

Clinical Tract

Module on

HIV and pregnancy

LEARNING OUTCOMES DOCTORS, NURSES AND PHARMACISTS

After completion of this module the learner should be able to:

- Describe the modes and risk of transmission of HIV in the different stages of pregnancy.
- Physically evaluate and manage a pregnant HIV-infected woman from the antenatal clinic through to the postnatal period.
- Appreciate the special circumstances on antiretroviral drug selections and how this influences outcomes and later choices of therapy.
- Initiate and monitor antiretroviral therapy.
- Know the effectiveness of different treatment options to reduce MTCT of HIV.
- Diagnose and treat TB in an HIV-infected pregnant woman.
- Know the issues around feeding choices for HIV-infected women and be able to advise the mother on feeding choices for the baby.
- Offer the child antibiotic prophylaxis and test the child for HIV, using the correct test.
- Advise couples on family planning methods and refer to Family Planning Clinics.

LEARNING OUTCOMES FOR SOCIAL WORKERS, DIETICIANS AND LABORATORY TECHNICIANS

After completion of this module the learner should be able to:

- Advise couples on family planning methods and refer to Family Planning Clinics.
- Know the issues around feeding choices for HIV-infected women.
- Explain to the mother when and how the child will be tested for HIV.
- Explain to patients the issues around pregnancy and efavirenz use.
- Advice on nutritional issues for both the mother and the child.

READ THE FOLLOWING MODULES IN CONJUNCTION WITH THIS MODULE

- Counselling pregnant women
- Nutrition

1. INTRODUCTION

Mother to child transmission (MTCT) continues to be the primary route by which pre-adolescent children become infected with HIV. The WHO estimates the number of infected children worldwide at 1 million.

Much success has been reached using treatments that interrupt the transmission of HIV from mother to child. Some studies have indicated a reduction from approximately 23% (no treatment) to 8% with prophylactic antiretroviral treatment (prenatal, intrapartum and neonatal zidovudine regimen). Optimal treatment of pregnant women with HAART (triple drug regimen) and minimising the risk of intrapartum maternal-foetal blood exposure has shown to have a further reduction in transmission rates to 1% (1 in 100 babies born to HIV positive mothers HIV-infected).

Advances have been made in the understanding of the pathogenesis of perinatal HIV-1 transmission, which have important implications for maternal and infant health.

The benefits of ARV therapy should be weighed against possible adverse effects in the woman, foetus and infant.

2. ASPECTS OF PREVENTION OF MTCT

The prevention of MTCT includes the following aspects:

- Primary prevention of HIV infection of parents to be.
- Prevention of unwanted pregnancies.
- Prevention of viral transmission from mother to child as part of antenatal care and during lactation.
- Prevention of HIV reinfection in a woman who is already HIV positive.
- Treatment of sexually transmitted infections.

3. MECHANISMS OF PERINATAL HIV TRANSMISSION

The transmission of HIV from mother to child can occur in three ways:

- **In utero (during pregnancy)**
Transmission may occur via transplacental passage during pregnancy. This risk may be increased by invasive procedures done during pregnancy and by infections such as chorioamnionitis.
- **During delivery**
Transmission may occur during the delivery of the infant, e.g. by ascending infection, breaks in the skin and thus the direct exposure to infected blood, or by ingesting maternal blood. The highest risk of transmission is around the intrapartum and delivery period.
- **Postpartum**
Transmission may occur through breast milk, and will depend on the presence and duration of breastfeeding. 30-40% of HIV transmissions in developing countries are through breastfeeding.

