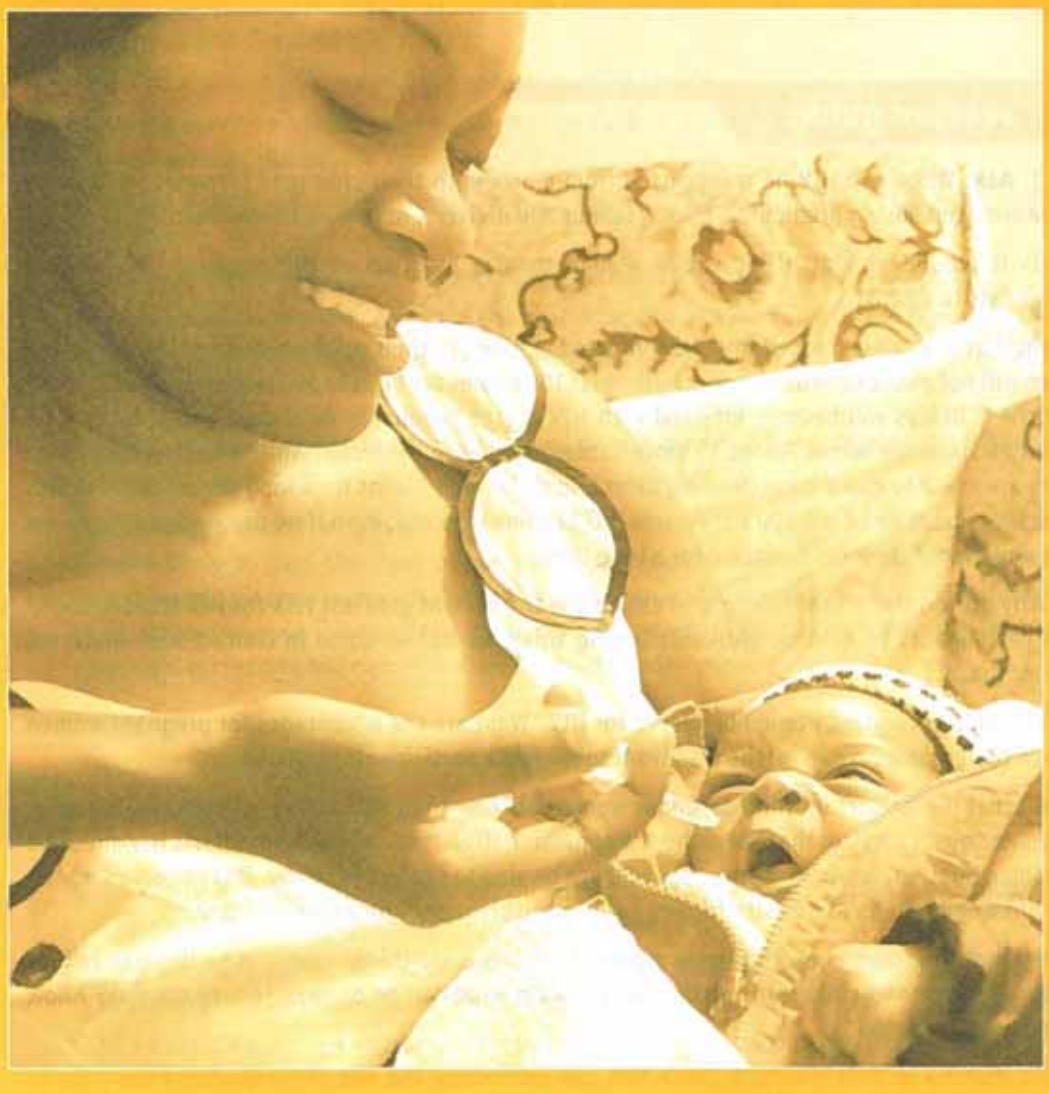
Preventing mother-to-child transmission of HIV



This chapter will focus on preventing mother-to-child transmission (PMTCT). Even if you do not have any pregnant women in your group, this is important information for everyone. PMTCT includes preventing HIV infection among parents-to-be and preventing transmission from HIV-infected women to their infants through medicines, safe delivery practices, and infant feeding counselling and support.

1. Mother-to-child transmission of HIV

Session objectives

By the end of this session, participants will be able to:

- List the ways HIV is transmitted from mothers to children.
- Explain the importance of HIV testing for pregnant women.

Session guide

1. **Ask:** When can HIV be transmitted from mothers to their children? [Answer: HIV can be transmitted during pregnancy, during labour and delivery, or through breastfeeding.]
2. **Ask:** Is it possible for an HIV-positive woman to give birth to an HIV-negative child? Allow participants to discuss.
3. **Explain** that HIV can be passed from HIV-infected mothers to their children, but most HIV-infected women will not pass the virus to their children. If 100 babies are born to 100 women with HIV, about 20 of these babies will become infected with HIV during pregnancy or at the time of birth if no preventive steps are taken. About 15 more babies may become infected while breastfeeding, if no efforts are made to make breastfeeding safer and if she breastfeeds for a long period of time. This means that about 65 of the 100 babies will NOT become infected, even if no preventive actions are taken and even if they are breastfed for a long time.
4. **Ask:** Why do you think that labour and delivery is the time of greatest risk for HIV transmission? Allow participants to discuss. [Answer: During this time babies come in contact with maternal blood or fluids.]
5. **Ask:** Should all pregnant women be tested for HIV? What are the advantages for pregnant women to know their status? What are the disadvantages? Allow participants to discuss.
6. **Explain** that it is important for a pregnant woman to know their HIV status so that they can make choices and go for services that lower the risk of passing HIV to the child if the mother is HIV infected. If a woman does not know her status, she will not be able to protect her baby. It is important for all pregnant women to go to a health facility early in the pregnancy for antenatal care.
7. **Explain** that if women know that they are positive, there are things that can be done to reduce the risk of mother-to-child transmission of HIV. **Ask:** What can be done to reduce the risk? Allow participants to discuss.
8. **Explain** that if a woman is infected with HIV, she can reduce the risk of transmitting the virus to her baby by staying healthy, which includes eating healthy foods and not smoking. Also, going for antenatal care and giving birth in a health facility with a skilled and trained attendant can reduce the risk that a woman will transmit HIV. There are medicines for mothers and babies that can help reduce the risk (we will talk about these more later). Also, avoiding other infections, like sexually transmitted infections (STIs), can also help reduce the risk.

