What are the options?

Using formative research to adapt global recommendations on HIV and infant feeding to the local context

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Explanation of terms

Acquired immunodeficiency syndrome (AIDS): the active pathological condition that follows the earlier, non-symptomatic state of being HIV-positive.

Acceptable, feasible, affordable, sustainable and safe (AFASS): These terms refer to the conditions that should be in place for replacement feeding.

Artificial feeding: feeding with breast-milk substitutes.

Bottle-feeding: feeding from a bottle, whatever its content, which may be expressed breast milk, water, infant formula, or another food or liquid.

Breast-milk substitute: any food being marketed or otherwise represented as a partial or total replacement for breast milk, whether or not suitable for that purpose.

Cessation of breastfeeding: completely stopping breastfeeding, including suckling.

Commercial infant formula: a breast-milk substitute formulated industrially in accordance with applicable Codex Alimentarius standards to satisfy the nutritional requirements of infants during the first months of life up to the introduction of complementary foods.

Complementary feeding: the child receives both breast milk or a breast-milk substitute and solid (or semi-solid) food.

Complementary food: any food, whether manufactured or locally prepared, used as a complement to breast milk or to a breast-milk substitute.

Cup-feeding: being fed from or drinking from an open cup, irrespective of its content.

Exclusive breastfeeding: an infant receives only breast milk and no other liquids or solids, not even water, with the exception of drops or syrups consisting of vitamins, mineral supplements or medicines.

Human immunodeficiency virus (HIV): the virus that causes AIDS. In this document, the term HIV means HIV-1. Mother-to-child transmission of HIV-2 is rare.

HIV-negative: refers to people who have taken an HIV test and who know that they tested negative, or to young children who have tested negative and whose parents or guardians know the result.

HIV-positive: refers to people who have taken an HIV test and who know that they tested positive, or to young children who have tested positive and whose parents or guardians know the result.

HIV status unknown: refers to people who either have not taken an HIV test or do not know the result of a test they have taken.

HIV-infected: refers to people who are infected with HIV, whether or not they are aware of it.

HIV testing and counselling: testing for HIV status, preceded and followed by counselling. Testing should be voluntary and confidential, with fully informed consent. The expression encompasses the following terms: counselling and voluntary testing, voluntary counselling and testing, and voluntary and confidential counselling and testing. Counselling is a process, not a one-off event: for the HIV-positive client it should include life planning, and, if the client is pregnant or has recently given birth, it should include infant-feeding considerations.

Home-modified animal milk: a breast-milk substitute prepared at home from fresh or processed animal milk, suitably diluted with water and with the addition of sugar and micronutrients.

Infant: a person from birth to 12 months of age.

Infant feeding counselling: counselling on breastfeeding, on complementary feeding, and, for HIV-positive women, on HIV and infant feeding.

Mixed feeding: feeding both breast milk and other foods or liquids.

Mother-to-child transmission: transmission of HIV to a child from an HIV-infected woman during pregnancy, delivery or breastfeeding. The term is used in this document because the immediate source of the child's HIV infection is the mother. Use of the term mother-to-child transmission implies no blame, whether or not a woman is aware of her own infection status. A woman can contract HIV infection from unprotected sex with an infected partner, from receiving contaminated blood, from non-sterile instruments (as in the case of injecting drug users), or from contaminated medical procedures.

Programme: an organized set of activities designed to prevent transmission of HIV from mothers to their infants or young children.

Replacement feeding: feeding infants who are receiving no breast milk with a diet that provides the nutrients infants need until the age at which they can be fully fed on family foods. During the first six 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.

'**Spillover':** a term used to designate the feeding behaviour of new mothers who either know that they are HIV-negative or are unaware of their HIV status – they do not breastfeed, or they breastfeed for a short time only, or they mix-feed, because of unfounded fears about HIV or of misinformation or of the ready availability of breast-milk substitutes.

A. Introduction

Mother-to-child transmission (MTCT) of HIV accounts for about 800,000 or 10% of all new HIV infections worldwide each year. Paediatric HIV infection causes premature death when antiretroviral (ARV) treatment is not available. In Africa, for example, 30 to 50% of all untreated HIV-positive children die before their first birthday and fewer than 30% survive beyond 5 years of age (Dray-Spira et al, 2000).

MTCT occurs during pregnancy, at the time of delivery, and after birth through breastfeeding, but HIV transmission is by no means universal. In the absence of interventions to prevent transmission, 5 to 10% of infants born to HIV-infected mothers are infected in-utero, 10 to 15% are infected during childbirth, and another 5 to 20% are infected through breastfeeding (De Cock et al, 2000).

