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**Country Adaptation of Global HIV and Infant Feeding Guidelines and
Development of Replacement Feeding Guidelines for Myanmar
2001-2002**

STAGE I

**Review of Currently Used Infant Feeding Guidelines
and Information on Infant Feeding Practices in Myanmar.**

UNICEF CONSULTANT REPORT

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Review of Currently Used Infant Feeding Guidelines and Information on Infant Feeding Practices in Myanmar.

Context

This paper is the first stage in a joint National Nutrition Centre (NNC)/National Aids Programme/UNICEF project to devise a range of infant feeding options suitable for infants of mothers who have HIV. Initially these will be for Myitkyina and Monywa, two areas with UNICEF PMCT sites. Separate feeding options will probably need to be developed for other areas of the country with different geographic and/or cultural food patterns. The project will develop a formative research tool using rapid appraisal techniques so that NNC and other partners can apply the methodology to other areas of the country. Gradually national HIV and infant feeding guidelines could be compiled with components from different States and/or Divisions and cultures. This work is included in the UN Joint Plan on HIV and Aids 2001 – 2002.

Introduction

The 1998 WHO/UNAIDS/UNICEF Guidelines on HIV and Infant Feeding recommend that pregnant women who have HIV should receive counselling on the infant feeding choices open to them, offered as much choice as possible and supported in whatever choice they make. Experience suggests that the generic feeding options described in the Guidelines need local adaptation to reflect the food items and feeding practices which are locally available, affordable and acceptable and which can be prepared safely in the typical domestic environment. Without local adaptation it is difficult for infant feeding counsellors and mothers with HIV to have a clear understanding of the feeding options available and their practical realities, particularly in countries like Myanmar where formula feeding is rare.

The starting point is an assessment of current infant feeding recommendations and practices in order to identify how they might be adapted for feeding infants of mothers with HIV. Ideally recommendations for feeding infants of mothers with HIV should share as much in common with recommendations for the general population as possible. This will reduce problems associated with spill-over of recommendations for mothers with HIV being taken up by other mothers, increase their acceptability and limit possible stigmatisation.

Sources

In addition to the published studies referenced, the consultant met with met people and organisations working on infant nutrition projects, consulted internal field reports and met with mothers in Yangon. This review presents a broad overview of the existing information. The great geographical, cultural and economic diversity in Myanmar is acknowledged, but is beyond the scope of this paper.

Current Policies and Guidelines.

Breastfeeding

A 14-point National Breastfeeding Policy was adopted in 1993 and marked the inception of the Baby Friendly Hospital Initiative (BFHI) in Myanmar. The 14 points of the National Breastfeeding Policy are largely identical to the BFHI's '*Ten Steps to Successful Breastfeeding*' with the addition of two steps forbidding donations of, or advertisements for, Breastmilk Substitutes, and two steps on the duration of breastfeeding and exclusive breastfeeding (EBF) (see below). The steps on the

duration of breastfeeding have also been incorporated into the ‘*Ten Steps to Successful Breastfeeding*’ used by Myanmar’s ‘Baby Friendly Home Delivery Initiative’(BFHD) and ‘Baby Friendly Clinic Initiative’ which extend the BFHI approach into the community and private antenatal clinic practice.

- Advertisements of breastmilk substitutes (BMS) are prohibited.
- You must not accept free-gifts of breastmilk substitutes
- Breastfeed exclusive up to 4 months
- Breastfeeding should continue for at least 2 years and mothers helped to choose appropriate complementary foods.

International Code of Marketing

The International Code of Marketing of Breastmilk Substitutes (Code) has not been incorporated into national law, but a draft is on the table and is currently being taken up by the Department of Health. The inclusion of prohibitions against donations and advertisements of BMS in the national policy has not been effective in prohibiting advertisements to the public, although television adverts are required to carry a statement that infants should be exclusively fed ‘with mothers milk for four months. Baby Friendly Hospitals are not supposed to accept donations of BMS, but private hospitals are understood to accept free supplies. The Children’s hospitals and wards caring for abandoned babies also accept donations. Commercial sponsorship of equipment in the health system is common, and white-boards carrying the *Dumex* brand logo are the most quoted example. This is in direct contravention of the Code which does not permit any brand exposure in the health care system.

The author has not carried out a Code monitoring exercise, but two further breaches of the Code have come up during preparation of this review. Firstly, on labelling. Infant formula is not manufactured in Myanmar but formula and other milk products from neighbouring countries are very common. Labels written entirely in Chinese, Thai, Indonesian and English are easy to find. This breaches Article 9 which requires manufactures to provide labels in an appropriate language. Secondly, there are reports that *Dumex* sales representatives are making house-to-house visits, selecting houses with nappies on the washing line. It is not known whether free samples are given, but the Code prohibits any direct contact between mothers and sales representatives.