4. FACTORS ASSOCIATED WITH INCREASED RISK OF HIV VERTICAL TRANSMISSION

- High maternal viral load
- Inherent viral characteristics
- Advanced maternal HIV disease
- Maternal immune deficiency
- Maternal seroconversion during pregnancy
- Maternal HIV infection acquired during breastfeeding or during pregnancy
- Poor adherence to antiretroviral therapy
- Prematurity of the baby
- Breastfeeding
- Procedures that increase exposure of infant to maternal blood
- Prolonged rupture of membranes
- Mastitis in breastfeeding women
- Thrush or oral ulceration of a baby that is being breastfed

Studies have shown that infants who are born prematurely (before 34 weeks) had a higher risk of infection (33%) than infants born after 34 weeks. The following aspects lead to premature delivery:

- HIV infection could influence foetal development and lead to premature delivery.
- Women who have a higher level of viraemia and more likely to be infectious.
- Concurrent infections including those of the genital tract that are more common in HIV positive women.
- Infants born prematurely may not be fully immunocompetent.

The rates of transmission to infants may increase proportionally with the clinical severity of HIV infection in the mother. The lower the CD4 count and the higher the viral load of the mother, the higher is the risk of HIV transmission to the baby. The viral load and consequent amount of virus transmitted to the infant may be larger if the mother is in advanced stage of HIV.

5. EFFECTIVE INTERVENTIONS TO REDUCE THE RISK OF MTCT OF HIV

The following are proven interventions for MTCT of HIV:

- Antiretroviral therapy
- Universal precautions at delivery
- Modified infant feeding e.g. pasteurised breast milk
- Delay rupture of membranes

The healthcare worker's focus should not be only on MTCT of HIV, but rather on the woman as an individual who needs care.

6. RECOMMENDATIONS FOR THE CARE OF HIV-INFECTED PREGNANT WOMEN

All pregnant women attending antenatal clinics should:

- Be given information on HIV and other sexually transmitted diseases.
- Be offered on site HIV testing with pre- and post-test counselling.
- Information on how to take care of a new born.

All HIV positive pregnant women should be counselled on:

- Feeding options
- Future family planning and contraception after delivery
- Nutrition
- Common pregnancy complications in the HIV infected woman
- Prevention of STIs and HIV reinfection
- Behavioural changes in relation to substance abuse (e.g. smoking, alcohol)

Women should be counselled on cigarette smoking, illicit drug use, and safe sexual practices including avoiding unprotected sex with multiple partners during pregnancy.

She should also be counselled on good nutritional choices. The mother should be counselled on feeding methods available to her infant and the risks involved. The woman should be given an opportunity to make an informed choice.

Education about family planning and available contraception should be provided during the antenatal period and a plan discussed with the woman.

See also Module in the Social Tract on Counselling.

The HIV positive pregnant woman should be assessed for:

- gestational age and obstetric risk factors
- support structures (family, friends, support groups)
- history of current or previous antiretroviral therapy
- nutrition history
- signs and symptoms of opportunistic infections
- the degree of immunodeficiency (CD4 count)
- risk for disease progression (viral load)

If the patient has access to an Antiretroviral Treatment Site, she must have a CD4 count done as early as possible in the pregnancy after she tested HIV positive. For patients with a CD4 count < 200 cells/mm³, the viral load is done to obtain a baseline value before she would start triple combination ARVs. The viral load is also a good indicator of what the risk of transmission to the baby is, but is not done routinely for patients not going onto triple therapy as part of the National Treatment Programme.

First visit

During the first visit a comprehensive history (to include obstetric and nutritional history) and clinical assessment (to include obstetric, nutritional and medical assessments) should be done. Attention should be given to identify sexual risk behaviour, current HIV-related HIV symptoms, treatment and care. Any sexually transmitted diseases should be treated.

A comprehensive assessment of financial, emotional and social support systems should be done.

The essential components of antenatal care provided to HIV negative women should be provided to HIV positive women as well. These include complete physical examination, assessment for high-risk obstetric factors, and antepartum foetal surveillance.

The following tests are advisable:

- Full blood counts at initial visit and repeated at 36 weeks;
- CD4 cell count at initial visit and repeated every 6 months;
- Routine antenatal screening e.g.: blood group, Rh screen, RPR

Invasive procedures

Invasive procedures such as amniocentesis, chorion villus sampling, cordocentesis and external cephalic version should be avoided as this may increase the risk of mother to child transmission.

