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Alternative Ways to Feed Infants: Knowledge and Views of Men and Women in the Slums of Dhaka City

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Foreword

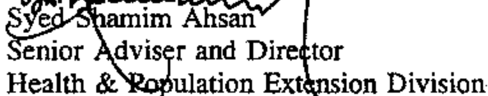
I am pleased to release these reports on urban Maternal and Child Health and Family Planning issues which are based on the operations research activities of the MCH-FP Extension Project (Urban) of the Centre. Over the years, the Centre has acquired a unique expertise on urban development matters that ranges from operations research on reproductive health, child survival and environmental issues to providing technical assistance for capacity building to service delivery organizations working in urban areas.

This work has produced important findings on the health conditions and needs of city dwellers, particularly the poor and those living in slums. The research has also identified service delivery areas in which improvements need to be made to enhance effectiveness. Together, these research findings have been translated into interventions currently being applied in government and non-government settings.

In order to carry out this innovative work, the Centre has established a partnership effort known as the Urban MCH-FP Initiative, with different ministries and agencies of the Government of Bangladesh and national non-government organizations, notably Concerned Women for Family Planning, a national NGO with wide experience in the delivery of MCH-FP services. The partnership receives financial and technical support from the United States Agency for International Development (USAID).

The overall goal of the partnership is to contribute to the reduction of mortality and fertility in urban areas. In practice, this joint work has already resulted in the development and design of interventions to improve access, coordination and sustainability of quality basic health services to urban dwellers with emphasis on the needs of the poor and those living in slum areas.

The Centre looks forward to continuing this collaboration and to assist in the wider dissemination and application of sustainable service delivery strategies in collaboration with providers in government, the NGOs and the private sector.



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Summary

A series of in-depth interviews was conducted with mothers and fathers of infants living in the slums of Dhaka city. The investigation sought to describe the prevailing knowledge and views towards alternative ways of feeding infants, and to identify factors that may explain the increasing use of breast-milk supplements in this setting. The study findings revealed that infant feeding is by no means straightforward, and that individuals have many concerns and anxieties about it. In making decisions about how to feed their infants, individuals consider many factors including: the qualities of different foods, in particular their strength-giving power and ease of digestion; the extent to which the food will fill the child's stomach; and the cost and effort involved.

Urban slum dwellers carry with them much of the same understanding as their rural counterparts, but are at the same time exposed to a complex of new information. Breast-milk is unanimously regarded as the best food for infants, though it may often be perceived as inadequate in quality and quantity. The possibility that breast-milk will be insufficient to satisfy the child is widely recognised as an unfortunate fact of life about which very little can be done. The introduction of alternative foods early in the child's life is not a new phenomenon. Animal milks are regarded as a nutritious alternative to breast-milk, though concerns over their purity in the city mean that use is less than in the rural setting. Tinned milks and formulas are now widely available in Dhaka city and are commonly used to feed infants. Slum residents are poorly informed about the origin and content of these new products, and attitudes towards them are inconsistent and often ambivalent. Nevertheless, there is some evidence to suggest an emerging attitude, where tinned milks are seen as a convenient and modern alternative to breast-feeding, rather than merely a second-rate but necessary supplement. This type of thinking represents a sharp break with more

traditional understanding, and is potentially highly detrimental to breast-feeding.

The present study revealed few important differences in the knowledge and attitudes to alternative infant foods among individuals who were feeding their child exclusively on breast-milk as compared to those who had introduced supplements early in life. Instead, the findings suggest that there is a common understanding that makes breast-feeding potentially difficult, and the need for alternatives commonly accepted. The increasing medicalization of breast-feeding and the aggressive promotion of powdered milks and formulas reinforce more traditional concerns, thus making breast-feeding increasingly complicated. It appears that certain characteristics of the modern, urban setting build upon these perceptions in order to decrease the likelihood of exclusive breast-feeding. The present study could not explore these factors in detail, but it is suggested that the social structures present in poor, urban communities in Dhaka may have negative effects on breast-feeding. Compared to the rural setting, nuclear families are more common, women have fewer female relatives close at hand to provide support in the postpartum period, and women are more likely to go out to work when their child is young. In addition, the lack of privacy and close proximity of unrelated individuals in the slum may make free and frequent suckling less easy.

Study findings highlight the need to equip individuals with the knowledge and attitudes necessary to encourage the production of breast-milk. Health messages must emphasise the importance of early establishment of breast-feeding following the birth, frequent suckling, and the relationship between suckling and milk production. Present efforts aimed at promoting breast-feeding tend to focus on the positive attributes of breast-milk, which are accepted anyway, and tend to present breast-feeding as the poor family's alternative. Efforts must be made to reverse the trend towards bottle-feeding

among all sections of society and to remove the association between bottle-feeding, tinned milks and wealth and sophistication. Individuals must be better informed of the negative effects of feeding breast-milk substitutes. In addition to educational efforts, attention needs to be given to the setting in which urban women deliver and nurse their young infants. We need to recognise the conflicting demands on women's time and the factors that may lead to reduced frequency of breast-feeding and use of other supplements. Women do not act independently in their role as the nurturers of their infants, their behaviour being heavily influenced by others around them. There is a need to develop ways in which mothers can be better supported both emotionally and practically, in order to facilitate breast-feeding.

