



Module 4 Infant Feeding in the Context of HIV Infection



Total Time: 160 minutes

SESSION 1 Global Recommendations for Infant and Young Child Feeding

Activity/Method	Resources Needed	Time
Exercise 4.1 Strategies for optimal feeding: large group discussion	Copies of national HIV infant-feeding policy or protocol, if not already in the Participant Manual	30 minutes

SESSION 2 Feeding Options

Activity/Method	Resources Needed	Time
Exercise 4.2 National and local policies on infant feeding: large group discussion	Copies of national HIV infant-feeding policy or protocol, if not already in the Participant Manual Information about local costs of infant-feeding supplements	30 minutes

SESSION 3 Infant-Feeding Counselling and Support

Activity/Method	Resources Needed	Time
Exercise 4.3 Infant-feeding counselling and support: role play	Copies of the list of patient roles for the role play Tins of commercially prepared infant formula, measuring spoons, and feeding cups to demonstrate correct preparation Equipment to correctly make home-modified infant formula (if used in your area) If available, model of a breast to demonstrate correct position during breastfeeding	100 minutes

For all sessions, also have available the following:

- Overheads or PowerPoint slides for this Module (in Presentation Booklet)
- Overhead or LCD projector, extra extension cord/lead
- Flipchart or whiteboard and markers or blackboard and chalk
- Pencil or pen for each participant

Relevant Policies for Inclusion in National Curriculum
<p>Session 2</p> <ul style="list-style-type: none">▪ National HIV infant-feeding policy and applicable infant-feeding guidance <p>Session 3</p> <ul style="list-style-type: none">▪ National guidelines on infant-feeding counselling and support



The *Pocket Guide* contains a summary of each session in this module.

SESSION 1 Global Recommendations for Infant and Young Child Feeding



Advance Preparation

Familiarise yourself with the 2003 UN recommendations on infant feeding by mothers who are HIV-infected as well as national HIV infant-feeding policy or protocol.



Total Session Time: 30 minutes



Trainer Instructions

Slides 1 and 2

Begin by reviewing the module objectives listed below.

After completing the module, the participant will be able to:

- Describe the current global recommendations for infant feeding in the context of HIV.
- Understand the importance of optimal infant and young child feeding for child health, nutrition, growth, and development.
- Define the main options for infant feeding and the advantages and disadvantages of each.
- Describe the steps for counselling mothers who are HIV-infected about infant feeding.
- Understand the importance of the postnatal follow-up and support required for appropriate infant feeding.



Trainer Instructions

Slide 3 and 4

Present an introduction to infant and young child feeding, using the information below.



Make These Points

- Antiretroviral prophylaxis does not provide long-term protection for the infant.
- The longer the duration of breastfeeding, the greater the cumulative risk of MTCT.

Introduction

Antiretroviral (ARV) treatment and prophylaxis has substantially reduced mother-to-child transmission (MTCT) of HIV. ARV prophylaxis, however, does not provide long-term protection for the infant who is breastfeeding.

Without intervention, 5% to 20% of infants breastfed by mothers who are HIV-positive may acquire HIV-infection through breast-feeding. Infant-feeding practices that carefully follow national or UN guidelines can reduce the likelihood of MTCT through breastfeeding and reduce the risk of infant death from diarrhoea and other childhood infections.



Trainer Instructions

Slides 4 and 5

Present the following basic facts about malnutrition, infant feeding, and child survival.



Make These Points

- Malnutrition a major cause of morbidity in children.
- Mothers who are HIV-infected require counselling and support for safer feeding practices.

Basic facts on malnutrition, infant feeding, and child survival

- Malnutrition is the underlying cause of death in about 60% of children younger than 5 years old worldwide and in about 50% of children that age in Africa.
- Being underweight was associated with 3.7 million deaths worldwide in the year 2000, and most of the deaths occurred in children younger than 5 years old.
- Poor feeding practices, such as those that provide insufficient nutritional balance or contribute to diarrhoea, are a major cause of low weight and morbidity and mortality in children.
- Counselling and support for infant feeding can improve feeding practices and, in turn, prevent malnutrition and reduce the risk of death in children.
- For mothers who are HIV-positive, counselling and support may lead to improved infant-feeding practices that may also help prevent MTCT.



Trainer Instructions

Slides 7 and 8

Explain to participants the following UN infant-feeding recommendations for mothers who are HIV-negative and mothers with unknown HIV status.

Questions often arise about mixed versus exclusive breastfeeding practices. Explain rationale for avoidance of mixed feeding—irritability of intestinal mucosa, diarrhoea.

Infant-feeding recommendations for mothers who are HIV negative and mothers with unknown HIV status

- Breastfeed exclusively (see definition below) for the first six (6) months of life.
- Continue breastfeeding for up to 2 years or longer.
- After the infant reaches 6 months of age, introduce complementary foods that provide sufficient nutritional balance and are safe.

Mothers should also receive information about the risk of becoming infected with HIV late in pregnancy or during breastfeeding. Women with unknown HIV status should be encouraged to be tested for HIV.

Definition

Exclusive breastfeeding: The mother gives her infant only breastmilk except for drops or syrups consisting of vitamins, mineral supplements, or medicines. The exclusively breastfed child receives no food or drink other than breastmilk—not even water.



Trainer Instructions

Slide 9

Explain the UN infant-feeding recommendations for mothers who are HIV-infected.

Infant-feeding recommendations for mothers who are HIV-infected

- When replacement feeding is acceptable, feasible, affordable, sustainable, and safe, mothers who are HIV-infected should avoid all breastfeeding. (Please see "Definitions" below.)
- Otherwise, exclusive breastfeeding is recommended during the first months of life.
- To minimise HIV transmission risk, mothers who are HIV-positive should discontinue breastfeeding as soon as feasible, taking into account local circumstances, the individual woman's situation, and the risks of replacement feeding (which include malnutrition and infections other than HIV).
- All mothers who are HIV-positive should receive counselling, which includes general information about the risks and benefits of infant-feeding options and specific guidance on selecting the option most likely to be suitable for their situation.
- Whatever choice a mother makes, she should be supported.