Currently, knowledge of breastmilk as a possible route of HIV transmission is patchy, but where women have some knowledge they tend to believe, incorrectly, that breastmilk will transmit to all breastfed infants. In this kind of environment, mothers with unknown status will be more vulnerable to the influences of BMS marketing activities. On the other hand, BMS manufacturers may claim that activities to extend the market for BMS is a humane response to the plight of mothers with HIV. Against this background there is a pressing need for improved controls on the marketing of BMS. Activities in neighbouring countries also influence practises in the border areas. The Thai Government provides free supplies of BMS for one year for mothers with HIV and there are reports of mothers crossing into Thailand to obtain free supplies.

Age of introduction of complementary foods

The 1993 National Breastfeeding Policy recommends EBF for four months¹. The duration of EBF was reviewed at a national consensus meeting of senior paediatric consultants in 1998². The meeting was not convinced that six months EBF was appropriate for Myanmar and endorsed the 4 months goal. At this time, most other countries followed the recommendations of WHO/UNICEF

for EBF for “4 to 6 months”. The meeting’s decision was based on several concerns summarised below.

- Acceptability of a 6 month EBF recommendation because it is so far from existing practice. (Rates of EBF are very low.)
- The capacity of undernourished mothers to sustain infant health through EBF to 6 months.
- Discrepancy between goals for EBF and current maternity leave of six weeks post-partum. Many women work outside the home.
- Undermining many years of health education advising introduction of solids from four to six months.
- Language difficulties in expressing a range 4-6 months when translated into Burmese.

Since the 1998 consensus meeting, papers addressing some of the technical concerns have been published³⁴⁵ and in May 2001, the World Health Assembly adopted a recommendation for exclusive breastfeeding for 6 months. WHO’s Expert Consultation on the Optimal Duration of Exclusive breastfeeding⁶ emphasized the value of EBF in protecting against gastrointestinal infections and reducing diarrhoeal morbidity and mortality. Diarrhoea is a major cause of childhood morbidity in Myanmar⁷. The trade-off between some of the remaining concerns raised by the consensus meeting against the impressive protective effects of EBF from diarrhoea may need to be revisited.

Complementary Feeding

Whilst the timing for commencing complementary feeding is included in national policy, there has been no formal infant feeding policy covering the practice of complementary feeding*. There are several infant and young-child feeding recommendations in training manuals for health professionals and health education materials for the public. These have formed an implicit operational infant feeding policy but their precise details have varied. Recent recommendations on complementary feeding from the NNC (Box 1) distinguish between starter practices followed by a gradual introduction of other foods. These are simpler than the staged introduction of foods described in many of the earlier manuals (Box 2) which delayed introducing egg, fruit and green leafy vegetables until the third phase of weaning.

The National Nutrition Centre (NNC) has recently drafted National Nutrition Guidelines⁸ covering all ages and at the time of writing the first copies in Burmese were just coming from the printers. The guidelines are understood to advise a step-wise introduction of complementary foods, delaying meat, fish, beans and vegetables until 7months and egg until 10 months (Box 3).

* Infant Feeding refers to feeding infant from 0 – 12 months including breastfeeding, complementary feeding and replacement feeding.

Box 1. Summary of Infant Feeding Recommendations in Myanmar, NNC, May 2001

Exclusive breastfeeding for 4 to 6 months and continued demand breastfeeding for two years.

4 – 6 months: Begin introducing complementary foods

Start with

Soft easy to swallow foods

Rice-based home-made foods (pre-chewed or meshed rice[†])
or recognised ready-made infant foods.

Add a small amount of cooking oil to ensure adequacy of calories

Gradually introduce

Foods of harder consistency

Other locally available foods – egg, fish, liver, meat, pulses, fruit and vegetables.

Encourage consumption of

Vitamin A-rich foods such as liver, red and yellow fruits and green leafy vegetables

Iron-rich foods such as meat, liver and green leafy vegetables.

Protein rich foods such as meat, egg, fish, beans

Use iodised salt

Feed frequently 3-5 times per day

>12mths: Feed children the same food as the rest of the family (except hot and spicy food)

At least 3 meals per day plus nutritious snacks between meals.

Box 2: Summary of Complementary Feeding Recommendations. Baby Friendly Home Delivery Manual 1994

4m rice and oil

4-6m rice, beans/meat/fish and oil

6-9m rice, beans/egg/meat, fruit or Leafy vegetables and oil

>12m family foods.

