

**Study**

**To Guide Adaptation of Global WHO/UNICEF/UNAIDS Guidelines  
on HIV and Infant Feeding  
for Viet Nam**

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## **EXECUTIVE SUMMARY**

### **Situation Analysis**

HIV/AIDS prevalence rates in Viet Nam are escalating and HIV-infections are spreading from high-risk behaviour groups to the general population. This situation translates into larger numbers of women becoming infected with HIV and rising numbers of infants at risk of being infected by their mothers during pregnancy, delivery and breastfeeding.

The fact that breastfeeding is one of the potential routes of transmission has created a difficult dilemma for policy makers and parents since in resource poor setting not breastfeeding represents another risk to infant health and life. Global guidelines addressing this dilemma of infant feeding in the context of HIV exist, but countries need to develop approaches that take into account their particular circumstances. The Government of Viet Nam, with assistance from UNICEF, has initiated a process of formulating Viet Nam specific guidelines for infant feeding and HIV by having a Situation Analysis conducted and an assessment undertaken of current infant feeding practices and potential infant feeding options for HIV-positive women in Viet Nam for infants below six months. This publication includes both the Situation Analysis and the Assessment Report.

The Situation Analysis showed that indeed the HIV/AIDS epidemic no longer is confined to high-risk behaviour groups, but is spreading to the general population. Hence mother-to-child transmission of HIV can be expected to become a more serious problem. Activities in Viet Nam to prevent mother-to-child transmission have been limited. If women have been counselled on infant feeding, they have probably in most cases been recommended not to breastfeed. The view that breastfeeding should be avoided was expressed in a several documents. For example, the Ministry of Health's National Standards and Guidelines for Reproductive Health Care Services advise: "Consult the mother not to breastfeed her baby to prevent transmission and give counselling on how to use formula milk"<sup>1</sup>. While this and other documents did not qualify the recommendation in any way, it appears that health policy makers now agree that avoidance of breastfeeding should be recommended only when it is acceptable, feasible, affordable, sustainable and safe.

With respect to infant feeding, the Situation Analysis described a society where nearly every woman breastfeeds, but few practice exclusive breastfeeding. The low rates of exclusive breastfeeding were explained by beliefs that pre-lacteal feeds are needed and that fluids and foods, especially water and milk, are necessary additions to the breastfed baby's diet already during the first six months because many women do not have enough breast milk and because Vietnamese women return to work outside the home soon after the baby is born.

### **Assessment**

The assessment of infant feeding practices and potential infant feeding options for HIV-positive women consisted of a comprehensive qualitative study complemented by a quantitative survey component. The qualitative study was conducted in four locations, one

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<sup>1</sup> Ministry of Health. National Standards and Guidelines for Reproductive Health Care Services. Hanoi. 2003.

urban and one rural site in Bac Ninh Province in the north and one urban and one rural site in An Giang Province in the south to ensure a level of geographical representativeness. Purposive samples of mothers (28), grandmothers (30), fathers (30), health workers (14) and a category named the “Oldest women” (16) were interviewed using structured questionnaires. Besides these interviews, in each of the four locations, one focus group with mothers was conducted and market surveys carried out to obtain information on brands, prices and labelling of infant foods available in local shops. A number of “strategic interviews” enabled us to further explore specific issues with: the mother of a bottle-fed baby (1); the grandmother of an orphan (1); health workers (3); individuals in a position to influence policy and programmes (3), and; shop keepers (4). The qualitative data recorded in the questionnaires were systematically sorted and tabulated into data displays by theme, respondent category and location. Since these data displays revealed no apparent differences based on location, the findings are reported from the study as a whole.

The quantitative component consisted of a set of questions incorporated into the annual national nutrition survey. These questions aimed at determining the rate of exclusive breastfeeding using two different methods, the conventional 24-hour recall and recall since birth, and to identify the major obstacles to exclusive breastfeeding. An additional objective was to establish a monitoring tool to be able to identify effects of future efforts to address exclusive breastfeeding.

The general situation of infant feeding, besides providing the context for assessing options for HIV-positive women, is of particular relevance because for infants below six months (the target group for the current assessment) the recommendation is the same as for infants of HIV-positive women for whom replacement feeding is not acceptable, feasible, affordable, sustainable and safe, namely exclusive breastfeeding.

The qualitative study indicated that exclusive breastfeeding is rare in Viet Nam because a number of beliefs encourage practices that jeopardize it and because it is poorly understood and little appreciated as the best way to feed an infant. Supplementation with a variety of fluids and foods during the first six months is the rule and mothers, grandmothers, fathers and also health workers believe that these supplements provide added value. These beliefs are nurtured by a widely held perception that women commonly do not have enough breast milk and by infant food advertising promising superior growth and development for babies who receive their products. The qualitative findings that water and milk supplementation are the two main obstacles to exclusive breastfeeding were confirmed by quantitative survey results. There appeared to be no awareness that supplements could be detrimental.

While Vietnamese women work to a great extent and return to work soon after the baby is born, work outside the home may be more of an imagined than actual obstacle to exclusive breastfeeding. Women appear to have found ways to combine work and breastfeeding so that they do not have to work far away or be away for extended hours. Family members expressed a readiness to support exclusive breastfeeding once they understood its value.

Regarding infant feeding options for HIV-positive women, we assessed replacement feeding options at a national level using as a framework the five individual level conditions Acceptable, Feasible, Affordable, Sustainable and Safe, and rated them as high, medium or

low. Commercial infant formula and whole milk powder were identified as the two most viable replacement feeding options because they are widely available and also seen as suitable for infants. Liquid milk, processed and packaged, initially considered, is less widely available and not thought to be suitable for young infants. The majority of ratings fell in the low to medium range and the only condition rated as high was Sustainability for formula on the basis of it being widely available. The low ratings are a reflection of the fact that exclusive replacement feeding (no breastfeeding at all) is socially and culturally unacceptable; that HIV-positive women tend to be economically deprived and can afford neither formula nor milk powder; and that although education levels in Viet Nam are high, experience from elsewhere has shown, that this is no guarantee for the preparation of nutritionally and hygienically adequate feeds. One may conclude from this rating exercise that in Viet Nam, few HIV-positive will be able to fulfil the conditions for replacement feeding. For an individual HIV-positive woman who does fulfil the five conditions, replacement feeding is still the recommended option.

With respect to the safer breastfeeding options for HIV-positive women, exclusive breastfeeding would become more acceptable if it also were the social norm. Vietnamese women are familiar with expressing breast milk, but not with expressing it in larger quantities and not with heat treatment. Stopping breastfeeding early and rapidly would not be difficult for Vietnamese mothers according to study respondents. The option of wetnursing was not explored as it requires special consideration due to the risk both to the wet nurse and to and to the baby.

For the sake of infants of HIV-negative women and women of unknown status and for infants of HIV-positive women for whom replacement feeding is not acceptable, feasible, affordable, sustainable and safe – the vast majority of infants - the most important intervention is to protect, promote and support exclusive breastfeeding in Viet Nam. While this will require addressing multiple audiences and multiple misconceptions, it is worth keeping in mind that this is not about teaching a complicated health behaviour, but rather asking women to do something simpler than what they are currently doing. The protection, promotion and support of exclusive breastfeeding will be facilitated by a strengthened Code of Marketing of Breast Milk Substitutes (Decree 74 in Viet Nam) implemented and monitored adequately. For working women covered by maternity leave legislation, changing the current four months of maternity leave back to the previous six months would facilitate exclusive breastfeeding for six months.

Additional issues that need to be investigated through small scale action research among HIV-positive women, include: (1) The feasibility of expressing breast milk in adequate quantities and feeding it later; (2) The feasibility of heat-treating breast milk; (3) The feasibility of preparing nutritionally adequate and hygienically safe feeds; (4) The frequency of breast health problems among HIV-positive women and among women who are HIV-negative or of unknown status.

## **I. SITUATION ANALYSIS**

**To Guide Adaptation of Global WHO/UNICEF/UNAIDS Guidelines  
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As the HIV/AIDS epidemic in Viet Nam accelerates and shifts from a concentrated to a generalised level, heterosexual transmission will increase, larger proportions of women will be infected and children infected by their mothers during pregnancy, delivery and breastfeeding will become an increasingly serious problem. The fact that breastfeeding is one of the potential routes of transmission has raised the issue of infant feeding recommendations for HIV-positive women. Since not breastfeeding represents another risk to infant health in resource poor settings policy makers are faced with an enormous public health dilemma and HIV-positive parents with an anguishing choice. A further challenge is that recommendations for infants of HIV-positive women cannot be made in isolation from recommendations for infants of women who have tested negative for HIV or women of unknown serostatus. In Viet Nam, for the foreseeable future the latter two groups will remain much larger than the former.

A rapid situation analysis has been undertaken in preparation for a series of field assessments to inform an adaptation of the global guidelines on infant feeding in the context of HIV for Viet Nam. The situation analysis is based on a review of relevant documents and a number of interviews with national and international health programme staff. It aims to:

- (a) provide a brief orientation regarding the issue of HIV and infant feeding, including the international policy context.
- (b) present a profile of Viet Nam; its HIV/AIDS epidemic and strategies; and infant feeding practices and strategies.

Based on this situation analysis, issues that need to be assessed have been identified and a plan for conducting the assessment presented.

## **HIV AND INFANT FEEDING**

### **The Issue**

The majority of child HIV-infections are believed to be the result of vertical transmission from an HIV-infected woman to her child during pregnancy, delivery and breastfeeding, commonly termed mother-to-child transmission of HIV. The fact that this term unfairly puts the blame on the woman, who often has been infected by the child's father, has inspired a search for a more neutral term such as parent-to-child transmission. Sexual abuse of children is another way that children may contract HIV.

Most infants of HIV-positive mothers do not become infected, 30-45% do. It has been estimated that 5-10% become infected during pregnancy, 10-20% during delivery and 5-20% during breastfeeding (1). The risk of breastfeeding transmission will depend on the duration of breastfeeding. A shorter duration of breastfeeding will mean a smaller risk. Antiretroviral treatment - either AZT (Zidovudine) provided during the last four weeks of pregnancy and at delivery to the mother, or Nevirapine given to both mother and baby at the time of delivery - has been shown to reduce significantly the risk of mother to child transmission of HIV (2-5).

Children who are not breastfed have a significantly higher risk of dying due to diarrhoea and respiratory infections than breastfed children. During the first two months this increased risk is approximately six-fold and drops to two-and-a-half-fold at 6 months (6). Thus, the risk of HIV infection through breastfeeding must be weighed against the risk of morbidity and mortality due to not breastfeeding. International Guidelines (7) state that a woman who has tested HIV-positive should be counselled on different feeding options in order to make her own informed decision based on her particular circumstances and supported in carrying it out. If replacement feeding is acceptable, feasible, affordable, sustainable and safe it is the recommended option.

Women who opt for breastfeeding can minimise the risk of HIV-transmission by making breastfeeding as safe as possible. In particular, this involves breastfeeding exclusively as this has been shown by one study to be associated with the same transmission risk as exclusive artificial feeding for the first three months (8). It also means avoiding "mixed feeding", i.e. breastfeeding combined with some other milk, as this mode of feeding appears to be associated with the highest risk of HIV-transmission (8). In addition, prevention and treatment of breast problems, such as cracked nipples and mastitis, may help reduce the risk of HIV-transmission. A mathematical modelling exercise indicated that a very high proportion of the transmission through breastfeeding may be accounted for by breast health problems (9). Adequate breastfeeding counselling will avoid or significantly reduce such problems. Early treatment of sores or thrush in the infant's mouth will decrease the chance of virus infection through such sores (10).

A shorter duration of breastfeeding has been proposed as a way of reducing the risk of HIV-transmission through breastfeeding. In addition it has been suggested that the cessation of breastfeeding at these early ages be as rapid as possible in order to minimise the duration of mixed feeding. However, these measures may not be easy to translate into practice and it is not clear that the benefits will outweigh the potential risks. Besides the physical and psychological trauma to both mother and infant of early and abrupt cessation of breastfeeding, it will be a considerable challenge to make up for the safety net that continued breastfeeding represents in terms of health protection and nutrition (more than half of the nutrient intake for children over 6 months) (9). A decision to discontinue breastfeeding would be contingent

upon the same considerations of acceptability, feasibility, affordability, sustainability, and safety as replacement feeding since birth.

### **The International Policy Context**

Exclusive breastfeeding defined as breastfeeding with no other fluids or foods, not even water, was spelled out as the optimal way to feed an infant for the first four to six months in the Innocenti Declaration (11) and the International Convention of the Rights of the Child in 1990. As the second signatory of the Convention, Viet Nam has thus been committed to the goal of exclusive breastfeeding for more than a decade. In 2001, an expert consultation concluded and recommended that infants should be exclusively breastfed for 6 months. At this age infants should receive nutritionally adequate complementary foods while breastfeeding continues for two years and beyond (12). These recommendations are spelled out in the Global Strategy for Infant and Young Child Feeding endorsed by WHO and UNICEF. The Global Strategy recognises HIV as one of a number of exceptionally difficult circumstances requiring special attention.