There is no evidence indicating a specific time for early cessation of breastfeeding for all mothers—as it depends on each mother's individual situation. *It is recommended that countries establish their own guidelines taking into account these recommendations.*

Definitions

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

Feasible: The mother (or other family member) has adequate time, knowledge, skills, and other resources to prepare feeds and to feed the infant as well as the support to cope with family, community, and social pressures.

Affordable: The mother and family, with available community and/or health system support, can pay for the costs of the replacement feeds—including all ingredients, fuel and clean water—without compromising the family's health and nutrition spending.

Sustainable: The mother has access to a continuous and uninterrupted supply of all ingredients and products needed to implement the feeding option safely for as long as the infant needs it.

Safe: Replacement foods are correctly and hygienically stored, prepared, and fed in nutritionally adequate quantities; infants are fed with clean hands using clean utensils, preferably by cups.

International Code of Marketing Breastmilk Substitutes

The importance of supporting safer infant-feeding practices is exemplified in the International Code of Marketing of Breastmilk Substitutes. This code helps provide safe and adequate nutrition for children by:

- Protecting and promoting breastfeeding
- Supporting proper and informed use of breast-milk substitutes when necessary
- Promoting acceptable marketing and distributing practices

Even in countries that have decided to provide infant formula to HIV-positive mothers, health workers should resist all commercial promotion of formula under the Code, for example by removing advertisements from health facilities; refusing to accept free samples of formula and equipment (e.g. bottles), refusing to accept or use other gifts or equipment with brand names, and making sure that any formula used in a health facility is kept out of sight of mothers who do not need it.



Trainer Instructions

Lead an interactive discussion based on the exercise below.

Exercise 4.1 Strategies for optimal feeding: large group discussion	
Purpose	<p>To review global strategies recommending optimal feeding for infants and young children.</p> <p>To identify local practices and application of the national HIV infant-feeding policy or protocol.</p>
Duration	15 minutes
Introduction	Discuss national infant-feeding policy and practices in light of the WHO infant-feeding recommendation which states: "When replacement feeding is acceptable, feasible, affordable, sustainable, and safe, avoidance of all breastfeeding by HIV-infected mothers is recommended. Otherwise, exclusive breastfeeding is recommended during the first months of life."
Activities	<ul style="list-style-type: none">▪ Discuss the national HIV infant-feeding policy or protocol.▪ Is it clear? Is it consistent with international recommendations and does it provide guidance for your healthcare setting?▪ Examine the following terms on the flipchart, whiteboard or blackboard:<ul style="list-style-type: none">▪ Acceptable▪ Feasible▪ Affordable▪ Sustainable▪ Safe▪ Consider the mothers whom you have met in your work. Would they be able to implement replacement feeding based on the above criteria?▪ What other things can you think of that influence a mother's choice of feeding options, eg cultural influences?
Debriefing	<p>Ask the group to consider:</p> <ul style="list-style-type: none">▪ How do cultural beliefs influence infant-feeding practices?▪ How does a family's economic or financial status affect infant-feeding options?▪ What other barriers are there to optimal feeding practices?



Trainer Instructions

Slide 10

Explain the information below about how to implement the WHO infant-feeding recommendations.

Guidance and support for implementing infant-feeding recommendations

- Provide all mothers who are HIV-positive with counselling that includes general information about the advantages and disadvantages of various infant-feeding options as well as specific guidance for selecting the option most suitable for their situations.
- Support the mother's choice, whichever feeding option she chooses.
- Conduct local assessments to identify the range of feeding options that are acceptable, feasible, affordable, sustainable, and safe in particular contexts.
- Develop information and education about MTCT, including facts about transmission through breastfeeding, and target the material to the public, affected communities, and families.
- Train, supervise, and support adequate numbers of people who can counsel women who are HIV-positive about infant feeding.
- Provide updated training to counsellors when new information and recommendations emerge.
- Extend the services of healthcare workers into the community using trained lay or peer counsellors.

SESSION 2 Feeding Options



Advance Preparation

Discuss with local PMTCT staff the degree to which national infant-feeding policies or protocols are reflected in current feeding practices.

Have available information about the local costs of commercial infant formulas, sugar, and multivitamin syrups or powders that are used to supplement home-modified animal milk formulas.

Keep the definitions of the terms acceptable, feasible, affordable, sustainable, and safe visible on the flipchart or board so that you can refer to them during Exercise 4.2 National and local policies on infant feeding: large group discussion.

Note: This session reviews *all* feeding options. Discuss only those options recommended for your local area and show only those slides that concur with local policy.



Total Session Time: 30 minutes



Trainer Instructions

Slides 11 and 12

Introduce the discussion on infant-feeding options, using the material below.

Use Slide 12 as a placeholder to present and discuss the national or local infant-feeding policy.

Making decisions about infant feeding

Mothers with HIV infection must consider many factors when deciding on a feeding option that is best for their infants. Healthcare workers play an important role in guiding their decision-making process by providing infant-feeding counselling that includes the following:

- Information about the risk of HIV transmission through breastfeeding
- Advantages and disadvantages of each available option
- Respect for local customs, practices, and beliefs when helping a mother make infant-feeding choices

Healthcare workers share in the responsibility to protect, promote, and support safe and appropriate feeding practices. In addition to supporting women's infant-feeding decisions, referral is needed to trained infant-feeding counsellors for continued support during the first two years of a child's growth and development. Programs such as the Baby Friendly Hospital Initiative have played a vital role in this important task as well. (See Session 3 HIV Infant-Feeding Counselling and Support.)

An HIV-positive pregnant or newly-delivered woman will have to make a decision among the locally-appropriate options available.



Trainer Instructions

Slide 13

Discuss the option of replacement feeding using commercial formula.

Use the information presented in Table 4.1 to review the advantages and disadvantages of using commercial infant formula. Use the information presented in Table 4.2 to present information about the amount of commercial formula required by infants at various ages.

Replacement feeding during the first 6 months of life

Replacement feeding means feeding infants who are receiving no breastmilk with a diet that provides most of the nutrients infants need until the age at which they can be fully fed on family foods. Unlike breastfeeding, it does not provide immune protection against other diseases. During the first 6 months of life, replacement feeding should be with a suitable breast-milk substitute. After six months the suitable breast-milk substitute should be complemented with other foods.