Introduction

In urban Bangladesh, as in many other developing country settings, breast-feeding patterns are changing, with potentially disastrous effects on child nutrition and health [1,2]. Although the majority of women still breast-feed their children, exclusive breast-feeding is rare even in the early weeks of life [3]. Though the changing patterns of infant feeding are quite well documented, aside from a small number of in-depth studies [see for example, 5], there has been little attempt to explain the factors lying behind these changes. As Leslie and Buvinic [4] have noted, much more effort has been expended in documenting the changes in infant feeding practices in the developing world than in understanding women's reasons for choosing a particular pattern for feeding their infants or assessing the costs and benefits of different infant feeding patterns, given family and economic structures. In the absence of such an understanding, programmes that aim to alter current patterns of behaviour are likely to be unsuccessful. The objective of the current study was to find out more about the knowledge and views held by individuals living in the slums of Dhaka regarding alternative forms of infant feeding, and in particular to explore the reasons for supplementation early in life.[1] The primary focus was on mothers and fathers, though information was also collected from other individuals who were felt to be influential in decisions regarding infant feeding.[2]

Methodology

The Urban Health Extension Project (UHEP), the predecessor of the MCH-FP Extension Project (Urban) of the International Centre for

[1] Delayed or inadequate supplementation of an infant's diet is also an important public health problem in this setting. Though the study did not focus on this issue, relevant information was gained, and is discussed where appropriate.

[2] As discussed in more detail in a separate paper [6], we were particularly interested to elicit information from men and to understand how men's knowledge, views and information sources differ from those of women and how these factors may influence behaviour patterns.

Diarrhoeal Disease Research, Bangladesh (ICDDR,B) was a health and family planning research project working in the slum communities of five thana[3] of Dhaka city. Between April 1991 and January 1994 the project maintained a demographic and health data collection system, the Urban Surveillance System (USS), in a representative sample of the population of these five thana. Data from a baseline survey carried out between August and November 1990 show that in these slum communities, although the prevalence of breast-feeding is high (more than 90% for children aged less than one year), exclusive breast-feeding is rare even shortly after birth (only 36% for children aged 0 to 2 months) [3]. The trend is towards earlier supplementation and the predominant pattern is therefore one of mixed feeding, with powdered milks being the most common supplement. Baqui *et al.* [3] report that around 40% of infants aged less than six months were receiving milk supplements.

In the present study, the USS was used to identify families where there was a child aged less than 12 months of age. Table 1 shows the approximate age of the children at the time of interview. Information gathered by the surveillance system allowed approximately equal numbers of exclusively breast-fed and not exclusively breast-fed infants to be selected. An exclusively breast-fed infant was defined as one who had received nothing other than breast-milk up to four months of age (except pre-lacteal feeds given in the first 1-3 days of life and water). A not exclusively breast-fed infant was one who had been given foods other than breast-milk before four months of age. The emphasis on the importance of exclusive breast-feeding up to four months of age in the public health literature led us to employ such a categorization. However, as discussed below, study findings suggest this is an artificial distinction which has limited utility for understanding the determinants of infant feeding practices.

[3] A thana is an administrative area of the city covering a population of approximately 300,000.

Table 1. Age distribution of the sampled children by reported breastfeeding status

Reported age in completed months* (at the time of interview)	Number of Children	
	Exclusively breastfed	Not exclusively breastfed
2-3	2	1
4-5	3	3
6-7	7	9
8-9	2	0
10-11	0	0
12	1	0
Total	15	13

* Since mothers and fathers could not always be interviewed soon after one another the age of the child at interview differed slightly in some cases.

The sample was also selected in such a way as to ensure that characteristics such as age, education, and employment status varied among the respondents.[4] The primary respondents for the study were the mothers and fathers of 28 selected children drawn from different slums throughout the USS sampling area. In addition to this, interviewers identified other influential individuals, such as relatives, friends, employers or neighbours, who were also interviewed, making a total of 65 respondents. Interviews were conducted between February and June of 1993. In many cases respondents were interviewed more than once, so that inconsistencies and

[4] The percentage of Hindus living in slum areas of Dhaka is considerably smaller than for the whole population of Bangladesh. Within the USS system around 4% of the population is Hindu. This made it difficult for suitable Hindu families to be found and unfortunately only four families were recruited into the sample. This means that it is difficult to make comparisons across religions, though in many ways the findings appeared to be remarkably similar.

gaps in understanding could be clarified. Tables 2, 3 and 4 give basic information on the respondents interviewed and the appendix lists the case study households.

Table 2. Age distribution of respondents (parents) by reported breastfeeding status of the children

Age of respondents	Fathers		Mothers	
	Exclusively breastfed	Not exclusively breastfed	Exclusively breastfed	Not exclusively breastfed
<20	0	0	2	1
20-29	6	5	9	8
30-39	6	5	3	4
40-49	1	2	1	0
50+	2	1	0	0
Total	15	13	15	13

Note: For one case where there was a large inconsistency between the mother's and the father's report of child feeding status the mother's report has been used to categorise the case.

Table 3. Educational level of respondents (parents) by reported breastfeeding status of the children

	Distribution of respondents			
	Fathers		Mothers	
Education of respondents	Exclusively breastfed	Not exclusively breastfed	Exclusively breastfed	Not exclusively breastfed
None	9	7	12	11
Class 1-5	5	3	2	2
Class 6-10	1	3	1	0
Total	15	13	15	13

Note: For one case where there was a large inconsistency between the mother's and the father's report of child feeding status the mother's report has been used to categorise the case.

Table 4. Occupational status of the respondents (parents) by reported breastfeeding status of the children

Occupational status of the respondents	Distribution of respondents			
	Fathers		Mothers	
	Exclusively breastfed	Not exclusively breastfed	Exclusively breastfed	Not exclusively breastfed
Own household work	0	0	12	9
Government unskilled worker	3	1	0	1
Government semi-skilled worker	1	0	0	0
Petty trader	2	0	0	0
Rickshaw/van puller	3	3	0	0
Semi-skilled crafts/ factory employee	3	6	0	1
Semi-skilled crafts self-employed	2	1	1	1
Day labourer	1	1	0	0
Baby taxi driver	0	1	0	0
Domestic maid	0	0	2	1
Total	15	13	15	13

Note: For one case where there was a large inconsistency between the mother's and the father's report of child feeding status the mother's report has been used to categorise the case.