Several conditions are known to increase the risk of HIV transmission during breastfeeding. These include the mother's immune status (Leroy et al, 2003; John et al, 2001) and blood viral load (Richardson et al, 2003; Semba et al, 1999); the duration of breastfeeding (Read et al, 2002); the presence of bleeding nipples (Embree et al, 2000; John et al, 2001), breast inflammation, mastitis, abscesses (Embree et al, 2000; John et al, 2001; Semba et al, 2001; Ekpini et al, 1997) or oral thrush in infants (Embree et al, 2000). Mixed feeding may also increase the risk of HIV transmission (Coutsoudis et al, 1999; 2001). Women who become infected with HIV while they are breastfeeding are also more likely to infect their infants during breastfeeding because of the higher viral load that occurs at this time (Dunn et al, 1992).

ARV prophylaxis given late in pregnancy and/or during labour and delivery reduces the risk of being born with HIV by about half (ranging from 37 to 63%) (Dabis et al, 1999; Guay et al, 1999; Shaffer et al, 1999; Wiktor et al, 1999; the Petra Study Team, 2002, Leroy et al, 2002). However, even with ARV prophylaxis, infants still risk becoming infected with HIV unless steps are taken to reduce postnatal exposure during breastfeeding (WHO, 2001).

The transmission of HIV, the virus causing AIDS, through breastfeeding has created a dilemma for public health programmes and for mothers and families affected by the disease. The benefits of breastfeeding for mother and infant have been well documented (WHO, 2002). The increased risks of infant morbidity and mortality associated with artificial feeding in resource poor settings are also well known (WHO, 2000).

Many documents have been written on HIV and infant feeding (see Annex 1). The UN agencies have published a policy statement (1997), Framework for Priority Action (2003), guidelines for decision-makers and for health-care managers and supervisors (originally published in 1998 and revised in 2003), and a training course on HIV and infant feeding counselling (2000). The most recent recommendations on HIV and infant feeding (WHO 2001; WHO/UNICEF/UNFPA/UNAIDS, 2003) state:

- When replacement feeding is acceptable, feasible, affordable, sustainable and safe, avoidance of all breastfeeding by HIV-positive mothers is recommended.
- Otherwise, exclusive breastfeeding is recommended during the first months of life.
- To minimize HIV transmission risk, breastfeeding should be discontinued as soon as feasible, taking into account local circumstances, the individual woman's situation and the risks of replacement feeding (including infections other than HIV and malnutrition).
- When HIV-positive mothers choose not to breastfeed from birth or stop breastfeeding later, they should be provided with specific guidance and support for at least the first 2 years of the child's life to ensure adequate replacement feeding. Programmes should strive to improve conditions that will make replacement feeding safer for HIV-positive mothers.
- HIV-positive mothers who breastfeed should be provided with specific guidance and support when they cease breastfeeding to avoid harmful nutritional and psychological consequences and to maintain breast health.
- All HIV-positive mothers should receive counselling, which includes provision 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.

- Assessments should be conducted locally to identify the range of feeding options that are acceptable, feasible, affordable, sustainable and safe in a particular context.
- Information and education on prevention of HIV infection in infants and young children should be urgently directed to the general public, affected communities and families.

The purpose of this manual is to provide programme managers, researchers, and policy makers with basic guidance on how to conduct local assessments to establish the range of replacement feeding options and breast-milk feeding options that may be acceptable, feasible, affordable, sustainable and safe (AFASS) in different contexts.[1] Findings from local assessments may also be used to develop national policies, guidelines for health workers, materials for training of counsellors and behaviour change communications strategies to support safe infant feeding in programmes to prevent HIV infection in infants and young children.

The following feeding options, currently recommended for infant feeding by HIV-positive women, are explored:[2]

- Commercial infant formula
- Home-modified animal milk
- Exclusive breastfeeding
- Early breastfeeding cessation
- Wet-nursing by an HIV-negative woman
- Expressing and heat-treating breast milk

Additionally, issues related to complementary feeding, required for children 6 months and older with all the above options, are also explored.

The guidance is based on work already carried out to develop infant feeding recommendations for HIV-positive mothers in sub-Saharan Africa and Asia (1998–2002), as well as many years of experience developing infant feeding recommendations for the Integrated Management of Childhood Illness (IMCI) strategy. This experience strongly suggests that rapid formative research, using a combination of qualitative and quantitative methods along with dietary assessment, provides the information necessary for defining feeding recommendations that are acceptable, feasible, affordable, sustainable, and safe. Recommendations based on this approach are more likely to lead to sustained behaviour change and nutritional improvement in diverse populations (Dickin et al, 1997; Caulfield et al, 2000).