If a woman is considering replacement feeding for the first six months there are two types of breastmilk substitutes: commercial infant formula or home-modified formula with micronutrient supplements. Cup feeding is recommended over bottle feeding. (Refer to Appendix 4-B.)

Option 1: Commercial infant formula

Advantages and disadvantages of using commercial infant formulas are presented in Table 4.1. Table 4.2 summarises how many tins of commercial infant formula are required to feed infants each month.

Table 4.1 Commercial infant formula

Advantages

- Commercial formula poses no risk of transmitting HIV to the infant.
- Commercial formulas are made especially for infants.
- Commercial formula includes most of the nutrients that an infant needs.
- Other family members can help feed the infant.
- If the mother falls ill, others can feed her infant while she recovers.

Disadvantages

- Commercial formula does not contain antibodies, which protect infants from infection. An infant who is fed commercial formula exclusively is more likely to get diarrhoea and pneumonia and may develop malnutrition.
- A continuous, reliable formula supply is required to prevent malnutrition.
- Commercial formula is expensive.
- Families need soap for cleaning cups and utensils used in preparing the formula.
- Safe preparation of commercial formula requires clean water, boiled vigorously for 1-2 seconds; this also requires fuel.
- Formula should be made fresh for each feed, according to directions, day and night, unless she has access to a refrigerator.
- The infant needs to drink from a cup, which may take time to learn.
- The mother must stop breastfeeding completely, or she will continue to be at risk of transmitting HIV to her infant.
- In some settings, family, neighbours, or friends may question a mother who does not breastfeed about her HIV status. (See Session 3 of this module.)
- Formula feeding offers the mother no protection from pregnancy.

Table 4.2 Commercial infant formula requirements in first 6 months

Month	500 g Tins/Month	450 g Tins/Month
1	4	5
2	6	6
3	7	8
4	7	8
5	8	8
6	8	9
Total	40	44



Trainer Instructions

Slide 14

Discuss the option of feeding infant home-modified animal milk, using the information below. Use Table 4.3 to review the advantages and disadvantages of using home-modified infant formulas.

Option 2: Home-modified animal milk

Home-modified animal milk is only suitable when commercial formula is not available. Infants require about 15 litres of modified animal milk formula per month for the first 6 months. Babies also require multi-nutrient supplements, in liquid or powder form, to help prevent anaemia and other forms of malnutrition. Safe preparation and storage of the home-modified animal milk is also essential for preserving nutritional value and minimising the risk of malnutrition.

Formula may be prepared at home using fresh animal milks, dried milk powder, or evaporated milk. Preparing formula with any of these types of milk involves modifications to make the formula suitable for infants up to 6 months old. Modifications include diluting the milk with boiled water in precise amounts to reduce the formula's concentration and adding sugar to increase the formula's energy density. The required dilution amount varies for different animal milks. Dilution is not required for infants 6 months and older who should also be receiving complementary foods.

Table 4.3 lists the advantages and disadvantages of using home-modified infant formulas.

Suitable and unsuitable milks

Not all milks are suitable for use in home-modified infant formula.

The following milks are suitable for home-modified animal milk:

- Fresh (full-cream or whole) cow, goat, sheep, buffalo, or camel milk
- Full-cream or whole dried milk powder
- Evaporated milk
- Ultra-heat treated (UHT) milk

The following milks and liquids are not suitable for home-modified animal milk:

- Fresh animal milk already diluted by an unknown amount
- Skimmed or low-fat milk powder
- Sweetened or condensed milk
- Thin cereal-based gruels
- Fruit juice, teas, or sodas

Infants who are fed home-modified animal milk formulas require micronutrient supplements because animal milks are relatively low in iron, zinc, vitamin A, vitamin C and folic acid.

Table 4.3 Home-modified animal milk**Advantages**

- Home-modified formula presents no risk of HIV transmission.
- Home-modified formula may be less expensive than commercial formula and is readily available if the family has milk-producing animals.
- Mothers and caretakers already using commercial formula can use home-modified formula when commercial formula is not available.
- Other family members can help feed the infant.
- If the mother falls ill, others can feed her infant while she recovers.

Disadvantages

- Home-modified formula does not contain antibodies, which protect infants from infection.
- An infant who is fed home-modified formula exclusively is more likely to get diarrhoea and pneumonia and may become malnourished.
- Home-modified formula does not contain all of the nutrients and micronutrients that infants need.
- Formulas based on animal milks are more difficult for infants to digest.
- The mother or caretaker may need to make fresh formula for each feeding, day and night, unless she has access to a refrigerator.
- The mother or caretaker must dilute home-modified formula with clean water (boiled vigorously for 1–2 seconds) and add sugar in the correct amount.
- The mother must stop breastfeeding completely, or the risk of transmitting HIV to her infant will continue.
- Families will need access to a regular supply of animal milk, sugar, multi-nutrient syrup or powder, fuel for boiling water, and soap for cleaning feeding cups and utensils used in preparing the formula.
- Cup feeding is recommended but may take time to learn. (See Appendix 4-B.)
- In some settings, a mother who does not breastfeed may be questioned about her HIV status by family, neighbours, or friends. (See Session 3 of this module.)
- Formula feeding offers the mother no protection from pregnancy.



Trainer Instructions

Slide 15

Discuss the option of exclusive breastfeeding using the information presented below and in Table 4.4.

Breastmilk feeding options

Mothers who choose to breastfeed should be made aware that:

- From 5% to 20% of infants breastfed by HIV-positive mothers may acquire HIV-infection through breastfeeding.
- ARV prophylaxis provided during labour and to the infant shortly after birth does not provide long-term protection for the infant who is breastfeeding.
- The risk of transmitting HIV to her infant during breastfeeding is greater:
 - When the woman is more ill (by clinical or laboratory measures)
 - When she has mastitis, breast abscess or other similar conditions
 - When the child has ulcers in the mouth

Option 1: Exclusive breastfeeding

Advantages and disadvantages of exclusive breastfeeding are presented in Table 4.4.