Information was collected through open-ended, semi-structured interviews by teams of two; one interviewer and one note-taker. A detailed interview guideline was prepared by the team of investigators prior to starting the interviews, though this served only as a guide, and was revised and expanded as the work progressed and new areas of interest emerged. Through interviews, information was collected on the feeding history of the youngest and previous children, attitudes and opinions towards alternative foods for infants, sources of information and advice, problems and concerns surrounding infant health and feeding, and involvement of different individuals in decisions and behaviours relating to infant health and feeding. Interviews were tape-recorded and later transcribed. Analysis was performed using both the cutting and pasting facilities in the computer software "Wordperfect" and also the textual analysis package, "Ethnograph". In the initial stages of analysis all three authors worked independently to identify local terminology, distinguish common themes and organise the data into meaningful categories. Discussion sessions followed where the data collected were evaluated in light of experience and observations from routine work in the slums of Dhaka,[5] in order to reach a common interpretation of the available information. Throughout the study we were particularly interested to compare and contrast the information gained from fathers and mothers, as well as from families where the infant was exclusively breast-fed and where not exclusively breast-fed. The first author then took responsibility for organising the team's findings into two papers; the present paper, and another working paper (Urban FP/MCH Working Paper No. 18) which deals with the influence of husbands on infant feeding [6].

Findings

The interviews produced rich and varied information about the respondents' knowledge and views regarding the alternative ways in which

[5] All the investigators have several years of research experience in the slum setting.

infants can be fed. In the paragraphs that follow we deal first with the dominant concerns held by respondents regarding the qualities of infant foods in general, and then with the characteristics of particular types of foods. Other factors relating to feeding small children are next discussed, such as convenience and cost. We then describe respondents' understanding of the appropriate time for supplementation of a child's diet. The findings section is concluded with a discussion of the ways in which the knowledge and views expressed by exclusive and not exclusive breast-feeding mothers and fathers differed.

1. Alternative Foods for Infants

All respondents, including both men and women, freely discussed the merits of alternative foods for their child, spontaneously drawing comparisons and identifying good and bad qualities.

> *"There is a difference between cow's milk and tinned milk. Cow's milk is the most excellent (uttom), it is number one. Actually, for children, number one is mother's breast-milk, then second is cow's milk and after that Red Cow,[6] these things are number three as far as I am concerned."* (case no. 1, exclusive, father)

1.1 Qualities of Food

General concerns that were frequently mentioned included the following.

Purity

Concern with the purity of food is certainly not unique to this culture and has strong roots in the Ayurvedic medical tradition [7]. Though the

[6] A type of tinned, whole milk powder used widely as a breast-milk supplement.

urban setting means access to a wider range of food products, a concomitant problem is that the origin of the food stuffs is often unknown and their purity questionable.

"The milk available in the village is pure milk. In the town they mix a lot of water with the milk. It is all the same to drink tinned milk or cow's milk in the town, but the milk available in the village is really pure."
(case no. 9, exclusive, mother)

Suitability of the food/tolerance of the child

As well as a concern for more specific qualities of foods, many respondents expressed ideas about the general suitability of certain foods for their infant, a *Bengali* child.

For example Miriam[7] heard from health field-workers that suji[8] should be fed to her child, so she tried to do so. However, after giving the suji the child got severe diarrhoea. She explains this by saying that this kind of feeding is not practiced by her people, and thus it is not suitable for her child.

"I have not fed it again. What can I do? We do not feed this. If it is given then the child gets diarrhoea, my ancestors did not do this."
(case no. 8, exclusive, mother)

Jalal chose half-cream Dano in favour of My Boy because Dano is made from milk which he regards as a more suitable food for a young, Bengali child than wheat, which is the basis of My Boy.
(case no. 20, not exclusive, father)

[7] All the names of respondents have been changed.

[8] A kind of semolina.

Ease of digestion

One particular aspect of the suitability of a certain food and hence the child's tolerance of it, relates to the child's ability to digest (hojom) the food. Stools are often used as an indication of a child's health and the suitability of its diet. Both frequent, loose stools (patla), and hard (kosha), infrequent stools are cause for concern.

> *"Tinned milk makes the stomach hard and the stool goes tight, with cow's milk the stomach stays right."*
> (influential no. 3)

Thick foods (ghono, garu) may be difficult to digest, and thin, light (patla, halka) foods are easier on the young child's digestive system.

Nutritional value and strength-giving quality

When discussing the content of foods, the most commonly used word was shokti, which can be translated as power, strength, or potency.[9] Different infant foods are frequently compared in terms of their shokti content. A person who has shokti will be free of ill-health and weakness. The presence of shokti is also often associated with a rounded build (mota-shuta).[10]

> *"All those children who have taken tinned milk and nothing much else, when they get bigger they are unwell, they have cold, and upset*

---

[9] This word derives from the Sanskrit 'Shakti', the name of the Hindu deity, who is the female principle taking part in the work of creation.