9. **Ask:** If a woman has one child who is HIV positive, does it mean that her other children will also be positive? Allow participants to discuss. [Answer: Having one child who is HIV positive does not mean that her other children would be HIV positive. A pregnant mother can take steps (as discussed above) to reduce HIV transmission.]

10. **Ask:** Can an HIV-positive man have sex with a woman who is HIV negative to be sure to have an HIV-negative baby? Allow participants to discuss. [Answer: During intercourse the man could infect his partner with HIV. If a woman is HIV infected while pregnant or breastfeeding, it is possible for her to transmit HIV to the baby.]

11. **Ask:** How can men support women who are HIV-positive and pregnant? Allow participants to discuss.

12. **Explain** that husbands and partners can help their partners stay healthy and reduce the risk of HIV transmission to the child by:
    - Going for voluntary counselling and testing (VCT) together.
    - Making sure the woman goes to the health facility for antenatal care and early treatment of infections and illness.
    - Talking with a counsellor about how to feed the baby and making an informed decision together.
    - Using condoms during sexual intercourse to prevent infection or re-infection.
    - Making sure the woman delivers in the health facility or with a skilled and trained attendant.
    - Encouraging the woman to eat healthy meals and extra food during pregnancy and breastfeeding.

13. **Ask:** If a pregnant woman is already positive, does it matter if she is exposed to HIV again? Allow participants to discuss.

14. **Explain** that a woman who is infected or re-infected with HIV during pregnancy or breastfeeding is more likely to pass the virus to her child. Unprotected sexual intercourse while pregnant or breastfeeding places a woman at risk of HIV infection, and increases the risk of HIV infection to her child. When someone is newly infected or re-infected with HIV, the amount of HIV in her blood is very high, increasing the risk of mother-to-child transmission.

Main messages

- HIV-infected women can transmit HIV to their baby either during pregnancy, labour and delivery, or through breastfeeding, but most will not.
- All pregnant women should be tested for HIV so they can know their status and if HIV positive, lower their risk of transmitting the virus to their baby.
- HIV-infected pregnant women can reduce the risk of transmitting the virus to the baby by eating healthy; avoiding alcohol, drugs and smoking; delivering at a health facility with a trained health care worker; avoiding STIs or re-infection with HIV, and seeking advice from health workers about receiving drugs during pregnancy to reduce transmission.
- Husbands and partners can support their partners and help reduce the chance of transmission by going for HIV testing together, encouraging their partners to go for antenatal care (ANC), using condoms, ensuring delivery at a health facility, and encouraging their partners to eat healthy meals and extra food.

Activity: Figureheads

1. **Before the session**, select someone with good role-playing skills to play the role of the Dilemma Holder. Share the following story and ask him or her to memorize it. When called upon, he or she should tell the story realistically before the group, using "I" and his or her own words, but not adding any other details.

   I am a pregnant woman and I fear that I may be HIV positive. I am afraid to go for antenatal care because I do not want to be tested for HIV. I think it will be better to try to eat healthy foods during my pregnancy and get some rest so I can stay healthy. I plan to deliver my baby at home. I am worried that my husband will throw me and the baby out if I test positive. I have heard that there are services for HIV-positive pregnant women, but am so worried about my husband's reaction, I do not want to go for ANC.

2. **Ask:** What do you understand by the word figurehead. After a few have spoken, explain that in this session, the term figurehead refers to a person in the community or family who has authority or influence. For example, a doctor is a figurehead who is believed to be sensitive; caring; skilled in diagnosis, prescribing, and healing; and committed to delivering health care to all in need without discrimination.

3. **Ask:** Who are examples of figureheads in your community. Accept the names without judgment. [Examples: elder, policeman, teacher, headman, witch doctor, nurse, father, mother, and priest.]

4. **Ask** for volunteers to play the role of each figurehead. Ask the figurehead volunteers to sit in a line in front of the other participants.

5. **Ask** the Dilemma Holder (who was briefed earlier) to come forward. **Explain** to participants that they are about to hear from a person who has a dilemma and needs help to make a difficult choice. Let the Dilemma Holder tell the story to the group. Then summarize the story, making sure to add any details that were not mentioned.

6. **Ask:** Can someone explain the problem she is facing? Repeat the problem clearly in your own words, making sure that everyone has understood.

7. **Ask** the Dilemma Holder to choose one of the figureheads (who will be the Key Figurehead) whom he or she feels could suggest a solution for the dilemma. Ask the Key Figurehead to advise the Dilemma Holder on what he or she should do, speaking from his or her role as a figurehead.

8. Once the Key Figurehead has finished, **ask** each of the other figureheads the following questions:
   - Do you agree with the advice the Key Figurehead gave?
   - If not, what would be your advice to the Dilemma Holder?
   - If yes, can you improve upon the advice?

   Allow each figurehead to speak and offer advice to the Dilemma Holder. In each case, urge them to improve upon the advice that other figureheads have given.

9. Once all the figureheads have presented their advice to the Dilemma Holder, **summarize** what each figurehead said, focusing more on what was said than which figurehead said it. Then **ask** the following questions to the participants:
   - Did the advice given by the figureheads address the Dilemma Holder's problem?
   - Which advice do you think was the best?
   - Do you think any of these would be a practical solution for a person in real life?
   - Could you improve upon the advice that was given by the figureheads?

2. Transmission during pregnancy, labour, and delivery

Session objectives

By the end of this session, participants will be able to:

- List situations that increase the risk of mother-to-child transmission during pregnancy, labour and delivery.
- List ways to reduce the risk of mother-to-child transmission during pregnancy, labour and delivery.
- Explain what nevirapine is.
- Describe how and when nevirapine is given to mothers and children.

Session guide

1. **Ask:** What increases the risk of HIV transmission during pregnancy? Allow participants to discuss.

2. **Explain** that normally, the mother and the foetus (foetus is the medical word for a baby before it is born) do not share the same blood. The placenta allows food and other helpful substances to pass from the pregnant woman to the foetus, and blocks most germs and toxins. As long as the pregnant woman stays healthy, the placenta helps protect the foetus from infection. If the pregnant woman has other infections or illnesses, if her HIV infection is new, if she has HIV and is sick, or if she is not eating enough, the placenta may not be able to protect the foetus from HIV. Infections like STIs and malaria may keep the placenta from working properly, making it easier for HIV to pass to the foetus.