Table 4.4 Exclusive breastfeeding

Advantages

- Breastmilk is easily digestible and gives infants all the nutrients and water they need. They do not need any other liquid or food for the first 6 months.
- Breastmilk is always available and does not need any special preparation.
- Breastmilk protects infants and children from diseases, particularly diarrhoea and pneumonia.
- Breastfeeding provides the close contact that deepens the emotional relationship or bond between mother and child.
- Compared to mixed feeding, exclusive breastfeeding may lower the risk of passing HIV.
- Breastfeeding reduces mother's risk of some cancers and helps space her pregnancies.

Disadvantages

- Risk of MTCT exists as long as the mother who is HIV-infected breastfeeds because breastfeeding exposes the infant to HIV.
- The risk of transmitting HIV through breastfeeding is increased if the mother has a breast infection (eg, mastitis) or cracked and bleeding nipples.
- Family, friends, or neighbours may pressure mothers to give water, other liquids, or foods to the infant.
- Although nearly all mothers have sufficient milk to feed their infants, some are concerned that they do not have enough milk to breastfeed exclusively.
- Breastfeeding requires feeding on demand at least 8–10 times per day.
- Working mothers may need to find a strategy to continue to breastfeed exclusively once they return to work, eg privately expressing milk during the workday and arranging to store milk in a cool place.
- Breastfeeding mothers require an additional 500 kcal/day to support exclusive breastfeeding during the infant's first 6 months.



Trainer Instructions

Slide 16

Discuss the option of exclusive breastfeeding with early cessation using the information presented below and in Table 4.5.

Option 2: Exclusive breastfeeding with early cessation

Mothers who are HIV-positive and choose to breastfeed should discontinue breastfeeding as soon as replacement feeding is acceptable, feasible, affordable, sustainable, and safe for them and their babies, given local circumstances, the individual woman's situation, and the risks of replacement feeding for the infant's age.

Before entering the period of breastfeeding cessation, which may take from a few days to two weeks, mothers who are HIV-positive should receive support and guidance to maintain breast health, psychosocial support, and infant nutritional support.

Advantages and disadvantages of exclusive breastfeeding with early cessation are presented in Table 4.5.

Table 4.5 Exclusive breastfeeding with early cessation

Advantages

- Early cessation of breastfeeding terminates the infant's exposure to HIV through breastfeeding.

Disadvantages

- Infants may become malnourished after breastfeeding stops if suitable breastmilk substitutes are unavailable or are provided inappropriately.
- Infants may be at increased risk of diarrhoea if breastmilk substitutes are not prepared safely.
- Cup feeding requires caregiver patience and time. If possible, mothers should be taught how to feed infants, using a cup and expressed breastmilk, before breastfeeding cessation. (See Appendix 4-B for a summary of the advantages of cup feeding and practical suggestions for cup feeding an infant.)
- Infants may become anxious and even dehydrated if breastfeeding cessation is too rapid.
- After six months, a milk source should continue to be given along with appropriate other foods, see Appendix 4-C.
- Mothers' breasts may become engorged and infected during the transition period if some milk is not expressed and discarded.
- Mothers are at risk of becoming pregnant if they are sexually active.
- Early breastfeeding cessation is not recommended for infants who are already infected with HIV.



Trainer Instructions

Slide 17

Discuss wet nursing as an option, using the information below including Table 4.6.

Option 3: Wet nursing

Mothers who are HIV-positive, in keeping with local custom, may consider using a wet nurse as a breastmilk feeding option. It is important that mothers receive counselling about the potential risk of HIV transmission from a wet nurse who is HIV-infected or a wet nurse whose HIV status is unknown. Table 4.6 presents advantages and disadvantages of wet nursing.

Table 4.6 Wet nursing

Advantages

- Use of a wet nurse poses no risk of HIV transmission provided the wet nurse is not HIV-infected.
- Many of the other advantages of breastfeeding described above also apply to breastfeeding using a wet nurse.

Disadvantages

- The wet nurse must be tested and found to be free of HIV infection.
- The wet nurse must protect herself from HIV infection during the entire time she is breastfeeding.
- The wet nurse must be available to breastfeed the infant frequently throughout the day and night, or she must express milk to be provided when she is away from the infant.
- People might ask the mother why someone else is breastfeeding her infant.

Note: Additional education and support may be necessary to assist mothers who choose to use wet nurses. For example, mothers and wet nurses should be familiar with techniques for breastmilk expression, use of heat-treated breastmilk, and the option of using breastmilk banks.



Trainer Instructions

Slide 18

Review the process of expressing and heat-treating breastmilk, using the information on the next page including Table 4.7.

Option 4: Expressing and heat-treating breastmilk

Table 4.7 presents advantages and disadvantages of expressing and heat-treating breastmilk.

Table 4.7 Expressing and heat-treating breastmilk	
Advantages	
<ul style="list-style-type: none"> ▪ The HIV virus is killed by heating the milk. ▪ Breastmilk is the perfect food for babies, and most nutrients remain in breastmilk after heating. ▪ Breastmilk is always available. ▪ Other responsible family members can help feeding the baby. 	
Disadvantages	
<ul style="list-style-type: none"> ▪ Although heat-treated breastmilk does not contain HIV, it may not be as effective as unheated breastmilk in protecting the baby from other diseases, but it is still better than formula. ▪ Expressing and heating breastmilk takes time and must be done frequently. ▪ The baby will need to drink from a cup, which may take time to learn. ▪ The breastmilk needs to be stored in a cool place and used within one hour of heating. ▪ Families will need clean water and fuel to wash the baby's cup and the container used to store the breastmilk. ▪ People may wonder why the mother is expressing her milk. 	



Trainer Instructions

Lead an interactive discussion based on the exercise below.

