

Infant Feeding and HIV

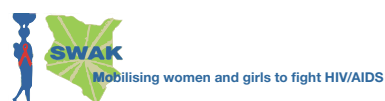
PARTICIPANT'S MANUAL FOR COMMUNITY-BASED
WORKERS AND VOLUNTEERS



Photos: JH-PIEGO (right); PATH/Mike Wang (left)



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IYCN USAID's Infant
& Young Child
Nutrition Project

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Mother-to-child transmission of HIV

HIV can be transmitted from mothers to their children during pregnancy, during labour and delivery, or through breastfeeding.

Pregnancy: 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 malaria and sexually transmitted infections (STIs) may keep the placenta from working properly, making it easier for HIV to pass to the foetus.

Labour and delivery: Most HIV transmission takes place during labour and delivery, when the baby can come in contact with maternal blood and fluids. If a woman gives birth in a health facility, there are actions health workers can take to help reduce the risk of transmission to the baby.

Breastfeeding: HIV is in breastmilk and can be transmitted to a baby through breastfeeding. For many HIV-positive women in our community, breastfeeding is the safest option. There are ways to make breastfeeding safer. During the first 6 months, mothers should give only breastmilk. The risk of transmission is much higher if babies are breastfed and given other foods and liquids (even water) at the same time.

Risk of transmission: The most important risk factor for mother-to-child transmission is the amount of HIV in the mother's blood. This is called the viral load. The risk of transmission to the baby is greatest when the viral load is high. Women who have recently been infected with HIV or have late-stage HIV or AIDS often have high viral loads. ARV treatment can reduce viral load.

Some of the risk factors for transmission are the same and some are different during pregnancy, labour and delivery, and breastfeeding.

Maternal factors that may increase the risk of HIV transmission		
Pregnancy	Labour and delivery	Breastfeeding
High maternal viral load (new or advanced HIV/AIDS)	High maternal viral load (new or advanced HIV/AIDS)	High maternal viral load (new or advanced HIV/AIDS)
Viral, bacterial, or parasitic infection (like malaria)	Water break (rupture of membranes) more than 4 hours before labour begins	Breastfeeding and giving other foods and liquids at the same time during the first 6 months
Sexually transmitted infections	Invasive delivery procedures that increase contact with the mother's blood or body fluids (like episiotomies)	Breast infections, sores, or cracked nipples
Maternal malnutrition	First baby in multiple birth	When baby has mouth sores or thrush
	Bacterial infection of the membrane (from untreated STI or other infection)	Maternal malnutrition

Risk of transmission at different times

- Imagine 20 babies born to HIV infected mothers.
- About 5 out of the 20 babies will be infected with HIV during pregnancy, labour, or birth. These are the numbers based on women who do not go for prevention of mother-to-child transmission (PMTCT) services during pregnancy. The number of babies who would be infected is lower if women use PMTCT services.
- About 3 out of 20 babies would be infected during breastfeeding. A baby's risk of HIV infection depends on how he or she is breastfed. When mothers breastfeed and give other foods and liquids before 6 months (which is how most children in our community are fed) it almost doubles the risk of passing HIV to the baby.
- In summary, out of 20 babies born to HIV-positive mothers, around 8 would be infected with HIV, even if their mothers do not use PMTCT services or practice safer infant feeding.
- Now imagine these same 20 babies are born to HIV-infected mothers, but this time the mother and baby take antiretrovirals and practice exclusive breastfeeding.
- About 2 out of the 20 babies will be infected with HIV during pregnancy, labour, or birth. The number is lower because these women used PMTCT services.
- About one baby would be infected during breastfeeding if a mother breastfeeds exclusively for 6 months.
- In summary, out of 20 babies born to HIV-positive mothers, around 3 would be infected with HIV if their mothers use PMTCT services and practice exclusive breastfeeding. So by taking these preventive actions, mothers can reduce the risk of transmission to their baby by more than half.

Even when women do not use PMTCT services, most children will not become infected. But because there are ways to reduce the risk of HIV transmission, it is important for all pregnant women to be tested so that if they are positive, they can learn how to reduce the risk of HIV transmission to their baby. Women who are negative need to protect themselves from HIV infection during pregnancy and breastfeeding.

Research has shown that there are many factors that can increase the risk that mothers will pass HIV to their babies. These factors include:

- The mother was recently infected or re-infected with HIV while pregnant or breastfeeding.
- The mother is in labour for a long time.
- The mother is very sick with HIV (the stage of her illness).
- Mother has breast problems while breastfeeding, including cracked nipples, swollen breasts, or mastitis.
- The baby has oral thrush or sores in his or her mouth.
- The baby breastfeeds and receives other foods or liquids at the same time.

To prevent or reduce the risk of an HIV-infected woman passing HIV to her baby:

- All pregnant women and their partners should go for HIV testing and seek health care services if they are positive.
- Women who are positive should give birth in a health facility.
- Women who are positive should attend PMTCT services.
- Women who are positive should take antiretroviral drugs (ARVs) during labour and give ARVs to their baby when it is born.
- Women should talk with a health worker about how best to feed her baby safely.
- Women should sleep under an insecticide-treated net during pregnancy. These nets are available for all pregnant women for free or at a subsidised fee (Kshs. 40) at the antenatal care (ANC) clinic.