Prophylaxis in HIV infected pregnant women

- Isoniazid for TB
- Co-trimoxazole for PCP
- Haematinics – iron and folate
- Multivitamins
- Tetanus toxoid

Maternal follow-up visits

Routine follow-up visits are scheduled once a month until 28 weeks of pregnancy, thereafter every fortnight until 34-36 weeks, and subsequently weekly until delivery.

At each follow-up visit assess for opportunistic infections, foetal growth monitoring, screen for STIs and check urine for asymptomatic bacteriuria. Should any medical or obstetrical complications arise, appropriate management should be instituted and more frequent visits are needed.

Foetal monitoring

An ultrasound is indicated in uncomplicated pregnancies with a baseline ultrasound at 20 weeks of pregnancy. Should the pregnancy be terminated an earlier ultrasound scan may be needed. Preterm delivery and low birth weight are common in HIV positive pregnant women, and this requires special attention, in particular those women with low CD4 counts of less than 200/mm³ and substance abuse.

Intrapartum care

There is no current indication for routine Caesarean section. Caesarean section may be considered for standard obstetric indications. All women who undergo a Caesarean section should receive prophylactic antibiotics. The midwife/obstetrician should adhere to universal precautions.

Artificial rupture of membranes should be avoided. Prolonged rupture of membranes should also be avoided. The partogram should be used to monitor the baby. Invasive scalp electrode monitoring and blood sampling should be avoided as this increases the risk of transmission. Episiotomy should be avoided except when there is a strong obstetric indication.

Washing of the birth canal with chlorhexidine in water at each vaginal examination in labour may reduce MTCT in women with membranes ruptured more than 4 hours

and will reduce the risk of puerperal sepsis to the mother. Antibiotic cover should be given for women with rupture of membranes for more than 4 hours.

Foetal trauma at delivery should be avoided. That includes assisted delivery, except for strong obstetric indication and vigorous suctioning of the newborn.

Postpartum care

Comprehensive care and support services are needed to manage HIV-infected women within family and community context. This should include primary care, obstetric and HIV specialty care, family planning services, mental health services and drug-abuse treatment programmes. These services must be well coordinated. Access to support services is vital in the effective management of HIV infected women.

The mother should be supported and assisted to provide the infant feeding option decided upon in the antenatal clinic. Family planning should be discussed again before discharge.

Health care workers should be aware of the common postnatal infections – urinary tract infections, chest infections, infected episiotomy, postpartum sepsis and caesarean wound sepsis. Health workers should observe for signs of infection and women should be informed about early symptoms of infection before discharge and advice on when and where to return for treatment.

Breast and perineal care as well as disposal of soiled infected sanitary material needs to be included.

The postpartum HIV care for the mother and infant with referrals should also be addressed. The mother needs to be re-evaluated in the postpartum period and referred for HAART if she qualifies.

Pap smear is done at 6 weeks postpartum

The frequency of follow-up visits is one week and 6 weeks.

7. INTERACTION BETWEEN HIV, TB AND PREGNANCY

HIV is the most potent known risk factor for the reactivation of latent TB. HIV also increases the risk of developing symptomatic primary TB infection. The patient's defence against the progression of TB infection to active disease is compromised proportional to the degree of immunosuppression from HIV.

With immunosuppression, the clinical and radiological features of TB may be altered. These include a delayed hypersensitivity response resulting in false-negative tuberculin skin tests. There is also more involvement of extrapulmonary sites of TB disease in these infected with HIV especially if the CD4⁺ cell count is very low.

The lifetime risk of developing TB in HIV-negative individuals is 5-10%, and 50% in HIV-infected individuals. In other words, an individual infected with HIV has 10 times increased risk of developing TB compared to an individual who is not infected with HIV.