Exercise 4.2 National and local policies on infant feeding: large group discussion	
Purpose	To review feeding options for infants of mothers who are HIV positive. To convey an understanding of the advantages and disadvantages of each feeding option and how to make each option safer and healthier for the infant and mother.
Duration	20 minutes
Introduction	<p>There are two categories of feeding options:</p> <ul style="list-style-type: none"> ▪ Breastfeeding ▪ Replacement feeding <p>Briefly summarise the national HIV infant-feeding policy and how similar or different it is from the UN recommendations.</p> <p>Remind participants that this exercise is primarily about providing appropriate information and support for feeding options.</p>

<p>Activities</p>	<ul style="list-style-type: none"> ▪ Start the discussion by asking participants to identify and discuss strategies that minimise the risk of HIV transmission during breastfeeding. Be certain to cover the following points: <ul style="list-style-type: none"> ▪ Only breastmilk means only breastmilk (exclusively breastfed infants should receive nothing else—not even water). ▪ Proper breastfeeding technique minimises nipple fissures (cracks) and mastitis. ▪ Early recognition and treatment of breast problems is important for continued success. ▪ As strategies to minimise the risk of MTCT, early cessation of breastfeeding and wet nursing may or may not be appropriate, given a patient's family, community, or cultural setting. ▪ Early cessation may bring physical discomfort for the mother and emotional stress for both mother and infant. ▪ Mixed breast and replacement feedings increase the risk of MTCT. Review the rationale—irritation of intestinal mucosa, etc. ▪ Refer to the tables presented earlier in this module to identify the primary benefits and risks of each breastfeeding option, ensuring that early cessation of breastfeeding is mentioned. Ask participants whether they can think of other factors that were not mentioned. ▪ Encourage participants to consider strategies to minimise the risks of each breastfeeding option. Ask participants to volunteer some suggestions to the group. ▪ Record participants' responses on the flipchart, whiteboard, or blackboard. ▪ Highlight factors crucial to safer replacement feeding (boiled water, clean utensils, availability of vitamins and sugar for home-modified formula, and cup feeding).
<p>Debriefing</p>	<ul style="list-style-type: none"> ▪ Emphasise that each feeding option should be explored for safer implementation practices. ▪ Remind participants that selecting an option is just the beginning and that ongoing support will be required to maximise success. and ensure proper growth and development of the child, especially during the first two years of life.

SESSION 3 Infant-Feeding Counselling and Support



Advance Preparation

For the Exercise 4.3 role play, if necessary, adapt the sample roles provided to reflect the jobs that your participants will have after completing the course. For example, if your participants will all work in antenatal clinics, then discard all postnatal roles, because they will not apply to your participants. Make sure that the roles reflect all infant-feeding options in your area.

Make copies of the sample roles for participants to use in the role-play exercise.

If the session is being conducted at a location where participants can demonstrate preparation of infant formula, have available measuring spoons, powdered formula, mixing spoons, water, and feeding cups. For home-modified formula, have available milk, sugar, water, vitamin syrup, measuring spoons, feeding cups, and anything else that may be used in your area to prepare formula.



Total Session Time: 100 minutes



Make These Points

- Safer infant-feeding practices and the challenges they represent vary from community to community.
- Infant-feeding guidelines can direct counselling and education, promote safety, and minimise MTCT risk.

Counselling about infant feeding

A woman who is HIV-infected should receive counselling that includes:

- Information about the risk of HIV transmission through breastfeeding
- Information about the advantages and disadvantages of various infant-feeding options
- Guidance in selecting and adhering to the option most suitable for her situation
- Respect for local customs, practices, and beliefs when presenting infant-feeding choices

How to prepare non-breastfeeding women for questions

In many cultures, women are expected to breastfeed their infants for one year or longer. If the infant is not breastfed or if breastfeeding is discontinued early, questions about the mother's HIV status may arise. Once a woman decides how she plans to feed her infant, ideally during the antenatal period, the healthcare worker should help her prepare to answer questions about her choice.

During the counselling process, healthcare workers should ask women specific questions, such as "What will you say when your mother-in-law or neighbour asks you why you are not breastfeeding or why you have stopped breastfeeding?" or "What will you tell your husband when he tells you to give the baby porridge when you have chosen to breastfeed exclusively?" The healthcare worker may help the mother prepare to answer these questions. The counselling session may also be an opportunity to further discuss issues that relate to disclosure of the mother's HIV status to the family.

As PMTCT programmes expand, community education and mobilization activities should be developed to help women undertake the choice of not breastfeeding or stopping breastfeeding early. They should also be aimed at helping mothers who choose to exclusively breastfeed to maintain that choice.

For information on stigma related to replacement feeding or early cessation of breastfeeding, see *Module 5: Stigma and Discrimination Related to MTCT*.

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

Additional training in infant-feeding counselling and support

Infant-feeding counselling for women who are HIV-positive is an integral part of every PMTCT programme and requires that counsellors have many specific skills. Special WHO training courses exist about general breastfeeding and infant-feeding counselling and support (a 40-hour course) and for HIV and infant-feeding counselling (a 3-day course). Healthcare workers who are expected to provide infant-feeding counselling should have this type of training. Specific infant-feeding counselling skills include listening and learning, building the client's confidence, giving support, and providing information.



Trainer Instructions

Slides 19 and 20

Review the following information about infant-feeding counselling, education, and support.

Infant-feeding counselling, education, and support is

- Provided during both the antenatal and postnatal periods
- Based on country or local guidelines and includes an understanding of the sustainable resources accessible to the mother and her family
- Based on the individual woman's circumstances, including her health, social, and financial status as well as her customs and beliefs

Infant-feeding counselling, education, and support also

- Includes information on various feeding options, including the advantages and disadvantages of each
- Provides women with the skills needed to feed their infants safely
- Includes demonstrations and/or opportunities for practice
- Encourages partner or family involvement in infant-feeding decisions

- Supports women when they disclose their HIV status to loved ones.



Trainer Instructions

Slide 21

Explain the recommended scheduling for counselling visits, using the information below.

Counselling visits

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

The counsellor should visit the mother and infant immediately after the birth and schedule another visit within 7 days to monitor postpartum and infant-feeding progress.

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

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



Trainer Instructions

Slides 22 and 23

Figure 4.1 presents a flowchart that lists steps to be followed for counselling mothers who are HIV-infected about their infant-feeding choices. Use the following directions to go through the flowchart and review the steps with the participants.

Infant-feeding counselling steps for women who are HIV-infected

The flowchart in Figure 4.1 illustrates the six steps for counselling mothers infected with HIV about infant feeding. Use the flowchart on the next page as follows:

If this is the mother's first infant-feeding counselling session and...

She is early in her pregnancy:

- Do Steps 1–4.
- Ask her to return in her third trimester to learn how to implement the feeding method (Step 5).