[10] The expression 'shashto bhalo' means literally 'good health', and is often used to refer to someone who is well-built, or by Western standards rather fat. It is interesting to note that among the better-off, being fat is no longer regarded as a sign of good health, and slimmer figures seem now to be preferred. However, among the poorer, slum dwellers, people still appear to aspire to gaining weight and to having plump children, which is associated with good health and strength.

stomach, they have little strength (shokti), and they are always ill (roga)."
(influential woman, no.9)

With the proliferation of allopathic medicine, the term 'bhitamin' (vitamins) is now in frequent use and is often equated with shokti. Vitamin tablets and syrups are in great demand for adults and children alike, and are taken in order to reduce weakness (durbolota, komjor). Similarly, respondents often expressed the idea that a certain type of food is strength-giving for the child by saying that it contains vitamins. Adult foods that are commonly felt to be high in vitamins, and thus shokti, are milk, eggs, banana, fish, and meat. Having strength or shokti is also associated with having a lot of blood (rokto) in the body, and weakness with having insufficient blood. Thus strength-giving foods are also believed to increase the blood.

Humoral quality

A concern with the balance of hot and cold within the body has been well-documented in many societies of Asia and elsewhere [8,9]. The current study revealed that humoral quality has a guiding influence on which foods are regarded as appropriate for young infants in this setting. The important thing is to maintain balance within the child's body since too much cold or too much hot may be dangerous.

Indrani described tinned milk as 'cold', and since she had been forced to feed the child a lot of this milk it has caused her child a lot of cold.
(case no. 25, not exclusive, mother)

In addition, at certain times, either heating or cooling foods may be indicated. For example, following delivery the small child is in danger of

catching cold, so warming goat's milk is useful. At other times, cold foods may be beneficial.

Rafique adds sugar-cane juice to the suji that is fed to his young child. He says that this contains no energy (shokti) as such for the child but its usefulness is that it is cold, and this keeps the body cool, ensuring that the child stays healthy.
(case no. 26, not exclusive, father)

It should be noted that there is not always consistency between individuals in the way they categorise certain foods. Thus, although goat's milk is usually regarded as warm, not all respondents categorised it in this way.

'Goat's milk is better than cow's milk because goat's milk is cool and cow's milk is warm. Cool milk is preferable and helpful for the children."
(influential woman, no.7)

"Goat's milk is good and warm and protects from cold"
(case no. 25, not exclusive, mother)

Similarly, tinned milks were described as both warm and cold. Such discrepancy may be partly explained by the fact that the humoral quality of a food can depend on the particular circumstances under which it is fed.

Rekha avoids feeding her breast-milk after coming from doing the washing or collecting water since this cold work makes her breast-milk too cold for the child.
(case no. 2, exclusive, mother)

In addition to inconsistency among individuals in their characterisation of certain types of food, respondents themselves showed ambivalent attitudes towards foods (including breast-milk, as discussed in more detail below). For example, a food that is very powerful, and provides a great deal of energy (shoktiman), may be too hot. Energy-rich foods may also be too thick (ghono, garu) and thus may be too difficult for the young child to digest. This is true for buffalo milk and goat's milk, which have to be mixed with water before feeding the young child to aid digestion. It should also be remembered that the same words can be used to imply both favourable and unfavourable qualities, depending on the context.

> *"Breast-milk is thin and white in colour, cow's milk is thicker than breast-milk, and tinned milk is the thickest of all. Breast-milk is best of all, then cow's milk and then tinned milk."*
> (case no. 15, exclusive, mother)

> *"Goat's milk is thicker and has more vitamins than cow's milk which is thinner with fewer vitamins"*
> (case no. 23, not exclusive, mother)

1.2 Filling the Child's Stomach (peyt bhora)

As well as multiple concerns regarding the qualities of different types of food, and their suitability for the young child, an overriding concern is that the food satisfies the child's hunger, that its stomach is filled, and that the child remains peaceful. As discussed in more detail below, a concern that breast-milk may be insufficient to fill the child's stomach is widespread, and an important precursor to the introduction of other foods.

Comparisons between supplements and breast-milk, and between different supplements were often made in terms of their ability to fill the child's stomach, and the child's subsequent peacefulness.

"If you feed tinned milk it stays in the stomach, if he takes breast-milk he just takes a little and then urinates and it all comes out."
(case no. 26, not exclusive, mother)

In forming an opinion about a particular food many different concerns come into play, and no single, overriding factor may dictate. An individual receives information from a variety of sources and has to weigh up the pros and cons of any alternative. Opinions may be ambivalent and changeable. Despite this, certain consistency was found in the responses from individuals, suggesting some degree of common understanding among slum residents regarding the suitability of different feeding patterns for infants. We now consider these concerns in more detail as we describe the prevailing knowledge and opinions about particular food types.

1.3 The Infant's First Food and the Initiation of Breast-feeding

The giving of pre-lacteal foods and the discarding of colostrum has received a good deal of attention in the literature, and many of the findings from the present study reflect those of earlier work in rural areas of Bangladesh [5,10].

The practice of giving pre-lacteal foods remains widespread among the poor in urban Dhaka. Among the present sample in only two cases, one exclusive and one not exclusive, did mothers report that nothing was given to the child before the breast-milk. The most common substances given prior to the establishment of breast-feeding were honey and various kinds of sugar water (chini pani, misri pani). Less commonly, mustard oil was given. Honey protects the child from cold, moistens the child's mouth and cleans the throat, and ensures that the child will speak sweetly in future. Whereas the giving of honey has numerous benefits, both short and long term, sugar water is given largely to sustain the child and fill its stomach until the mother's breast-milk 'comes down' (namey).

All respondents except for four men were aware that the first milk produced by the mother is different in nature from the milk that follows. Respondents commonly mentioned that the real milk (ashol doodh, which is white, shada, and clean, porishkar) comes into the breast after two or three days. The most commonly used term for the first milk was shal doodh, though many other names were also used (Table 5).