Husbands and partners can help pregnant women 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 ANC regularly and receives 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.
- Encouraging her to sleep under an insecticide-treated mosquito net.
- Supporting her to take her ARVs (if recommended by her doctor).

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.

Advantages of breastfeeding

The Government of Kenya is committed to promoting, protecting, and supporting optimal infant and young child feeding practices, because feeding children properly can have important health, social, and economic benefits.

During the first 6 months, optimal infant and young child feeding practices include:

- Starting to breastfeed within the first 30 minutes to 1 hour of birth, and
- Giving only breastmilk (and no other foods or liquids – not even water) whenever the baby wants for the first 6 months.

These optimal infant feeding practices are necessary to ensure that babies start to grow and develop properly. After the first 6 months breastmilk continues to be important for a child's growth and development. We will talk more about feeding children after 6 months in future sessions.

BENEFITS OF EXCLUSIVE BREASTFEEDING		
Baby	Mother	Family and community
<ul style="list-style-type: none"> • Supplies everything the baby needs to grow well during the first 6 months of life • Digests easily and does not cause constipation • Protects against diarrhoea and pneumonia • Provides antibodies to illnesses • Protects against infection, including ear infections • During illness helps keep baby well-hydrated • Reduces the risks of allergies • Increases mental development • Promotes proper jaw, teeth, and speech development • Suckling at breast is comforting to baby when fussy, overtired, ill, or hurt • Promotes bonding • Is the baby's first immunisation 	<ul style="list-style-type: none"> • Reduces blood loss after birth (immediate breastfeeding) • Is always ready at the right temperature • Saves time and money • Makes night feedings easier • Delays return of fertility • Reduces the risk of breast and ovarian cancer • Promotes bonding 	<ul style="list-style-type: none"> • Is available 24 hours a day • Reduces the need to buy medicine because the baby is sick less often • Is always ready at the right temperature • Delays new pregnancy, helping to space and time pregnancies • Reduces time lost from work to care for a sick baby • Children perform better in school • More children survive

Breastfeeding reduces blood loss after giving birth

Breastfeeding immediately after giving birth (within the first 30 minutes to 1 hour) will help the uterus (womb) to contract, which decreases the amount of bleeding. Nipple stimulation caused by breastfeeding makes the pituitary gland in the brain release a hormone called oxytocin that makes the uterus contract. Breastfeeding helps to limit blood loss from the uterus after giving birth.

Breastfeeding delays fertility

Breastfeeding exclusively (day and night) can delay the return of ovulation and menstruation after giving birth. When a mother starts to give other foods and liquids, she is likely to start to ovulate and menstruate again.

The lactational amenorrhea method (LAM) is a contraceptive method that takes advantage of the natural infertility that breastfeeding mothers experience. In order for a woman to practice LAM she must follow the three criteria below.

1. The woman's menstrual periods have not started again

Following childbirth, the return of menstrual periods is a sign that a woman is fertile again. During the first 3 to 6 months after giving birth, a woman who is exclusively breastfeeding is unlikely to ovulate before her menstrual period resumes. However, once a woman starts to menstruate, there is a probability that ovulation has resumed. Bleeding during the first 2 months postpartum is not considered menstrual bleeding. Menstruation may be considered to have returned when the woman experiences 2 days of consecutive bleeding or when she thinks her menstrual bleed has returned.

2. The baby is exclusively breastfed frequently day and night

During the first 6 months the baby only breastfeeds. That means the baby does not receive any water, other liquids, or foods. Whenever the baby shows signs of wanting to be fed, by sucking on his/her hand, by moving or opening his mouth, or by moving his head about, be it day or night, the mother breastfeeds her baby. This is called breastfeeding “on demand.” All of a baby’s thirst, hunger, nutritional, and sucking needs are met at the breast. The baby is fed frequently for as long as he/she wants to remain on the breast. Exclusive breastfeeding means a minimum of eight feeds during a 24-hour period in the early days and weeks and at least one feeding during the night without any intervals greater than 4 to 6 hours.

3. The baby is less than 6 months old

At 6 months of age, the baby needs to begin receiving complementary foods while continuing to breastfeed. Introduction of water, liquids, and foods can reduce the amount of sucking at the breast, triggering the hormonal mechanism that causes ovulation and menses to start again.

Breastfeeding delays fertility return (ovulation). Exclusive breastfeeding, day and night, causes the first menstrual period to happen before a woman ovulates (it is a sign that fertility is returning). If a mother is not exclusively breastfeeding she will ovulate before her first menstrual period. The absence of menstrual periods and frequent breastfeeding day and night during the first 6 months after giving birth are what make LAM work. When any one of these three criteria is no longer met, another family planning method must be introduced for birth spacing. Studies have shown that if 100 women started LAM and used it according to the criteria, 1 or at most 2 women would become pregnant. LAM is as effective as any other reversible contraceptive method. Encourage women to talk with a health worker about LAM and if it is the right contraceptive choice for them.