In June 2001, at the United Nation General Assembly Special Session (UNGASS) on HIV/AIDS, governments declared their commitment to take action to “by 2005, reduce the proportion of infants infected by HIV by 20%, and by 50% by 2010 . . .” (1). UNICEF, in its Medium-term Strategic Plan for the period 2002-2005, has identified five organisational priorities, two of which relate to the issue of HIV and infant feeding: “Fighting HIV/AIDS” and “Integrated Early Childhood Development (I/ECD)”, which includes breastfeeding as a central component (14). Guided by these global goals and its own organisational priorities, UNICEF will ensure that national policies, strategies and action plans are being implemented to prevent mother-to-child transmission of HIV in all countries affected by HIV/AIDS (15).

The recently finalised Framework for Priority Action on HIV and Infant Feeding (16), a collaborative effort of a large number of UN-agencies, outlines a four-pronged strategic approach for preventing the transmission of HIV to women and their children:

1. Prevention of HIV in general, especially in young women, and in pregnant women.
2. Prevention of unintended pregnancies among HIV-infected women.
3. Prevention of HIV-transmission from HIV-infected mothers to their infants, and
4. Provision of care, treatment and support to HIV-infected women, their infants and family.

Regarding HIV and infant feeding, covered by area 3 and 4, five priority areas are proposed for government action:

1. Develop or revise a comprehensive national infant and young child feeding policy, which includes HIV and infant feeding.
2. Implement and enforce the International Code of Marketing of Breast-milk Substitutes and Subsequent World Health Assembly resolutions.
3. Intensify efforts to protect, promote and support appropriate infant and young child feeding practices in general, while recognising HIV as one of a number of exceptionally difficult circumstances.

4. Provide adequate support to HIV-positive women to enable them to select the best feeding option for themselves and their babies, and to successfully carry out their infant feeding decisions.
5. Support research on HIV and infant feeding, including operational research, learning, monitoring and evaluation at all levels, and disseminate findings.

Among actions required, qualitative studies are mentioned as a necessary basis for the formulation of relevant policies. While recommending government actions related to infant and young child feeding in the special circumstances associated with HIV/AIDS, the UN Framework for Priority Action, underscores the importance of creating and sustaining “an environment that encourages appropriate feeding practices for all infants, while scaling-up interventions to reduce HIV transmission.”

### **VIET NAM – A COUNTRY PROFILE**

Viet Nam, a country of nearly 80 million people, has made remarkable progress with respect to a number of developmental indicators since launching key reforms through its *doi moi* renovation strategy in 1986. The rate of poverty, according to the international poverty line, fell from 58% in 1993 to around 37% in 1998 and 15% in 2001 (17). These record-sharp declines are ascribed to an economic growth, which can be traced to the country’s strong agricultural performance since the late 1980’s. From having been a country experiencing extreme food insecurity Viet Nam has become one of the world’s largest exporters of rice, coffee and other agricultural commodities. The adult literacy rate reported in 2000 was 94%. Of the 6% who were illiterate, the majority lived in remote rural and mountainous areas and most of them were of ethnic minority background (18).

The maternal mortality rate has declined from around 200/100,000 in the 1980’s to between 130-160/100,000 at present according to one source (19) and 90/100,000 according to another source (20). Utilisation of antenatal services has increased from 57% in 1990-1994 to 72% in 1995-97 (21) and further to 86% in 2000-2002 (22) and the median number of visits for women who received care from 2 in 1997 to 2.5 in 2002 (21, 22). Births that took place in a health facility increased from 62% to 79% and births attended by trained medical personnel from 77% to 85% between 1997 and 2002 (21, 22). Institutional delivery is more common in urban areas (93%) than in rural areas (56%) (25).

The Infant Mortality Rate fell from an estimated 160 in 1960 to under 40 per 1,000 live births in 1999 according to two sources (26, 20) and according to the Demographic and Health Surveys declined from 27 in 1997 (21) to 18 in 2002 (22). Under-five mortality according to recent sources is between 44 (20) and 48 (24) per 1,000 live births whereas the Demographic and Health Surveys reported 38 in 1997 (21) and 24 in 2002 (22).

With such progress, Viet Nam currently ranks 101 out of 162 countries in terms of its Human Development Index (HDI), considerably higher than would be expected from the current per capita GDP of less than USD 400. However, the situation is the reverse for child malnutrition. Viet Nam has higher levels of malnutrition among children under five years of age than would be expected based on its GDP (27) According to WHO’s classification, the current levels are ranked in the “very high level” world-wide (28). Nevertheless, there has been a steady decline in malnutrition rates, measured as underweight, over the last few decades: From 52% in 1985 (29) to 45% in 1994 (30), to 40% in 1998 (30), to 32% in 2001 and 30% in 2002 (29).

Urban children are less likely to be stunted and underweight than their rural counterparts. Gender does not seem to affect malnutrition rates among children.

The underlying causes of these high rates of malnutrition are multiple. Of particular interest for this review is the finding of a longitudinal study, carried out by the National Institute of Nutrition, demonstrating that the growth curve of children with early supplementary feeding (<3 months) was lower over a period of 1 to 36 months compared to the group that was predominantly breastfed (31).

### **HIV/AIDS IN VIET NAM**

Since the first case of HIV infection in Viet Nam was reported from Ho Chi Minh City in 1990 (32), the epidemic has spread and numbers have risen at escalating rates. HIV has now been reported from each of Viet Nam's 61 provinces, from 93% of the districts and 49% of all communes (32). Men account for 85% of all reported cases (33).

The accelerated growth of the epidemic is illustrated by the following numbers of reported annual cases of HIV (32):

1990-1993	less than 1500 cases/year
1994-1998	less than 5000 cases/year
1999-2002	more than 10 000 cases/year

Sentinel surveillance from 30 provinces (33) showed that:

- HIV prevalence among injecting drug users increased from 9% in 1996 to 29% in 2002.
- HIV prevalence among sex workers increased from 0.6% in 1994 to 7% in 2002.
- HIV prevalence among pregnant women increased from 0.03% in 1995 to 0.4% in 2002.

These numbers indicate that Viet Nam in 2002 was at the concentrated epidemic stage where HIV prevalence among high-risk behaviour populations is more than 5% and less than 1% among pregnant women (33). Although, some of the apparent growth in number of reported HIV-infections may be due to improved detection, even these numbers may represent only a fraction of the real numbers. The Ministry of Health believes that less than half of all infections actually have been detected.

The leading factor associated with HIV/AIDS in Viet Nam is injecting drug use, accounting for 50-60% of the total number of cases, followed by commercial sex work accounting for 7% (19). However, it is becoming clear that the epidemic no longer is confined to these two high-risk behaviour groups and to the country's two major cities.

As the epidemic grows and spreads to the general population, migration is believed to play an important role. Most of the migration that has been documented is rural to rural, reflecting migration in search of agricultural land (19). This means that HIV/AIDS that has been more of an urban problem is becoming a significant problem also in rural areas.

Of particular concern is the fact that the epidemic in Viet Nam is beginning disproportionately to affect the country's young people. In 1994, the age group 20-29 accounted for 15% of the HIV-infections and in 2002 for 60% (34). As an HIV/AIDS epidemic advances in a country, besides increasing proportions of young people becoming infected, typically also the proportion of women infected increases. Consequently the risk of mother to child

transmission rises and then “vertical transmission of HIV infection could become a major public health problem” according to UNICEF, Viet Nam (20).

Viet Nam has pledged to halt and begin to reverse the spread of HIV/AIDS by 2015 (17). In its efforts to combat the epidemic Viet Nam has sought to broaden the responsibility for HIV/AIDS prevention and care. A Directive on HIV/AIDS, issued by the Prime Minister in February 2003, assigned responsibility for HIV/AIDS action to six Ministries (Culture and Information; Public Security; Labour, Invalids and Social Affairs; Planning & Investment and Finance; and Health). However, the overall responsibility for HIV/AIDS programmes and co-ordination rests with the MOH. The first National Strategy on HIV/AIDS Prevention and Control is expected to be completed before the end of 2003. Prevention of mother to child transmission is one of the priority areas.

Sentinel surveillance, which started in 8 provinces in 1994 and now covers all provinces (34), provides information on trends while behaviour surveillance surveys, started in 2000, and so far conducted in 5 provinces, give information on a number of behaviour indicators (33).

In 2001, the Government with UNICEF support initiated a five-year PMTCT pilot project in five provinces with high rates of HIV infections, but stopped it after a year due to a series of difficulties, including inadequate counselling facilities. During the first half of 2003, the Global Fund to fight AIDS, Tuberculosis and Malaria approved a grant to strengthen the capacity of 20 provinces to implement a comprehensive care programme including mother to child transmission (35). A demonstration project to be conducted by the Ministry of Health with technical assistance from the Centers for Disease Control and Prevention – Global AIDS Programs (CDC-GAP) and Leadership Investment Fighting Epidemic-Global AIDS Program (LIFE-GAP) in three high prevalence provinces is expected to provide information for developing a comprehensive national programme (40). One of the project objectives is to identify factors that decrease the percentage of HIV infected postpartum mothers who breastfeed. In order to reduce transmission through breastfeeding, counselling will be provided on breastfeeding alternatives and free formula will be provided for infants up to six months of age. Thanks to a donation from a drug company, Viet Nam at the end of 2002 was able to begin implementing a programme on Nevirapine prophylaxis for HIV infected mothers (33).

An assessment of the knowledge of HIV/AIDS among pregnant women and health staff found that 63% of the women had an adequate understanding of transmission paths (19). Of the health staff, 88% knew HIV could be transmitted during pregnancy, 88% during delivery and 80% through breast milk. The second Multiple Indicator Cluster Survey showed that 80% of women believed HIV could be transmitted from mother to child: 77% believed it was possible during pregnancy; 65% at delivery; and 47% through breast milk (23).

The currently prevailing view in Viet Nam is that HIV-positive mothers should avoid breastfeeding. This view is expressed in a variety of documents and was reported by several health professionals. For example, the Ministry of Health’s National Standards and Guidelines for Reproductive Health Care Services advise: “Consult the mother not to breastfeed her baby to prevent transmission and give counselling on how to use formula milk” (37). An assessment of the care of HIV infected children in Ho Chi Minh City noted that the counselling “strongly or exclusively encourages bottle feeding” (38). A UNESCO Calendar for 2003, informs the general public that “As HIV can be transmitted through breast milk, mothers who have HIV should not breast-feed their babies” (39).

HIV-positive women at a major hospital in Hanoi are advised not to breastfeed, although “the decision depends on them.” A Ministry of Health staff person thought that as HIV can be transmitted, breastfeeding should be avoided and a substitute given. However, “if the mother is very poor then we would recommend to express the (breast) milk into a cup and feed with a spoon to avoid direct contact,” she elaborated. Another Ministry of Health staff person knew that “WHO/UNAIDS don’t say to avoid breastfeeding” and that also UNICEF doesn’t support this view.” According to this staff person, “people are so poor they cannot afford (a substitute)” and therefore, “the 15% risk of transmission through breast milk we must accept if the mother is very poor.” A reduction of the percentage of HIV infected postpartum mothers who choose breastfeeding is an one of the expected outputs of the Ministry of Health LIFE-GAP Prevention of Mother to Child Transmission feasibility project (40).

A manual for AIDS home care, on the other hand, starts out by stating that “a mother must decide whether to breastfeed or bottle feed the baby” and offers the opinion that “even though there is a risk of infection from breast milk, it is often much less than the risk of the baby dying of other infectious diseases if it were not breastfed. In rural areas and poor households, there is more risk from bottle feeding than the risk of breastfeeding” (41).

## **BREASTFEEDING IN VIET NAM**

### **Universal breastfeeding**

Breastfeeding is nearly universal in Viet Nam and according to the sources available for this review there have been no appreciable changes over the last 15 years. The 1988 Viet Nam Demographic and Health Survey (VNDHS) (25), the 1994 Viet Nam Inter-censal Survey (VNICDS) (42), the 1997 Demographic and Health Survey (VNDHS-II) (21), a Nutritional KAP Survey reported in 2001, and the 2002 Demographic and Health Survey (DHS) found 98%, 97%, 98%, 98% and 98% of children ever-breast fed respectively. Another source, published in 2001, similarly report that the vast majority of women initiate breastfeeding (18). According to the (VNICDS) (42) “the universality of breastfeeding is well reflected by the fact that there is no clearly evident differential in the percent ever breast-fed according to the child’s sex, mother’s educational level or occupation, or household wealth status”. The 1988 VNDHS (42), the 1996 VNICDS (42) and the 1997 VNDHS-II (21) surveys all report a median duration of breastfeeding of 16-17 months, and the most recent 2002 DHS 18 months (22). These surveys also found that rural women breastfed their children longer than urban women. The 1988 and the 1994 surveys further reported that children in wealthier households were breastfed for shorter durations than children in poorer households, both in urban and rural areas.