The outcome of pregnancy is not altered in pregnant women on anti-tuberculosis drugs. Maternal TB and HIV co-infection increases the risk of the baby acquiring congenital TB infection. It has been presumed in the past that congenital TB was rare, however, there is now evidence suggesting that congenital or new born TB is an underestimated emergent disease. The caseload of culture confirmed cases of TB in neonates and young infants increase by about two-fold when the pregnant mother is infected by both HIV and TB

Diagnosis of TB in pregnancy

Proportion of TB infections in pregnancy attributable to HIV infection is 71%. In those areas where the prevalence of TB and HIV are high, efforts to improve maternal health must include detection and treatment of TB in pregnancy. However, the diagnosis of TB in pregnancy is usually difficult and delayed. This is because the symptoms may be confused with those of pregnancy by both the patient and the health care worker. It may also be due to the fact that extra-pulmonary TB is more common in HIV-infected individuals, both pregnant and non-pregnant ones. Diagnosis of TB, according to the NTCP guidelines, should be confirmed by microscopic examination of sputa. When the sputum is smear positive, it suggests that the patient has an infectious TB and should be started on anti-TB therapy without delay.

Treatment of TB in HIV-infected Pregnant woman

The use of anti-TB drugs and antiretrovirals in pregnancy is complicated by the drug-drug interactions between these two groups of drugs as well as their potential teratogenicity. The following clinical management issues should be considered:

- TB treatment takes priority over ARV therapy, and should never be compromised. If a patient is diagnosed with TB, they must be started immediately on treatment. Rather delay or replace ARV therapy if there are drug interactions, and not the TB treatment.
- TB treatment with DOTS should be initiated immediately in a pregnant woman diagnosed with active TB, irrespective of whether she is on antiretroviral or not.
- If a pregnant woman receives both the anti-TB treatment as well as antiretroviral, all drugs should be reviewed for potential drug interactions and safety in pregnancy.
- Efavirenz, an antiretroviral drug, is contraindicated in pregnancy, especially during the first trimester, because of its potential for birth defects of the CNS. However, if there is no other alternative drug available, efavirenz should only be used after the first trimester.
- Streptomycin, is contraindicated in pregnancy because it can cause permanent deafness to the baby
- Nevirapine and rifampicin should not be used together, because rifampicin is a potent inducer of liver enzymes (cytochrome P450 and 3A4). These enzymes reduce the blood levels of nevirapine by 31% and dose adjustments for nevirapine co-administered with rifampicin have not been established.
- There is also a concern about the hepatotoxicity of both the NVP and anti-TB drugs when used together. Nevirapine, therefore, is not used in patients receiving a rifampicin-based anti-TB regimen.
- The WHO recommended first line regimen for a pregnant woman receiving both anti-TB drugs and antiretroviral is stavudine, 3TC and Saquinavir.

8. Clinical scenarios of pregnant women who has HIV and TB

Patients who become pregnant while on TB treatment

- Not receiving ARVs and not eligible for ARVs
 - Must complete TB therapy like non-HIV infected patients
 - Follow the latest National Guidelines for MTCT of HIV
 - Re-assess the need for ARV at the end of TB treatment using CD4 and clinical criteria and manage accordingly
- Not on ARVs yet, but eligible for ARVs
 - Must still complete TB therapy
 - Start ARVs using the recommended regimen. Consider all drugs used for their safety in pregnancy and potential drug-interactions. ARVs can be started during TB therapy
- Receiving ARVs
 - Must not stop TB treatment
 - Review all medication (TB and ARV) for potential drug interactions and teratogenicity and manage accordingly
 - Efavirenz and streptomycin are contraindicated in pregnancy. If patient is on efavirenz, change to saquinavir. Streptomycin should be replaced by Ethambutol.