Breastmilk is best

Breastmilk	Formula
<ul style="list-style-type: none">• Breastmilk is the perfect food for a baby during the first 6 months. It has everything a baby needs in the right amounts.• Breastmilk is made to meet the needs of baby humans, just as cow milk is made to meet the needs of baby cows and goat milk meets the needs of baby goats.• Animal milk is different from breastmilk. Animal milk can be too strong for a baby’s digestive system. Breastmilk is much easier for a baby to digest.• It is dangerous to give animal milks to babies before 6 months of age.• Breastmilk also has certain things that animal milks do not. Breastmilk has fats that help a baby’s growing brain and eyes. These fats are not present in animal milk. Breastmilk helps protect a baby against many infections (including diarrhoea, respiratory illness, pneumonia, ear infections, meningitis, and urinary tract infections).	<ul style="list-style-type: none">• Formula is made from a variety of products, including animal milks, soya, and vegetable oils. Although they have been adjusted so that they are more like human milk, they are still far from perfect for babies.• There are differences between animal and human milk. Although things can be added to animal milk to make it more similar to breastmilk, the quality of animal milks cannot be improved to be of the same quality as breastmilk.• Oftentimes caregivers do not have access to clean water, so when they try to prepare formula they are using unsafe water or unclean containers. This also increases the risk of a child falling ill.• Babies who are fed formula may have problems drinking animal milk in the future. They may develop diarrhoea, abdominal pain, rashes, and other symptoms.

Not only is breastmilk best for babies, but giving other milks or formula during the first 6 months is dangerous.

- Research from all over the world shows that babies who are given only breastmilk for the first 6 months are much less likely to get diarrhoea.
- Babies who are fed only formula are more likely to have diarrhoea than babies fed only on breastmilk.
- Babies who are given breastmilk and other foods or liquids are most likely to have diarrhoea.
- Babies who are not exclusively breastfed get diarrhoea more often, partly because other feeds do not have the protective factors of breastmilk, and partly because these other feeds are often made with ingredients and utensils that are contaminated with harmful germs.

Disadvantages of feeding formula or animal milk:

- Artificial feeding may interfere with bonding. The mother and baby may not develop such a close, loving relationship.
- An artificially fed baby is more likely to become ill with diarrhoea, respiratory, and other infections.
- He may get too little milk and become malnourished because he receives too few feeds or because they are too watery (diluted).
- He is more likely to develop allergies and possibly asthma.
- He may become intolerant of animal milk, so that the milk causes diarrhoea, rashes, and other symptoms.
- The risk of some chronic diseases in the child, such as diabetes, is increased.
- He may not develop so well mentally, and may score lower on intelligence tests.
- A mother who does not breastfeed may become pregnant sooner. She is more likely to become anaemic after childbirth, and later to develop breast and ovarian cancer.
- Artificial feeding is harmful for children and their mothers.
- Formula feeding is expensive and time-consuming.

Other foods and liquids can be difficult for a baby to digest. During the first 6 months, babies' digestive systems are still developing, so foods that are healthy after 6 months can be difficult for babies to eat before 6 months. For example, if a baby eats paw paw (which is a healthy food for babies after 6 months because it has many vitamins that help protect against illness and help a baby to develop well), the body will not be ready to use all of the vitamins and instead they will just pass through the baby.

- Giving other foods and liquids, even water, can make the baby full and reduce the amount of breastmilk that a baby takes.
- Giving water, other liquids, and foods is dangerous and can cause diarrhoea because the ingredients and utensils can be contaminated with harmful germs.
- For the first 6 months of life, feeding a baby only breastmilk will help a baby to grow up healthy, strong, and smart.

One of the main ingredients in breastmilk is water. There is enough water in breastmilk to quench the baby's thirst even when it is very hot. This is why breastfed babies do not need water, juices, or any other liquids during the first 6 months of life.

Infant feeding and HIV

For the first 6 months, mothers who are HIV positive have two recommended options for how to feed their children: giving only breastmilk or giving only commercial infant formula (called replacement feeding because it replaces breastmilk).

