SPOTLIGHT

A series of updates on critical infant and young child feeding issues

LINKAGES

Transition to Replacement Feeding by HIV-Positive Women Who Breastfeed

Many gaps remain in our knowledge of the risks associated with various infant feeding strategies under different conditions. This guidance, based on the best information currently available, is for HIV-positive women who choose to transition from breastfeeding to replacement feeding at about 6 months.

Infant feeding options pose a dilemma for the HIV-positive mother. Without interventions to reduce the risk of HIV transmission through breastfeeding, approximately 10 percent to 20 percent of infants of HIV-positive mothers would be infected this way if breastfed for 18–24 months. Choosing not to breastfeed eliminates this risk but could increase the risk of malnutrition, diarrhea, and acute respiratory infections—major causes of infant death.

Feeding options should be as safe as possible. UN agencies recommend that HIV-infected women avoid breastfeeding when replacement feeding is acceptable, feasible, affordable, sustainable, and safe. As long as these criteria are not met, they recommend exclusive breastfeeding "during the first months of life."[1] HIV-positive women who breastfeed can reduce the risk of transmission by preventing and treating cracked nipples, mastitis, and breast abscess.

The appropriate time to stop breastfeeding must always be assessed on an individual basis. The World Health Organization recommends that an HIV-negative mother breastfeed for 2 years and beyond. However, for the HIV-positive mother, early cessation of breastfeeding shortens the duration of an infant's exposure to HIV. The age at which replacement feeding becomes acceptable, feasible, affordable, sustainable, and safe is imprecise and depends on the environment and socioeconomic conditions in the household.

Under conditions common in resource-limited settings, many experts recommend a transition from exclusive breastfeeding to replacement feeding at or before 6 months of age. After the first few months of infancy, the risks to infant survival associated with the use of breastmilk substitutes, such as infant formula and animal milk, are reduced. At about 6 months the infant is also better able to tolerate undiluted[2] animal milk and a variety of semi-solid foods, so the options for replacement feeding become safer, less difficult, and less expensive than replacement feeding at an earlier age.

Definition of Terms

Breastmilk substitute: any food marketed or used as a partial or total replacement for breastmilk, whether or not suitable for that purpose

Exclusive breastfeeding: giving an infant only breastmilk and no other solids or liquids, not even water

Replacement feeding: giving an infant who is not receiving any breastmilk a nutritionally adequate diet until the age at which the child can be fully fed on family foods

Transition: a period and process to accustom the infant and mother to new feeding patterns, after which all breastmilk is replaced with breastmilk substitutes

Transitioning to replacement feeding at about 6 months[3]

A woman who chooses to transition to replacement feeding at about six months can minimize her discomfort and allow time for the infant to adjust to the new feeding patterns over a period of 2–3 days to 2–3 weeks. An open cup, rather than a bottle, should be used for transitional and replacement feeding. Bottles and nipples are difficult to clean and are often contaminated.

To aid in the transition from breastfeeding to replacement feeding, the mother can:

- *Accustom the infant to cup feeding* by introducing expressed breastmilk by cup. One strategy is to offer expressed breastmilk by cup between regular breastfeeds. This will help the baby get used to cup feeding.
- *Eliminate one feeding at the breast at a time* once the infant accepts cup feeding and replace with expressed breastmilk given by cup.
- *Express breastmilk and discard it if the breasts become engorged* during this process. Use cold compresses to reduce the inflammation due to engorgement.

LINKAGES ♦ Academy for Educational Development ♦ 1825 Connecticut Avenue, NW, Washington, DC 20009
Phone (202) 884-8221 ♦ Fax (202) 884-8977 ♦ E-mail linkages@aed.org ♦ Website www.linkagesproject.org

- *Avoid reinitiating breastfeeding after completing the transition to replacement feeding.* Resist the desire to breastfeed at nighttime or when the child wants comforting.

Feeding infants 6–8 months of age

If breastfeeding is stopped at around 6 months, parents need to know how to prepare adequate and appropriate breastmilk substitutes and semi-solid foods to ensure the infant's health, growth, and development.

Appropriate breastmilk substitutes

Milk products are good sources of energy and other nutrients for the non-breastfed child. Milks appropriate for infants 6–8 months old include:

- *Commercial infant formula:* Follow directions on the tin and safety guidelines (see box)
- *Fresh animal milk:* Bring to a boil to kill any germs
- *Powdered full-cream milk or evaporated milk:* Add boiled water to make the equivalent amount of fresh cow's milk, as instructed on the package or tin
- *Processed/pasteurized or ultra-high temperature (UHT) milk:* No preparation needed

Sweetened condensed milk and skimmed milk should *not* be used as breastmilk substitutes. They are nutritionally inferior to other types of milk.

Breastmilk substitutes should be fed by cup. If refrigeration is not available, any milk left in the cup after the feed should be thrown away, used in cooking, or consumed by another family member.

Infants with diarrhea should continue to receive milk along with extra liquids and other foods to prevent dehydration and weight loss.

Feeding powdered infant formula or powdered milk safely requires:

- *Water* that has been boiled vigorously for a few seconds and cooled
- *Adequate supplies of fuel* to boil the water
- *Utensils* to prepare and feed the formula (pan, cups, measures for water and milk, spoon, tongs to remove utensils from hot water) and adequate quantities of water and soap to clean the utensils
- *Good hygiene,* proper sanitation, and a clean surface to prepare the milk
- *Careful preparation* to avoid a mixture that is too concentrated or too diluted
- *Time* to prepare feeds several times a day if refrigeration is not available

Introduction of soft, appropriate foods

At 6 months an infant needs more than milk to satisfy nutrient needs. At this age the infant is developmentally ready for soft and semi-solid foods. These foods should be adequate in quantity and quality, safely prepared, and properly stored.

Quantity and frequency: At 6 months infants can eat pureed, mashed, and semi-solid foods. By 8 months they can feed themselves cut-up fruit and vegetables. The amount of food and the number of feedings will increase as the child gets older. Infants 6–8 months old should receive 2–3 feedings of complementary food, with nutritious snacks offered 1–2 times per day, as desired. The appropriate number of feeds depends on the energy density of the local foods and the usual amounts consumed at each feed.

Quality: Infants should eat a variety of nutrient-rich foods, including animal products, fruits, and vegetables. Iron supplements should be given daily to non-breastfed infants according to national protocols if a daily vitamin-mineral supplement, iron-fortified food, or iron-fortified commercial formula is not available. In vitamin A deficient areas, infants should receive a semi-annual, high-dose vitamin A supplement starting at 6 months.

Hygiene: Handwashing, clean utensils, and safe food preparation and storage can prevent the introduction of dirt and germs that might cause diarrhea and other infections. Liquids such as juices should be fed from a small cup or bowl, not a bottle.

Detailed guidelines on breastfeeding, breastmilk expression, preparation of breastmilk substitutes, and complementary feeding are available in LINKAGES' *Infant Feeding Options in the Context of HIV*, found at www.linkagesproject.org.

Endnotes

1 WHO. HIV and infant feeding: framework for priority action. Geneva: World Health Organization, 2003.

2 Animal milks given to infants less than six months need to be modified by adding boiled water, sugar, and micronutrients.

3 Instead of replacement feeding, a mother may choose to feed the infant her heat-treated, expressed breastmilk or have a wet nurse feed the child. Wet nursing should only be considered if the wet nurse is offered HIV counseling and testing, voluntarily takes a test, tests HIV negative, and practices safe sex. A small chance exists that an HIV-positive infant could pass the virus to a wet nurse if the infant had a sore in the mouth or the wet nurse had a breast condition such as cracked nipples.

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