Box 3: Summary of complementary feeding recommendations in NNC National Nutrition Guidelines 2001

4-6m rice, banana and papaya

7m add meat, fish, beans and vegetables

8-9m add small fish, and pieces of fruit

10-11m add egg

12m feed from the family pot.

[†] Cooked rice sieved through a cloth.

Existing Information on Infant Feeding Practices

The implications of current infant feeding practices for PMCT and for infant health in general is summarised in tables in Annex 1.

Initiation of Breastfeeding

The majority of women put the baby to the breast within the first few hours of delivery⁹. This is a remarkable change in practice from those documented in the early 1980s where many women did not begin breastfeeding until the second or third day after delivery, colostrum was discarded and prelacteal feeds of cooled water, and honey and water, were common¹⁰. It appears that today, most women feed colostrum, prelacteal feeding is unusual and demand feeding the norm. These positive changes are attributed to improvements in practice and advice from health professionals following the expansion of the Baby Friendly Initiative. However the BFI has not been taken up by private hospitals. A study in Yangon found that initiation of breastfeeding was significantly lower among mothers delivering in private clinics¹¹. A qualitative study in Kayin State found cases of pre-lacteal feeding with honey water and some families continued traditional force-feeding of small amounts of chilli pepper which they believe help clear away secretions.

Exclusive breastfeeding

Exclusive breastfeeding rates in Myanmar are very low. Using the recognised WHO definition of EBF¹² the latest cluster survey found that only 16% of mothers practiced exclusive breastfeeding at 0-3 months and around 70% gave water or other liquids from birth¹³. (Earlier surveys found much higher apparent rates of EBF because water was included). A study of around 200 women in Yangon found that 95% gave water, and 69% other drinks before four months of age¹⁴. The convention of giving additional water is the biggest obstacle to EBF in Myanmar. Even health professionals reportedly find it difficult to understand why it is not necessary to give infants water in such a hot climate. Water is given to relieve the infant's thirst and make it cool¹⁵. Breastmilk is warm and is not perceived as having cooling properties.

Complementary Feeding

Timing: There are two problems with the timing of introduction of complementary foods in Myanmar. Around 40 - 50% start too early (under 4months)¹⁶, and around 15% start too late so that by 9 months of age these infants are fed only breastmilk and water¹⁷. Estimates vary depending on which age intervals are used and whether liquids (juice, milks, soups) which are often given early, are included as complementary foods. 67% are reported to be receiving complementary foods between 4 -6 months¹⁸ as currently recommended and between 6-9 months 77% receive complementary foods¹⁹

The early introduction of solids, mainly rice is linked with traditional beliefs in the value and properties of rice. These range from a desire to let infants taste rice before they die, (and concerns that infants can die in the first few weeks of life), to token feeding of rice within a few days of birth to give protection against scorpion or mosquito bites²⁰ and a more general belief that rice is good for health and growth.

Constituents: There is a great deal of variety in the precise constituents and pattern of introduction of complementary foods, but some general themes emerge from the studies. Rice is universally the first food introduced, meshed through a cloth or pre chewed by mothers. Very often salt is added.

Less common is the addition of oil as recommended in the guidelines. The next foods given and the general composition of the infants diet tends to be governed by availability, what the family can afford and beliefs about the properties of particular foods rather than any clear idea that certain foods are suitable at different stages. There are anecdotal reports that eggs, beans and certain vegetables are regarded by mothers as causing the infant stomach pain and are best delayed. In a survey of weaning practices of 250 mothers in Yangon²¹, infants between 6-8 months were consuming a range of foods and there was no distinct pattern of certain foods being given later.

Working mothers are more likely to use commercial weaning foods²². There is some evidence that the first child is more likely to be given commercial foods than subsequent children and the authors suggest this may be due to the lack of experience of new mothers in preparing home-made complementary foods. The most common commercial weaning food available is an instant rice powder. The nutrition composition is rarely given on the packet, despite claims on some of the products that they are fortified. Under International Codex Alimentarius labelling regulations, manufacturers fortifying products should provide full nutritional information.

A positive deviance study examining the feeding characteristics of low income families with well nourished children, compared to families from the same background with malnourished children identified the following positive characteristics²³.

Positive deviant feeding practices child <12mnths

- EBF for 4 months
- Complementary foods 3 times a day
- Variety of complementary foods: rice, oil, potato or ½ egg or beans
- Amount: 1 teacupful per meal
- Snacks – potato or fish chips

Negative behaviours

- Feeding rice <4mnths
- Not enough food per meal
- No variety
- Feeding ‘empty calories’ - puffed stick biscuits
- Infrequent feeding (twice /day)
- Poor hygiene practices and not reheating leftover foods before feeding

The feeding practices of the positive deviant families conform to those recommended by NNC, the negative behaviours indicate where feeding practices need to be improved.