   The risk of transmission of HIV during pregnancy is higher if pregnant women have:
   - Late-stage HIV or AIDS, in other words, if they are very sick
   - A weak immune system
   - Just been infected or re-infected with HIV
   - STIs (like syphilis)
   - Malaria
   - Malnutrition

3. **Ask:** What can be done to reduce the risk of transmission during pregnancy? Participants should list the following, if not mention them:
   - Go for HIV testing.
   - Go to the health facility for antenatal care.
   - Take all medications prescribed by a doctor.
   - Use condoms to prevent new infection and re-infection.
   - Get treated for STIs, malaria and other infections as early as possible.
   - Plan how to feed their baby.
   - Eat enough healthy foods.

4. **Ask:** Is there medicine that can help prevent mother-to-child transmission? Has anyone heard of nevirapine? What is it? How is it used? Allow participants to discuss.

5. **Share** the following information about nevirapine and ARVs.

   Nevirapine is an anti-retroviral drug or ARV for short. ARVs are medicines that attack HIV and keep it from spreading in the body. ARVs help the immune system get strong so it can fight infections and illness. ARVs are not a cure for HIV. ARVs to prevent mother-to-child transmission are taken by the mother before the baby is born and given to the baby when it is born.

   Nevirapine is one kind of ARV that can reduce the risk of mother-to-child transmission of HIV. Nevirapine has been shown to reduce the risk of mother-to-child transmission during labour and delivery by half. Nevirapine is given once to the pregnant woman at the start of labour and then given once to the baby as soon as it is born and always within 72 hours of birth.

   During an antenatal visit, an HIV-positive pregnant woman should be given a nevirapine tablet for herself and a syringe with nevirapine syrup (without a needle) for the baby. She should keep it with her at all times in case she goes into labour early. She should come to the facility to deliver her baby and bring back the medicine so a health worker can help her take it. If she does not have the medicine with her when she goes to deliver at the facility, she should remind the staff that she needs it. If she does not deliver at a facility, she should take her nevirapine tablet when labour begins and put the nevirapine syrup in the baby's mouth as soon as possible after birth, but always within 72 hours of birth.

   Nevirapine is not the only medicine given to prevent transmission. Doctors may also recommend a combination of a number of different medicines for mother and baby. Whichever treatment a doctor recommends, it is important for pregnant women to follow the directions carefully.

6. **Ask:** What can HIV-positive mothers do to reduce the risk of HIV transmission to their child during labour and delivery? Allow participants to discuss, they should mention the following.
   - Deliver at a health facility so skilled staff can help reduce the risk of transmission.
   - Take medicine during labour and give medicine to the baby as soon as possible after birth and always within 72 hours of birth.

Main messages

The risk of transmission of HIV during pregnancy is higher if pregnant women have:

- Late-stage HIV or AIDS, in other words, if they are very sick
- A weak immune system
- Just been infected or re-infected with HIV
- STIs (like syphilis)
- Malaria
- Malnutrition

To reduce the risk of mother-to-child transmission of HIV, women can:

- Be tested for HIV early in pregnancy.
- Go for antenatal care during pregnancy.
- Get immediate treatment for illnesses and infections, including STIs.

- Give birth in a health facility.
- Use condoms to prevent infection and re-infection especially during pregnancy and while breastfeeding.

Nevirapine is a drug that can help reduce mother-to-child transmission of HIV. It is given to both the mother and child. Pregnant women should visit a health centre to get the medicine and learn how to use it.

Activity: Role play

1. Ask everyone to pick a partner. One person should pretend to be a newly pregnant mother who is HIV positive. The other person is a relative, friend, or neighbour, who is providing advice to the mother. Practice what advice you would give and how you could persuade the pregnant mother to seek assistance at a health facility.

2. After the role play, ask participants the following questions:
   - Do they agree with what the characters decided to do?
   - Would they have done anything differently?
   - Is what happened similar to what would happen in real life?
   - How will the decisions the actors made influence their lives?
3. With the same partners, ask participants to role play a different scenario, the person who was the friend, neighbour, or relative last time should be the husband of a pregnant woman who is HIV positive. The other person is his brother, relative, or neighbour and is talking with him about how to care for and support his wife during pregnancy, especially regarding issues of HIV transmission.

3. Transmission through breastfeeding

Session objectives

By the end of this session participants will be able to:

- List situations that make the risk of mother-to-child transmission higher during breastfeeding.
- Give infant feeding advice to a mother who is HIV positive.
- Explain why giving other foods and liquids in addition to breastmilk to children of HIV-infected mothers increases the risk of HIV infection.

Session guide

1. **Ask**: What is the best food for a newborn baby? Why? Allow participants to discuss. [Answer: Breastmilk is the best food for the first six months of life. It has all the energy, nutrients, and water that a baby needs. Breastfeeding should be exclusive, which means that no other water or food should be given.]
2. **Ask**: Knowing that breastmilk is the best food for babies and that it can also transmit HIV if a mother is infected, what advice would you give to an HIV-positive mother about feeding her baby? Allow participants to discuss. Ask participants to explain why they would give that advice. Allow several participants to share their advice.
3. **Explain** that research shows that exclusive breastfeeding for the first 6 months is the best option for most HIV-positive mothers with little money and actually reduces the risk of HIV transmission. Exclusive breastfeeding means only giving the baby breastmilk and not giving any water, liquids, foods, or herbs for the first 6 months of life. Giving water, other liquids and foods while breastfeeding can increase the risk of HIV transmission during the first 6 months.
4. **Ask**: What situations make the risk of mother-to-child transmission higher during breastfeeding?

   Participants should mention the following:
   - Mother breastfeeds and gives other foods and liquids at the same time during the first six months, this is called mixed feeding and is very dangerous.
   - Mother has breast infections or sores.
   - Mother is infected or re-infected with HIV while breastfeeding.
   - Mother breastfeeds for a long time.
   - Baby has mouth sores.
5. **Ask**: What can a woman do to reduce the risk of HIV transmission to her child through breastfeeding? Participants should mention the following:
   - Only give breastmilk for the first six months. This means no other water or food.
   - Do not feed the baby from a nipple that is cracked or bleeding, express milk from this nipple and throw it away until that breast has healed.
   - Position the baby correctly to avoid cracked nipples.
   - Abstain from sexual intercourse or use condoms to avoid re-infection.

