

Challenging Assumptions: Breastfeeding and HIV/AIDS

UNICEF and the American Academy of Pediatrics recommend breastfeeding for all infants, no matter where they are born. These recommendations are based on the unique nutritional and bioactive properties in breast milk shown to protect infants from infectious diseases such as diarrhea and respiratory illnesses,¹ as well as chronic diseases later in life such as asthma, Type 1 diabetes, and some childhood cancers.²

In 1985, when human immunodeficiency virus (HIV) was first discovered in breast milk, it presented the health community and HIV-positive mothers in developing countries with a difficult dilemma: risk HIV transmission through breastfeeding or greatly increase the likelihood of infant morbidity and mortality with infant formula and other breast milk substitutes. Each year, an estimated 200,000 to 350,000 infants in developing countries become infected with HIV through breast milk.³ At the same time, over ten million children under age five die each year from mostly preventable conditions and diseases, including malnutrition, pneumonia, neonatal causes, and diarrhea. Notably, malnutrition during the first two years of life accounts for 35 percent of these preventable deaths.⁴

Perinatal HIV transmission can occur during pregnancy, delivery, or postpartum breastfeeding. The postpartum HIV transmission rate ranges from approximately 5 to 15 percent, depending on factors including the health status of the mother (CD4 counts), if a child is exclusively breastfed during the first six months of life, and the overall duration of breastfeeding.

Balancing risks

Completely avoiding breastfeeding is not a safe or feasible option for many HIV-positive mothers in resource-poor areas. Although commercial infant formula is the recommended infant feeding option for HIV-positive mothers in developed countries, mothers in poor countries face issues such as the expense of infant formula, lack of access to safe water, unsanitary living conditions, increased risks to their children from common childhood illnesses, inadequate health care, and socio-cultural factors.

Early childhood illnesses like diarrhea and pneumonia—which pose less risk to children in the United States—are far more severe and life threatening to children in other parts of the world. In one study, formula feeding was associated with a 14-fold increase in diarrhea-associated mortality for all infants and a 25-fold increased risk in infants less than two months old.⁵ A recent study in Ghana, India, and Peru also found that non-breastfed infants had a 10-fold higher risk of dying when compared to predominantly breastfed infants.⁶

Maternal and child undernutrition is the underlying cause of 3.5 million deaths and 35 percent of the disease burden in children younger than five years.⁷



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Botswana case study: Why free infant formula is not enough

In 1997, the Botswana government provided free infant formula for new mothers. Following the implementation, researchers soon found that government clinics often ran out of cans of formula, forcing parents and grandparents to buy cow's milk and feed their children with diluted porridge or even flour and water.

In 2006, heavy rains caused public water supplies to become contaminated; 26 villages in northeastern Botswana had contaminated water pipes. The contamination led to more than 35,000 cases of diarrhea in three months. At least 532 children—20 times the usual number of deaths from diarrhea—died during the outbreak. All of these infants had been formula fed.

Researchers found that infants who were not breast-fed were getting sick primarily from contaminated water. Among a group of infants at one hospital, those admitted for diarrhea were 50 times more likely to be taking formula or cow's milk compared with those admitted for other illnesses. In addition, the researchers found that in one village, 30 percent of infants receiving formula had died; there were no deaths reported for the breastfed children in the same village.⁸

Benefits of breastfeeding—particularly exclusive breastfeeding—in the first six months

The benefits of breastfeeding are well documented:

- Breast milk is the only food perfectly designed for human consumption, easily digestible, always the right temperature, hygienic, and available at no cost to the mother.
- Breast milk contains important immunologic components that help protect against pathogens and result in fewer deaths and illnesses among exclusively breastfed infants.
- Exclusive breastfeeding for the first six months of an infant's life promotes maturation of the intestines and prevents damage to the lining of the intestines. This may explain why exclusively breastfed children have a lower risk of acquiring HIV compared to infants whose mothers use mixed feeding. Breastfeeding also nurtures the development of beneficial microflora that lower intestinal pH, which prevents the growth of pathogens. Additionally, in the mother, exclusive breastfeeding promotes successful milk production, which reduces breast inflammation and may also decrease HIV transmission.
- Exclusive breastfeeding is a feasible and effective public health solution—one controlled by mothers. Extensive programmatic evidence from countries throughout the world demonstrates that simple and effective models of counseling and support for breastfeeding mothers are extremely effective in increasing rates of exclusive breastfeeding for up to six months.

Exclusive breastfeeding during the early months of life is also shown to significantly reduce the risk of HIV transmission compared to early mixed feeding (giving breast milk plus other liquids or foods). In Côte d'Ivoire, South Africa, and

Zimbabwe, for example, exclusive breastfeeding for up to six months was associated with a three- to four-fold decrease in HIV transmission compared to non-exclusive breastfeeding.⁹

Recommendations

Increase adoption of recent World Health Organization (WHO) guidelines on infant feeding and HIV

The goal of improving infant feeding practices among HIV-positive mothers is to improve infant survival while minimizing the risk of HIV transmission. The WHO recommends that HIV-positive mothers breastfeed exclusively for six months unless replacement-feeding is acceptable, feasible, affordable, sustainable, and safe (AFASS). The WHO also recommends continued breastfeeding after six months until it is AFASS to stop. Understanding and adoption of these recommendations in appropriate settings are far from universal and need to be promoted and incorporated in national and local protocols in all at-risk areas.

Extend support to cover the first full two years of life

Without education, services, and support, many HIV-exposed women stop breastfeeding at six months in order to decrease their infants' exposure to HIV. However, recent data show that young infants who stop breastfeeding at such a young age are at extreme risk for morbidity and mortality. Therefore, it is critical that adequate funding and support are available to ensure that HIV-positive mothers have access to the individualized advice, care, and support that will help them to maximize their baby's HIV-free survival.

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