The practice of feeding soups has also been raised as an area of concern. Soups fill an infants stomach but have a low nutrient and energy density. Rather than the liquid, infants need to be fed the solid ingredients in soups, mashed to a suitable consistency, but there is little to suggest that this is current practice. A non-meat or non-fish diet has also been found to be significantly associated with child malnutrition²⁴.

Duration of Breastfeeding

Myanmar is a country of prolonged breastfeeding. 89% of infants are breastfed at 12 months and 67% at 20 months. The NNC examined why some women stopped breastfeeding before four months, although this is not common. The main reasons given were next pregnancy, going back to work and refusal of the breast by the infant²⁵. Similar reasons also guide the decision to stop breastfeeding amongst those that breastfeed for a longer period.

The practice of continued demand feeding for 2 years and beyond provides a valuable nutritional insurance for the infant. The high bio-availability of micronutrients in breastmilk means that breastmilk continues to make an important contribution to micronutrient intakes even though the volume of breastmilk consumed may be small. Breastmilk at this age is also a more concentrated source of immunoglobulins and other protective factors. Prolonged lactation places a noteworthy energy demand on mothers and they may need to eat more to prevent weight loss, particularly after the first 6 months when body-fat stores built up during pregnancy are usually exhausted. A low maternal body weight will not diminish the value or content of breastmilk because energy and nutrients are preferentially transferred from the mother to her milk. But it may undermine the mother's well-being. If, as is common practice, she continues breastfeeding until a subsequent pregnancy, her plane of nutrition at the commencement of the next pregnancy may not be ideal.

Young child feeding >12 months

Infant feeding guidelines advise that by 1 year of age the young child should be fed from the family pot. This presumes that the family pot contains a good mix of the nutrients that the young child needs and that the child will receive a suitable portion. In one study, the intra-household distribution of foods has been found to prioritise the elderly and young children in the rural areas, and the mother in the urban areas²⁶. Although the young child may be eating the same food as the rest of the family, the child needs to eat more often than the adults because their stomach capacity is small relative to their energy and nutritional needs. Data on frequency of feeding is not presented in the national surveys. Local studies report an association with meal frequency and malnutrition in young children.

Positive deviance feeding practices . Child 12 –36mnths²⁷

- Frequent feeding 4 or 5 times a day
- Amount: 4 teacupfuls per meal
- Variety of food in one meal
- Child eats with spoon
- Child eats regular meals with family
- Child is supervised while eating

Child care and feeding practices

Many women work. In a Yangon study, 70% of mothers were working²⁸. In urban areas, women's jobs tend to take them away from their children for most of the day, and infants and young children must be looked after by others. In rural areas, women's employment is more manual but for shorter periods and mothers can be more involved in feeding and caring for their own children.

Domestic hygiene practices are often poor; and handwashing before preparing food and after the toilet is not routine. The NNC's weaning study in Yangon²⁹ also found that some mothers cooked rice early in the morning up to 4 hours before it was fed to their children. Feeding recommendations from WHO advise that the maximum interval between cooking and feeding should be 2 hours unless food is refrigerated³⁰.

Conclusion

Breastfeeding initiation practices in Myanmar appear to have been improved by the Baby Friendly Initiative. However, exclusive breastfeeding is still exceedingly rare and the custom of giving

infants water from birth onwards remains the foremost challenge to EBF in the early days. Thereafter, the early introduction of complementary foods appears less common than some years ago, but is still very prevalent. Widespread exclusive breastfeeding for the first 4-6 months remains a goal and could be particularly beneficial in Myanmar where diarrhoea is common and almost one in four babies are low birth weight³¹. (The risk of dying from diarrhoea and acute respiratory infections is three to four times greater amongst low birth weight babies.) In the context of PMCT, rates of transmission are lower for EBF than mixed feeding. Measures which encouraged adoption of EBF as a mainstream feeding behaviour would help reduce MCT as well a benefit the general infant population.

Complementary feeding practices are varied, but are characterised by infrequent feeding of low-nutrient and low-energy dense foods. The liquid portion of soups is an extreme example of a low nutrient density food which is given to infants. Fortunately the duration of breastfeeding is usually two years or more and this provides a valuable nutritional insurance for intakes of some of the key micro-nutrients. For the HIV and infant feeding project, it is significant that milk of any kind barely features in the weaning food studies consulted. Devising feeding options for infants of mothers with HIV, without the nutritional safety net of breastmilk and with limited access to infant formula or animal milks, will be a great challenge.