Table 5. Terms and characteristics of first breast-milk produced, identified by respondents

Names used for first breast-milk	Characteristics of first breast-milk
shal doodh	yellow
hal doodh	grey
kacha doodh	thick
gawa doodh	sticky
gara doodh	watery
nar doodh	poison
khay doodh	dirty
shash doodh	kacha
fash doodh	strong / full of energy
faisha doodh	good
bora doodh	powerful
	full of vitamins
	protects against disease
	develops the brain (mastak)
	makes the child's appearance good
	difficult to digest
	very bad
	makes the child sleep
	too strong
	causes the child to be ill
	causes diarrhoea/upsets the stomach

Respondents expressed a wide range of opinions regarding this first milk. Some believe this milk to be extremely powerful, and beneficial to the child, others that it is very dangerous and should not be fed to the child at all, and still others are unsure about the nature of this first milk (Table 6).

Interviewer: *"Did you give the first milk that the mother produces to the baby?"*
Respondent: *"No, for the first day it must be squeezed and thrown, it was thrown for one day, after that it was fed to the child."*
Interviewer: *"Why did you not feed this first milk?"*
Respondent: *"That should not be fed, it is poison."*
Interviewer: *"If it is fed does it cause any harm to the child or the child's mother?"*
Respondent: *"Nothing happens to the mother but it may harm the child."*
(case no. 2, exclusive, father)

"I don't know the name of this milk, and I have never heard its name. This is not good, it looks like pus and is dirty. I squeezed this milk out. Giving this milk is not good, it is sticky, and giving this milk causes diarrhoea."
(case no. 16, not exclusive, mother)

Interviewer: *"What about the first milk that is produced, what is it called?"*
Respondent: *"Oh, that is called hal doodh."*
Interviewer: *"Did you feed it?"*
Respondent: *"Yes, the child's mother told me, I also saw on the television that it is necessary to feed this milk. I saw it a while ago, before that I did not know."*
Interviewer: *"Is there any benefit?"*

Respondent: *"Of course there is benefit. As far as I know, of all the mother's milk this hal doodh has the most vitamins in it."*
(case no. 25, not exclusive, father)

In discussing the merits of the first milk a number of respondents expressed ambivalent attitudes. The powerful nature of the milk was recognised, but this in turn is believed to make the milk too difficult for the child to digest. The milk is thick and yellow and may make the child sleep too much, or cause vomiting and diarrhoea due to inadequate digestion.

Table 6. Attitudes towards the first breast-milk produced by reported breastfeeding status of the children

	Distribution of respondents (parents)			
	Fathers		Mothers	
Attitude towards first breast-milk	**Exclusively breastfed**	**Not exclusively breastfed**	**Exclusively breastfed**	**Not exclusively breastfed**
Positive, beneficial to feed	4	3	7	8
Some caution required, should express and throw a few drops	1	0	3	1
Negative, should be avoided	5	3	3	2
Unsure/ not specified	5	7	2	2
Total	15	13	15	13

Table 7 shows the time after birth that mothers reported feeding the child at the breast. Although few respondents reported putting the child to

the breast within the first few hours of birth, the majority did so within the first 2 days of life. This suggests that even among respondents who expressed a negative attitude towards colostrum, the child may in practice receive at least some of this first milk. It is apparent that the medical definition of colostrum and local definitions may not always be equivalent. In some cases, although respondents reported that the first milk is dangerous (by virtue of it having been stored up for the period of the pregnancy); squeezing the breast to express some of the milk before feeding is a sufficient precaution against harming the child. In other cases, feeding the breast is totally avoided for the first two or three days of life.

Table 7. Mothers' reports of time to putting the child to the breast after delivery, by reported breastfeeding status of the children

	Distribution of mothers	
Time to putting child to the breast	Exclusively Breastfed	Not exclusively Breastfed
within 3 hours	4	2
within first day	4	2
1 to 3 days	6	6
after 3 days	1	3
Total	15	13

Although messages regarding the feeding of colostrum have formed part of public health education campaigns in Bangladesh, it appears that a recognition of positive qualities of the first milk is not new knowledge for everyone. The feeding of the first milk appears to have been a traditional practice in some parts of Bangladesh. Among the wives who reported a positive attitude towards first milk (15), eight mentioned older relatives or

a local birth attendant as their source of information, though several (11) also mentioned health workers as people who had given information about the beneficial effects of feeding the first milk.

> *"Many people destroy the shal doodh. When the child is in the womb then this remains in the mother's breasts. Many people who are not aware of this milk destroy it. This milk is really very powerful. The cow also has milk like this shal doodh. We have tasted it. This is really a powerful thing. The child becomes very healthy. We have learnt this from our parents."*
> (case no. 8, exclusive, father)

Other respondents noted that practices surrounding the feeding of the first milk are changing. Some noted that people who used to discard this milk now feed it, or that they themselves had fed this milk despite warnings from other individuals not to do so. Thus, it appears that this is an area where traditionally there was variation between communities within Bangladesh, and where there is movement towards greater feeding of colostrum following birth.

1.4 Breast-milk

Among fathers and mothers, exclusive breast-feeders and not exclusive breast-feeders, breast-milk was unanimously regarded as the best food for infants. All respondents except one stated that breast-milk is the first choice for food for a young child (Table 8). Respondents frequently commented that *"there is no comparison to"* or *"there is no substitute for"* breast-milk. Breast-milk is described using words such as *"excellent"* (uttom, shorosh), *"helpful"* (upokari), and *"nutritious"* (pushtikor).