6. **Ask**: Do you know of women who give only breastmilk? How could we support women to give only breastmilk?
7. **Ask**: When would you advise an HIV-positive woman to give formula? Allow participants to discuss.
8. **Explain** that infant formula is only an option for women who can answer yes to the following questions:
   - Will you feel comfortable never breastfeeding? Will your family and friends support your decision to never breastfeed?
   - Will you or your family have several hours per day to correctly prepare formula to feed your baby up to 12 times in 24 hours?
   - Do you know how to prepare formula for your baby?
   - Can you afford to buy formula, fuel, and clean water to feed your baby without harming the health and nutrition of your family for at least 1 year? The cost of formula alone is between Ksh 625/= and Ksh 1,000/= a week depending on the age of the child. Water and cooking fuel costs are additional.
   - Can you be sure to always have the supplies and all ingredients needed for safe replacement feeding until your baby is one year of age or older?
   - Can you prepare, use, and store replacement foods and utensils in a clean and safe way? Please describe how you will do this.
   - Do you have access to clean water?
   - Are you able to always wash your hands and utensils with soap and regularly boil the utensils to sterilize them?
   - Can you bring water to a strong boil for at least 2 minutes to make each of the baby's feeds?
   - Do you have easy access to reliable health services? Can you afford those services?

If a woman is able to answer yes to all of those questions and starts to give formula, she should stop breastfeeding completely.

9. **Ask:** Do you think there are women in our community who could answer yes to the 10 questions above? Explain that most women are not able to answer yes to all 10 questions and for that reason exclusively breastfeeding for the first six months is the best option for most women in our community.
10. **Ask** for three volunteers to role play the following situations in front of the group (ask one to be the husband, one to be the wife, and one to be the mother-in-law).

    A husband and wife are both HIV positive, but they have chosen to keep their status private. They have a 3-month-old baby boy. The wife delivered in a facility and she took nevirapine during labour and the baby received his dose when it was born. She has been exclusively breastfeeding since the baby was born. Now that the baby is 3-months-old, the mother-in-law says that it is time to feed him uji (porridge) and that breastmilk alone is not enough and he is hungry. The role play should begin with the mother-in-law talking about making uji for the baby.
11. After the role play, **ask** participants the following questions:
    - Do they agree with what the characters decided to do?
    - Would they have done anything differently?
    - Is what happened similar to what would happen in real life?
    - How will the decisions the actors made influence their lives?
12. **Ask** for another set of volunteers to act out the same situation.
13. After they have finished, **facilitate** a discussion about this role play using the questions above and comparing it to the one before.

14. **Summarize** the role plays and ask participants to talk about how it relates to issues in our own community.

15. **Ask**: Do women who are breastfeeding need to use condoms? Allow participants to discuss.

16. **Explain** that if a woman becomes infected or re-infected with HIV while breastfeeding it significantly increases the risk of HIV transmission to the baby.

17. **Ask**: How could a woman talk with her partner about using condoms when breastfeeding? Allow participants to discuss.

Main messages

- Exclusively breastfeeding means giving only breastmilk, no other foods, liquids, or water for the first six months.
- Exclusive breastfeeding for the first six months is the best feeding option for most HIV-positive mothers in our community.
- Giving other foods and liquids while breastfeeding increases the risk of HIV transmission to the baby.
- Becoming infected or re-infected with HIV while breastfeeding increases the risk of HIV transmission to the baby.

4. Feeding children of HIV-positive mothers at 6 months of age

Session objectives

By the end of this session, participants will be able to :

- Explain when children of HIV-positive mothers should begin to eat solid foods.
- Give advice to a woman who is HIV-positive on how to feed her 6-month-old baby.
- List special considerations for a baby born to a mother with HIV.

Session guide

1. **Ask:** At what age should babies start to eat solid foods? Allow participants to discuss

2. **Explain** that at 6 months all babies need to begin to eat soft foods while continuing to breastfeed. Even though many babies start eating foods before six months in our community, it is important to remember that breastmilk provides all the food and nutrients a baby needs up until 6 months.

3. **Ask**: Is this the same for babies born to mothers who are HIV positive? Allow participants to discuss.

4. **Explain** that at 6 months an HIV-positive mother should talk with a health worker about the best way for her to feed her baby. At this time, stopping breastfeeding may become less difficult for the mother, less likely to cause disapproval or stigma, and less expensive than at an earlier age. At 6 months, a baby can begin to drink animal milk with nothing added and needs to start eating soft foods.

   For some HIV-positive mothers, 6 months is a good time to stop breastfeeding. For others, it may be better to continue breastfeeding when starting to give soft foods. The right time to stop breastfeeding must always be a mother's choice and is best made by talking with a health worker. A mother should not stop breastfeeding at 6 months if her baby is HIV positive, seriously ill, or malnourished.

5. **Ask**: What are the first foods that babies should eat? At 6 months, babies should be given soft foods in small amounts as often as possible. Mothers can start by giving small amounts of a new soft or mashed food twice each day. With time, give more and different soft and mashed foods. First foods should be soft or mashed but not be too thin. They should be thick enough to stay on the spoon. In addition to staple foods like porridge (uji), babies need to eat beans, meat, or eggs every day. Vegetables (like sukuma wiki and pumpkin) and fruits have important vitamins for babies and should be given often. At the age of 2 years, the baby should be eating everything that is cooked in the home.

6. **Ask**: What advice would you give to a woman who is HIV-positive on how to feed her 6-month-old baby? What questions would you ask her? Allow participants to discuss.

7. **Ask**: Should there be any special considerations for a baby born to a mother with HIV? Allow participants to discuss.

8. **Explain** that children of HIV-positive women must receive early treatment for illnesses and careful growth monitoring to make sure they are healthy. Mothers and caregivers can:
   - Be sure the baby receives nevirapine immediately after birth.
   - Bring the baby for follow-up visits.

- Make sure the baby receives all immunizations by one year.
- Bring the baby to the health facility if the baby has a fever, diarrhoea, chronic cough, malaria, hookworm, or other parasitic infections.