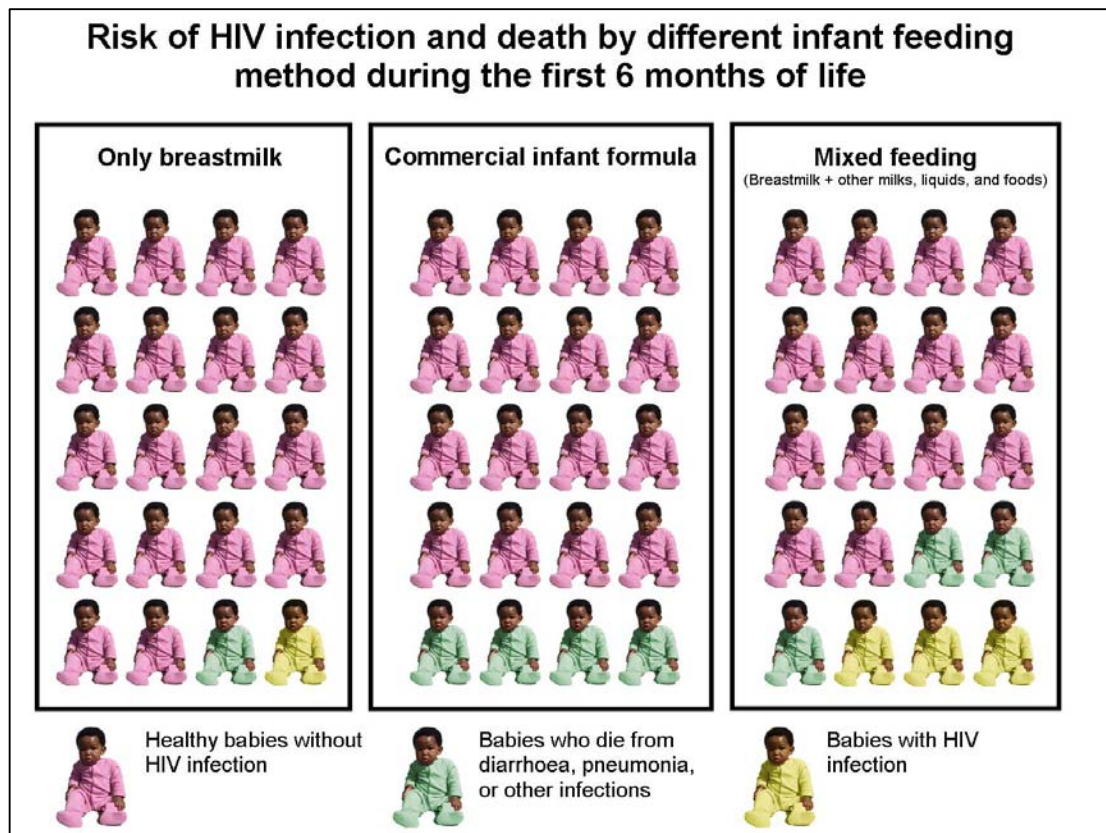
- For exclusive breastfeeding, although there is a risk of HIV infection through breastfeeding, there is new information that shows that exclusive breastfeeding lowers the risk of HIV transmission by half as compared with mixed feeding (mixed feeding means breastfeeding and giving other foods and liquids at the same time to an infant younger than 6 months). If the mother's viral load is low, whether as a result of antiretroviral prophylaxis or treatment, the risk of HIV transmission through breastfeeding is far less.
- For replacement feeding, there is double the chance that a baby will die from other infections (like diarrhoea or pneumonia) by 6 months and no difference in HIV infection and death between a child who is exclusively breastfed and a child that is exclusively replacement fed.
- Because it can be difficult for women to feed their baby replacement foods in a clean and safe way and never breastfeed, exclusive breastfeeding is often the safest choice for HIV-positive mothers in our community.

Most babies in our community are breastfed and given other foods and liquids at the same time before they are 6 months old. This is called mixed feeding and puts babies at a much higher risk of illness, death, and HIV infection. Mixed feeding – the most common practice – has the greatest risk of HIV infection and death from other illnesses.

- For most HIV-positive women in our community, **exclusive** breastfeeding is the best way to feed their babies for the first 6 months, with continued breastfeeding through at least 12 months.
- Although giving only formula (and never breastfeeding) can reduce the risk of HIV transmission, it can double the number of children who become sick and die from other illnesses. For this reason, exclusive breastfeeding for the first 6 months, and continued breastfeeding through at least 12 months, is the safest option for most women in our community.
- We need to support HIV-positive women to exclusively breastfeed and be sure that people know about the dangers of giving other foods and liquids while breastfeeding before 6 months. At 6 months, HIV-positive mothers should introduce complementary foods and continue breastfeeding through 12 months. At 12 months, mothers should talk with a health worker again about how best to feed their babies and about whether stopping breastfeeding would be appropriate.
- If, despite recommendations to exclusively breastfeed, mothers think that they can safely feed their children using infant formula and not breastfeeding, they should talk with a health worker to learn if this would be an appropriate option for them and how to do this safely.

The following image shows the risks of different feeding options for HIV positive mothers:

- Looking at the 20 children fed only breastmilk, 1 will die from diarrhoea, pneumonia, or other infections, and 1 will be infected with HIV.
- Looking at the 20 children fed only replacement milk, 4 will die from diarrhoea, pneumonia, or other infections, and none will be infected with HIV.
- Looking at the 20 children fed breastmilk and other foods and liquids, 3 will die from diarrhoea, pneumonia, or other infections, and 3 will be infected with HIV.
- Mixed feeding has the greatest risk.



Adapted from: Republic of Kenya, Ministry of Health/Division of Nutrition and National AIDS/STI Control Programme (NASCOP). Infant and Young Child Feeding in the Context of HIV and AIDS: Kenyan National Counselling Cards. Nairobi; 2008.

Starting breastfeeding immediately

During the first 3 days the breasts make a yellow, thick liquid that is the first milk. This milk is called colostrum.