New TB cases during pregnancy

- Not on ARVs and not eligible for ARVs
 - Start TB therapy immediately
 - Follow the latest National Guidelines for MTCT of HIV
 - Reassess the need for ARV at the end of TB treatment using CD4 and clinical criteria and manage accordingly
- Not on ARVs yet, but eligible for ARVs
 - Start TB therapy immediately
 - Follow the latest National Guidelines for MTCT of HIV
 - If CD4 count $<50\text{cells/mm}^3$ or if there is extrapulmonary TB, start ARVs as soon as patient tolerates TB therapy (not less than 2 weeks between starting TB therapy and starting ARVs)
 - If CD4 count $50\text{-}200\text{cells/mm}^3$, start ARVs after two months of initiating TB therapy
 - If a woman delivers before initiating ARVs, follow the latest National guidelines for PMTCT
- Already on ARVs
 - Patient must continue using ARVs, but must start TB therapy immediately
 - Review all the patient's medication. If a patient is on nevirapine, change to SQV provided there are no contraindications.
 - Do not replace nevirapine with efavirenz, because it is contraindicated in pregnancy

Patient requiring re-treatment (failure, relapse or return after default)

- No ARVs and not eligible
 - Start anti-TB therapy immediately (Retreatment option)
 - Follow the latest National Guidelines for MTCT of HIV
 - Streptomycin must not be used in pregnancy, use Ethambutol instead
- Not on ARVs yet, but eligible for ARVs
 - Start anti-TB therapy immediately (Retreatment option)
 - Start ARVs as soon as patient tolerates TB therapy.
 - If CD4 count $<50\text{cells}/\text{mm}^3$ or if there is extrapulmonary TB, start ARVs as soon as patient tolerates TB therapy (not less than 2 weeks between starting TB therapy and starting ARVs)
 - If CD4 count $50\text{-}200\text{cells}/\text{mm}^3$, start ARVs after two months of initiating TB therapy
 - If a woman delivers before initiating ARVs, follow the latest National guidelines for PMTCT
 - Streptomycin must not be used in pregnancy, use Ethambutol instead
- Already on ARVs
 - Patient must continue using ARVs, but must start anti-TB therapy immediately following the protocol for retreatment
 - Review all the patient's medication. If a patient is on nevirapine, change to saquinavir provided there is no contraindication.

9. GENERAL PRINCIPLES REGARDING THE USE OF ANTIRETROVIRAL IN PREGNANCY

The choice of ARV regimen will depend upon the practicality and effectiveness of the intervention, the safety of the drugs, the risk of ARV drug resistance, and the cost of the medication. The use of ARVs for maternal and infant treatment should be considered taking into account the availability of safety data. Although there is increasing experience with the use of ARVs, safety data is not yet complete.

Recommendations for the use of ARV in pregnancy should be considered against:

- potential changes in dosing requirements resulting from physiological changes associated with pregnancy and
- the potential short and long-term effects of the ARV drug therapy on the foetus and infant.

The decision to use ARV during pregnancy should be made by the woman after the attending health care worker has informed her about the known and unknown benefits and risks.

Decisions regarding the use of ARV during pregnancy are complex. Medical care of the HIV infected pregnant woman needs effective communication between the health care workers.

The decision whether to take ARV should ultimately be done by the woman after she has received information about the known and unknown benefits and risks, what is recommended in the treatment, and the efficacy for reduction of perinatal transmission. General counselling should include general information about known risk factors for perinatal transmission.

Initial assessment of the HIV infected woman should include an assessment of her HIV-disease status and recommendation regarding ARV treatment or alternation of her current ARV treatment. The assessment should include the evaluation of the degree of existing immunodeficiency as determined by her CD4 count, the risk for disease progression as indicated by the level of plasma RNA, history of current or prior ARV therapy, gestational age, and supportive care needs and system.

When all the information is available the following question need to be asked:

Does the pregnant woman need antiretroviral drugs because her immune system is compromised, or does she only need antiretrovirals during pregnancy for MTCT prevention, because her immune system is still “coping”?