She is late in her pregnancy:

- Do Steps 1–5.

She already has a child and is breastfeeding or mixed feeding:

- Do relevant parts of Steps 1–5.

She already has a child and is using only replacement feeding:

- Do relevant parts of Step 5 and Step 6.

If the mother has already been counselled and chosen a feeding option and...

She is still pregnant or newly delivered, but has not yet been counselled on how to succeed in her selected feeding method:

- Begin with relevant parts of Step 5.

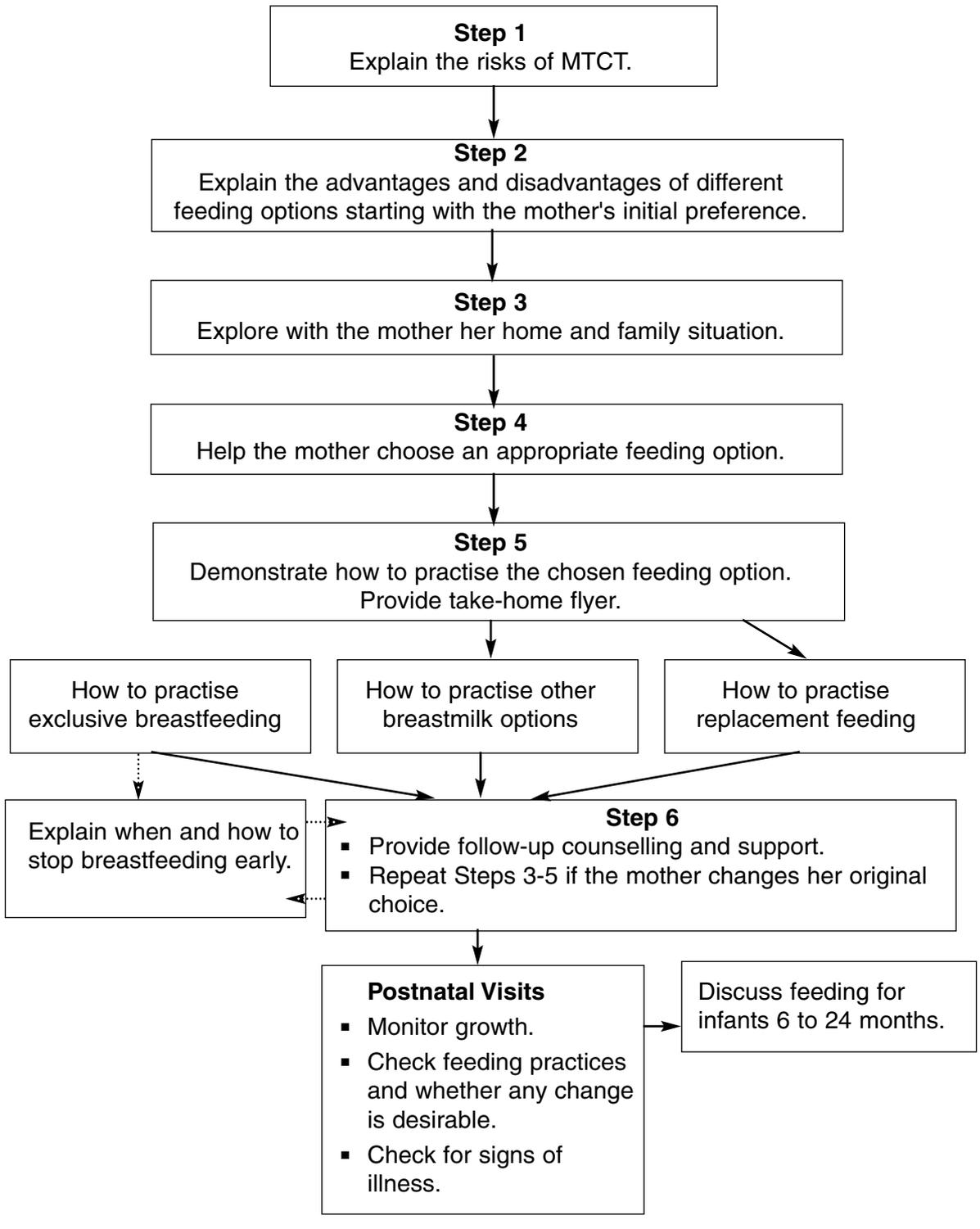
If she already has a child:

- Begin with Step 6.

If this is a follow-up visit...

- Begin with Step 6.

Figure 4.1 Infant-feeding counselling for women who are HIV-positive counselling flowchart



Postnatal visits

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



Trainer Instructions

Facilitate and discuss reactions to the role play about infant-feeding counselling in Exercise 4.3 below.

Exercise 4.3 Infant-feeding counselling and support: role play	
Purpose	To provide information on issues that may arise when counselling for infant feeding.
Duration	70 minutes
Introduction	<p>Ask participants to pair up with another person; one will play the role of "mother" and one will act play the role of "infant-feeding counsellor." If there are an odd number of participants, assign three people to one of the groups.</p> <p>Ask participants to refer to the "Infant-feeding counselling for mothers who are HIV-infected" flowchart in Figure 4.1.</p>
Activities	<p>Sample roles are printed on the page following this exercise. Feel free to use them or adapt the roles to a setting that is more realistic for your group. Some of the sample roles apply in antenatal settings and others in postnatal settings. Pick roles that are appropriate to participants' learning needs but make sure that a range of feeding options is presented. Co-facilitator of session should meet with "mothers" separately.</p> <ul style="list-style-type: none">▪ Assign each "mother" a patient role (see suggested roles for Exercise 4.3 below) based on scenarios typical for your area.▪ Have the "mothers" introduce themselves to their "infant-feeding counsellors," noting whether they are in an antenatal or postnatal setting.▪ Ask the "infant-feeding counsellors" to take the lead and follow the flowchart steps that are applicable to their patients.▪ Allow 30 minutes for the participants to complete the role-play.▪ After 30 minutes, ask the participants to reconvene as a large group. Conduct the debriefing for the exercise in the large group.
Debriefing	<p>Ask the "mothers" what they thought of the counselling session.</p> <ul style="list-style-type: none">▪ What were the main points learned in the session?▪ How has the session changed the way you would feed your infant?▪ If you would not make any changes, why not?