- It helps protect babies against viruses and bacteria. It is like the baby's first immunisation.
- It cleans the baby's stomach and helps protect the digestive tract.
- It has all the food and water the baby needs.
- Putting the baby in skin-to-skin contact helps regulate the baby's temperature.
- It is recommended that women begin to breastfeed within the first 30 minutes of birth.
- There are many benefits to mothers and babies if breastfeeding is started very soon after giving birth.
- Early initiation of breastfeeding helps stop bleeding.
- The earlier you put the child to the breast, the faster the milk comes. This will help mothers to make enough breastmilk.
- Starting breastfeeding soon after birth helps reduce the risk of newborns dying.
- Starting breastfeeding immediately helps control the mother's blood loss after giving birth.

How the breast makes milk

- The size of a woman's breasts do not affect how much milk she can make.
- Almost all women can make enough milk to feed their baby only breastmilk for 6 months and continue breastfeeding until their baby is 2 years or older.
- Even women who are sick or very thin can make enough milk for their baby.
- When a baby suckles at the breast, the tongue and the mouth touch the nipple.
- The nerves in the nipple send a message to the mother's brain that the baby wants milk.
- The brain responds and tells the body to make the milk flow for this feed and to make milk for the next feed. The more the baby suckles, the more milk is produced.
- How a mother feels and what she thinks can affect how her milk flows. If a woman is happy and confident she can breastfeed, her milk flows well. But if she doubts whether she can breastfeed, her worries may stop the milk from flowing.
- Ambassador of Hope/Community Counsellor/Family Ambassador can help support women to feel confident that they can make enough breastmilk to feed their baby.
- It is important to remind women that the more they breastfeed the more milk they will produce.
- Most women find that if they breastfeed whenever the baby is hungry in the day and in the night, they will make enough breastmilk for their baby.
- If a mother feeds water or other foods, the baby will not suckle for these and reduced suckling can reduce breastmilk production. So, when mothers give other liquids or foods because they are afraid they do not have enough breastmilk, they actually can reduce the amount of breastmilk they have.
- In addition to how often a woman breastfeeds, how she breastfeeds can also help her to be successful and for her baby to grow well.
- For example, it is important for a woman to finish feeding from one breast before starting to feed from the other.
- Breastmilk changes during a feed. At the beginning of a feed the milk looks grey and watery. At the end of the feed, the milk is whiter and has more fat for energy.
- Babies need both the milk at the beginning and the milk at the end to grow and develop well.
- Some mothers may take the baby off the breast before he has finished so that he takes from both, but it is better for the baby to finish taking from one breast before switching to another.
- Advise mothers to start feeding from the right breast at one feed and from the left breast at the next feed. This way both breasts will continue to make milk.

Positioning and attachment

The way a mother holds her baby (positioning) affects the way the baby attaches to her breast. For proper attachment, a baby should take the nipple deeply with mouth open wide, and more of the areola should be seen above the baby's mouth than below. Poor positioning and attachment in the first couple of months can cause:

- The baby to not get enough milk, which can cause the baby to grow poorly or the mother's breasts to become engorged.
- The mother to be uncomfortable or in pain.
- Breast sores, which are very dangerous for mothers who are HIV positive because it can increase the risk of transmission.

Signs that a mother might have trouble with positioning and attachment include pain or her child is growing poorly. Even though most mothers in our community breastfeed, it is common for women to have difficulties with proper positioning and attachment, which can cause problems.

Proper positioning

- Mother should be sitting (or lying) somewhere comfortable so she is relaxed. If it helps, she can support a baby on a cushion.
- Baby should be facing the breast.
- Baby and mother should be stomach to stomach.
- Baby's back and the head should be in a straight line.
- Mother should bring the baby to the breast, not her breast to the baby.
- Mother should support baby's buttocks with her palm.
- Hold the baby at the back of his shoulders – not the back of his head. Be careful not to push the baby's head forward.

