditions are met:

Measles morbidity and mortality before age 9 months represents more than 15% of cases and deaths.

There is a measles outbreak.

The infant has a high risk of measles death. This includes infants:

- with documented HIV infection
- living in refugee camps
- admitted to the hospital or
- affected by disasters

\* BCG— do not give in low prevalence countries to infants or children who are HIV-infected; in high prevalence countries give to all children except children with symptoms of HIV/AIDS.

All children who have been exposed to HIV should be fully immunised according to their age. Because most children who are HIV-infected do not have severe immune suppression during the first year of life, immunisation should occur as early as possible after the recommended age to optimise the immune response.

**BCG and yellow fever.** Children with known symptomatic HIV infection should not receive BCG and yellow fever vaccines. However, because most infants who are HIV-infected are asymptomatic at birth, when BCG immunisation occurs, and thus will have unknown HIV status, the birth BCG immunisation should be given.

**Oral polio vaccine.** If the child has diarrhoea and is scheduled to receive OPV, the dose should be given as scheduled. However, the dose should not be counted in the schedule, and an additional dose of OPV should be given after the diarrhoea has resolved.

**Diphtheria, pertussis, tetanus.** Children who have either recurrent convulsions or active central nervous system disease or who have had shock or convulsions within 3 days of receiving a DPT vaccination should not receive subsequent DPT vaccination. For those children, substitute DT (diphtheria–tetanus) formulation; all other immunisations may be given.

**Hepatitis B vaccine.** WHO recommends that the hepatitis B vaccine be included in routine childhood immunisation schedules for all children in all countries.

**Haemophilus influenzae type B.** Vaccinate at 6, 10, and 14 weeks. In some areas a booster at 12 to 18 months is recommended, if available.

### **Nutrition and infant-feeding support**

As discussed, workers should assess and support a mother's choice about infant feeding at every visit. Discussions about infant feeding are especially important in the early months of life and as new foods are introduced. Infants who fail to grow require special attention. Workers should assess feeding practices and diet for infants older than 6 months and provide appropriate counselling that considers locally available food, family circumstances and feeding customs. Underlying infections should be treated immediately or ruled out as a cause of growth failure.

### **Prevention of PCP infection**

Pneumocystis carinii pneumonia (PCP) is a leading cause of death in young infants with HIV. Every infant born to a mother with HIV infection should receive Cotrimoxazole to prevent PCP, beginning at 6 weeks and continuing at least through 6 months of age, unless a viral assay shows the infant has no HIV infection. PCP prophylaxis should continue in infants who are HIV-exposed until they are 1 year old or virologic testing shows the infant is not infected

### **5.3.2 Care of the infant with documented HIV infection**

The suspicion or confirmation of HIV diagnosis in an infant or child is difficult for the parents. Workers should discuss the diagnosis compassionately and confidentially, and they should offer the parents information about services available for the child

#### **Antiretroviral treatment**

Healthcare workers must monitor infants and children (considering laboratory findings, when available) for symptoms of HIV infection that would make them candidates for ARV treatment, and refer them for appropriate HIV treatment and care. Treatment decisions follow and the national guidelines (see chapter 3.8).

# Chapter 6: Safety and Supportive Care in the Work Environment

## 6.1 Universal Precautions and Creating a Safe Work Environment

Transmission of infectious agents in the healthcare setting can be prevented by using infection control measures, including adherence to universal precautions, risk reduction in the obstetric setting, and ongoing education of employees in infection prevention.

### 6.1.1 Universal precautions

Universal precautions are practices designed to protect healthcare workers and patients from exposure to blood borne pathogens. Universal precautions apply to all patients, regardless of diagnosis.

Key components of universal precautions include:

- Hand washing
- Safe handling and disposal of sharps
- Use of personal protective equipment
- Decontamination of equipment
- Safe disposal of infectious waste materials
- Safe environmental practices
- Cleaning, disinfection, and sterilisation of all instruments used in invasive procedures reduce risk of patient-to-patient transmission of infection.

### 6.1.2 Risk reduction in the obstetric setting

The potential for exposure to HIV-contaminated blood and body fluids is greatest during labour and delivery. In labour and delivery settings, healthcare workers should:

- Provide appropriate and sensitive care to all women regardless of HIV status.
- Work in a manner that ensures safety and reduces the risk of occupational exposure for themselves and their colleagues.