Also, HIV-infected children are at a high risk of getting sick and being underweight. It is important that the following problems receive medical attention:

- Not eating enough (poor appetite, eating very little, or only liking certain foods).
- Stomach pain.
- Feeding difficulties (poor sucking, swallowing, or breathing).
- Nausea, vomiting, diarrhoea.
- Weight loss.

9. **Ask**: At what age can a baby be tested for HIV? [Answer: 18 months] **Ask**: Why shouldn't babies be tested before that?

10. **Explain** that a newborn baby from an HIV-infected mother will always have the mother's HIV antibodies, even if the baby is not HIV infected. The mother's HIV antibodies will stay in the baby's blood for about 15 months and then disappear as the child's immune system begins making its own antibodies. If the child is not infected with HIV, then its blood will stop having HIV antibodies after this time and it will no longer test positive.

Main messages

- At 6 months, HIV-positive mothers should talk with a health worker about how best to feed their baby.
- Babies born to HIV-positive mothers should receive nevirapine immediately after birth.
- All babies, especially those born to HIV-positive mothers, should receive all immunizations by the time they are one year.
- Babies born to HIV-positive mothers should be brought to the health facility immediately if they have a fever, diarrhoea, cough, malaria, hookworm, or other illness. It is important they receive prompt treatment.

Background notes

HIV can be passed from HIV-infected mothers to their children, but most children of HIV-infected women will not become infected. HIV can be passed from mothers to their children: during pregnancy, during labour and delivery, or through breastfeeding.

Not all babies born to women with HIV will become infected with HIV. If 100 babies are born to 100 women with HIV, about 20 of these babies will become infected with HIV during pregnancy or at the time of birth if no preventive steps are taken. About 15 more babies may become infected while breastfeeding, if no efforts are made to make breastfeeding safer and if she breastfeeds for a long period of time. This means that about 65 of the 100 babies will NOT become infected, even if no preventive actions are taken and even if they are breastfed for a long time.

If a woman is infected with HIV, she can reduce the risk of transmitting the virus to her baby by staying healthy. Also, giving birth in a health facility with a skilled and trained attendant can reduce the risk that a woman will transmit HIV to her child because the skilled attendant can take steps to reduce the chance of transmission, including giving the mother and baby medicines. Smoking, not eating well, and having other infections like sexually transmitted infections (STIs) can all increase the risk of mother-to-child transmission of HIV. The risk of HIV transmission is also greater if the pregnant woman is very sick or has a high viral load. The viral load is the amount of HIV in the blood.

Testing for HIV

It is important for a pregnant woman to know her HIV status so that she can make choices and go for services that lower the risk of passing HIV to her child if she is positive. It is also important for her to go to a health facility early in her pregnancy for antenatal care. If a woman does not know her status, she will not be able to protect her baby.

If a woman is not infected with HIV, she cannot pass the virus to her child

HIV is passed from mothers to children. If the father is infected with HIV and the mother is not, the baby will not be born with HIV. However, if a woman is pregnant, it means she did not have protected sexual intercourse and could have been infected with HIV. If a woman stays HIV negative during her pregnancy and breastfeeding there is no risk to the baby, even if the father is HIV positive.

Avoiding new infection or re-infection

A woman who is infected or re-infected with HIV during pregnancy or breastfeeding is more likely to pass the virus to her child. Unprotected sexual intercourse while pregnant or breastfeeding places a woman at risk of HIV infection, and increases the risk of HIV infection to her child. When someone is newly infected or re-infected with HIV, the amount of HIV in her blood is very high, increasing the risk of mother-to-child transmission.

Pregnant and breastfeeding women can protect themselves from becoming infected or re-infected with HIV by:

- Abstaining from sex.
- Having sex with only one partner who has tested negative for HIV and remains faithful.
- Using condoms correctly and consistently every time they have sex.

Pregnant women who are HIV positive need support. Husbands and partners have an important role to play. They can help their partners stay healthy and reduce the risk of HIV transmission to the child by:

- Going for voluntary counselling and testing (VCT) together.
- Making sure the woman goes to the health facility for antenatal care and early treatment of infections and illness.
- Talking with a counsellor about how to feed the baby and making an informed decision together.

- Using condoms during sexual intercourse to prevent infection or re-infection.
- Making sure the woman delivers in the health facility or with a skilled and trained attendant.
- Encouraging the woman to eat healthy meals and extra food during pregnancy and breastfeeding.

Transmission during pregnancy

HIV can be passed from a woman to her foetus during pregnancy. Foetus is the technical word used for a baby before it is born. During pregnancy, the mother and the foetus do not share the same blood supply, but sometimes HIV in the mother's blood can cross the placenta and infect the foetus.

Normally, the placenta protects the foetus. The placenta allows food and other helpful substances to pass from the pregnant woman to the foetus, and blocks most germs and toxins. As long as the pregnant woman stays healthy, the placenta helps protect the foetus from infection. If the pregnant woman has other infections or illnesses, if her HIV infection is new, if she has HIV and is sick, or if she is not eating enough, the placenta may not be able to protect the foetus from HIV.

The risk of transmission of HIV during pregnancy is higher if pregnant women have:

- High amounts of HIV in their blood (called a high viral load)
- Late-stage HIV or AIDS, in other words, if they are very sick
- Low CD4 count (CD4 cells help to fight AIDS, so we want to have lots of them)
- A weak immune system
- Just been infected or re-infected with HIV
- STIs (like syphilis)
- Malaria
- Malnutrition

Infections like STIs and malaria may keep the placenta from working properly, making it easier for HIV to pass to the foetus.

To lower the chance of HIV transmission during pregnancy, women can:

- Go for voluntary counselling and testing (VCT) so they know their HIV status and can make the best decisions for themselves and their babies.
- Go to the health facility for antenatal care. HIV counselling and testing is part of pregnancy care.
- Take medications as prescribed by a doctor or health worker (including ARVs).
- Use condoms to prevent new infection and re-infection.
- Get treated for STIs, malaria and other infections as early as possible.
- Discuss and plan how to feed their baby with a health worker.
- Eat enough healthy foods.

Transmission during labour and delivery

The risk of transmitting HIV during delivery is higher when:

- Women do not deliver in a facility.
- Women deliver in unclean conditions.
- Women are in labour for a long time.
- A lot of time passes between when the woman's water breaks and the baby is born.
- Membranes are ruptured early.
- There is bleeding during delivery.
- Contaminated instruments are used.
- The baby is premature.