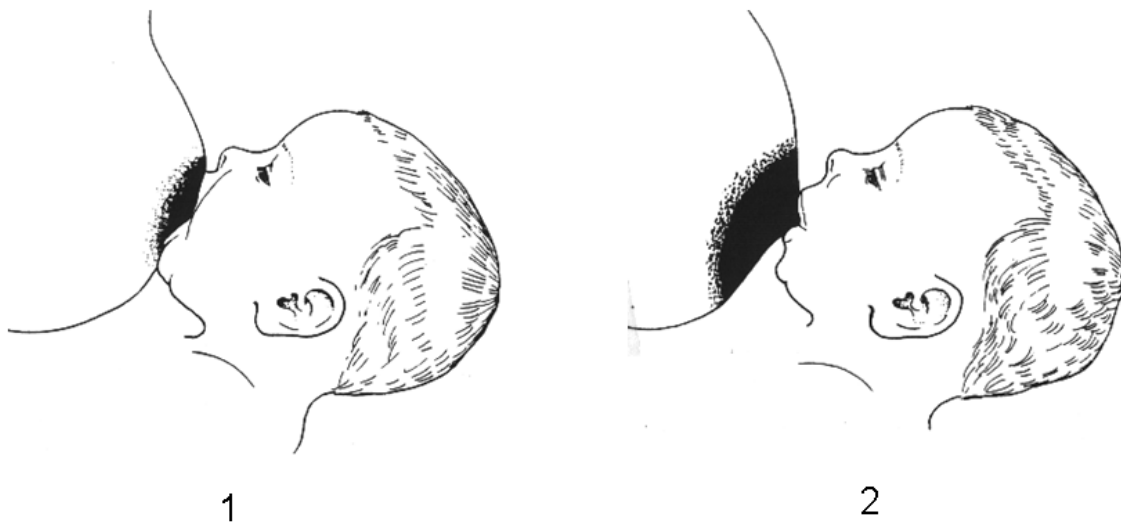
Proper attachment

- Hold the baby with his nose opposite the nipple, so that he approaches the breast from underneath the nipple.
- Touch the baby's lips with the nipple, so that he opens his mouth, puts out his tongue, and reaches up.
- Wait until baby's mouth is opening wide, before moving the baby to breast. His mouth needs to be wide open to take a large mouthful of breast.
- It is important to use the baby's reflexes, so that he opens his mouth wide to take the breast himself. Do not try to force a baby to suckle by pulling his chin down to open his mouth.
- Quickly move the baby to the breast, when he is opening his mouth wide.
- Bring the baby to the breast, do not move the breast to the baby.
- When bringing the baby to the breast, aim the baby's lower lip below the nipple, with his nose opposite the nipple, so that the nipple aims towards the top of the baby's mouth, his tongue goes under the areola, and his chin will touch her breast.
- Baby's mouth should be wide open.
- Baby should take the areola, not only the nipple, in her/his mouth.
- Baby's lower lip should be curled outward.
- Baby will take slow, deep sucks if attachment is correct.
- Baby may be heard swallowing.
- Baby is calm at the breast.

Remember

- It often takes several tries to get a baby well attached. You may need to work with the mother again at a later time, or the next day, until breastfeeding is going well.
- If she is having difficulty in one position, try to help her to find a different position that is more comfortable for her. There are many positions in which a mother can breastfeed.
- In any position, the important thing is for the baby to take enough of the breast into his mouth so that he can suckle effectively.
- Positioning and attaching the baby correctly at the breast helps prevent breast sores and reduces the risk of transmitting HIV to the baby.
- If a woman continues to have difficulties breastfeeding, encourage her to go to the health facility for additional advice and support.
- Feeding a baby with a bottle can cause babies to not attach properly. Improper attachment causes breast problems (sores, cracked nipples, etc.) for the mother, which are especially dangerous for women who are HIV infected. Bottles are also dangerous because they are very difficult to clean properly. If a woman is not breastfeeding, the child should be fed liquids using a cup (even small babies can be fed using a cup).

Number 1 shows proper attachment.



Source: WHO, UNICEF, UNAIDS. *Infant and Young Child Feeding Counselling: An Integrated Course*. WHO: Geneva; 2006.

Feeding babies at 6 months

- One way to tell if a child is healthy is to see if he or she is growing properly (gaining enough weight).
- Before 6 months, breastmilk provides everything a baby needs, but at 6 months, and as babies continue to grow, they need other foods.
- At 6 months children start to need a variety of other foods while continuing to breastfeed.
- Breastmilk continues to help children grow well and protect them from illnesses until 2 years and beyond. Mothers should be supported to breastfeed often even after babies start to eat other foods.
- The foods that are given to children at 6 months are called complementary foods, because they complement breastmilk – they do not replace breastmilk.
- The amount and types of complementary foods that babies and young children eat are responsible for their health, growth, and development.
- Appropriate complementary feeding promotes growth and prevents stunting among children 6–23 months old. Stunting (when children are short for their age), which shows that children are malnourished, is permanent if not corrected by two years of age and affects intelligence. In Western Province, almost one out of every three children is stunted.
- Rates of malnutrition are usually highest at 6 to 23 months of age, when babies start to eat foods other than breastmilk. If babies are not fed well during this time it can have lifelong consequences.
- Appropriate complementary feeding involves continued breastfeeding and giving the appropriate amount of good-quality foods.
- Babies 6–12 months old are especially vulnerable, because they are just learning to eat. Babies this age must be fed soft foods frequently and patiently. These foods should be given in addition to breastmilk; they do not replace breastmilk.
- Malnutrition affects health, intelligence, productivity, and ultimately a country's potential to develop.
- Adequate weight gain is a sign of good health and nutrition. It is important to continue to take children to the health facility for regular check-ups and immunisations, and to monitor growth and development.
- After 6 months of age, children should receive vitamin A supplements twice a year or take multiple micronutrients on a daily basis. Encourage mothers to consult a health care provider for the proper advice.
- If a mother is HIV positive, it is important for her to consult a health care provider for counselling on infant feeding options when her baby is 12 months old, such as safer breastfeeding or the use of other suitable milks.

Complementary feeding

There are three different food groups. It is important for children to eat a variety of foods from each of the groups each day.