Exercise 4.3 Infant-feeding counselling and support: role play

Ask the "infant-feeding counsellors" to talk about the session by answering the following questions.

- Were there difficulties with any of the steps? If so, why were they difficult?
- Which steps were most troublesome?
- What can participants do to become more competent in providing infant-feeding support?
- Did you feel that you needed to use counselling skills to work with a "mother" who was fearful, anxious, or upset?

**Trainer Instructions**

Below are sample "mother" roles for the role-playing exercise on infant-feeding counselling and support. Use these roles or create roles that more accurately reflect your participants' needs. Photocopy this page (or write scenarios on separate slips of paper). If you photocopy the page, use scissors to cut along the dashed lines, separating the roles into strips. Give each "mother" one of the strips to help her remember the details of her role during the exercise.

Suggested patient roles for Exercise 4.3, infant-feeding counselling and support

Antenatal visit

Your name is Jennifer. You are HIV-infected and will probably breastfeed because you know that you cannot afford to buy commercial infant formula. You breastfed your first baby. This is your second child, due in 1 month.

Antenatal visit

Your name is Jasmine. You are HIV-infected and expect to give birth next month. Because you want to protect your baby from HIV infection, you want to know more about home-modified formulas. You and your husband own two cows, so it would be convenient and inexpensive to make your own home-modified formula, but you understand that it is quite complicated.

Antenatal visit

Your name is Maya. You are HIV-infected and expect to give birth in 3 months. Your home and financial situation are such that you feel confident that you could purchase and prepare commercially available infant formula. However, you have heard that many infants get diarrhoea when fed formula, so you are concerned.

Postnatal visit

Your name is Mercy. You have been breastfeeding your baby for 3 months and would like advice on reducing your baby's risk of HIV. You are willing to stop breastfeeding and start cup feeding the baby, but you are worried about discomfort from engorged breasts and how to comfort your baby during the transition period.

Postnatal visit

Your name is Pairing. You have been feeding your 3-month-old baby commercial formula since he was born. You have several questions about cleaning the cups and equipment, diluting formula when the money is tight, and introducing complementary foods.



Trainer Instructions

Slides 24, 25 and 26

Review the key points in this module, as discussed in the box below.

Module 4: Key Points

- All women who are HIV-positive need infant-feeding counselling and support.
- HIV transmission risk continues the entire time a mother who is HIV-infected breastfeeds her child.
- The mother has the right to choose how she wants to feed her infant; the health-care worker's job is to support her choice.
- Mothers who are HIV-positive should avoid breastfeeding when replacement feeding is acceptable, feasible, affordable, sustainable, and safe.
- Exclusive breastfeeding and early breastfeeding cessation are appropriate when breastfeeding is the chosen option.
- Counselling, education, and support are key to establishing and maintaining safer infant-feeding practices.
- Postnatal counselling and infant follow-up are required throughout the first 2 years of the infant's life.
- PMTCT staff can prevent spillover or misuse of replacement feeding in three ways:
 - Promote exclusive breastfeeding for the general population
 - Discourage use of replacement milk supplies by mothers whose infants do not need them
 - Respect the International Code of Marketing of Breast Milk Substitutes

APPENDIX 4-A United Nations infant-feeding recommendations for mothers who are HIV-infected

UN infant-feeding recommendations (2001) for mothers who are HIV-infected are as follows:

- When replacement feeding is acceptable, feasible, affordable, sustainable, and safe (terms defined in Session 1), avoidance of all breastfeeding by HIV-infected mothers is recommended.
- Otherwise, exclusive breastfeeding is recommended during the first months of life.
- To minimise HIV transmission risk, HIV-positive mothers should discontinue breastfeeding as soon as feasible, taking into account local circumstances, the individual woman's situation, and the risks of replacement feeding (which include malnutrition and infections other than HIV).
- The UN suggests early cessation of breastfeeding with safe transition (over a period of a few days or up to 2 weeks), recognising that this is difficult and that the mother and infant will require support.
- When HIV-positive mothers choose not to breastfeed from birth or stop breastfeeding later, counsellors or healthcare workers should provide them with specific guidance and support for at least the first 2 years of the child's life to ensure adequate replacement feeding.
- Programmes should make replacement feeding safer for HIV-positive mothers and families.
- All HIV-infected mothers should receive counselling, which includes promotion of general information about the risks and benefits of various infant feeding options, and specific guidance in selecting the option most likely to be suitable for their situation.
- Whatever a mother decides, she should be supported in her choice.

This appendix was adapted from the following:

- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for decision-makers*, Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_DM.pdf
- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for health care managers and supervisors*. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_MS.pdf

APPENDIX 4-B Advantages of cup feeding

Breastmilk substitutes should be given from a cup.

Healthcare workers should explain to mothers and families that cup feeding is preferable for the following reasons:

- Cups are safer, as they are easier to clean with soap and water than bottles.
- Cups are less likely than bottles to be carried around for a long time (which gives bacteria the opportunity to multiply).
- Cup feeding requires the mother or other caregiver to hold and have more contact with the infant and provides more psychosocial stimulation than bottle feeding.
- Cup feeding is better than feeding with a cup and spoon because spoon feeding takes longer and the mother may stop before the infant has had enough. However, some caregivers prefer to use a cup and spoon.

Feeding bottles are not necessary and for most purposes they are not the preferred option.

Using feeding bottles and artificial teats should be actively discouraged because:

- Bottle feeding increases the infant's risk of diarrhoea, dental disease, and ear infections.
- Bottle feeding increases the risk that the infant will receive inadequate stimulation and attention during feedings.
- Bottles and teats need to be thoroughly cleaned with a brush and then boiled for sterilisation; this takes time and fuel.
- Bottles and teats cost more than cups and are less readily available.

Healthcare workers should receive training to show mothers and families how to cup feed.

How to feed an infant with a cup

- Hold the infant sitting upright or semi-upright on your lap.
- Hold the cup of milk to the infant's lips.
- Tip the cup so that the milk just reaches the infant's lips and it rests lightly on the infant's lower lip.
- The infant will become alert and open its mouth and eyes.*
- **Do not pour** the milk into the infant's mouth. Hold the cup to the infant's lips and let the infant take it.
- When the infant has had enough, he/she will close its mouth and take in no more milk.
- Measure the infant's intake at each feeding over 24 hours.