### **But, exclusive breastfeeding is not the norm**

The standard indicator of exclusive breastfeeding has been the proportion of infants, 4 months old and younger, exclusively breast-fed during the 24 hours preceding the interview, as determined through recall. It is thus an indicator that lumps together the different reasons for lack of exclusive breastfeeding: pre-lacteal feeds, early supplementation of fluids and early supplementation of foods. It does not provide information that could help guide an intervention aimed at increasing the rate of exclusive breastfeeding. If exclusive breastfeeding was measured since birth the percentage would be considerably lower. However, actual exclusive breastfeeding since birth would be a more meaningful figure, especially in the context of HIV, as it is believed that exclusive breastfeeding reduces HIV transmission by keeping the infant’s intestinal wall intact. Supplements of any kind may damage the intestinal wall and make it more permeable to among other things the HIV virus. Another theory that

could explain why mixed feeding would be associated with a higher risk of HIV transmission is that this could be associated with less frequent emptying of the breast leading to stretching of the blood-milk barrier in the breast duct and allowing more virus to pass from the maternal plasma into the breast milk. After the recent policy change from four 4-6 months of exclusive breastfeeding to the definite 6 months (12), there is a need to measure and report on six rather than four months.

The Table on page 17 is a compilation of studies that together demonstrate that exclusive breastfeeding currently is far from being the norm in Viet Nam. Based on the seven relatively large surveys that provide estimates for exclusive breastfeeding at 4 months using 24 hour recall (43, 44, 23, 45, 46, 47, 49) the median value would be around 30 percent. Three other sources report percentages of exclusive breastfeeding at four months in the same range: 20% (27), 31% (28) and 30% (50). A study that examined exclusive breastfeeding at both 4 months and 6 months, using 24-hour recall, found the percentages to be 43 and 33 respectively (48). A study that determined exclusive breastfeeding in the past 24 hours as well as since birth found that exclusive breastfeeding at 4 months in the past 24 hours was 56% and since birth was 2% (48). This 24-recall estimate is unusually high, but the sample is small and perhaps not representative. However, the comparisons between the two methods demonstrates that the 24-hour recall method yields a very much higher estimate for exclusive breastfeeding than if it is measured since birth. The information on supplementation included in the table confirms that this happens at such early ages that few infants could be exclusively breastfed. For example, according to one survey, 91% of infants had received plain water at 2-5 months of age (42) and according to another, 81% had received rice by 4 months and 99% at 6 months (48).

## Exclusive breastfeeding in Viet Nam

Year of report	Year of study	Description of study	Exclusive breastfeeding*	Introduction of supplements	Reference No.																		
1996	1996	Study in Hanoi	< 4m 36%		43																		
1996	1994	Inter-censal Demographic Survey		<table border="0"> <tr> <td></td> <td><u>0-2m</u></td> <td><u>3-5m</u></td> </tr> <tr> <td><i>Plain water</i></td> <td>68%</td> <td>91%</td> </tr> <tr> <td><i>Sugar water</i></td> <td>16%</td> <td>18%</td> </tr> <tr> <td><i>Formula/ powd milk</i></td> <td>14%</td> <td>19%</td> </tr> <tr> <td><i>Cow's milk</i></td> <td>0%</td> <td>1%</td> </tr> <tr> <td><i>Solid/ mushy foods</i></td> <td>15%</td> <td>63%</td> </tr> </table>		<u>0-2m</u>	<u>3-5m</u>	<i>Plain water</i>	68%	91%	<i>Sugar water</i>	16%	18%	<i>Formula/ powd milk</i>	14%	19%	<i>Cow's milk</i>	0%	1%	<i>Solid/ mushy foods</i>	15%	63%	42
	<u>0-2m</u>	<u>3-5m</u>																					
<i>Plain water</i>	68%	91%																					
<i>Sugar water</i>	16%	18%																					
<i>Formula/ powd milk</i>	14%	19%																					
<i>Cow's milk</i>	0%	1%																					
<i>Solid/ mushy foods</i>	15%	63%																					
1998		National Protein Energy Malnutrition survey	< 2m 38% < 4m 29%		44																		
1999	1997	Demographic and Health Survey	0-1m 54% 2-3m 9% 4-5m 1%		21																		
2000	2000	Multiple Indicator Cluster Survey	4m 31%	Complementary feeding started at 4-6m	23																		
2001	2000	Nutritional KAP Survey in 6 Provinces	4m 37%		45																		
2001		Survey of Key Family Practices In Nine Districts	4m 43% 6m 33%		46																		
2001	2000	National Nutrition Survey	4m 28%		47																		
2003	2002	Study in 5 Communes		<i>Introduction of rice</i> 1m 2% 2m 29% 3m 53% 4m 81% 5m 94% 6m 99%	48																		
2003	2002	National Nutrition Survey	4m 29%		49																		

\* According to 24-hour recall unless indicated

Exclusive breastfeeding is typically hindered by two practices: pre-lacteal feeding and unnecessarily early introduction of fluids and foods. Both practices are common in Viet Nam. Honey, herbs, and sugar water are some of the early feeds. In some cases grandmothers “advise new mothers to give their newborn babies liquids such as honey or lemon with sugar before beginning to breastfeed” (51). Plain water is given from an early age and is more common than sugar water (42). A common reason for giving plain water is that it is needed to clean the baby’s mouth. Rice is traditionally given from an early age to make the baby strong. Of more recent date are formula and other powdered baby milks, which have entered the Vietnamese market since the free market reforms in 1986. Formula is seen as so valuable that it may be brought as a present for the newborn baby. Cow’s milk and presumably other animal milks, are hardly ever given to Vietnamese infants as a supplement or substitute for breastfeeding (42).

Besides the beliefs that certain fluids and foods are good for the baby, there is also the obstacle of women going to work early. One study identified work as the major reason why mothers did not practice exclusive breastfeeding (52). In this study, 64% of the mothers had

returned to work, 45% of them when the baby was less than two months of age. Another publication stated that women return to work two to five months after giving birth (27).

### **Protecting, promoting and supporting exclusive breastfeeding**

Exclusive breastfeeding has been examined in a large number of surveys, especially in recent years, suggesting it is of concern to policy makers and planners in Viet Nam. A number of policy and strategy documents reveal such a concern. For example, the Child Malnutrition Control Strategy of 1998 lists among specific objectives: “To ensure . . . that lactating mothers . . . breastfeed their children . . . exclusively . . . for the first four months (27). The Prime Minister’s ratification of the National Nutrition Strategy in 2001, mentions under the control of protein energy malnutrition “improvements of breastfeeding practices (especially exclusive breastfeeding in the first four months) (28). Exclusive breastfeeding is to be increased “from 31% to 45% by 2005 and 60% by 2010. The Plan of Operations 2002-2005 for the Government’s co-operation with UNICEF includes exclusive breastfeeding for six months as part of project strategies, and lists as one of the national objectives: “At least 50% of children ages 0 to 4 months are exclusively breastfed” (20).

Activities to improve exclusive breastfeeding include:

- (1) Information-Education-Communication (IEC) for the general public.
- (2) Training of health professionals
- (3) Implementing the Baby friendly hospital initiative (BFHI)
- (4) Enforcing the Code of Marketing of breast milk substitutes
- (5) Maternity leave legislation

IEC activities were part of the “improved breastfeeding promotion activities” of the Child Malnutrition Control Strategy of 1998 (27). Recent pamphlets produced by the Central Steering Committee for Breastfeeding Promotion and by the Communication Department of the National Institute of Nutrition, already include the recommendation of exclusive breastfeeding for six months.

A recent initiative supports Breastfeeding Counselling training in Secondary Medical Schools (53). Originally a WHO-supported initiative, it is now also supported by UNICEF. When first implemented in 1999 in 20 pilot schools, the course was six days long. It has now been revised and reduced to four days. The goal suggested in the Master Plan for the National Nutrition Strategy 2003-2007 is that by 2005, 90% of districts and 80% of communes have health workers and collaborators who are trained on early breastfeeding and exclusive breastfeeding in the first six months (29).

Another goal of the National Nutrition Strategy is that by the end of 2005, 50% of the districts in the whole country have Baby-Friendly Hospitals. The number of hospitals that had been certified as baby-friendly was reported as 23 in 1998 (27). In 2003, this number had grown to 53 (56).

In 1994, the Prime Minister issued a Decision concerning “Regulations on Trade and use of Breast milk Substitutes to promote Breastfeeding” (27). A Decree in 2000 made this Vietnamese Code stronger and clearer, but according to one informant “not strong enough”. The Vietnamese Code allows for the donation of infant formula to hospitals (54).

Until 1985 the Vietnamese maternity leave legislation allowed women 2 months' leave. The maternity leave was then increased to 6 months, but in 1993 reduced to 4 months (50). An analysis of the perceptions of women, policy makers and employers regarding this reduction of the duration of the maternity leave found that when six months of leave was allowed, women working in a factory did not "practice the policy" (50). As women on maternity leave received only a lower basic salary and when returning to work could not always have the same job as before, the "women themselves did not wish to have 6-month leave" this analysis concluded. The explicit purpose of the maternity leave legislation is to facilitate full breastfeeding for at least four to six months (42).

A study that explored women's options for increasing exclusive breastfeeding, found that a number of women who worked said they could come home to breastfeed, but most felt it was impossible (52). The majority of these women did not like the idea of expressing breast milk and in particular disliked the idea of storing it. Also, the women's attitudes about wet nursing were generally negative. Another study, however, reported that in the rural areas all women supported the idea of expressing breast milk (50).

## **COMMENT**

### **HIV/AIDS**

The HIV/AIDS epidemic in Viet Nam is at a stage where prevalence rates are escalating and HIV-infections no longer are confined to high risk behaviour groups, but spreading to the general population. This means larger numbers of women infected and hence a higher risk of infants becoming HIV-infected through mother to child transmission. Activities in Viet Nam so far to prevent mother to child transmission of HIV have been limited. If women have been counselled on infant feeding, they have most likely been recommended not to breastfeed. The goal has been to avoid the risk of transmission through breast milk with little consideration given to the risks associated with replacement feeding. According to current international guidelines, an HIV-positive woman should be counselled on all feeding options and be enabled and empowered to make her own informed decision. She should also be supported in implementing her infant feeding choice, whichever one that is.

At this stage of the epidemic, Viet Nam has a chance to avoid mistakes made in other countries. Focussing exclusively on bringing down transmission rates, some countries initially promoted replacement feeding. This may have been to the detriment of many infants of HIV-infected women for whom replacement feeding was not affordable, feasible, available, safe and sustainable. Other infants may have suffered, too, due to a spill-over effect of the advice to avoid breastfeeding and due to less emphasis on breastfeeding in general (55). The interests of infants of HIV-negative women and women of unknown serostatus must be kept in mind when issuing guidelines for infants of HIV-infected mothers.

As illustrated by the following calculation, the latter group in Viet Nam is very small compared to the former two. Given an HIV-prevalence of 0.4 among pregnant women, out of a group of 3000 women, 12 would be HIV positive (1). Of these 12 women, 4 would have infants who became HIV-positive. Two of these infants would become HIV infected through breastfeeding while 2998 infants would not. Given the current situation in Viet Nam where testing facilities are scarce, not even the two mothers could be identified and counselled. If women cannot be identified as HIV-positive it is important that the general policies and programmes that are in place are also beneficial for them and their infants. This points to protecting, promoting and supporting exclusive breastfeeding as a key intervention, coupled with improved breastfeeding counselling to avoid breast health problems.

## **Breastfeeding**

Breastfeeding in Viet Nam is universal. This means that culturally and emotionally, not breastfeeding would be a difficult decision. There is an expectation both on the part of society and of the mother herself that a baby should be breast-fed. For the woman, her own expectation may bring the most grief.

Exclusive breastfeeding rates in Viet Nam are low even at 4 months, based on 24-hour recall. Exclusive breastfeeding at 6 months, according to the same method, is even lower. If exclusive breastfeeding rates were measured since birth, they would be negligible. Pre-lacteal feeding, unnecessarily early introduction of fluids and foods, and work are the main obstacles to exclusive breastfeeding. Each of these obstacles must be addressed using a different strategy.

If exclusive breastfeeding were the norm and if health workers were able to counsel women to prevent or manage breast health problems all women and infants would benefit. For women identified as HIV-positive and opting for breastfeeding it would be easier to adhere to the norm rather than to follow an unfamiliar practice that may be questioned by others.

Counselling an HIV-positive pregnant woman about infant feeding requires that she has been identified as such. A common approach is to provide Voluntary Counselling and Testing (VCT) where antenatal care is provided. This in turn requires that women seek antenatal care. The percentage of women in Viet Nam who benefit from some antenatal services is high, but varies among the provinces. Even if women do not show up for antenatal care, they may deliver in an institution and could in theory be tested and counselled there. In Viet Nam this is currently not an option as a positive HIV-diagnosis may not be based on rapid tests alone, but must be confirmed by an ELISA test (which takes at least a week). However, asking a woman during labour to provide informed consent regarding testing and treatment with antiretroviral drugs presents a considerable ethical challenge.