Table 8. **Ranking of alternative milks for infants by respondents (parents)**

Preference for alternative milks	Fathers		Mothers	
	Exclusively breastfed	Not exclusively breastfed	Exclusively breastfed	Not exclusively breastfed
breast-milk > cow milk > tinned milk[1]	7	4	9	8
breast-milk > goat milk > cow milk > tinned milk	5	3	1	3
breast-milk > goat milk > tinned milk[2]	0	1	0	0
breast-milk > cow milk > goat milk > tinned milk	0	2	0	0
breast-milk > tinned milk[3]	2	3	2	0
breast-milk > tinned milk > cow milk	0	0	2	2
breast-milk best[4]	0	0	1	0
tinned milk > breast-milk > cow milk	1	0	0	0
Total	15	13	15	13

[1] Goat's milk not ranked by the respondents
[2] Cow's milk not recommended at all for young child
[3] Animal milks not ranked by the respondents
[4] No other milks ranked by the respondents. All tinned milks and formula are treated as a group for the purposes of this table

"Breast-milk is best of all, there is no substitute for breast-milk, there is nothing in the world that can be compared with breast-milk."
(case no. 22, not exclusive, father)

There is general agreement that breast-milk is more powerful and contains more vitamins than any other milk.

"Breast-milk is the best food for children. One suck of the breast is equivalent to ten tins of milk. Breast-milk has such power."
(case no. 11, exclusive, mother)

"Mother's milk is best of all for the child, there is no other milk that can be compared to mother's milk. If you feed breast-milk then the child gains strength (shokti) and if you do not feed it then the child will be weak (oshokti)"
(case no. 25, not exclusive, mother)

Breast-milk is also considered to be purer than other milks:

"Mother's milk is the gift of God (Khoda), there can be no impurity (bhejal) in this"
(case no. 28, not exclusive, mother)

Despite these positive statements, attitudes towards breast-milk and breast-feeding are not simple. Zeitlyn and Rowshan [11] have drawn attention to the ambivalent attitude towards breast-milk held by many in Bangladesh. The present study findings further highlight the fact that, although breast-milk has the potential to be the best food for infants, this does not imply that it is always adequate in either quality or quantity.

1.4.1 Quality of breast-milk

As long as a child is breast-feeding her well-being is largely determined by her mother's health and behaviour. Mother and child are an intimately connected pair, and thus the mother bears the burden of responsibility for the child's survival and progress. The quality of the breast-milk produced by a woman is determined by both her physical condition and her behaviour, with her diet being a particularly important contributing factor.[11]

> *"If the mother is cold, her milk will be cold; if the mother stays well, then the child will also stay well through the milk."*
> (case no. 16, not exclusive, father)

> *"When the mother is ill, if she suffers from diarrhoea; then she should not breast-feed."*
> (case no. 26, not exclusive, father)

Diet

Whatever the mother eats will pass directly to the child through her milk; and so has the potential to benefit or harm the young child.

> *"Whatever the mother eats that will be in the milk. When I feed meat and eggs to her mother and small fish (gura mach), with these things the milk comes. If she takes chillies then the child's stomach will burn, the child's stomach will be upset and the child may shout and cry. If she takes a lot of tumeric then that will come out in the child's stool.*
> (case no. 16, not exclusive, father)

[11] The idea that the breast-milk is made from the mother's blood, reported by other researchers [5], was expressed by a number of respondents, but is by no means a universal understanding.

"As far as breast-milk is concerned, whatever the mother eats, that is what will go into the child's stomach, if she eats well, then the child is well, if she eats bad things, then the child will be unwell."
(case no. 17, not exclusive, father)

Thus, a lactating mother's diet is often restricted, particularly in the immediate postpartum period, and often for many months, or even for as long as the child suckles the breast.

Behaviour

When a child is young and breast-feeding, the mother has to pay special attention to her movements and behaviour. Moving about in public and breast-feeding in front of others, or in 'bad places', carries the threat of attack from both external forces of evil (batash, bhut, petni) and other human beings' bad wishes or thoughts (chok laga, mukh laga, nojor).

"This is 'uporey dosh' or 'alga dosh'. These things live with the air and the wind. They stay in certain places, or if you eat certain foods they may strike, or if someone looks on enviously (mukh lagey) then it strikes and the child will get thin immediately. Then the child cries a lot and whatever you feed it the child will not become strong and clever. Then the Kobiraj[12] has to be seen and an amulet (tabiz) given and bathing performed."
(case no. 10, exclusive, mother)

Signs that an evil force has struck the breast-milk include: the child crying a lot; the child having stomach ache and diarrhoea or vomiting; the child getting thin; the mother's breast becoming heavy, swollen and painful; or containing a lump in it (chaka). The breast producing a large amount of

[12] A traditional healer who often employs amulets and sweeping of the body as treatments.

milk, or the breast-milk becoming thinner than usual are also indications. Respondents also reported changes in the colour of the breast-milk from white to greenish, blueish, yellowish, or blackish. Prevention largely rests on the correct behaviour of the woman.

> *"If you do not move about and behave properly then this will not strike"* (case no. 25, not exclusive, mother)

Women reported a variety of measures that they take to avoid attack by evil spirits including: taking rest when coming from outside rather than feeding the breast immediately; expressing some milk from the breast before feeding, thus avoiding milk that has been stored up in the breast for too long; spitting on the breast before feeding the child; sweeping the breast with the broom (jharu) before feeding; not breast-feeding in front of people; covering the breast during feeding; not breast-feeding in 'bad' places such as when sitting on bricks; avoiding moving about outside at certain times of the day;[13] washing the breasts in water that has had gold or silver placed in it;[14] standing by a fire before breast-feeding; and reading some lines from the Koran. Once a woman and her child are afflicted by this, treatment has to be sought from a traditional healer, since there is no effective allopathic treatment for this. Treatment most commonly consists of sweeping the body, drinking or application of holy water to the body, and perhaps breast massage, or the wearing of a specially prepared amulet (tabiz).