To lower the chance of HIV transmission during delivery, women can:

- Deliver at a health facility so skilled staff can help reduce the risk of transmission.
- Take nevirapine during labour and give nevirapine to the baby as soon as possible after birth and always within 72 hours of birth.

What are ARVs?

ARVs (or anti-retroviral drugs) are medicines that attack HIV and keep it from spreading in the body. ARVs help the immune system get strong so it can fight infections and illness. ARVs are not cures for HIV. There are different ARVs that are used to reduce the risk of mother-to-child transmission. Pregnant women should follow their doctors' recommendations about which ARV treatment is best for them. ARVs for preventing mother-to-child transmission are taken by the mother before the baby is born and given to the baby when he or she is born.

Nevirapine is one kind of ARV for PMTCT. Nevirapine has been shown to reduce the risk of mother-to-child transmission during labour and delivery by half. Nevirapine is given once to the pregnant woman at the start of labour and then given once to the baby as soon as it is born and always within 72 hours of birth.

During an antenatal visit, an HIV-positive pregnant woman should be given a nevirapine tablet for herself and a syringe with nevirapine syrup (without a needle) for the baby. She should keep it with her at all times in case she goes into labour early. She should come to the facility to deliver her baby and bring back the medicine so a health worker can help her take it. If she does not have the medicine with her when she goes to deliver at the facility, she should remind the staff that she needs it. If she does not deliver at a facility, she should take her nevirapine tablet when labour begins and put the nevirapine syrup in the baby's mouth as soon as possible after birth, but always within 72 hours of birth.

Nevirapine is not the only medicine given for PMTCT. Another PMTCT treatment is when a doctor prescribes one or two ARV medicines for the mother, and one or two for the baby. Doctors may also recommend a combination of a number of different medicines for mother and baby. Whichever treatment a doctor recommends, it is important for pregnant women to follow the directions carefully.

HIV and breastfeeding

HIV can be passed from an HIV-infected mother to her child through breastfeeding. However, research shows that exclusive breastfeeding for the first 6 months is the best option for most HIV-positive mothers with limited resources and actually reduces the risk of HIV transmission. Exclusive breastfeeding means not giving any water, liquids, foods, or herbs for the first 6 months of life. Giving water, other liquids and foods while breastfeeding can increase the risk of HIV transmission during the first 6 months.

The risk of HIV transmission through breastfeeding is higher if a:

- Mother breastfeeds and gives other foods and liquids at the same time during the first six months, which is called mixed feeding.
- Mother has breast infections or sores.
- Mother is infected or re-infected with HIV while breastfeeding.
- Mother breastfeeds for a long time.
- Baby has mouth sores.
- Mother has a high viral load (the amount of HIV in her blood) or low CD4 count.

Encourage HIV-positive women to talk with a health worker to choose the best way to feed their baby. Health workers will help women decide what is best for their baby. Infant feeding options during the first six months of life include:

- Giving only **breastmilk** for the first 6 months. This is called exclusive breastfeeding, which means giving only breastmilk and no other water, liquids, or food. This is the best option for most women in our community.

- Giving only breastmilk until formula is affordable and safe.
- Giving **formula and not breastfeeding**, but only if it can be prepared properly, stored safely, is always available, and is affordable for the family.
- Having an HIV-negative woman exclusively breastfeed the baby **(wet nursing)**.
- Giving only breastmilk by expressing and **heating breastmilk** until it boils.

Below are questions for a mother who is thinking about not breastfeeding. A mother should answer yes to ALL of the questions; if she cannot, exclusive breastfeeding is her best option. If after answering the questions she still feels like replacement feeding is her best option, she should talk with a health worker to help her make a decision and learn how to safely prepare formula.

- Will you feel comfortable never breastfeeding? Will your family and friends support your decision to never breastfeed?
- Will you or your family have several hours per day to correctly prepare formula to feed your baby up to 12 times in 24 hours?
- Do you know how to prepare formula for your baby? Please describe how to do this.
- Can you afford to buy formula, fuel, and clean water to feed your baby without harming the health and nutrition of your family for at least 1 year? The cost of formula alone is between Ksh 625/= and Ksh 1,000/= a week depending on the age of the child. Water and cooking fuel costs are additional.
- Can you be sure to always have the supplies and all ingredients needed for safe replacement feeding until your baby is one year of age or older?
- Can you prepare, use, and store replacement foods and utensils in a clean and safe way? Please describe how you will do this.
- Do you have access to clean water?
- Are you able to always wash your hands and utensils with soap and regularly boil the utensils to sterilize them?
- Can you bring water to a strong boil for at least 2 minutes to make each of the baby's feeds?
- Do you have easy access to reliable health services? Can you afford those services?

Also, if a baby is HIV positive, very ill, or malnourished, then breastfeeding is the best choice. Babies who are not breastfed are much more likely to get sick with respiratory infections and diarrhoea, and when they do, the illnesses are much more dangerous than in breastfed babies. Unlike non-breastfed babies, breastfed babies can usually recover from diarrhoea without medical attention.

Infant feeding terms

Complementary feeding Child receives both breastmilk and soft foods ***after*** 6 months.

Exclusive breastfeeding Feeding an infant only breastmilk and no other liquids or solids, not even water. Medicines or vitamins can be given.

Heated breastmilk Mother expresses her breastmilk, brings it to boil, cools it, and serves it to her infant within one hour.

Mixed feeding Giving an infant both breastmilk and other foods or liquids during the first 6 months. This is not recommended before 6 months because food other than breastmilk can damage the baby's intestines, allowing HIV to pass through.

Replacement feeding Breastmilk is "replaced" by other foods. A child who is not receiving any breastmilk receives other liquids and foods that provide all the nutrients infants need until they are old enough to eat family foods. Examples of replacement foods are formula and animal milk.

Wet nursing Breastfeeding an infant by a HIV-negative woman who is not the infant's mother.

Infant feeding options for:

Mothers who are HIV negative or do not know their status

Encourage mothers who are HIV negative or do not know their status to:

- Start breastfeeding soon after birth (within the first 30 minutes).
- Exclusively breastfeed (giving no other water, liquids, or foods) for the first 6 months.
- Breastfeed whenever the baby wants, day and night.
- Continue breastfeeding during and after illness.
- Give first foods at 6 months and continuing breastfeeding until two years of age.
- Practice safe sex or abstinence to avoid HIV infection while still breastfeeding.