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**II. STUDY**  
**To Guide Adaptation of Global WHO/UNICEF/UNAIDS Guidelines**  
**on HIV and Infant Feeding**  
**for Viet Nam**

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## **1. INTRODUCTION**

HIV/AIDS prevalence rates in Viet Nam are escalating and HIV-infections are spreading from high risk behaviour groups to the general population. This situation translates into larger numbers of women becoming infected with HIV and rising numbers of infants at risk of being infected by their mothers.

The fact that breastfeeding is one of the potential routes of transmission has necessitated the development of public health policies and guidelines on infant and young child feeding that also address the special circumstance of HIV/AIDS. Countries need to develop approaches that take into account their context. The Government of Viet Nam, with assistance from UNICEF, has initiated the process of formulating Viet Nam specific guidelines for infant feeding and HIV, by engaging an international consultant to: (a) conduct a Situation Analysis (1) and (b) design and lead an assessment of current infant feeding practices and potential infant feeding options for HIV-infected mothers in Viet Nam. The present document reports on the findings of this assessment.

## **2. BACKGROUND**

Breastfeeding presents an additional risk of infection for the infant of an HIV-infected mother of 5-20% over and above the risk of transmission of 15-25% during pregnancy and delivery when an infant is breast-fed for 18 to 24 months (2). A shorter duration of breastfeeding will mean a lower risk as the risk of transmission appears to be generally constant throughout breastfeeding (3). Also, there is evidence to suggest that the risk of transmission from breastfeeding is lower when the breastfeeding is exclusive (see section 2.2.2). Complete elimination of the risk of postnatal transmission through breastfeeding introduces another risk, that of the infant who receives no breast milk dying from diarrhoea and other childhood infections. Parents and policy makers face a difficult dilemma.

### **2.1. Global Consensus**

Concerted efforts during the last few years by UN organisations, researchers, health practitioners and others have resulted in greater clarity and considerable consensus on the infant feeding dilemma for HIV-positive mothers and is evident in a range of recent policy documents.

The Global Strategy for Infant and Young Child Feeding of 2002 (4) describes optimal infant feeding practices for the general population and recognizes HIV as one of a number of exceptionally difficult circumstances requiring special attention. Endorsed by WHO and UNICEF, the Global Strategy specifies that optimal infant feeding entail exclusive breastfeeding for 6 months, with continued breastfeeding for two years and beyond. A series of publications on HIV and infant feeding have been issued jointly by UNICEF, UNAIDS, WHO and UNFPA in 2003 and 2004: HIV transmission through breastfeeding. A review of available evidence (2); HIV and infant feeding. Guidelines for decision-makers (5); and, HIV and infant feeding. A Guide for health-care managers and supervisors (6). A Framework for Priority Action (2003), developed collaboratively by nine UN agencies, focuses on government key actions related to infant and young child feeding in the special circumstances associated with HIV/AIDS (7).

The Framework for Priority Action outlines a four-pronged strategic approach for preventing the transmission of HIV to women and their children, including HIV prevention in the general population and specific activities to prevent mother to child transmission of HIV. With respect to HIV and infant feeding, the Framework proposes five priority areas for government action:

1. Develop or revise a comprehensive national infant and young child feeding policy, which includes HIV and infant feeding.
2. Implement and enforce the International Code of Marketing of Breast-milk Substitutes and Subsequent World Health Assembly resolutions.
3. Intensify efforts to protect, promote and support appropriate infant and young child feeding practices in general, while recognising HIV as one of a number of exceptionally difficult circumstances.
4. Provide adequate support to HIV-positive women to enable them to select the best feeding option for themselves and their babies, and to successfully carry out their infant feeding decisions.
5. Support research on HIV and infant feeding, including operational research, learning, monitoring and evaluation at all levels, and disseminate findings. Qualitative studies are needed to provide the necessary basis for relevant policies.

The recommendation of the Global Strategy for Infant and Young Child Feeding of exclusive breastfeeding for the first six months is reiterated in all the aforementioned documents. It applies to children of women who have been tested and found to be HIV-negative and to children of women who do not know their HIV status and have not had a clinical diagnosis of AIDS. The protection, promotion and support of breastfeeding must not be neglected as a result of attention given to HIV/AIDS warns the WHO guidelines for health care managers

Countries are advised to develop one comprehensive national policy that encompasses both HIV and infant feeding rather than having one policy for breastfeeding for children in general and a separate one for infant feeding in the context of HIV. Experience has shown that this reduces confusion among managers, health workers and the general public.

## **2.2. Globally Recommended Infant Feeding Options for HIV-positive Women**

Recommended infant feeding options for HIV-positive mothers are described in a number of publications (5, 6, 8). The HIV-positive mother is essentially advised to choose between exclusive replacement feeding<sup>2</sup> and exclusive breastfeeding. Mixed feeding, where an infant receives both breast milk and artificial feeding is the least desirable option. This is because it brings both the risks of HIV infection and the risks of morbidity and mortality of diarrhoea and other infections and because mixed feeding has been shown to increase the risk of

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<sup>2</sup> 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 (2).

transmission through breastfeeding. UN guidelines state, “when replacement feeding is acceptable, feasible, affordable, sustainable and safe, avoidance of all breastfeeding by HIV-infected mothers is recommended during the first few months of life. Otherwise, exclusive breastfeeding is recommended for the first months of life” (9).

### 2.2.1. Replacement feeding

The five conditions for replacement feeding: acceptable, feasible, affordable, sustainable and safe (AFASS) are intended to convey the following (5):

Acceptable: The mother perceives no cultural or social barrier to replacement feeding and does not fear stigma and discrimination if she does not breastfeed, but practices exclusive replacement feeding. Or if she perceives such barriers and fears, she is able to handle them.

Feasible: The mother (or family) has adequate time, knowledge, skills and other resources to prepare the replacement food and feed the infant up to 12 times in 24 hours.

Affordable: The mother or family can pay the cost of purchasing/producing, preparing and using replacement feeding, including all ingredients, fuel, clean water, soap and equipment.

Sustainable: A continuous, dependable supply of all the ingredients for replacement feeding can be ensured for as long as the infant needs it.

Safe: Replacement foods are correctly and hygienically prepared and stored and fed in adequate quantities.

Two studies undertaken in South Africa point to some of the difficulties of meeting these criteria. One study provided information on the feasibility of replacement feeding, reporting that if a woman were to prepare replacement milks 6-8 times per day, she would need to spend a minimum of 2.5 hours per day preparing feeds and this did not include time for feeding (10). The other study demonstrated the difficulty of preparing hygienically and nutritionally adequate feeds, even for women with considerable amounts of education (54% had completed high school or more) and the benefit of good hygiene facilities (66% had indoor, piped water and 70% a flush toilet), 64% of the women prepared milk that was contaminated with E. Coli and 22% over-diluted the milk for infants under 12 months of age (11).

Replacement feeding for the first six months means providing the infant with some form of milk as this is the only appropriate breast milk substitute during this period. However, this excludes sweetened condensed milk and skimmed milk, which are not suitable for infants.

The following are the recommended replacement feeding options:

- a) Commercial infant formula: milk specifically formulated for infants.
- b) Home modified animal milk: fresh or processed full cream milk that is modified by adding water and sugar and must be supplemented with a micronutrient supplement. If micronutrient supplements are unavailable, home modified animal milk is not a recommended option.

### 2.2.2. Breastfeeding – made as safe as possible

When replacement feeding is not acceptable, feasible, affordable, sustainable and safe, breastfeeding made as safe as possible is the recommended option. The following are four ways of making breastfeeding safer:

- a) Through exclusive breastfeeding which means that the mother breastfeeds and gives no other foods or liquids, not even water. Only prescribed medicines may be given.
- b) By expressing and heat-treating breast milk, giving only this breast milk.
- c) Through wet-nursing, which means that another woman, ensured to be HIV-negative, exclusively breastfeeds the infant.
- d) From breast-milk banks or centres where donor milk is pasteurized and made available for infants, and ensuring that nothing but breast milk is given.

Earlier evidence that mixed feeding carries a higher risk of transmission than exclusive breastfeeding reported from South Africa (12) has recently been confirmed by a study conducted in Zimbabwe (13). Additionally, breastfeeding in the context of HIV may be made safer by preventing and managing conditions known to increase HIV transmission. These conditions include: breast health problems such as mastitis (an inflammation of the breast), breast abscess (a localized collection of pus in the breast) and cracked and bleeding nipples; infant mouth problems such as thrush, and; high viral load / poor immune status of the mother. Breastfeeding may thus be made safer through the following measures:

- a) Breastfeeding counselling. Helping women to position and attach the baby correctly at the breast, thereby avoiding breast health problems.
- b) Early recognition and treatment of breast health problems.
- c) Early recognition and treatment of infant mouth problems.
- d) Improved nutritional care of the mother in order to enhance her poor immune status. Prevention of new infections, which are associated with especially high viral loads.

Yet another measure, which may be thought of as making breastfeeding safer is to minimize the duration of breastfeeding. Exclusive breastfeeding according to the UN guidelines is recommended for the “first few months”. This wording is meant to provide flexibility to discontinue breastfeeding as soon as replacement feeding is acceptable, feasible, affordable, sustainable and safe. Mathematical modelling, balancing the risks of breastfeeding against those of not breastfeeding, suggests that in general the optimum time for a transition from breastfeeding to replacement feeding is around six months (14) (though this will depend on the progression of HIV and health of the individual mother). At this age the health risks to the infant of replacement feeding are less and the infant is better able to tolerate undiluted animal milk and a variety of foods. Therefore the option of replacement feeding becomes safer, less difficult and less expensive than replacement feeding at earlier ages (15). However, the challenge of replacing breast milk even after the age of six months is considerable in view

of the fact that from 6 to 12 months, breast milk usually provides 60-80% of all energy, protein and other nutrient requirements and from 12 to 23 months 35-40 % of these requirements (5). For some infants the risks of not breastfeeding will continue to be greater than the risk of HIV transmission through breastfeeding even after six months.

In view of mixed feeding being the least desirable option, it has been suggested that when breastfeeding is stopped early (before six months), the transition to replacement feeding be made as rapidly as possible so as to minimize the phase of mixed feeding. However, it is also acknowledged that early and rapid cessation of breastfeeding is difficult for both mother and baby and entails health risks for both unless well managed.

### **3. METHODOLOGY**

#### **3.1. Objectives - Exploring Infant Feeding Options for HIV-positive Women in Viet Nam**

The overall objective of the study was to obtain information that would help in adapting global WHO/UNICEF/UNAIDS guidelines to Viet Nam regarding infant feeding and HIV for infants up to six months of age. Since replacement feeding for the first six months should mean milk feeding, the study did not examine complementary feeding.

##### **3.1.1. General Infant Feeding Practices**

Only with an awareness and understanding of existing feeding practices, taking into account what are acceptable and familiar practices, will it be possible to formulate specific infant feeding guidelines for HIV positive women in Viet Nam. Furthermore, guidelines for infant feeding and HIV should be part of one comprehensive policy that also addresses infant feeding for infants of women who are HIV-negative or are unaware of their status (5) and must also aim at “creating and sustaining an environment that encourages appropriate feeding practices for all infants” (7). We therefore examined infant feeding practices during the first six months, paying special attention to practices and issues that had a potential bearing on guidelines for HIV-positive women. Going one step further, we explored possibilities for changing practices that were sub-optimal in the context of HIV.

*Exclusive breastfeeding.* Understanding the issue of exclusive breastfeeding was seen as central in light of the fact that exclusive breastfeeding is the one recommendation for infants below six months of women who are HIV-negative or do not know their status and is what HIV-positive women who have opted for breastfeeding are advised to practice. A compilation of eight studies in the Situation Analysis undertaken prior to this study, demonstrated that the median estimate of exclusive breastfeeding at four months, determined by 24-hour recall, was around 30%. The percentage of women practicing exclusive breastfeeding at 6 months would be even lower. The compiled studies also reported that prelacteal feeds and unnecessary supplementation of a variety of fluids and foods, water and milk in particular, were common. It was clear that exclusive breastfeeding is an unusual practice in Viet Nam. Hence this study focused on why exclusive breastfeeding is rare and examined a number of obstacles including: the use of pre-lacteal feeds and unnecessary introduction of fluids and foods during the first six months; mother’s work outside the home; perceived breast milk insufficiency; and, infant food advertising. In addition we explored ways to overcome some of these obstacles.