It has been suggested that the world of malevolent spirits is better known to women than men, who by virtue of their attendance at the mosque are removed from this 'traditional understanding' [10]. However, the present study suggests that men are well-versed in this area and feel the threat of

[13] Dangerous times of day include 'doopoor' which is from around 1pm to 3pm and 'shondha' which is the time just before and after sunset. The times of day are often differentiated in Bangladesh by the calls to prayer from the mosque.

[14] Metal objects are often regarded as having power against malevolent spirits.

these forces to be as real as their wives. Almost all fathers could describe the signs and symptoms of attack by such forces, as well as methods of prevention and cure. It was also apparent that belief in the power of these spirits reinforces the ideals of "correct" female behaviour, and the responsibility of the mother for her child's well-being. Beliefs about dangers for the child are supported by ideas of female modesty and shame (lojja).[15]

Rabeya told us that she had suffered from attack by evil wind (batash) several times and that her child got bad diarrhoea. Her husband's response was to beat her, assuming that she was to blame because of her careless behaviour.
(case no. 22, not exclusive, mother)

Many fathers reported that mothers should not breast-feed their children in front of others, particularly men.[16] Respondents also noted that this is a particular problem in the town where there are more people, more strangers, and less privacy. Respondents drew attention to the fact that women now wear blouses and bras and feel shy to breast-feed in front of people in the urban environment.

Although attack by evil spirits appears to be a very real fear among slum dwellers, it is unclear to what extent these beliefs actually influence breast-feeding behaviour. Some respondents felt that milk affected by evil spirits is very dangerous, having the potential to cause the child great harm and even death. Such milk should be expressed and thrown far away from other mothers and children, perhaps into a pond or river. One father recounted the story of a neighbour living nearby who had lost two children

[15] Norris Stark [9] discusses in more detail how reproductive beliefs and practices reflect gender relations within rural, Bangladeshi society.

[16] It should be noted that women were observed to breast-feed in front of strangers. Many of our female respondents breast-fed freely during the interview, in some cases in the presence of young men. Thus it seems that answers may reflect what is considered proper, and actual practice may be somewhat more relaxed.

early in life. It was decided that the cause of the deaths was the mother's breast-milk and that future babies would not be put to the breast at all. However, despite such stories, in seems that, on the whole, affliction by evil forces is short-lived, lasting two or three days, and does not necessarily require that the woman cease breast-feeding. Thus, we suggest that rather than incidents of evil spirit attack themselves being a major, direct reason for the introduction of supplementation to infants; beliefs about the possible contamination of breast-milk are just one element in a complex of understanding that acts to make breast-feeding problematic.[17]

1.4.2 Quantity of breast-milk

Even more pervasive than concerns about breast-milk quality, is the understanding that breast-milk production may be less than adequate, something that has been found in a diverse range of settings [12]. All respondents, whether male or female, recognised that a mother may not produce enough milk for her child and gave examples of how this had happened to themselves, their wife or other relatives or friends.

Interviewer: *"Many people say that their child is not getting enough breast-milk, why is this?"*

Respondent: *"Do you mean sometimes? It is possible that it does not come at all, in some cases the child can feed for one year, in others for one and a half years, and there are some women for whom after six months their child does not get any more milk."*

Interviewer: *"Why is this?"*

Respondent: *"Those who are like this can tell you, I don't have any idea about this."*

(case no.1, exclusive, father)

[17] Zeitlyn and Rowshan [11] discuss the problematic nature of female physiology and sexuality in Bangladesh in more detail.

As with the quality of breast-milk, the quantity of breast-milk depends on the mother's diet. A mother should eat in large quantity, and also take certain foods that increase milk production such as 'kalijeera', 'bhater mar', and certain fish, such as 'shing mach' and 'magur mach'. Milk production is believed to increase with consumption of 'vitamin-rich' foods; fish, vegetables and milk being categorised as such.

> *"If the mother eats properly then the milk comes well, if good fish is eaten then lots of milk will come, if cow's milk and vegetables are eaten then a large amount of milk comes."*
> (case no. 13, exclusive, father)

However, although breast-milk production depends on the mother's diet, it is generally accepted that a women may not produce enough milk and that other food may be necessary to sustain the child. Each individual is different, and their milk a gift from god, in whatever quantity. Among the not exclusive fathers in our sample all qualified their comments about breast-milk by saying that it is the best food '*when it is available*' or '*when it comes*', or '*when the child gets it*'. The 'insufficient milk syndrome', as it has been termed, has been observed widely in other contexts [12].

In the present study, all respondents, whether male or female, described how one could tell that a child is not getting enough breast-milk. Most fathers said that they could tell by the child's crying, and that they could distinguish the cry of hunger from other cries. In addition to the child crying and causing disturbance, mothers also often mentioned the child's stomach looking 'flat', or 'long' (lumba), or shrunken (shukiey thakey). Mothers also judged their milk production by the feeling in their own body. Mothers said that when their milk is coming well their breasts feel heavy, that they can feel tingling as the milk comes through the breasts (shir shir korey), and that the milk actually falls from the breast. Several mothers

mentioned that they could relate their daily milk production to the type and quantity of food they were eating.

Interviewer: *"How could you tell that your milk was not filling the stomach when the child was only 20 days old?"*
Respondent: *"I knew that the milk was not coming. When the milk comes the breasts feel heavy and when you squeeze the breast it has a tingling sensation. Also, seeing the child cry I could tell that he was not getting enough milk."*
(case no. 26, not exclusive, mother)

Aside from increasing the food intake, or advocating certain types of foods, few respondents offered other suggestions as to how breast-milk production could be increased. On the contrary, most were resigned to the fact that this may happen.