### 6.1.3 Ongoing education for employees in infection prevention

- Orient all staff, including peer and lay counsellors, to the site's infection control policies.
- Ensure that all workers who are routinely exposed to blood and body fluids (e.g., physicians, midwives, nurses, and housekeeping personnel) receive preliminary and ongoing training on safe handling of equipment and materials.
- Require that supervisors regularly observe and assess safety practices and remedy deficiencies as needed.

## 6.2 Managing Occupational Exposure to HIV Infection

### **Post-exposure prophylaxis**

In healthcare settings, the occupational risk of becoming HIV-infected due to needle stick injury is low (less than 1%). Most cases involve injuries from needles or sharps that have been used on a patient who is HIV-infected. The risk of HIV transmission from exposure to infected fluids or tissues is believed to be lower than from exposure to infected blood.

After occupational HIV exposure, a short-term course of ARV drugs may be used to reduce the likelihood of infection, following the national guidelines for ARV therapy (2004). This is referred to as post-exposure prophylaxis (PEP), and is a key part of a comprehensive universal precautions strategy for reducing staff exposure to infectious agents in the workplace.

Health workers have a right to privacy with reporting of exposures. Therefore, exposed health worker's HIV test lab request and report have to be coded.

# Chapter 7: Stigma and Discrimination Related to MTCT

## 7.1 Concepts of Stigma and Discrimination and International Human Rights

HIV/AIDS is not only the greatest health challenge of our time, but it is also the greatest human rights challenge. Those aware they are HIV-infected shoulder the twin burdens of stigma and discrimination. Fear of becoming infected underlies stigma and discrimination, which remain major impediments to preventing HIV transmission and providing treatment, care, and support to people who are HIV-infected and their families.

HIV/AIDS-related stigma is increasingly recognised as the single greatest challenge to slowing the spread of the disease at the global, national, and community/provider level.

### **What is stigma?**

*Stigma* refers to unfavourable attitudes and beliefs directed toward someone or something.

### **HIV/AIDS-related stigma**

HIV/AIDS-related stigma refers to all unfavourable attitudes and beliefs directed toward people living with HIV/AIDS (PLWHA) or those perceived to be infected, and toward their significant others and loved ones, close associates, social groups, and communities.

Stigmatising attitudes are often directed not only toward the person with HIV, but also toward behaviours believed to have caused the infection. Stigma is particularly pronounced when the behavior linked to the origin of a particular disease is perceived to be under the individual's control, such as prostitution or injection drug use.

People who often are already socially marginalised—poor people, indigenous populations, men who have sex with men, injection drug users, and sex workers— frequently bear the heaviest burden of HIV/AIDS-related stigmatisation. People who are HIV-infected are often assumed to be members of these groups, whether they are or not.

### **What is discrimination?**

*Discrimination* is the treatment of an individual or group with partiality or prejudice. Discrimination is often defined in terms of human rights and entitlements in various spheres, including healthcare, employment, the legal system, social welfare, and reproductive and family life.

### **Stigmatisation and discrimination**

*Stigmatisation* reflects an attitude, but *discrimination* is an act or behaviour. Discrimination is a way of expressing, either on purpose or inadvertently, stigmatising thoughts.

## 7.2 Human rights in relation to HIV

Freedom from discrimination is a fundamental human right founded on principles of natural justice that should be universally applied to people everywhere. According to recent United Nations Commission on Human Rights resolutions, "discrimination on the basis of HIV/AIDS status, actual or presumed, is prohibited by existing human rights standards." In other words, discrimination against PLWHA or people thought to be infected is a clear violation of human rights. Following human rights relate to HIV infection and need to be protected, respected and fulfilled:

- All women and men, irrespective of their HIV status, have a right to determine the course of their sexual and reproductive lives and to have access to information and services that allow them to protect their own and their family's health.
- Children have a right to survival, development, and health.
- Women and girls have a right to information about HIV/AIDS and access to the means of protecting themselves against HIV infection.
- Women have the right to access to HIV counselling and testing and to know their HIV status.
- Women have a right to choose not to be tested or to choose not to be told the result of an HIV test.
- Women have a right to make decisions about infant feeding, on the basis of full information, and to receive support for the course of action they choose.

## 7.3 Addressing stigma and discrimination in PMTCT programmes

To increase participation in PMTCT services, programmes should implement interventions that address HIV/AIDS-related stigma. These efforts should occur at all levels:

- National
- Community, social, and cultural
- PMTCT site
- Individual

Although it is recognized to be essential that interventions address all levels, the target for PMTCT interventions is *initially* the PMTCT site. This has to phase in additional efforts over time.