*Who, besides the mother, influences how an infant is fed?* From informal conversations prior to the study, it was clear that in Viet Nam, as in many other countries, there are other others besides the mother who determine how an infant is fed. Grandmothers were said to play a major role by giving advice and by participating in the feeding and other infant care. We were also interested in how and to what extent fathers were involved in infant feeding and care, believing that they should be seen as key partners. Health workers are often in a position to give advice on infant feeding. Thus, we believed it was important to find out what health workers themselves thought about exclusive breastfeeding and other infant feeding practices.

*A historical perspective.* We also believed that infant feeding as practiced by mothers today have to be understood in light of the views and practices of earlier generations of mothers. No cultural views and practices arise in a vacuum but are part of an evolving continuum. Grandmothers could provide some of this historical information. However, expecting that many grandmothers were not so old, we decided to also enquire about infant feeding among the oldest women we could conveniently find. We tried to find such “Oldest women” who were at least 70 years of age.

**3.1.2. Infant Feeding Options for HIV-positive Mothers**  
*Replacement feeding.* The acceptability of replacement feeding must be considered from two perspectives: (1) the acceptability of not breastfeeding at all, and (2) the acceptability of different replacement feeding options. Viet Nam is a country where nearly all mothers breastfeed their children. Not breastfeeding at all would thus be a highly deviating behaviour. We wondered how this behaviour would be looked upon and how the non-breastfeeding woman herself might feel.

The acceptability of different milk options was ascertained by asking:

- (1) What would be fed to a baby who received no breast milk, for example an orphan.
- (2) How common it was for women in the study areas to give different types of milk to children. We asked about:
  - a. Milk powder (which here included infant formula and milk powder)
  - b. Liquid milk – processed and packaged in a box or plastic bag
  - c. Animal milk, from cow or other animal - unprocessed, unpackaged
  - d. Sweetened condensed milk.
- (3) What mothers and health workers thought of the suitability of different types of milk for babies whose mothers were HIV positive. We asked about:
  - a. Commercial infant formula
  - b. Whole milk powder
  - c. Liquid milk – processed and packaged in a box or plastic bag
  - d. Sweetened condensed milk.

During the piloting of the study questionnaires we found that many people did not differentiate between commercial infant formula and milk powder. Therefore, when asking about milk being given to children in general, we did not differentiate between commercial infant formula and milk. With respect to milk for infants of HIV-positive women, we first

ascertained how respondents perceived infant formula and milk powder to be different and then clarified this to them before asking for their opinion about the different options. Although condensed milk is not a recommended option, we included it because we knew it had been the main type of milk available in Viet Nam in the past, and we wanted to find out if it was still being given to children.

The different options for HIV-positive women were presented, quoting the average cost of feeding an infant on each type of milk for one month and eliciting respondents' views on who would be able to afford them. However, except for thus asking about Affordability, we did not guide respondents to comment on each of the AFASS criteria, but were interested in their spontaneous responses with respect to the pluses and the minuses of each option.

*Safer breastfeeding.* With respect to breastfeeding, we explored the following options for making it safer for babies of HIV-positive women.

- a) exclusive breastfeeding,
- b) stopping breastfeeding early (around 6 months) and rapidly
- c) expressing breast milk and heat treating it

We also asked about the occurrence of breast health problems since they affect the safety of breastfeeding for HIV-positive mothers of infants and young children.

### **3.2. Locations**

The study was conducted in four locations, one urban and one rural site in Bac Ninh Province in the north and one urban and one rural site in An Giang Province in the south. This was to ensure geographical representativeness. We had intended to also obtain the perspectives of HIV-positive women, but had extreme difficulty in locating such women even in An Giang, where HIV-rates are relatively high. However, for the purpose of guiding the process of adapting the global guidelines on infant feeding in the context of HIV to Viet Nam, this was not crucial and should not be seen as a weakness of the study.

### **3.3. Respondents**

In each locality we selected purposive samples of mothers, grandmothers, fathers, health workers and, as mentioned above, a category of respondents we referred to as “the Oldest women”. The reason for including respondents other than mothers was twofold. Firstly, we believed that these other respondents might have an influence on how infants were fed. Secondly, examining infant feeding from the perspectives of different respondent categories allowed us to triangulate, i.e. check on the agreement among information obtained from these different sources.

We were interested in learning about the overall picture of infant feeding, not in mapping individual mothers' feeding practices. In order to find women who had enough of their own experience, whose experience was recent and who were likely to be aware of infant feeding in their communities, we selected mothers who had at least two children and whose youngest child was less than two years of age.

For each study locality, a list of all mothers, who fit these selection criteria was prepared by health centre staff on the basis of birth lists available at the commune health centre that served

the locality. The samples of mothers, fathers and grandmothers were then randomly selected from these lists. Grandmothers and fathers had to be living with the youngest child. The “Oldest women” were a convenience sample of the oldest women in the study locality. They had to be at least around 70 years old. Health workers were selected from staff working at the Commune Health Centres and available at the time of the study. An effort was made to include staff with different professional training.

The number of mothers, grandmothers, Oldest women, fathers and health workers interviewed are shown in the following table:

### **Number of respondents interviewed**

<b>Respondent category</b>	<b>Bac Ninh urban</b>	<b>Bac Ninh rural</b>	<b>An Giang urban</b>	<b>An Giang rural</b>	<b>TOTAL</b>
Mothers	<b>8</b>	8	8	4	<b>28</b>
Grandmothers	<b>9</b>	8	6	7	<b>30</b>
Oldest women	<b>4</b>	4	4	4	<b>16</b>
Fathers	<b>7</b>	8	8	7	<b>30</b>
Health workers	<b>2</b>	4	4	4	<b>14</b>
					<b>118</b>

Besides these interviews, we conducted a number of informal “strategic interviews” that allowed us to explore and delve deeper into specific issues, with: the mother of a bottle-fed baby (1); the grandmother of an orphan (1); health workers (3); individuals in a position to influence policy and programmes (3), and; shop keepers (4) as part of a market survey, described below.

### **3.4. Interviews**

Given the need to assess views and perceptions of infant feeding practices and explore infant feeding options for HIV-positive women we chose to rely on qualitative methods. The Situation Analysis (1) had identified issues that needed to be explored and enabled us to design focused, yet comprehensive questionnaires. The questionnaires for mothers and health workers were the most comprehensive, while the questionnaires for fathers and grandmothers were selective and went into less detail on several topics. The questionnaire for the Oldest women was extremely short, seeking only to compare infant feeding practices in the past with current ones. To provide an opportunity for additional information to emerge, we also conducted one focus group with mothers in each of the four study locations.

All interviews were conducted by a team of four interviewers, two male and two female, all of whom had nutrition and/or health backgrounds and considerable interviewing experience. Each interviewer conducted interviews with all categories of respondents. The interviews

were conducted and usually recorded in Vietnamese and afterwards translated to English for analysis by the international consultant.

The majority of the strategic interviews were conducted by the international consultant, when needed assisted by a translator. A second international consultant, who took part in the questionnaire development process, also assisted with strategic interviews during the initial phase of data collection.

Finally, we undertook market surveys in each study location in order to obtain information on brands, prices and labelling of infant foods available in local shops. As part of these surveys a number of brief interviews were conducted with shopkeepers.

### **3.5. Analysis**

Using a word processing programme, the answers recorded on the questionnaires were systematically sorted into themes and displayed by respondent category and location. These data displays enabled us to compare and contrast themes, respondent categories and locations.

The findings described below have mainly been drawn from these data displays, while the typed focus group and strategic interviews provided complementary information, which has been included when appropriate. Since the data displays revealed no apparent differences based on location, neither between the North and the South nor between rural and urban areas, the findings are reported from the study as a whole.

### **3.6. Quantitative Survey Component**

Besides the qualitative information, we sought to obtain quantitative information that would enable us to provide population level estimates of exclusive breastfeeding at 4 and 6 months, using two different methods, the conventional 24-hour recall and recall since birth, and to identify the major obstacles to exclusive breastfeeding. An additional objective of the quantitative component was to establish a monitoring tool to be able to identify effects of future efforts to address exclusive breastfeeding. The National Institute of Nutrition (NIN) agreed to add a set of questions to their annual nutrition survey in two provinces. These quantitative data were analyzed by the Nutrition Surveillance Unit of NIN, using the Statistical Package for the Social Sciences (SPSS).

## **4. FINDINGS**

### **4.1. Basic information on respondents**

#### **4.1.1. Age of respondents**

Socioeconomic data for the mothers, grandmothers, Oldest women, fathers and health workers have been compiled in Appendix 2. For both the mothers and the fathers, the typical age was in the range 30-35 years while for grandmothers it was in the range 60-65 years. The typical age of the Oldest women was 70-85, thus as intended they were definitely older than the grandmothers.

#### 4.1.2. Schooling

There was a consistent trend of more schooling in the North than in the South for mothers, grandmothers and fathers. Another trend was a generational one. Mothers had more education than grandmothers, who had more education than the Oldest women. About half of the mothers and fathers had finished secondary school, while the proportion of grandmothers with this much education was much smaller.

#### 4.1.3. Marital Status and Living Arrangements

All mothers were married. More than half of the mothers were living in a household together with their husband. The rest, except for one mother who lived alone with her child, lived in a household together with a grandparent or other family member. The grandmothers and the fathers by our selection criteria had to be living with the child.

#### 4.1.4. Fathers' work

For men in the North, farm work on their own farm was the main type of work in the rural area. In the urban area in the North and in both the rural and urban area in the South men had occupations such as builder or construction worker and driving or repairing motor bikes.

#### 4.1.5. Job Responsibilities of Health Workers

We selected health workers, including doctors, nurses, midwives and nutrition professionals who met mothers during the antenatal period, at delivery or during postnatal vaccination and infant health check-ups. Nearly all the health workers reported that they had contact with mothers at all these points. The vast majority advised women on infant feeding and a large proportion had received some training on breastfeeding. Nearly half of the health workers said they had had some training regarding Prevention of Parent to Child Transmission.

### 4.2. The Situation of Infant Feeding

Confirming the Situation Analysis undertaken prior to the study, respondents described infant feeding practices, typical of Viet Nam. Breastfeeding was clearly the expected mode of infant feeding and not-breastfeeding-at-all was not a choice that existed as an alternative during normal circumstances. According to the mothers, babies are breastfed for a duration of one to two years.

#### 4.2.1. Changes Over Time

One of the main changes over time, according to the grandmothers and the Oldest women, was that nowadays babies are put to the breast immediately. The Oldest women explained that in their days colostrum had to be thrown out, that they would wait for a few days to breastfeed and during those days the baby would suck milk from another mother or be given herb or sugar water, all because "*the first milk is not good quality*". The grandmothers reported the same beliefs and practices, one of them stating that, "*in my days every woman did like that*". Besides herb and sugar water some grandmothers had given sweetened condensed milk. A number of grandmothers mentioned that it was the traditional healer who had advised them to throw out the colostrum and delay breastfeeding.

Another major change that both the Oldest women and the grandmothers pointed to was the wide choice of powdered infant milks and other foods available today. According to several Oldest women, the abundance of food in general was one of the ways in which the situation today was better compared to when they were young mothers. Yet, some of the Oldest women felt that it had been simpler in their days when they did not have “*many good foods*”, because it seemed that nowadays babies are more likely to get sick. One of the Oldest women lamented: “*Now to feed one baby is very difficult. The whole family has to pay attention to this baby*”.

#### 4.2.2. Role of Grandmother

The findings consistently showed that grandmothers are the main secondary carers for children, especially when a mother has to be away at work. Grandmothers had little contact with health workers, the majority stating they had had no contact at all. Of the grandmothers who did have some contact with health workers, a small number did during the antenatal period.

#### 4.2.3. Role of Father.

Fathers reported that their involvement in child feeding, child care and house work (including cooking) was considerable. More than half of the fathers stated that they (and other fathers) participated in some of these tasks. Many of them said they participated in several ways: “*Helping the wife to take care of the baby such as feeding and drinking*”; “*Hold baby, give baby a bath*”; “*Sometimes cooking, washing, he helps his wife*”. While mothers also reported that fathers participated in child feeding, child care and housework, they did not seem to think it happened to quite the extent that the fathers had indicated. All fathers said that they took care of children when the mother was working at least sometimes while only a few women said this was the case. A number of mothers did not think fathers had any role at home, because, “*Fathers are the main earners so they are very busy. They cannot take care of children*”; or, “*He has only one role, which is to earn money for us*”.

Many fathers said that they had had some contact with health workers after the baby was born (taking the child for vaccination for example), but few had accompanied their wives for antenatal visits or at delivery.

#### 4.2.4. Exclusive breastfeeding – a new concept

Our findings indicated that exclusive breastfeeding as the ideal way of feeding an infant still is a largely unfamiliar concept. None of the mothers we interviewed seemed to practice it. Along with breastfeeding they were giving their infants a variety of fluids and foods from an early age.

*Water.* Water or honey was given at birth to “*clean the child’s mouth*” or sugar water to avoid “*thirst*”. The first water was of particular significance as it was believed that the character of the person giving it would have an impact on the child for life. Had water not been introduced at birth, it would be a natural part of the infant diet well before the child

reached six months of age. Many mothers gave water for no specified reason at all, but simply “*After breastfeeding I give boiled water for my baby every time*”.