Breastmilk is the best food for babies. Most pregnant women are not infected with HIV, and most pregnant women who are HIV infected will not pass the virus to their children. Exclusive breastfeeding for the first 6 months is the best option for women who are HIV negative or do not know their status. Encourage mothers who do not know their status to be tested for HIV.

Mothers who are HIV positive

Option 1: Giving only breastmilk from birth until baby is 6 months old

Giving only breastmilk for the first 6 months will be the best feeding option for most HIV-positive women in Kenya.

Mothers who are HIV positive who choose to breastfeed can do the following to reduce the risk of passing HIV to their baby:

- Give babies only breastmilk, do not give water, other liquids, or food.
- Be sure the baby is properly attached at the breast to avoid sore and infected breasts. Breast problems can increase the risk of passing HIV to babies.
- Get treatment for breast problems and infections immediately.
- Express their breastmilk and either throw it away or heat it before feeding if they have breast infections or sores. If one breast is not infected, they can breastfeed from the healthy breast while treating the infected one.
- See a doctor or health worker immediately if the mother or baby falls ill.
- Practice safe sex or abstinence to avoid re-infection with HIV.
- Mothers who are very sick with AIDS should consider stopping breastfeeding, as the risk of HIV transmission becomes much higher.
- Mothers should check the baby's mouth for sores and get them treated immediately. Sores in the baby's mouth make it easier for HIV to enter the baby's body.

Infants who are fed breastmilk and other foods or liquids (mixed feeding) during the first 6 months have a higher risk of HIV infection. Mixed feeding is thought to damage the baby's intestines and may allow HIV to infect the baby. **HIV-positive mothers should never mix feed during the first 6 months.**

Option 2: Replacement feeding for the first 6 months

Replacement feeding means a child does not receive any breastmilk and instead receives other liquids and foods that provide all the nutrients they need until they are old enough to eat family foods. Formula is a replacement food. A mother or caregiver should never use sweetened condensed milk, skimmed milk, fruit juices, sugar water, or watery porridges for replacement feeding. These foods do not provide enough nutrition.

For most HIV-positive women with limited resources, replacement feeding is not a safe and affordable option compared to exclusive breastfeeding for the first 6 months. Replacement feeding is associated with higher

rates of illness and death in babies, because they do not get the health benefits of breastfeeding. Families should think about the risks of illness from replacement feeding compared to the risk of HIV transmission through breastfeeding and talk with a health worker to make a decision.

Below are questions for a mother who is thinking about not breastfeeding. A mother must answer yes to ALL of the questions; if she cannot, exclusive breastfeeding is her best option. If after answering the questions she still feels like replacement feeding is her best option, she should talk with a health worker to help her make a decision and learn how to safely prepare formula.

- Will you feel comfortable never breastfeeding? Will your family and friends support your decision to never breastfeed?
- Will you or your family have several hours per day to correctly prepare formula to feed your baby up to 12 times in 24 hours?
- Do you know how to prepare formula for your baby? Please describe how to do this.
- Can you afford to buy formula, fuel, and clean water to feed your baby without harming the health and nutrition of your family for at least 1 year? The cost of formula alone is between Ksh 625/= and Ksh 1,000/= a week depending on the age of the child. Water and cooking fuel costs are additional.
- Can you be sure to always have the supplies and all ingredients needed for safe replacement feeding until your baby is one year of age or older?
- Can you prepare, use, and store replacement foods and utensils in a clean and safe way? Please describe how you will do this.
- Do you have access to clean water?
- Are you able to always wash your hands and utensils with soap and regularly boil the utensils to sterilize them?
- Can you bring water to a strong boil for at least 2 minutes to make each of the baby's feeds?
- Do you have easy access to reliable health services? Can you afford those services?

Also, if a baby is HIV positive, very ill, or malnourished, then breastfeeding is the best choice. Babies who are not breastfed are much more likely to get sick with respiratory infections and diarrhoea, and when they do, the illnesses are much more dangerous than in breastfed babies. Unlike non-breastfed babies, breastfed babies can usually recover from diarrhoea without medical attention.

Remember

- Replacement feeding should always be done with a cup. Bottles are not safe because they are difficult to wash properly.
- Mothers should have training from a health worker about how to prepare formula.
- Formula instructions must be followed carefully, taking care not to add too much water.
- Replacement feeding is not recommended for babies who are HIV positive, very ill, or malnourished.

Option 3: Expressing and heating breastmilk

Expressing and heating breastmilk allows the baby to get breastmilk without the risk of getting HIV. Heating breastmilk destroys HIV. Heated breastmilk is better for babies than formula, but it does not protect babies from illness and infection as well as breastfeeding. Although some mothers may choose to express and heat breastmilk, they need time, resources, and support to do it. Expressed and heated breastmilk should be fed to the baby by cup.

Steps for heating breastmilk:

1. Express breastmilk into a clean container.
2. Bring breastmilk to a boil then remove it from the heat.
3. Cool breastmilk in a cup standing in cold water.

4. When the breastmilk is cool, feed it to the baby within one hour using a cup. Never use a bottle.
5. Unused breastmilk should be thrown away and not kept for the next feed.

Breastfeeding mothers whose breasts are cracked, bleeding, or infected can express and heat their breastmilk while treating their breast condition.

Option 4: Wet nursing

Wet nursing means breastfeeding by a woman who is not the baby's mother. The wet nurse must have tested negative for HIV and agree to practice safe sex so she remains HIV negative while she breastfeeds the baby.

There is a very small chance that an HIV-infected baby can pass HIV to a wet nurse if the baby has a sore in her or his mouth or the wet nurse has a breast condition. The wet nurse needs breastfeeding support to prevent and treat breasts that are cracked, bleeding, or infected.