### **PMTCT programme level**

Although PMTCT programmes often reflect the communities in which they are based, they can take the lead in challenging long-held community perceptions and practices, including stigmatisation of and discrimination against PLWHA and PMTCT patients.

**Integration of PMTCT interventions into antenatal care (ANC) services.** Integrate all PMTCT interventions into mainstream antenatal care (ANC) services for all women. Offer voluntary HIV testing and education to all clinic attendees, regardless of their perceived HIV risk. Mainstreaming HIV services with routine ANC services helps normalise HIV/AIDS.



**Participation of partners.** Develop ways to increase the participation of partners in all aspects of PMTCT services. Educate partners about PMTCT interventions (including ARV treatment and prophylaxis and modified infant-feeding practices) and stress the importance of partner testing, partner and family support in PMTCT, particularly with respect to ARV prophylaxis and infant feeding.

**Healthcare worker training.** Educate and train healthcare workers. The success or failure of a PMTCT programme depends upon the attitudes, skills, and experience of its employees. Training healthcare workers at all levels (manager, nurse, midwife, physician, social worker, counsellor and outreach worker) is critical to the success of PMTCT initiatives. Employee training should include:

- Complete and accurate information about the transmission of HIV and the risks factors for infection
- Activities that address HIV/AIDS-related stigma

**Infection control.** Ensure infection control by providing all healthcare workers with the necessary equipment and supplies (including high-quality, well-fitting gloves) needed to adhere to infection control policies and prevent transmission of HIV in the workplace.

**Patient confidentiality.** Safeguard patient confidentiality by developing policies and procedures and establishing discrete plans for implementing them.

**Role models.** Encourage PMTCT staff to serve as role models by treating PLWHA just as they would treat patients assumed to be HIV-negative. Healthcare workers are role models, and their attitudes toward PLWHA are often imitated in the community. Staff should aim to normalise all casual contacts with PLWHA.

**Knowing the local community.** Get to know the local community, which will help to identify local HIV-related stereotypes and rumours. Ensure that these misconceptions are addressed at appropriate times during PMTCT services. In many cultures, for example, women who bottle-feed or cup-feed their infants may be labelled as HIV-infected. In such cultures, PMTCT workers should address this stereotype during counselling and educational sessions and emphasise the importance of safer infant-feeding practices for reducing MTCT.

**Advocacy for women's rights.** Advocate for women's rights. Ensure that women diagnosed with HIV are educated about their rights and know where to turn for help, including legal advice, to challenge discrimination and stigmatisation.

**Peer and community support.** Facilitate peer and community support. Recognise that support groups in the ANC setting provide an opportunity for pregnant women who are HIV-infected to share experiences and be linked to other support services.

# Chapter 8: Site requirements

The minimum standard of requirements for sites offering PMTCT is the following:

## 8.1 Human resources and capacity

A core team trained on PMTCT consisting of

- 1 obstetrician / gynaecologist
- 1 paediatrician
- 2 - 3 trained counselors, according to the caseload
- 1 - 2 staff nurses
- 1 lab technician

Encourage/promote voluntarism who will also receive training

## 8.2 Infrastructure

### 8.2.1 Space

- An appropriate room for counselling, offering auditory and visual privacy, and containing basic furniture to sit and talk comfortably. 2 rooms to accommodate one-to-one and couples counselling, as well as small group pre-test counselling.

### 8.2.2 Equipment and supplies

- Appropriate equipment, test kits and supplies for HIV testing
- Essential drugs for PMTCT services
- Health education materials, condom supplies and a penis model
- Supplies for infection prevention (universal precautions)
- Updated list of referral institutions including contact name, eligibility requirements, location, hours of operation, telephone number, and fees.
- Appropriate record keeping, monitoring and evaluation forms

# Chapter 9: PMTCT Programme Monitoring

## 9.1 Concepts of programme monitoring and evaluation

Since PMTCT is a relatively new area in Nepal, operation research and careful monitoring and evaluation will be necessary to understand the costs, effectiveness, acceptability, and other characteristics of various packages of intervention, and to develop strong, evidence-based programming for MTCT prevention interventions and policies in the future.

### **What is monitoring?**

Monitoring is regular tracking of key programme elements. Monitoring of the PMTCT programme will help to:

- Assess programme performance
- Detect and correct performance problems
- Make more efficient use of PMTCT programme resources

### **What is evaluation?**

Evaluation is measuring the changes in a situation resulting from an intervention.