The main articulated reason for giving water was that it was necessary for cleaning the mouth, if not after every breastfeed, at least a few times a day. It was an opinion shared by mothers, grandmothers and also health workers. Two nurses, who said that they, like other nurses, advised water for cleaning the mouth, explained that, “*If there is still milk in the mouth (after breastfeeding) it will be a source of infection if not rinsed away. Then perhaps the baby get pain in the mouth and does not want to breastfeed*”. Even some of the interviewers may not have been fully convinced that a child would not get “tongue disease” if water was not used.

Another important reason for giving water was that the baby might be thirsty: “*Of course we have to give some water when the baby is thirsty*”. The baby’s thirst was a sensation that babies were assumed to feel just as adults do. But as a doctor explained: Since a baby “*can’t say he is thirsty, water must be given regularly*”. If a baby was still “*nervous*” after breastfeeding or if a baby cried a mother might conclude that the baby was thirsty. Dry lips might also be interpreted as the baby needing water. “*Mothers always worry about babies being thirsty*” said one of the interviewers. While one of the mothers stated that water had to be given “*especially in the summer*”, a nutritionist believed that mothers gave water “*Not just in summer, but both in summer and winter*”.

The grandmothers and Oldest women had given water to their babies for the same reasons as those reported by the mothers. One grandmother shared: “*My children and grandchildren love sugar water*”. She recalled how she “*had to save sugar for it*”.

*M i l k*. After water, some kind of milk was the most commonly given fluid supplement during the first six months. Technically one may distinguish between the following types of milks: (a) commercial infant formula; (b) dried whole milk powder; (c) processed and packaged cow’s milk; (d) unprocessed cow’s or other animal milk, and; (d) sweetened condensed milk. However, respondents did not always express themselves so precisely and in particular there was considerable confusion regarding infant formula and regular milk powder. Since a major distinction between the latter two is cost, we asked mothers and health workers what they understood to be the main difference between more and less expensive “milk powder”. While one health worker knew that the quality of the expensive ones was “*near to breast milk*”, the general belief among both health workers and mothers was simply that the more expensive “milk powders” were of higher quality, and contained “*more nutrition*”.

Because mothers themselves made no clear distinction between powdered milk and infant formula, their responses could mean either. When reporting on the findings we are using the terms as the mothers did.

In order to find out which types of milk were used for children we asked mothers and health workers to rate different types of milks as being given to children: “often”; “sometimes”; or “never”. For this question, because of the lack of distinction between infant formula and

regular milk powder, the two were lumped into one category. This formula/ milk powder was then the type of milk by far most commonly given to children according to both mothers and health workers. Sixteen of the 28 mothers and 7 of the 14 health workers said it was given *often*.

Liquid milk – processed and packaged in a box or plastic bag, was the second most common type of milk used for children – more common for older than for younger children. However, no health worker and only one mother said it would be given *often*.

Animal milk, from cow or other animal - unprocessed, unpackaged and sweetened condensed milk were rarely or never given. All health workers and 25 of the 28 mothers said such animal milk was *never* given to children. Similarly, 9 of the 14 health workers and 22 of the 28 mothers said condensed milk would *never* be given to children.

Milk was given during the first few days after birth when mothers were afraid that the breast milk was not yet enough or later if they worried their breast milk was not sufficient. But even when there was no apparent problem, breastfed babies might be given other milk - if the parents could afford it. This was said to help them become stronger and grow better. It puzzled us that while no one seemed to doubt that “breast was best”, somehow the combination of breast milk and other milk was better than best. What we established after much questioning was that while no one would put formula or milk powder ahead of breast milk, the combination of breast milk plus other milk was indeed thought to be superior to just breast milk - also by many health workers. As explained by a nurse: “*You have one good thing plus another good thing. It must be better*”. If mothers fed formula or milk powder, grandmothers had fed condensed milk and the Oldest women rice water to their children.

*Complementary foods*. Besides the water and milk, mothers were giving foods such as rice or soup before six months of age. Food supplementation tended to start later and be less frequent than fluid supplementation.

*Advice on exclusive breastfeeding*. We asked mothers and fathers where or to whom they would turn with a question about how to feed the baby. Several of them mentioned more than one source. The main source, by far, was nutrition and health workers, followed by friends & neighbours and family. TV and various reading materials were others sources of information. Mothers were asked what they remembered being told about giving fluids and foods during the first six months by health workers and grandmothers. No mother remembered a grandmother having mentioned exclusive breastfeeding. A small number of mothers recalled being advised by a health worker to breastfeed exclusively, not to give bottle milk or not to give water. Many mothers recalled both health workers and grandmothers having advised them to give water, milk or food during the first six months.

*Exclusive breastfeeding – a new recommendation*. When asked whether they had heard of the new recommendation of exclusive breastfeeding for six months, 10 of the 28 mothers, 4 of the 30 grandmothers, 6 of the 30 fathers and 9 of the 14 health workers said they had. In other words, most mothers, grandmothers and fathers had not

heard of this recommendation while most health workers had heard of it. It is possible that the numbers are on the high side as some respondents simply may have indicated that they had heard of the concept exclusive breastfeeding, but not necessarily for six months.

After explaining to respondents what the new recommendation entailed, we asked how they felt about it, what they saw as the main difficulties and how these difficulties might be overcome. Respondents' opinions of exclusive breastfeeding were categorized as "Good", "Good, but" (positive with some reservations) and "Not good". If the "good, but" category is interpreted as positive, then there were about equal numbers of positive and negative responses.

Fathers were among the most positive respondents. They believed that, "*Breastfeeding during the first six months is right*" and had faith that it is possible for mothers to realize it. One father pointed out that, "*mother can manage even at times when she works because other family members can share work load with her*". Grandmothers, on the other hand were sceptical. Very few grandmothers considered exclusive breastfeeding for six months to be a good idea and many thought it was an outright bad idea.

Several respondents who expressed reservations about the idea of exclusive breastfeeding were concerned about mothers not having enough milk because of a poor diet. A number of grandmothers simply did not think it would work. They were afraid that, "*the child will be thirsty and cry*", that with only breastfeeding there would not be "*enough nutrients for a child to develop*". Mothers, fathers and health workers expressed similar doubts. Many respondents mentioned work as an obstacle to exclusive breastfeeding and several mentioned lack of awareness of the new recommendation as a problem.

Respondents' suggestions for overcoming these difficulties mirrored the difficulties they had mentioned. They thus suggested: more food for the mothers; support so they could work, and; awareness raising activities. A number of fathers and grandmothers expressed a willingness to provide the support needed for a mother to manage work and breastfeeding. The solution proposed by a farmer was that he could go to the far-away fields and his wife to the ones close by. A grandmother offered to go to work so the mother could stay home and breastfeed. Mothers, too, thought it would be helpful if "*family members would share work with the mother*" and in addition requested "*more encouragement from her family and others*" because she "*does not know how she can do it*". What was needed according to a father was "*Improving awareness of mothers about the benefits of this new idea*". A grandmother thought that, "*the grandmother should understand about the benefits of exclusive breastfeeding*", and a mother suggested that, "*health workers and members of the Women's Union should explain well on this for the mothers to know*". Thus family members, once they understood the value of exclusive breastfeeding, were ready to support it.

*Implementing exclusive breastfeeding*. Fathers and grandmothers were asked if they could imagine their wife or daughter-in-law, exclusively breastfeeding for six months. A father who was positive to the idea said: "*If it is good for the child I think no problem*" while another father stated "*No problem because the doctor say it is right*". The grandmothers were sceptical but one grandmother said, "*if it's good for my child then I*

agree". Many grandmothers foresaw difficulties for themselves such as "when my grandchild cries, I have to give some sugar water" or "What do I do if the mother is out and the baby cries? I have to give formula". Fathers, too, expressed such concerns: "But when my baby cries, I have to give something for my child, at least sugar water" or "What can I do when the baby cries? I have to give sugar water". These comments by the grandmothers and fathers are understandable in light of the considerable extent to which they participated in child feeding during the first six months by giving fluids and foods (24 of the 30 grandmothers and 25 of the 30 fathers said they gave fluids and foods to the young child at least sometimes).

#### 4.2.5. Obstacles to exclusive breastfeeding

Two of the most commonly iterated explanations for the lack of exclusive breastfeeding, in Viet Nam and in other countries, are that mothers do not have enough breast milk and that they have to start work outside the home early. Besides these obstacles, we hypothesized that infant food advertising might discourage exclusive breastfeeding by encouraging unnecessarily early supplementation with non-breast milk fluids and foods.

*Perceived breast milk insufficiency.* We found the perception that mothers do not have enough milk to be widespread. Half of the mothers, larger proportions of grandmothers and fathers and nearly all health workers believed it was a common problem. The explanation according to a majority was poor nutrition. For example that, "A mother eats too little or is too thin", believed a mother. A "poor diet" means a mother "does not have enough breast milk", said a father. "Maybe, the mother's foods don't have enough nutrition so that she doesn't have milk", suggested a grandmother. A health worker thought that "Mothers' nutrition intake is insufficient. They need more meat, fish, nuts and fruit".

Inadequate breast milk quality was perceived to be less of a problem than inadequate breast milk quantity by mothers, grandmothers, fathers and health workers. A poor diet was a common explanation also for inadequate breast milk quality. Another frequently mentioned reason was the "genetic base, the blood" of the mother. A number of respondents explained that the way that one could tell that the breast milk quality was poor was that the child was not growing or developing satisfactorily. A health worker had found that, "bad smell" means "low quality". Fathers and health workers knew of two kinds of milk, cool milk, which is good for child growth and development and hot milk which is not good.

*Work.* The data indicated that work outside the home was a reality for the vast majority of women regardless of age. As many as 24 of the 28 mothers, 21 of the 30 grandmothers and 11 of the 16 Oldest women were engaged in some kind of work other than housework or caring for children. For the women in the North, urban and rural, the main type of work was farm work on their own farm whereas for women in the South it was conducting some form of shop or street market activity.

Not only do women work to a large extent. They also return to work quite soon after childbirth, the majority before the baby is six months old. Twenty-three of the 28 mothers and 12 of the 14 health workers indicated an age below six months. Several grandmothers

remarked that they had had to start work earlier than mothers today do and that nowadays women “*go to work late and work less hard*”.

Mothers and health workers were also asked whether it was “very common”, “fairly common” or “not very common” for women who returned to work before the baby was 6 months old to be away from the baby for more than 4 hours or to work so far away that they would not be able to go home and breast feed. It is “not very common” for a mother to be away for more than 4 hours, believed 21 of the 27 mothers who responded, and 11 of the 14 health workers. All health workers and nearly all mothers believed it was “not very common” for a mother to be working so far away that she could not go home and breastfeed. A mother made the following remark regarding the compatibility of work and breastfeeding: “*No difficulty at all. Because we are farmers we work near our house and can go back and breastfeed if we want*”.

These responses indicate that while women do work and many start soon after the child is born, they find ways to manage work so it does not have to interfere with breastfeeding during the first six months. While this does not mean that the women practiced exclusive breastfeeding, it means that they could and that work need not rule out exclusive breastfeeding, as widely believed.

*Infant Food Advertising.* Mothers, grandmothers, fathers and health workers who recalled any infant food advertising, remembered formula and milk powder as having “*more vitamin and minerals*” and “*many nutrients*” which lead to “*better growth and development*”, especially “*more brain development*” helping the baby “*become more intelligent*” and “*more smart*”. A few respondents recalled the information “*Breast is best*” but had also understood that , “*many kinds of milk have the quality of breast milk*”. The Vietnamese Code, a Decree regulating the trade and use of breast milk substitutes, prohibits advertising for products intended for children under the age of 6 months. Every advertisement for allowed products must include the statement that “breast is best”. While adhering to the Code by providing the obligatory “Breast is best”, advertisements then go on to name particular nutrients contained in a product, hinting that these nutrients will help the child develop beyond what is possible with only breast milk. They appear to have been successful in establishing this understanding among both lay people and health professionals.

#### 4.2.6. *Stopping breastfeeding early*

When breastfeeding was stopped at the usual age, between 12 and 24 months, mothers employed three main strategies: “*Giving gradually more other food*”; “*Separate the child from the mother* , and; “*Put some bitter substance on the nipple*”. The process until breastfeeding was stopped was immediate or took from a few days up to a week or more. Grandmothers were not very involved in the decision to stop breastfeeding whereas fathers were to some extent. One father explained how he looked at this responsibility: “*Breastfeeding is good so before stopping we should discuss whether it is time*”.

When asked what could be some reasons that a woman would stop breastfeeding early - before six months - many mothers said they knew of no such cases. Those who had an idea

suggested it could be: because, “*she may have some disease*”; “*When the mother does not have enough milk*”; that the mother has to work and “*go far from home so the baby cannot follow*”, or “*when the mother becomes pregnant*”. The methods for stopping breastfeeding early would essentially be the same as those used with an older child, but giving other foods would be the main way. “*Very easy. Just give her something else*”, said one of the mothers.