* Low-birthweight infants will start to take milk with the tongue. A full-term or older infant will suck the milk, spilling some.

This appendix was adapted from the following:

- WHO, UNICEF, and USAID. 2004. *HIV and infant feeding counselling tools*. Currently in print, to be available in late 2004 from http://www.who.int/child-adolescent-health/NUTRITION/HIV_infant.htm
- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for decision-makers*, Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_DM.pdf
- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for health care managers and supervisors*. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_MS.pdf

APPENDIX4-C Feeding from 6–24 months

All infants, including infants who continue to be breastfed, require nutritious foods beginning at about 6 months of age. The term complementary food refers to any food, whether manufactured or locally prepared, suitable as a complement to breastmilk or a breastmilk substitute. This term is preferred because it implies that the newly introduced foods are provided in addition to the milk feeds; they are not intended to replace milk at this point. Replacement feeding describes the use of alternative foods when there is no breastfeeding, such as a commercial or home-modified breastmilk substitute.

Infants should receive continued frequent breastfeeding or cup feeding with commercial infant formula or other milk into the second year of life.

Recommendations for complementary feeding should be based on locally available foods and feeding practices. General principles for complementary feeding include the following:

Introducing complementary foods

- Begin introducing complementary foods in small amounts at 6 months of age. The amount of food required will increase as the child gets older. (See table below.)
- After complementary foods have been introduced, the infant will continue to need breastmilk or milk in some form frequently throughout the day.
- For infants who are not breastfed, animal milk requirements after 6 months are about 1 to 2 cups per day.
- Infants older than 6 months do not require dilution of animal milks. However, fresh animal's milk should still be boiled.
- No special preparation is needed for processed, pasteurised, or ultra-heat treated (UHT) milk. However, the mother or caregiver should increase the number of complementary feedings as the child gets older. The appropriate number of feedings depends on the energy density of the local foods and the usual amounts consumed at each feeding. When no milk is available, the diet should include other animal-source foods and/or enriched foods.
- The table on the next page shows the type, frequency, and amounts of complementary foods that the average healthy infant requires at different ages. If the energy density or the amount of food per meal is low, more frequent feedings may be required.
- Energy requirements are higher for unhealthy infants because of the metabolic effects of infections. Energy requirements also are higher for infants who are severely malnourished and undergoing nutritional rehabilitation.
- Gradually increase food consistency and the variety of foods offered as the infant gets older, adapting to the infant's nutritional requirements and physical abilities.

APPENDIX 4-C Feeding from 6–24 months *(continued)*

Age	Texture	Frequency	Amount at each meal+
6 months	Soft porridge; well mashed vegetable, meat, or fruit	2 times a day plus frequent milk feeds	2–3 tablespoons
7–8 months	Mashed foods	3 times a day plus frequent milk feeds	2/3 cup [‡]
9–11 months	Finely chopped or mashed foods,	3 meals plus 1 snack between and foods that baby can pick up	2/3 cup [‡]
12–24 months	Family foods, chopped or mashed if necessary	3 meals plus 2 snacks between meals plus milk feeds	1 full cup [‡]

If baby is not breastfed, give in addition: 1-2 cups of milk per day, and 1-2 extra meals per day

+ This chart should be adapted to the local context, using local utensils to show the amount

‡ One cup = 250 ml

- Offer children 6 months and older an increasing variety of nutrient-dense foods. On a daily basis, or as often as possible, they should eat animal foods such as meat, poultry, fish, eggs, dairy products, or other adequate local sources of protein. Children should also eat fruit and vegetables that are rich in vitamin A daily. Satisfying the nutritional needs of children in this age group through a vegetarian diet is difficult.
- If nutritionally adequate complementary foods or fortified complementary foods are not available locally, consider giving the child a vitamin-mineral supplement to avoid growth and development deficiencies.
- Mothers and caregivers should avoid giving drinks with low nutrient value, such as tea and coffee (which interfere with iron absorption) and sugary drinks such as soda. The amount of juice offered should be limited to avoid displacing more nutrient-rich foods.
- Avoid offering foods that may cause choking, such as those that have a shape or consistency that could cause the food to become lodged in the trachea. Foods to avoid include nuts, grapes, and raw carrots.

Responsive feeding

- Feed infants directly and assist older children when they feed themselves, being sensitive to when the infant or child is hungry or full.
- Feed slowly and patiently, encouraging the child to eat, but do not force food.
- Encourage food intake by experimenting with different food combinations, tastes, and textures, especially if the child refuses to eat.
- Minimise distractions during meals if the child loses interest easily.
- Remember that feeding times are periods of learning and love: talk to children during feeding, using eye-to-eye contact.

APPENDIX 4-C Feeding from 6–24 months *(continued)*

Good hygiene and proper food handling

- Wash hands before food preparation and eating.
- Store foods safely and serve foods immediately after preparation.
- Use clean utensils to prepare and serve food.
- Use clean cups and bowls to feed children.
- Avoid using feeding bottles, which are difficult to keep clean.

Feeding children with allergies and illnesses

Mothers and caregivers of infants and young children with a family history of allergies or food sensitivities should delay introducing cow's milk, egg whites, and fish until after the infant reaches 12 months of age, and should not feed the child peanuts or other nuts until after the child is 3 years old.

When the child's age permits, mothers and caregivers should give the child increased amounts of fluids when they are ill, and encourage them to eat semisolid or solid foods. After the illness, mothers and caregivers should offer their children at least one extra meal a day and encourage them to eat more.

This appendix was adapted from the following:

- WHO, UNICEF, and USAID. 2004. *HIV and infant feeding counselling tools*. Currently in print, to be available in late 2004 from http://www.who.int/child-adolescent-health/NUTRITION/HIV_infant.htm
- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for decision-makers*, Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_DM.pdf
- WHO and UNAIDS. 2003. *HIV and infant feeding: Guidelines for health care managers and supervisors*. Retrieved 30 July 2004, from http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_MS.pdf