<u>Body-building</u> Make children strong	<u>Energy-giving</u> Give children energy	<u>Protecting</u> Prevent and fight illness
Beans, dengu, meat, chicken, fish, and egg yolks	Rice, potatoes, ugali, maize, millet, and matoke	Fruits and vegetables like leafy greens, carrots, pumpkin, oranges, mangoes, and paw paws

As children grow they need to eat more. To be sure they are eating enough, mothers can breastfeed more often, give more food, feed children more often, and give foods that have a lot of energy even in small amounts (like fats and oils).

Recommended amounts of foods to give at different ages.

6 months	7-8 months	9-11 months	12-24 months
<ul style="list-style-type: none"> Two to three tablespoons at each meal. Two meals each day. 	<ul style="list-style-type: none"> One-half cup at each meal. Three meals each day. 	<ul style="list-style-type: none"> Three-fourths of a cup at each meal. Three meals each day. One snack. 	<ul style="list-style-type: none"> One cup at each meal. Three meals each day. Two snacks.

When sharing information with mothers and caregivers it might help to first talk with them about what they are doing and then help them to decide what they could realistically do to improve their current practices – give more food, feed more often, give more variety, give thicker porridge. Telling mothers that making many changes at once is not likely to lead to positive changes in behaviour.

Preparing foods safely

Store, clean, prepare, and cook food safely:

- Cooked food should be eaten without delay or heated again, making it very hot. Do not give food that has been sitting for more than 2 hours, unless it has been kept very hot or very cold.
- Store cooked food in a covered container and use it within 1 hour. Always reheat food well after 1 hour.
- Wash all bowls, cups, and utensils with clean water and soap. If bowls, cups, or utensils are used for raw food they must be washed again before using them for cooked food.
- Only use water that is from a safe source or is purified. Water containers need to be kept covered to keep the water clean.
- Raw or leftover food can be dangerous. Raw food should be washed or cooked.
- Utensils used to cut or handle raw food should be cleaned before using them to cut or handle cooked food.
- Food, utensils, and food-preparation surfaces should be kept clean. Food should be stored in covered containers.
- Dispose of all household trash in a safe way (by burying or burning trash every day) to help prevent illness.

- Wash hands with clean, running water and before cooking food, before and after feeding a baby, after changing nappies or going to the toilet, and after touching animals.

Helping children to eat

A child needs food, good health, and proper care to grow and develop. Even when food and health care are limited, good care-giving can help make best use of these limited resources. Care refers to the behaviours and practices of the caregivers and family that provide the food, health care, stimulation, and emotional support necessary for the child's healthy growth and development.

- When a child is learning to eat, he often eats slowly and is messy. He may be easily distracted.
- He may make a face, spit some food out, and play with the food. This is because the child is learning to eat.
- A child needs to learn how to eat, to try new food tastes and textures.
- A child needs to learn to chew, move food around the mouth, and to swallow food.
- The child needs to learn how to get food effectively into the mouth, how to use a spoon, and how to drink from a cup.

It is very important for caregivers to encourage the child to learn to eat the foods offered. Help encourage children to eat by:

- Feeding infants directly and assist older children when they feed themselves.
- Offering favourite foods and encourage children to eat when they lose interest or have depressed appetites.
- Giving different food combinations, tastes, textures, and methods for encouragement (especially if children refuse many foods).
- Talking to children during feeding.
- Looking at children when you are feeding them.
- Feeding slowly and patiently and minimise distractions during meals.
- Not forcing children to eat.

Feeding children of HIV-positive mothers from 6 months of age

- At 6 months it is important for an HIV-positive mother to introduce complementary foods and continue breastfeeding to 12 months of age.
- A mother should continue breastfeeding at 6 months so her baby can continue to get the benefits of breastmilk.
- It is especially important for children with mothers who are HIV infected to eat the right kinds and right amounts of safely prepared foods in addition to breastfeeding. Information about complementary feeding in general can be shared with women who are HIV positive.

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 ARVs immediately after birth to reduce the risk of HIV transmission.

- Bring the baby for follow-up visits.
- Make sure the baby receives all immunisations by the time he or she is 1 year old.
- Bring the baby to the health facility if the baby has a fever, diarrhoea, chronic cough, malaria, hookworm, or other infections.
- Also, HIV-infected children are at a high risk of getting sick and being underweight. HIV-infected infants need to eat more even if they do not have any symptoms. 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 or continued failure to gain adequately.

Testing babies for HIV

- All babies have antibodies passed on from their mothers as a natural way to protect babies while they are developing their own immune systems. All babies born to HIV-infected mothers have HIV antibodies from their mothers, regardless of whether the babies are HIV infected themselves. Their mothers' antibodies will stay in their bodies for 12 to 18 months. HIV antibody tests on babies younger than 18 months will only show if the mother is infected, and cannot tell the difference between infected and uninfected children.
- There is now a test that can check babies for the virus itself. This test can be used with babies who are as young as 6 weeks. To test for the virus in children, a small needle prick is performed on the child's foot and the blood is dripped onto paper. The blood dries and the paper is transported in a sealed bag or envelope to a lab where the specimen is tested for HIV. Babies who test negative should be brought back for repeat testing at 12 and 18 months.
- Testing at 6 weeks is used to help identify children who are positive so they can start to receive treatment. It should not be used to change infant feeding decisions. For example, if an HIV-positive woman is exclusively breastfeeding, she should continue to breastfeed even if the child tests negative. The child's status does not change what is safest.