#### 4.2.7. Expressing breast milk

Many grandmothers and health workers, but fewer mothers and fathers affirmed that expressing breast milk was something women in their area do. A number of mothers informed interviewers that “*Nowadays nobody expresses milk*”. Although such a statement conveys the impression that expressing breast milk was a thing of the past, these mothers may have exaggerated in an effort to themselves appear modern. Informal conversations with a range of respondents indicated that expressing breast milk is still a common practice. This practice is not about expressing large quantities of breast milk, but means that a small amount of milk is squeezed out before breastfeeding. One mother explained that this is a “*common practice here because after working in the field women think that their breast milk is sour (and can cause diarrhoea). Therefore, before feeding, a little milk will be removed*”. The fear as another mother explained it is that “*the first milk has stayed for a long time in the nipple and will be polluted*”. The more time that has passed since the previous feed, the more milk will have to be removed and the more important it is to do it. One mother, a health professional in an influential position, said her mother-in-law had told her to squeeze out some milk before every breastfeed and that she had followed this advice. Incredulous, the interviewer asked if she had done it at night, too. “*Of course*”, the mother replied. Some mothers and grandmothers in the South referred to the bad milk that had to be removed as “*windy milk*”.

According to the grandmothers, the expressed or squeezed out milk was: “*Thrown on the ground*”; “*On the wall or somewhere*”; “*Into the rice washing water and given to the pig*” or squeezed onto a special cloth. While many mothers similarly described how the milk would be discarded, other mothers said that the milk could be kept and given to an older child.

Expressing breast milk is thus a practice with which mothers in Viet Nam are familiar. However, to express milk and feed it to the baby later is a novel notion. Very few mothers, grandmothers and fathers thought this was a good idea. Mothers did not like the idea because; “*expressed milk has a bad smell and is not good for babies*” and “*the milk can become contaminated with bacteria*”. Grandmothers were afraid that “*expressed milk was not good for children because it would have a bad smell and be sour*” or “*very fishy*”. “*How can a baby eat such cool milk*” wondered one grandmother. The principal concern of many fathers was that the milk would be “*easily infected*” or “*unhygienic*”. Other fathers worried that the milk would become cold or that, “*maybe the baby will not like this milk*”. The main concern of the health workers was that the milk would become contaminated if kept. Health workers who liked the idea of expressing milk and feeding it to the child later, brought up advantages such as: “*Expressed milk is better than formula because it contains antibody against diseases and more nutrients compared to formula*” or “*It is a good idea. It will help mothers to prolong breastfeeding even when they go for work*”.

The interviewers provided respondents with the information that expressed breast milk can be kept for 8 hours without refrigeration. Having received this information, mothers were asked whether they would be prepared to express breast milk to be fed to the child many hours later if they had to be away from the baby for some reason. Grandmothers and fathers were asked whether they could think of feeding such expressed breast milk to the baby if the mother had to be away. The idea was not met with great enthusiasm. Only eight of the 28 mothers said they would be prepared to try this and 4 of the 24 grandmothers and 7 of the 30 fathers said they were ready to feed expressed breast milk. Two of the health workers said they had training on how to teach mothers to express breast milk and one said she did this sometimes.

#### 4.2.8. Not breastfeeding at all

In a culture where a woman and everyone around her expects her to breastfeed her baby, we wondered what the reaction would be to a woman who was not breastfeeding at all and how she herself might feel. This may have been one of the most difficult-to-understand questions in the entire questionnaire. It often took a lot of explaining to make clear that we were asking about a situation where a woman was not breastfeeding at all. For the majority of the respondents this was an unimaginable situation, something they had never come across or thought about. When they did understand what we were asking about, most of them could only think of it as a very extreme situation. What most respondents imagined was that the woman or the baby had a serious disease or that there was something else abnormal in the situation.

When asked how they would react to a woman not breastfeeding at all, respondents revealed that they thought this was: “*very strange*” and that it was difficult for them to imagine: “*I have never met a mother who does not breastfeed*”; “*No case around her so can’t imagine what she will do*”. Several respondents said they would feel love or sympathy toward the child. Respondents thought the mother herself might be “*upset*” or “*sad*”, “*absolutely sad*” since “*all mothers like to breastfeed their baby*”. The mother will “*hide her disease so she looks normal. But I don’t know what will happen inside her*”, commented a health worker.

Respondents said that babies who could not be breast-fed would be fed *formula* or *milk powder*. As explained previously, we are not sure whether those who said formula meant commercial infant formula or whether those who said milk powder meant dried whole milk because this was not a distinction readily made by the mothers. As explained above, for most respondents the two types of milk may have been more or less the same thing, basically powdered milk that was used for babies. We did not find skim milk powder for sale. Thus milk powder here refers to whole milk powder. Respondents mentioned bottle, cup or spoon feeding, in that order of frequency. “*Mostly people prefer bottle*”, thought a mother. The cost of buying the milk and the time and difficulty of preparing the feeds were the main problems that respondents associated with not breastfeeding.

Similarly, orphans were fed formula and milk powder. A number of mothers and grandmothers also mentioned wetnursing as a possibility for orphans. The orphan girl, whose 68-year old grandmother we interviewed, had been breast-fed by several women in the commune from the time the mother died (when the baby was 3 months old). At the time of the

interview, when the baby was around six months old, the grandmother was breastfeeding her and she was also receiving commercial infant formula and rice soup.

#### 4.2.9. Breast health problems

Preliminary, informal questioning had revealed a lack of vocabulary regarding breast health problems. We therefore simply asked whether “painful nipples” and “painful breasts” were “very common”, “fairly common” or “not very common”. Neither painful nipples nor painful breasts were very common according to mothers and health workers.

### 4.3. HIV/AIDS & infant feeding

Nearly all respondents saw HIV/AIDS as a big problem in Viet Nam and many expressed their fear of it: “*Everyone knows about it. I am afraid of it*”; “*People say that AIDS is very dangerous. AIDS cannot be treated*”. They listed injecting drug users, sex workers and people having unsafe sex as the main categories of people affected by HIV/AIDS.

When asked how a mother’s positive HIV-status would affect how she cared for her baby, many respondents did not give any answer at all and several said they did not know. Of the mothers and health workers who had an opinion, most stated that a mother’s HIV-status would not influence how she cared for her baby: “*There is not influence. HIV cannot transmit by touch or hold*”. A number of grandmothers, however, were adamant that the mother “*should not stay with her baby*”; that “*we have to separate them*”. Several respondents expressed concern that the mother’s weakness would make it difficult for her to care for her baby.

Regarding feeding, however, respondents did have opinions. Most of them felt that an HIV-positive mother should not breastfeed. Fathers were the only respondent group among whom a sizeable number believed breastfeeding would be the best choice even for an HIV-positive mother. A number of respondents said that the choice would depend on the economic status of the mother. A mother recommended, “*Breastfeeding if the mothers is poor. Giving formula if the mother is rich*”. A grandmother thought it was better if an HIV-positive mother did not breastfeed, but “*if she does not have money, maybe she has no choice and still has to breastfeed as normal mothers*”. Some of the respondents, who thought formula feeding was the best option, commented that they thought the community and relatives should help. A father said: “*If she lives near my house, I will help her to buy powder milk*”.

#### 4.3.1. Feeding options for HIV-positive women

*Replacement feeding options.* Mothers and health workers were presented with the following replacement feeding options: commercial infant formula; dried whole milk powder; liquid milk – processed and packaged in a box or plastic bag; and condensed milk. For each option the interviewer provided the average cost of feeding an infant for one month using this option and asked mothers and health workers to comment on the advantages, disadvantages and affordability for HIV-positive women of using each type of milk. The distinction between infant formula and regular milk powder was made clear to the respondents before they were asked for their opinions.

Infant formula was preferred because it is “*the best for the baby*”; “*supplies enough nutrition for the baby*”; and is “*near to breast milk*”. However, its great disadvantage of being “*very expensive*” made it something “*only rich people can afford. Poor people cannot*”.

Milk powder was thought to be of “*less quality*” and “*not as good as formula milk*”. While “*less expensive*” it would still only be affordable for “*normal people*” not for those who have HIV since they are poor.

Liquid milk was considered “*not suitable for small children*” and “*cannot keep for a long time*”. As even more affordable than milk powder, this “*fresh milk*” was something “*many people could afford*”, but not “*HIV injecting mothers [who] do not have enough money*”.

Condensed milk, correctly, was thought to be not at all “*good for children*” because of its “*low nutrients and [being] too sweet*” even though of course it was “*the cheapest*” option.

*Safer breastfeeding*. Very few mothers were keen on the exclusive breastfeeding option, principally because they thought an HIV-positive mother “*should not breastfeed*”. Health workers on the other hand were more positive, believing that HIV-positive mothers “*can do it*”; that it’s “*feasible*” and “*the best option*”.

Mothers also were not very enthusiastic about the idea of stopping breastfeeding early (before 6 months) and stopping rapidly (in one week) essentially because they did not think an HIV-positive woman “*should breastfeed at all*”. A number of health workers believed it “*may be feasible*” to stop early and “*fairly possible*” to stop rapidly while others expressed concern about one week being too short or that it “*would be difficult for the baby*” to stop rapidly.

Regarding expressing and heat-treating breast milk, opinions were divided both among mothers and among health workers. One of the mothers in favour of this option found it “*acceptable because it is safe for the child*” while other mothers in favour of it simply stated they thought it was something an HIV-positive mother could do. Health workers, to a large extent were in favour of expressing and heat-treating milk, but still voiced some hesitation: “*Maybe it is the best way*”; “*If she has no way she has to do so*”.

Health workers when asked for their opinion of replacement feeding versus safer breastfeeding expressed considerable scepticism regarding the advisability of breastfeeding. At the same time they acknowledged that there may not be an ideal replacement feeding option for HIV-positive women since “*it depends on the income of the mothers, but HIV-mothers are usually poor so it is difficult for them*”; “*HIV-mothers are not able to buy these milks*”; “*The only milk that an HIV-infected mother can feed her baby is condensed milk because it is very cheap*”. With respect to safer breastfeeding they felt HIV-positive mothers would be able to follow “*if they are explained well on it*”.

## **5. QUANTITATIVE RESULTS**

The extra questions on exclusive breastfeeding in the National Nutrition Survey were asked of a total sample of 165 mothers with children less than 6 months of age in an urban (Hanoi) and rural area (Ha Tinh). The most important findings were that first water and second milk, were the two main obstacles to exclusive breastfeeding, just as the qualitative study has shown. The estimates for exclusive breastfeeding using the 24-hour recall method and assessment since birth were found to be of the same magnitude. This conflicts with results from other research in Viet Nam (16) and studies elsewhere. The questioning strategy is being reviewed in order to improve the data quality for future survey rounds. This is important as NIN is interested in incorporating these questions in their annual surveys on a national scale. Done correctly, this will provide an excellent monitoring and evaluation tool for exclusive breastfeeding.

## **6. COMMENT**

The findings of the research will be commented on for three groups of infants:

- (1) Infants in the general population, i.e. infants born to women who are HIV-negative or of unknown status since their situation provides the context in which special options for HIV-positive women must be considered.
- (2) Infants of HIV-positive women for whom replacement feeding IS acceptable, feasible, affordable, sustainable and safe.
- (3) Infants of HIV-positive women for whom replacement feeding IS NOT acceptable, feasible, affordable, sustainable and safe

### **6.1. Infants in the general population**

The general situation of infant feeding besides providing the context for assessing options for HIV-positive women is of particular relevance because for infants below six months - the target group for the current assessment - the recommendation is the same as for infants of HIV-positive women for whom replacement feeding is not acceptable, feasible, affordable, sustainable and safe, namely exclusive breastfeeding.

The study indicated that exclusive breastfeeding is rare in Viet Nam because a number of beliefs encourage practices that jeopardize it and because it is poorly understood and little appreciated as the best way to feed an infant. Supplementation with a variety of fluids and foods during the first six months is the norm and mothers, grandmothers, fathers and also health workers believe that these supplements provide added value. No one expressed concern that supplements could be detrimental.

The main obstacle to exclusive breastfeeding was the belief that babies need extra water. Articulated reasons for giving water included that it is necessary for cleaning the infant's mouth and that the infant could be thirsty. The second obstacle was the belief that formula or milk powder helps the infant grow and develop better than is possible with breast milk alone. This belief was nurtured by a widely held perception that many women do not have enough breast milk and by infant food advertising promising superior growth and development for babies who are also fed formula or milk powder. The quantitative study confirmed these qualitative observations of water and milk as the main obstacles to exclusive breastfeeding in Viet Nam.