The following special considerations needs to be taken into account before starting with ARV:

- First trimester organogenesis;
- Potential for teratogenicity, mutagenicity and carcinogenicity;
- Placental passage; and
- Adverse effects:
 - Anaemia with zidovudine use.
 - Vomiting with all the ARVs.
 - Hyperglycemia with protease inhibitor use

Use optimal ARV for the individual woman in her specific circumstances. Optimal ARV may vary considerably, from triple drug combinations in pregnancy to single nevirapine dosage to the mother and baby. It depends on the human resources and infrastructure available. Guidelines change as new information come to light and infrastructure is strengthened.

Women who are in the first trimester of pregnancy should consider delaying initiation of ARV therapy until after 12 weeks of gestation.

This module gives an overview of what might be available, but the newest guidelines for the clinic/hospital must always be followed.

Drugs contraindicated in pregnancy

- Efavirenz can cause central nervous system congenital abnormality.

Monitoring for side effect of ARVs

- Stavudine for lactic acidosis.
- Didanosine for lactic acidosis.
- Nevirapine for liver toxicity.

10. CLINICAL SCENARIOS WITH ARV USE

Clinical scenarios and recommendations for the use of ARV will be discussed.

- HIV-infected pregnant women must receive standard clinical, immunological, and virological evaluation. Recommendations for initiation and choice of ARV should be based on the same parameters used for persons who are not pregnant.

HIV positive pregnant women who never received ARV previously and in whom the CD4 count is below 200 (eligible for ARV therapy)

- If an ARV treatment site is operational in the pregnant woman's area, refer ASAP to start ARV, but before 34 weeks.
- If no ARV Treatment Site near yet, offer nevirapine to mother and baby. The mother takes a 200mg nevirapine pill when she goes into labour. The nevirapine syrup is administered to the baby by healthcare workers within 72 hours of delivery as early as possible post delivery.
- Modified formula feeding through MTCT programme. – both formula and breastfeeding are offered – exclusivity is emphasised.
- The standard National Treatment regimen will be followed for women attending governmental facilities:
Stavudine, 3TC and nevirapine

HIV positive pregnant women who never received ARV previously and in whom the CD4 count is above 200 and are not eligible for ARV (not stage IV)

Several effective ARV regimens are available.

- New WHO PMTCT Guidelines include Single dose of nevirapine (200mg orally) at the onset of labour followed by a single dose of nevirapine (2mg/kg orally) for the infant within 72 hours of delivery. This is currently offered in the public sector in most provinces. Transmission rate 5-10%.
- Zidovudine in women starting at 28 weeks and intrapartum intravenous zidovudine in women followed by 1 week of zidovudine for the infant *plus* single dose nevirapine.
- Zidovudine in women starting at 28 weeks (or as soon as possible thereafter), to continue in labour and 1 week postpartum followed by 1 week zidovudine *plus* 3TC in infants.
- In future, extended and multiple drug regimens may become the standard of care in the public sector.

HIV-infected women already receiving antiretroviral therapy during the current pregnancy

HIV-infected women receiving ARVs and in whom pregnancy is identified after the first trimester, should continue with the ARV therapy.

Women who are receiving ARV and pregnancy is discovered during the first trimester, should be counselled and continuation should be reviewed. If ARVs are stopped during the first trimester, all drugs must simultaneously be stopped and reintroduced to avoid drug resistance. It is not recommended that ARV be stopped; rather any teratogenic drug should be replaced by a more appropriate drug. In situations where an alternative drug is not available, the woman should be counselled on the possible effects of the drug on the unborn baby, and all options available to her including termination of pregnancy should be discussed.

Note that women who are on efavirenz-containing regimens should be changed to another combination regimen during pregnancy. Efavirenz can be replaced with nevirapine, as long as the woman is not on anti-TB medicine.

Zidovudine should never be added to a combination regimen containing stavudine.

Women with unknown HIV status in labour.