The recommendation for children who test HIV positive is to exclusively breastfeed (even if they were being fed formula before they should be breastfeed now), this way they can benefit from all of the protective qualities in breastmilk. At 6 months a mother should continue breastfeeding and start to give complementary foods. Also, if a baby tests negative mothers who are breastfeeding should continue to breastfeed.

It is important for children born to HIV-positive mothers to stay healthy, even before learning the child status. HIV exposed children should:

- Be brought for routine well-baby and immunisation visits. Waiting until a child falls ill can be too late. Children's immune systems are not as developed as adults' and they can get sick quicker.
- Receive routine immunisations (including measles and BCG) according to the recommended schedule.
- Be weighed each month. Many HIV-infected children are underweight during the course of their illness. Research shows that an HIV-infected child's nutritional status is closely related to the child's survival.

There are many things mothers, families, and caregivers can do to help a child survive:

- It is important for caregivers to know the signs and symptoms most commonly associated with HIV infection in children so they can get treatment immediately.

- If a child has a fever, diarrhoea, ear infections, or is not growing well, it is important for the caregivers to bring HIV-exposed children (or non-exposed children) to a facility immediately.
- Safe infant feeding in the first 2 years of life or longer is important for child survival and development.
- Giving only breastmilk for the first 6 months – which means giving no other foods or liquids, not even water – will be the safest choice for most women in our community. HIV-positive women who choose to breastfeed should be encouraged and supported to do so exclusively.
- It is important for parents and caregivers to understand the risks of giving babies born to HIV-positive mothers other foods and liquids while breastfeeding during the first 6 months. This is called mixed feeding and can significantly increase the risk of HIV transmission and the risk of death from diarrhoea, pneumonia, and other infections.
- It is important for women and caregivers who want to give formula (despite the recommendation to exclusively breastfeed for 6 months) to talk with a health worker about whether or not this can be done safely. For many families in our community, exclusive breastfeeding for the first 6 months is the safest option.
- Babies and children born to mothers with HIV can live healthy lives. It is important for them to be tested early for HIV (from 6 weeks of age using a special HIV-testing method, and again at 12 months and 18 months).
- Practice good personal and food hygiene to prevent common infections, and encourage mothers to seek prompt treatment for any infections or other health-related problems.

There is medicine that can be given to babies and children to help prevent common illnesses and infections in children who are HIV exposed.

- This medicine is called Cotrimoxazole, Bactrim, Septra, or Septrin.
- Cotrimoxazole can help prevent the most common cause of death in young children with HIV – pneumonia – as well as protect against malaria and bacterial infections.
- Cotrimoxazole is recommended for all HIV-exposed infants from 6 weeks through at least 1 year of age.
- Cotrimoxazole is given once a day, from 6 weeks of age until the age of 12 months and can be continued for longer periods if recommended by a health worker.

Stopping breastfeeding before 6 months

- When mothers try to stop breastfeeding before 6 months of age they often continue to breastfeed while they start feeding their babies other food or fluids. This is mixed feeding, which can cause diarrhoea and increase the risk of HIV transmission.
- It is very challenging for mothers to be able to provide a safe and nutritious diet without breastmilk. It is important for mothers to consider the risk of HIV transmission compared with the many risks of not breastfeeding. Formula-fed infants have a higher risk of illness and death. Also, studies have shown that stopping breastfeeding early (at 4 to 6 months) increases the risk of illness and death, does not improve HIV-free survival, and is challenging for mothers.
- Breastmilk saves babies, even when their mothers are HIV positive.
- At 12 months, mothers should talk with health care providers again about how best to feed their babies. If a mother cannot safely provide an adequate diet to replace breastmilk, she should continue to breastfeed.
- When a baby is 12 months old, stopping breastfeeding may become less difficult for the mother, less likely to cause disapproval or stigma, and less expensive than at an earlier age.

- For some HIV-positive mothers, 12 months is a good time to stop breastfeeding. For many 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.

Babies born to mothers who are HIV infected can live long and healthy lives if they receive medical care and treatment early. It is important to bring HIV-exposed children to a health facility often and to find out if a child is HIV infected so that medical interventions can be taken to help the baby. Caregivers should not wait until a child falls ill to go to the health facility for services.

Activity plan

Goal:		
Activity	Dates	Measures of success

Reporting form

HIV and Infant Feeding Group Discussions - Monthly Summary Report

Name: _____ District: _____ Month: _____

Date	Topic	Total # participants			Referrals		
		Pregnant women	Lactating women	Male partners	ANC	PMTCT	Community follow-up

Number of women/families counselled individually on infant feeding:	
Accomplishments (What are you most proud of this month?):	
Challenges/additional information needed:	

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