The pattern of malnutrition in children under 5 years bears witness to poor health and complementary feeding of infants and young children. The prevalence of stunting (height for age -2 SD) increases steadily from 22% at 6-11 months to 37% from 12 – 23 months indicating chronic energy deficit affecting more than one in three young children³². Thereafter, there is no further increase in prevalence of stunting as the child becomes better able to fend for itself and less vulnerable to infections. Under conditions of energy deficit the infant/young child's behaviour changes. The child becomes quieter and the normal exploratory, active and stimulating play so crucial to brain development becomes compromised. It is not only height that becomes stunted; the child's potential mental development may also be constrained.

Acronyms

BFI	Baby Friendly Initiative
BMS	Breast Milk Substitute
EBF	Exclusive Breastfeeding
NNC	National Nutrition Council
PMCT	Prevention of mother-to-child transmission

References

- ¹ Baby Friendly Home Delivery Training Booklet. in Myanmar DATE?
- ² Comp food consensus report
- ³ Naylor AJ, Morrow AL. Developmental Readiness of Normal Full Term Infants to Progress from Exclusive Breastfeeding to the Introduction of Complementary Foods. *LINKAGES* April 2001
- ⁴ Picciano MF. Human Milk: Nutritional aspects of a dynamic food. *Biol Neonate* 1998;74:84-93
- ⁵ Williams C. The composition of breastmilk and comparison with artificial feeds. WHO consultancy review paper. Draft.2001 (to be published)
- ⁶ WHO. The Optimal Duration of Exclusive Breastfeeding: Results of a WHO Systematic Review. Note for Press No7, 2 April 2001.
- ⁷ Dept of Health Planning, Ministry of Health. Multiple Indicator Cluster Survey 2000, Dept Health, Yangon, 2000.
- ⁸ National Nutrition Council. Nutritional Guidelines for the population of Myanmar. December 2001.
- ⁹ Hla Kyi. Traditional Breastfeeding practices in Myanmar Buddhist Society and Weaning feeding and strategies: The Myanmar Traditional Way. In IIRR, PLAN and SCF. 2000
- ¹⁰ Thyra Po, Khin Swe Min. A study of weaning practices as impact indicators for nutrition education. Progress report first part of study. Nutrition Division, Dept of Health, Myanmar,1982.
- ¹¹ Hla Kyi, Myo Kyi Tha. Breastfeeding practices among mothers in a periurban township of Yangon, May 2000. DRAFT.
- ¹² WHO. Indicators for assessing breastfeeding practices. 1991. WHO/CDD/SER/91.4
- ¹³ Department of Health Planning. Multiple Indicator Cluster Survey (MICS), Ministry of Health 2000
- ¹⁴ Hla Kyi May 2000 as above
- ¹⁵ Hla Kyi. 2000 as above.
- ¹⁶ MICS 2000 and Hla Kyi May 2000 as above
- ¹⁷ MICS 2000
- ¹⁸ Hla Kyi as above
- ¹⁹ MICS 2000 as above
- ²⁰ Than Tun Sein , San Shwe, Kyu Kyu Than et al. Traditional birth and child rearing practices among Skaw Kayin, Pwo Kayin, Pa-o and Mon ethnic groups residing in rural area of Pa-an township, Kayin State, Myanmar. Yangon. Sept 1999
- ²¹ National Nutrition Centre. Weaning practices nutrition survey 1995. Yangon Division DRAFT.
- ²² Aung Kyi Wynn, Aye Maung et al. Weaning practice in Kyone Pyaw Township. Myanmar Medical Journal, 2001;45 (1,2) 33-36.
- ²³ Save the Children (US). Mid Term Progress Nutrition Education and Rehabilitation Program, ThaNutChaung Village Tract, TaikKye Township. Nutrition Team, SCF (US) Myanmar Field Office, April 2001. Includes extract from report on the participatory situation analysis and positive deviance enquirey – Monique Stermin, Consultant Aug 2000.
- ²⁴ AZG Nutrition Survey, Hlaing Township, Yangon Division. January 1996
- ²⁵ National Nutrition Centre. Weaning practices nutrition survey 1995. Yangon Division DRAFT
- ²⁶ National Nutrition Centre., Household food and Nutrition Security in Myanmar, In-depth study on MCH practices 1999 DRAFT.
- ²⁷ Save the Children (US) as above.
- ²⁸ NNC 1995 (as above)
- ²⁹ NNC 1995 (as above)
- ³⁰ WHO Complementary Feeding 2001
- ³¹ UNICEF Children and Women in Myanmar : Situation Assessment and Analysis. April 2001.
- ³² MICS 2000 as above