All women should be offered HIV testing already in the antenatal clinic. It should be the exception rather than the rule to counsel and test pregnant women in labour for HIV. It is recommended that counseling and testing can be offered in early labour. Counselling should be deferred until post delivery in women with advanced labour.

Women testing HIV positive should be offered nevirapine followed by single dose nevirapine to the baby.

The woman should also have access to assessment of her CD4 count and HIV-1 RNA copy number (viral load) to determine her health status and whether ARVs are indicated.

Infants born to mothers who have received no ARVs during pregnancy or intrapartum

Single dose Nevirapine should be given to the baby as soon after delivery as possible. Alternatively the six-week neonatal zidovudine component of the prophylaxis regimen can be discussed and offered to the mother of the newborn infant. The regimen should be initiated as soon as possible, but preferable 12-24 hours after birth.

The woman should also have access to assessment of her CD4 count and HIV-1 RNA copy number (viral load) to determine her health status and whether ARV therapy is indicated after delivery.

11. MONITORING OF PREGNANT WOMEN AND NEONATES RECEIVING ANTIRETROVIRALS

Pregnant woman

The monitoring should include CD4 count and HIV viral load levels every 3-6 months. Routine full blood count (FBC) monitoring after one month and thereafter three-monthly and liver functions after one month and then three monthly are recommended for women receiving zidovudine and nevirapine. Women receiving protease inhibitors should be monitored for hyperglycemia.

Neonate

A complete blood count and differential should be done on the infant, as baseline before administration of zidovudine, and repeat measurement after 6 week therapy, and again after 12 weeks. Anaemia is one of the primary complications with the 6-week zidovudine regimen and infant should be carefully monitored.

12. CONTRACEPTION AND ARVs

Contraception has to be discussed even prenatally. All women, in fact has to be given information about contraception. Injectable methods of contraception are preferable. Intrauterine devices carry a higher risk of infection and are not the preferred choice.

13. CO-TRIMOXAZOLE PROPHYLAXIS FOR THE NEONATE

To prevent *Pneumocystis carinii* pneumonia, all infants born to HIV-infected women should receive prophylaxis at 6 weeks of age, after completing zidovudine regimen programme, until their HIV status is determined. The earliest method to detect or exclude HIV is by HIV PCR testing from six weeks on.

14. BREAST FEEDING

For many years health care workers strove to promote breast-feeding. This was however before the reality of the HIV/AIDS pandemic. The additional risk of vertical transmission through breastfeeding is +/- 14%, with a higher risk of transmission with increased duration of, or prolonged exposure, to breast-feeding.

Women should be counselled on infant feeding, choices, risks and benefits to be able to make an informed choice. It is of the ultimate importance that women receive ongoing counselling and support whatever their feeding choice may be.

Women should be advised on breastfeeding according to the UNAIDS guidelines and that of the National Department of Health. *"...in all populations, irrespective of HIV infection rates, breast-feeding should continue to be protected, promoted and supported; counselling for women who are aware of their HIV status should include the best available information on benefits of breast-feeding, on the risk of HIV transmission through breast-feeding, and of the risk and possible advantages associated with other methods of infant feeding; women should be empowered to make fully informed decisions about infant feeding, and they should be suitably supported in carrying them out..."*(Joint statement by UNAIDS, UNICEF, and WHO).

It must be understood that women will ultimately make a choice depending on their personal circumstances, views of family members including elders and partners, fear of stigmatisation, social circumstances, and finances.

In the USA and UK, the use of ARVs during pregnancy, together with formula feeding have decreased the vertical transmission by 66%, and vertical transmission in Africa, where women breast-feed, have decreased transmission by 37%.

HIV-infected women who choose to breastfeed should be advised to do so exclusively, over a period of six months, and should aim at immediate cessation. Should a woman choose to breastfeed, this should be done as safe as possible, with promoting the use of condoms to prevent re-infection, prompt treatment of oral thrush, and stopping breastfeeding if nipples are cracked or bleeding. Women should be advised not to mix feed.

15. FUTURE READING

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