Women's need to work outside the home was another common justification for giving a baby milk other than breast milk. However, while indeed it is common for Vietnamese women to work and to return to work before the baby is six months old, we found upon closer examination that work probably was more of an assumed than real obstacle to exclusive breastfeeding. Mothers themselves and also health workers, when asked, said that few women would have to be away from their infants for more than four hours or would need to work so far away that they could not go home and breastfeed. In other words, women seem to have found ways to handle work so it does not have to interfere with breastfeeding. While this does not mean that the women practiced exclusive breastfeeding, it means that they could. Dearden et al similarly reported how some mothers were able to breastfeed exclusively while working outside the home (17).

For women who do have to be away from their infants for extended hours for work or for other reasons, exclusive breastfeeding would still be possible if they expressed breast milk and left this milk to be fed by another caretaker. We found that expressing a small quantity of breast milk before breastfeeding is a common practice, but that respondents doubted that it was safe to save this milk and feed it to the infant.

## **6.2. Infants of HIV-positive Women for whom Replacement Feeding IS Acceptable, Feasible, Affordable, Sustainable and Safe**

Assessing whether replacement feeding is an Acceptable, Feasible, Affordable, Sustainable and Safe option is a process aimed examining the suitability of replacement feeding for an individual HIV-positive woman. This assessment should always take into account the woman's individual circumstances.

We have chosen to use these individual level conditions as a framework for presenting the findings with respect to replacement feeding options for HIV-positive women in Viet Nam. Whereas at the individual level it is and either / or assessment, i.e. the condition is fulfilled or it is not, for the national level we have created a scale of low, medium and high. The five AFASS conditions for replacement feeding were applied to the three options for replacement feeding that we identified: infant formula, whole milk powder, and liquid milk, processed and packaged.

### **6.2.1 Acceptability**

*Definition:* No social or cultural barriers to replacement feeding or mother can handle them. This study and many earlier ones have shown that exclusive replacement feeding is highly unusual in Viet Nam. There are strong social and cultural barriers to not breastfeeding at all. Respondents in our study believed that a woman who did not breastfeed at all had a serious disease or had an infant who was very ill. They thought that others felt sorry for her and for her infant and suspected that the woman herself was very sad. In other words, not breastfeeding at all was perceived as abnormal, acceptable neither to society nor to individual women. While there was a readiness to be sympathetic towards a woman who is unable to breastfeed, if revealed that her reason was that she was HIV-positive, there would certainly be stigma to handle in a country that has labelled HIV/AIDS a social evil. Given the significant social and cultural barriers in Viet Nam to not breastfeeding at all, the Acceptability of replacement feeding in general is rated as low. For the individual HIV-positive woman, increasing the Acceptability of replacement feeding will be a matter of coping with expectations from family and friends that she should breast-feed her baby, resolving her own grief over not breastfeeding and dealing with likely stigma if she reveals why she is not breastfeeding.

However, while exclusive replacement feeding is largely unacceptable because it means not breastfeeding at all, it is highly acceptable to give a breast-fed baby formula or milk powder. Thus, for the specific products, formula and milk powder, the Acceptability rating was adjusted to low to medium. Liquid milk, processed and packaged, is not perceived to be good for young infants. Hence its Acceptability was rating remained at low.

#### 6.2.2. Feasibility

*Definition: Mother (family) has adequate time, knowledge, skills etc to prepare up to 12 feeds in 24 hours.*

Given the participation of grandmothers, fathers and other family members in infant care and feeding, it is likely that there will always be someone around to prepare the replacement feeds and feed the child even if a mother would be unable to. However, involving others is likely to mean that the mother would have to reveal her HIV-status.

Relatively high education levels in Viet Nam may facilitate the correct preparation of feeds. However, grandmothers who may do some of the preparation, tend to be less educated and respondents in the study expressed concern about the difficulty of preparing feeds day and night. Experience from other settings has shown that high education levels are no guarantee for correct preparation. Based on these considerations, Feasibility for formula was rated as medium. Home modification of milk powder or liquid milk, which requires the correct dilution with water and addition of sugar and a micronutrient supplement, is considerably more difficult than preparing infant formula following the instructions on a tin. Experience from Myanmar has shown that even health workers have difficulty with this (18). Based on the likely problem of incorrect preparation of powdered and liquid milk their Feasibility was rated as low to medium.

#### 6.2.3. Affordability

*Definition: Mother (family) can afford all ingredients, fuel, clean water soap etc.*

The monthly cost for infant formula would be at least 400 000 VND (US\$ 27), for milk powder 70 000 VND (US\$ 5) and for liquid milk (processed and packaged) 90 000 VND (US\$ 6). The percentage minimum urban wage that would have to be spent to feed a baby on infant formula is estimated to be 39% (1). For women infected by HIV, this percentage is likely to be very much higher as their financial circumstances may not even include access to a minimum wage. Affordability for infant formula is rated as low.

Compared to formula, at less than one fifth the cost, milk powder and liquid milk are more affordable. However, even this cost may be out of the range of many families affected by HIV. In addition, families would need to be able to cover the cost of the micronutrient supplement necessary for home modification of these types of milk. Affordability for milk powder and liquid milk are rated as low to medium.

#### 6.2.4. Sustainability

*Definition: Continuous, dependable supply of all ingredients can be ensured for as long as the infant needs.*

Our experience in the study areas indicated that infant formula is widely available even in the rural areas. Due to this wide availability, Sustainability for formula is rated as high. While milk powder is equally widely available, there is uncertainty with respect to the availability of micronutrient supplements. The Sustainability of milk powder was therefore rated as medium. Liquid milk (processed and packaged) is less widely available and there is uncertainty with respect to the availability of micronutrient supplements. The Sustainability of liquid milk was thus rated as low.

#### 6.2.5. Safety

*Definition: Replacement feeds are correctly and hygienically prepared and stored.*

This study was not designed to obtain data on the safety of replacement feeding. However UNICEF's Situation Analysis for 2000 reports that only 42% of rural households have access to safe water and 17% have access to adequate sanitation (19). Experience from elsewhere has demonstrated that even with high education levels and good hygiene facilities, mothers had considerable difficulties preparing feeds that were safe, i.e. free of pathogens. We therefore assume that Safety would be low to medium for all replacement feeding options.

The AFASS ratings for the three replacement feeding options for Viet Nam are summarized in the following table.

***AFASS Rating of replacement feeding options for HIV-positive women***

	<b>Acceptability</b>	<b>Feasibility</b>	<b>Affordability</b>	<b>Sustainability</b>	<b>Safety</b>
<b>Infant formula</b>	<p>LOW to MEDIUM</p> <p>Social/cultural barrier for not breastfeeding <u>at all</u>. But formula well accepted.</p>	<p>MEDIUM</p> <p>High education levels may facilitate correct preparation.</p>	<p>LOW</p> <p>Very expensive</p>	<p>HIGH</p> <p>Widely available</p>	<p>LOW to MEDIUM</p> <p>Assumption based on experience in other countries.</p>
<b>Whole milk powder</b>	<p>LOW to MEDIUM</p> <p>Social/cultural barrier for not breastfeeding <u>at all</u>. But milk powder well accepted.</p>	<p>LOW to MEDIUM</p> <p>High education levels may facilitate correct preparation. But home modification more complicated.</p>	<p>LOW to MEDIUM</p> <p>Expensive</p>	<p>MEDIUM</p> <p>Widely available. Availability of micronutrient uncertain.</p>	<p>LOW to MEDIUM</p> <p>Assumption based on experience in other countries.</p>
<b>Liquid milk packaged</b>	<p>LOW</p> <p>Social/cultural barrier for not breastfeeding <u>at all</u>. Liquid milk perceived as unsuitable for young infants.</p>	<p>LOW to MEDIUM</p> <p>High education levels may facilitate correct preparation. But home modification more complicated</p>	<p>LOW to MEDIUM</p> <p>Expensive</p>	<p>LOW</p> <p>Less widely available. Availability of micronutrient uncertain.</p>	<p>LOW to MEDIUM</p> <p>Assumption based on experience in other countries</p>

### **6.3. Infants of HIV-positive women for whom replacement feeding is NOT acceptable, feasible, affordable, sustainable and safe**

#### 6.3.1. Exclusive breastfeeding

When replacement feeding is NOT acceptable, feasible, affordable, sustainable and safe, exclusive breastfeeding is recommended for infants of HIV-positive women for the first few months. While exclusive breastfeeding is unusual among Vietnamese women, it is unlikely that it would be seen as strange to the degree that not breastfeeding is. Nevertheless, if exclusive breastfeeding were the social norm its Acceptability for HIV-positive women would certainly increase.

In order to make breastfeeding for HIV-positive women safer, it would be important to prevent, diagnose and treat breast health problems. While respondents did not perceive such problems as very common among Vietnamese women, research from other countries indicates that a proportion of women do experience them. The lack of vocabulary for breast health problems that we found may indicate a lack of awareness of such problems. Prevention and treatment of breast health problems can be addressed through breastfeeding management including correct positioning and attachment of the baby.

#### 6.3.2. Stopping exclusive breastfeeding early and rapidly

If replacement feeding would prove to be acceptable, feasible, affordable, sustainable and safe for an HIV-positive woman when her baby is six months old, then stopping over a period of a few days to a few weeks would be something women in Viet Nam would be likely to manage according to the study respondents.

#### 6.3.3. Expressing and heat-treating milk

Since women in Viet Nam are familiar with the practice of squeezing out small quantities of breast milk before breastfeeding, for an HIV-positive woman, it would be a matter of learning how to express adequate quantities of breast milk and of finding a practical way to heat the milk. We received the suggestion that the milk could be heated in a small container in the rice cooker. This was also suggested by mothers in a similar study in Myanmar (18) and by mothers in Cambodia (20). However, feeding an infant expressed breast milk and heating it are both unfamiliar practices. An HIV-positive woman would be likely to have to explain herself and to deal with possible reactions of stigma and discrimination. There would also be the practical challenges of constantly expressing and heat treating all the breast milk. While these difficulties would be similar to those of an HIV-positive woman who had chosen replacement feeding, a woman who was expressing and heat-treating her breast milk would have the satisfaction of feeding her baby her own breast milk and avoiding the risk of HIV-transmission and she would not have to worry about being able to afford it.

#### 6.3.4. Wetnursing - a questionable option

The option of wetnursing requires special consideration as it may involve a risk both to the wet nurse and to the baby and was therefore not explored in this study as one of the options for HIV-positive women. Without considering wetnursing as an option for HIV-positive women, we learned that wetnursing still is widely accepted and practiced in Viet Nam. This tends to be occasional wetnursing where a baby would receive breast milk from other women as needed, but not have a full-time wetnurse.

## 7. NEXT STEPS

### 7.1 Protect, promote and support exclusive breastfeeding

For the sake of infants of HIV-negative women and women of unknown status and for infants of HIV-positive women for whom replacement feeding is not acceptable, feasible, affordable, sustainable and safe – the vast majority of infants - the most important intervention is to protect, promote and support exclusive breastfeeding in Viet Nam. This will require addressing all of society: young and old, lay people and health professionals. A number of misconceptions will need to be addressed and replaced by accurate information. Lay people and health professionals have the right to know that during the first six months, supplemental fluids and foods do not add value to breast milk, but may be detrimental and that insufficient breast milk tends to be an imagined rather than a real physiological problem. Reassuringly, as shown by this research, women's work outside the home need not be an obstacle to exclusive breastfeeding and family members are ready support women to breastfeed exclusively if they understand its value. The protection, promotion and support of exclusive breastfeeding will be facilitated by a strengthened Code of Marketing of Breast Milk Substitutes (Decree 74 in Viet Nam) that is implemented and monitored adequately. For working women covered by maternity leave legislation, changing the current four months of maternity leave back to the previous six months would facilitate exclusive breastfeeding for six months.

While multiple audiences and multiple misconceptions need to be addressed in order to protect, promote and support exclusive breastfeeding, it is worth keeping in mind this is not about teaching a complicated health behaviour, but asking women to do something that is simpler than what they are currently doing. This research has pointed to a number of reservations that people have about exclusive breastfeeding. These reservations need be addressed by providing convincing evidence that exclusive breastfeeding is possible in Viet Nam. For wider reach and higher impact, the help of TV may be enlisted, one suggestion being to let the audience follow the search for evidence in a series of TV-programmes. Such Televised Action Research may begin by examining breast-fed babies' need for extra water since this is the main concern and one that can be addressed through an easy-to-conduct, easy-to-understand and inexpensive study (21, 22 ).

### 7.2. Better understanding the realities of HIV-positive mothers

The research pointed to a number of additional issues that need to be investigated through small scale action research among HIV-positive women, including:

- (1) The feasibility of expressing breast milk in adequate quantities and feeding it later.

- (2) The feasibility of heat-treating breast milk.
  
- (3) The feasibility of preparing safe feeds, nutritionally adequate and free of pathogens for women of different education levels and different access to hygiene facilities.
  
- (4) The frequency of breast health problems, which also would be useful to examine among women who are HIV-negative or of unknown status.

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