A *formal evaluation* of the PMTCT programme will demonstrate to what extent the programme contributed to changes in the indicators. Formal evaluations should be conducted intermittently to try to examine the ways in which the PMTCT programme is causing these changes.

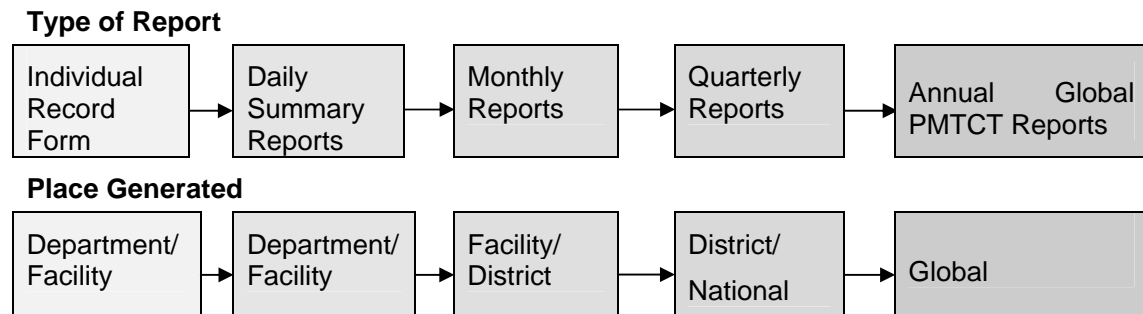
## 9.2 PMTCT Programme Monitoring at the Healthcare Facility Level

PMTCT programme monitoring should include all activities aimed at providing the full package of services for preventing mother-to-child transmission including:

- HIV counselling and testing for pregnant women
- ARV treatment and prophylaxis to prevent MTCT
- Counselling and support for safe infant-feeding practices
- Safe obstetric care
- Family planning counselling or referral

Data on these activities are recorded at the healthcare facility, compiled at a district level, and forwarded to the national level for aggregation as illustrated in Figure 9.1.

**Figure 9.1 Flow of Recordkeeping Data**



Staff members will record the PMTCT services provided in standard ANC and maternity ward registers as part of routine MCH data collection. Periodic summary reports summarise register information for local programme management and reporting.

In every healthcare facility where PMTCT services are delivered, it is important to designate staff and outline their responsibilities in the monitoring process. Clear roles and responsibilities should be defined for staff involved in:

- Data collection
- Analyses
- Reporting
- Dissemination
- Data use

#### **Using monitoring information for intervention-related decision-making**

Monitoring information should be reviewed periodically to assess programme performance and improve programme procedures. Monitoring information is used for decision-making about the PMTCT programme at local, national, and global levels.

### **9.3 Examples of PMTCT performance indicators**

- Number of venues offering the full package of PMTCT services in the preceding 12 months
- Number of health care workers newly trained or retrained in the full package during the preceding 12 months
- Existence of national guidelines for the prevention of HIV infection in infants and young children and the care of infants and young children in accordance with international or commonly agreed-upon standards
- Percentage of pregnant women who have made at least one ANC visit and have been counseled at a PMTCT site in the preceding 12 months
- Percentage of pregnant women who have made at least one ANC visit and have accepted testing for HIV in the preceding 12 months

- Percentage of women making at least one ANC visit who are HIV-infected and who receive their test results and post-test counselling in the preceding 12 months
- Percentage of women making at least one ANC visit who are HIV-negative and receive their test results and post-test counselling in the preceding 12 months
- Percentage of women who are HIV-infected who took a full course of ARVs for PMTCT in accordance with the nationally approved treatment protocol in the preceding 12 months
- Percentage of infants who were HIV-exposed and received ARVs in accordance with the nationally approved treatment protocol in the preceding 12 months
- Percentage of HIV-positive infants born to HIV-infected women in the preceding 12 months
- Number of male partners who are HIV-tested in the preceding 12 months
- Percentage of women with unknown HIV status at delivery in the preceding 12 months
- Percentage of women with unknown HIV status who were tested during labour or after delivery in the preceding 12 months
- Percentage of women who are HIV-infected and intend to do replacement feeding in the preceding 12 months

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# NATIONAL GUIDELINES

## Prevention of Mother-to-Child Transmission of HIV in Nepal