Table 1. Feeding options for women who are HIV positive

Exclusive breastfeeding Giving only breastmilk	**Replacement feeding** Giving formula and NO breastmilk
Advantages: • Breastmilk protects against many diseases and illnesses. • For the first 6 months of life, breastmilk has all the nutrients that a baby needs and satisfies hunger and thirst. • Babies who are fed only breastmilk during the first 6 months of life are likely to have fewer infections and are more likely to survive. • Exclusive breastfeeding for the first 6 months almost doubles the baby's chance of surviving free from HIV compared to breastfeeding and giving other foods and liquids. This is because giving foods other than breastmilk is thought to damage the baby's intestines and allow HIV to pass from an HIV-infected mother to her child. • Breast milk is free, always available, and does not need any special preparation. • Breastfeeding is accepted in most communities and will help protect the confidentiality of a woman's HIV status. **Disadvantages:** • HIV can be passed from HIV-infected mothers to their children through breastmilk. The risk is higher if mothers breastfeed and give other foods and liquids in the first six months, which is common in Kenya. This is called mixed feeding.	**Advantages:** **For HIV-positive women,** this is the only way a mother can completely prevent her baby from becoming infected with HIV through breastfeeding. **For HIV-negative women and those who do not know their status,** there are **no** advantages in choosing replacement feeding. **Disadvantages:** • Replacement feeding is usually not a safe and affordable option for families. The risk of death from diseases other than HIV is about six times higher than if the baby is breastfed. • Formula and the bottles and cups that are used to prepare and serve them may have germs if they are not cleaned properly. • Formula is usually mixed with too much water, so babies do not get enough nutrients. • Mothers who do not immediately use modern contraceptives after birth are at much greater risk of getting pregnant again quickly if they do not breastfeed. • The high costs of formula, bottles, fuel, and additional health care costs may harm the welfare of the rest of the family. • In many communities it is not the cultural practice to give formula, so people may ask why the mother is not breastfeeding or pressure her to mix feed.

At 6 months and beyond

At 6 months all babies need to begin to eat soft foods. At this time breastmilk (or replacement foods) alone can no longer give the baby all of the energy, protein, and vitamins he or she needs. More food is needed to be healthy, but babies still need breastmilk or other forms of milk until they are at least two years old. Giving food in addition to breastmilk is called complementary feeding.

At 6 months an HIV-positive mother should talk with a health worker about different feeding options. At this time, stopping breastfeeding may become less difficult for the mother, less likely to cause disapproval or stigma, and less expensive than at an earlier age. At 6 months, a baby can begin to drink animal milk with nothing added and needs to start eating soft foods.

For some HIV-positive mothers, 6 months is a good time to stop breastfeeding. For others, it may be better to continue breastfeeding when starting to give soft foods. The right time to stop breastfeeding must always be a mother's choice and is best made by talking with a health worker.

An HIV-positive mother should continue breastfeeding for a year or more unless she can safely and reliably give replacement foods, including milk and other animal foods. If she decides to stop breastfeeding, she should talk with a health worker about how to do this.

Once a mother stops breastfeeding, it is very dangerous to start again, as that increases the chance of giving HIV to her baby. Therefore, it is important that a mother does not try to stop breastfeeding before she and her baby are ready. A mother should not stop breastfeeding at 6 months if her baby is HIV positive, seriously ill, or malnourished. A mother should meet with a health worker and be able to answer YES to the following questions before stopping breastfeeding:

- Can you express and heat-treat your breastmilk? Or can you afford to buy replacement milk and appropriate complementary foods, including either an infant cereal that is fortified with vitamins and minerals or animal foods several times a week? Fortified cereals will cost of at least Ksh 30/= per day. Water and cooking fuel costs are additional.
- Do you live in a place where you can buy the necessary food for your baby all the time?
- Are you able to always wash your hands and utensils with soap and regularly boil the utensils to sterilize them? Do you have a clean enough kitchen for safe baby food preparation?

If the mother cannot answer YES to all of the above questions, she should continue breastfeeding and make a follow-up appointment to talk with a health worker about her infant feeding options in a couple of months.

A mother should be able to answer NO to the following questions before deciding to stop breastfeeding:

- Will stopping breastfeeding cause any serious problem for you or with family members who will object?
- Are there any reasons that might make this a bad time to stop breastfeeding, such as potential unemployment or a hungry season coming?

If a mother cannot answer NO to both of the above questions, then she should continue breastfeeding and make a follow-up appointment to talk with a health worker about her infant feeding options again in a couple of months. An exception might be if the mother is extremely ill with advanced HIV or AIDS.

If a mother does decide to stop breastfeeding at 6 months, she should learn to express her breastmilk into a cup in order to avoid breast health problems.

Complementary feeding means introducing available soft foods in small quantities as often as possible to the baby. Mothers can start by giving small amounts of a new soft or mashed food twice each day. Gradually give more and different soft and mashed foods. First foods should be soft or mashed but not be too thin. They should be thick enough to stay on the spoon. In addition to staple foods like porridge (uji), babies need to eat beans,

meat, or eggs every day. Vegetables (like sukuma wiki and pumpkin) and fruits have important vitamins for babies and should be given often. At the age of 2 years, the baby should be eating everything that is cooked in the home.

Follow-up for children of HIV-positive women

Children of HIV-positive women must receive early treatment for illnesses and careful growth monitoring to make sure they are healthy.

Mothers and caregivers can:

- Be sure the baby receives nevirapine immediately after birth.
- Bring the baby for follow-up visits.
- Make sure the baby receives all immunizations by one year.
- Bring the baby to the health facility if the baby has a fever, diarrhoea, chronic cough, malaria, hookworm, or other parasitic infections.
- Bring the child for HIV testing at 18 months.

HIV-infected children are at a high risk of getting sick and being underweight. It is important that the following problems receive medical attention:

- Not eating enough (poor appetite, eating very little, or only liking certain foods).
- Stomach pain.
- Feeding difficulties (poor sucking, swallowing, or breathing).
- Nausea, vomiting, or diarrhoea.
- Weight loss.

Gender and mother-to-child transmission of HIV

Gender and gender norms play a large role in the transmission of HIV from a mother to a child. Women may not have the ability to negotiate safer sex practices with their partners and are therefore vulnerable to infection or re-infection with HIV. Fear of stigma may prevent women from accessing information, getting tested, and receiving essential care for HIV infection. Stigma may also prevent women from using medicine that may help prevent mother to child transmission of HIV. A woman's overall health is an important factor in preventing mother to child transmission of HIV. It is critical for women to remain healthy and to get proper nutrition and health care. However, pregnant women are often expected to handle the same household responsibilities, including all physical work, and may not be paying enough attention to their health needs. Finally, gender norms also affect community attitudes and a mother's decisions about breastfeeding.

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Notes