

Mother-to-Child Transmission of HIV/AIDS: Reducing the Risk

The MNH Program is working to reduce the spread of HIV by promoting clinical practices that encourage prevention before, during and after pregnancy and childbirth.

The majority of mother-to-child transmission occurs during pregnancy and childbirth (20% and 40%, respectively); the other 40% occurs through breastfeeding, if breastfeeding continues from birth until 24 months.

Pregnant women who are infected with HIV, the virus that causes AIDS, face an increased risk of poor pregnancy outcomes and the possibility of transmitting the virus to their newborns. As many as 25–35% of HIV-positive pregnant women pass the virus to their newborns during pregnancy or childbirth, or through breastfeeding.

The Maternal and Neonatal Health (MNH) Program supports practices that help prevent HIV in healthy pregnant women and that help pregnant women with HIV stay as healthy as possible. The Program also promotes interventions that help prevent transmission of the virus during pregnancy and childbirth, and after the birth of the newborn.

Risk Factors for Mother-to-Child Transmission

If a woman is infected with HIV, her risk of transmitting the virus is reduced when she stays as healthy as possible. Smoking, substance abuse, vitamin A deficiency, malnutrition and other infections, such as sexually transmitted infections, are all associated with higher rates of mother-to-child transmission of HIV. Certain characteristics of the virus, such as the viral load (the quantity of the HIV virus that is in the blood) and the clinical stage of the HIV infection, also contribute to the chances of transmitting the virus to the newborn. In addition, factors related to labor and childbirth (preterm birth, placental disruption, duration of membrane rupture, whether the birth is a vaginal or cesarean birth) affect the risk that a woman will transmit the virus to her child. Finally, breastfeeding is also considered a risk factor for mother-to-child transmission.

Reducing the Risk of Transmission during Pregnancy

In most HIV-infected women, HIV does not cross the placenta from mother to fetus. As long as the mother stays relatively healthy, the placenta helps protect the fetus from infection. If the mother has other infections that

affect the placenta, if her HIV infection is new, or if she has advanced HIV or malnutrition, the placenta may not be able to protect the fetus from infection.

Focused antenatal care for HIV-infected women should include all of the basic care provided to uninfected women. Unless a complication develops, there is no need to increase the number of antenatal care visits. However, certain focused antenatal care interventions, such as the treatment of sexually transmitted infections or other co-infections (such as malaria, urinary tract infections, tuberculosis or other respiratory infections), special counseling on a healthy diet, and careful attention to prevent vitamin and iron deficiency and weight loss, will help to maintain the HIV-infected woman's overall health.

Healthcare providers should watch for signs and symptoms of AIDS and for pregnancy-related complications of the virus. In addition, to avoid transmission of the virus to the fetus, providers should avoid performing any invasive procedures, such as amniocentesis or external cephalic version.

Voluntary Testing and Counseling

The MNH Program supports voluntary testing and counseling as part of any strategy to reduce the spread of HIV. For pregnant women and new mothers, testing and counseling are vitally important to their own health and to the safety of their newborns. Knowing that she is HIV-positive may enable a woman to seek treatment for HIV and related infections and to prevent the infection of others, including her fetus or newborn. A woman who is HIV-negative may be counseled to take extra precautions to protect herself and her newborn against future infection.

Counseling and testing should be private, voluntary, confidential and sensitive to the cultural norms and

preferences of women. It should cover basic information about HIV and AIDS, including the following:

- How HIV is transmitted and how transmission can be prevented
- Personal risk and barriers to risk reduction
- Development of an individualized risk reduction plan

Antiretroviral Drugs

Antiretroviral drugs help to keep HIV from progressing and may reduce the likelihood of transmission. The MNH Program promotes the use of these drugs where they are available, but recognizes that their availability and accessibility are limited in developing countries. Where they are available, antiretroviral drugs may be recommended for the HIV-positive mother during and after pregnancy and/or during labor, and for the baby at birth or during the first several weeks after birth.

Preventing Infection during Childbirth

If no preventive steps are taken, the risk of mother-to-child transmission during childbirth alone is estimated at 10–20%. The chances of transmission are greatest if the fetus is exposed to HIV-infected blood and fluids. For this reason, providers should avoid performing amniotomies (intentional rupturing of the amniotic sac to induce or augment labor), episiotomies and other procedures that increase the newborn's exposure to the mother's blood. The risk of mother-to-child transmission increases by 2% during each hour after membranes have ruptured.

Providers who assist HIV-positive women during childbirth should also take extra precautions to appropriately disinfect and process all instruments used during childbirth and to clean and disinfect all surfaces potentially exposed to blood and body fluids. In addition, as with any birth, the provider should take care to gently wipe the newborn's face and body and make sure the baby is warm. The baby may also be given antiretrovirals, if they are available.

Cesarean sections performed before labor and/or the rupture of membranes may significantly reduce the risk of mother-to-child transmission of HIV. The MNH Program recognizes the advantages of using cesarean sections to prevent transmission as well as the infeasibility of providing the procedure in developing countries. Cesarean sections are costly and cannot be provided in healthcare settings that do not have surgical facilities. In addition, the surgery may increase the risk of morbidity and mortality for the mother due to infection, blood loss or complications of anesthesia.

HIV and Breastfeeding

About 15% of newborns with HIV-infected mothers will become infected if they are breastfed for 24 months

or more. The risk of transmission depends on whether the mother breastfeeds exclusively, on the duration of breastfeeding, on the mother's breast health, and on the mother's nutritional and immune status, including the viral load. The risk of infection is greater if the mother becomes infected while she is breastfeeding.

Breastfeeding provides a source of warmth and nutrition at no cost, protection against other infections that are common in newborns, safety from diseases contracted from unclean water used to make infant formula, bonding of the mother and infant, and contraception for the mother. Because these benefits are so important to the health of infants through the first 6 months of life, the MNH Program supports the following guidelines for breastfeeding by women with HIV:

- If the woman is HIV-negative or does not know her HIV status, her provider should promote exclusive breastfeeding for 6 months.
- If the woman is HIV-positive and chooses to use replacement feedings, her provider should counsel her on the safe and appropriate use of formula.
- If the woman is HIV-positive and chooses to breastfeed, her provider should promote exclusive breastfeeding for the first 6 months. The woman should also be counseled about the changing risks to the baby over time, the prevention and early treatment of mastitis and oral problems (which may contribute to mother-to-child transmission), weaning plans and when and how to switch to artificial feeding.

All HIV-infected women should be given information and counseled about infant feeding options, and they should be supported in their choice. Counseling should occur during antenatal care so that women do not have to make a rushed decision after birth.

The MNH Program Approach

In its training curriculum for antenatal and postpartum care, the MNH Program trains health workers in clean and safe childbirth and life-saving skills and includes content on counseling, prevention of HIV transmission and mother-to-child transmission. The Program has also reviewed and updated preservice nursing, midwifery and medical curricula for appropriateness in light of HIV and mother-to-child transmission.

In addition to its efforts to strengthen providers' skills in addressing HIV at the clinical level, the MNH Program also works at the policy level to incorporate issues related to HIV and mother-to-child transmission into safe motherhood policies. At the community level, the Program is working to incorporate HIV education in social mobilization and community education programs.

Although breastfeeding increases the risk of HIV transmission, it offers many other life-saving protections and health benefits for newborns.

For more information about the MNH Program visit our website:
www.mnh.jhpiego.org

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