Interviewer: *"Some people say that they do not get enough breast-milk, do you know why this is?"*
Respondent: *"No, I can't say."*
Interviewer: *"What would you say if your sister said that she was not getting enough milk?"*
Respondent: *"What could I say?! If she is not getting enough breast-milk then I would tell her to go and buy milk and bring it."*
(case no. 12, exclusive, mother)

Only two individuals we spoke to, both women in their thirties and successful breast-feeders themselves, suggested that the more the breast is fed the more milk will be produced.

It is important to emphasise that opinions regarding breast-milk production were very similar across mothers and fathers, as well as across exclusive and not exclusive breast-feeders. A young child needs breast-

milk, and breast-milk is, under normal circumstances, the best food for the infant. However, as the above discussion illustrates, the perception of breast-feeding and breast-milk production as potentially difficult is widespread, and probably not new.

1.5 Animal Milks

Animal milks (cow, goat, buffalo) were frequently mentioned by respondents as possible foods for young children. Animal milks are likened to breast-milk in that they are also gifts from Allah and are thus natural and are derived from fresh things (tatka, taza).

> *"Compared to Dano, cow's milk is good, we get cow's milk straight from the cow, but we do not know what they put in the tinned milk."*
> (case no. 2, exclusive, father)

1.5.1 Cow's milk

The most commonly mentioned animal milk was cow's milk. Cow's milk has traditionally been employed as an infant food in village areas, though it is not felt to be as suitable for the young child as mother's breast-milk. Cow's milk contains 'vitamins', and 'shokti' and thus gives strength, though not as much as breast-milk. It is also tasty for the child.

> Interviewer: *"What is there in cow's milk?"*
> Respondent: *"It has things in it that give strength, it is almost like mother's milk, cow's milk is good for the child's health, the health increases fast."*
> (case no. 10, exclusive, mother)

On the other hand, many respondents expressed concern over the purity of the cow's milk available in the city. Unlike the village, where one

knows the origin of the milk, in the city milk may come from a great distance and may be mixed with water and other things, making it a less desirable food for the young child. Thus, several respondents who would have preferred cow's milk if they could be sure of its purity, were feeding tinned milk to their children.

"In the town the milk is very impure, 'original' milk is not available, that's a problem."
(case no. 1, exclusive, father)

"The milk available is not pure, it is not possible to feed it. It is mixed with powdered milk and water."
(case no. 25, not exclusive, father)

In addition, just as breast-milk depends on what the mother eats, so too the quality of cow's milk depends on what the cow is fed.

"Nowadays the cows do not eat good food so the milk they produce is not pure.".
(case no. 13, exclusive, father)

1.5.2 Goat's milk

Aside from cow's milk, goat's milk was also frequently mentioned as a suitable food for young children. Goat's milk is believed to have some special qualities. It confers protection against certain diseases, particularly cough and cold, since it has a warm quality.

"If you drink goat's milk then you won't get cough or cold, or a bad stomach, or TB or cholera."
(case no. 21, not exclusive, father)

Goat's milk contains many "vitamins", and is thick. Consequently, it must be mixed with water before it is fed to a small child, otherwise it will be difficult for the child to digest. Despite the fact that this milk has favourable qualities, very few respondents reported ever having fed goat's milk; the main reason being that this type of milk is not available in the city. In a couple of cases, goat's milk had been fed as a pre-lacteal feed when the child was delivered in the village.

1.6 Tinned Milk

Tinned milks are widely available in Dhaka city, and could be purchased at shops within walking distance of all the slums where interviews were carried out. Television and radio carry advertisements for tinned milks, and billboards also show pictures of pots of powdered milk. Since fresh cow's milk is in short supply, tinned milk is used in the preparation of sweets, and in the home to make tea. The use of empty tins as storage containers is a common sight in rich and poor households alike. In short, powdered, tinned milk is ubiquitous in urban Bangladesh. In addition, numerous brands of infant formula are also widely available on the market.

1.6.1 Characteristics of tinned milks

All respondents, both male and female, expressed opinions about tinned milks and freely discussed their merits and demerits when compared to other types of infant foods. As shown in Table 8, all respondents except one ranked tinned milks lower than breast-milk in terms of their suitability for a young child. Tinned milks are regarded as inferior to breast-milk in terms of purity, strength-giving qualities, and taste.

Interviewer: *"What is the difference between Red Cow and breast-milk?"*
Respondent: *"There is a lot of difference. They are like night and day (rat diner parthoko). With tinned milk you have to mix*

sugar with it and then feed it, if you don't mix sugar then they do not take it, but if you give breast-milk at night they take it anyway."

(case no.4, exclusive, father)

"Mother's milk and tinned milk are like sky and earth/hell (akash patal parthoko) mother's milk is completely pure, there is no impurity (bhejal)."

(case no.11, exclusive, father)

Most respondents (22 fathers, and 21 mothers) also felt that animal milks were better than tinned milks. However, in the context of urban Bangladesh, where good quality animal milk is hard to come by, tinned milks often become the preferred alternative.

Despite the fact that tinned milks are now in common use, both for feeding young children, and other purposes, there is very limited knowledge as to how or where these products are made. Ten fathers stated that these milks are made from cow's milk, three that they are made from grass and the remainder were unsure about their production. Among the mothers, the majority could not state how these products are made. Nevertheless, most respondents identify these products as foreign, and for many this is a sign that they are good and can be trusted. In addition, tinned milks are associated with rich people (boro lok, dhoni lok). Slum dwellers are acutely aware of their position in the big city and take notice of the behaviour of richer individuals. The feeding of tinned milks was referred to as showy (bilashi). Thus, despite limited information about these products, most respondents had a positive attitude towards them.

"Mother's milk is best of all, the other things (tinned milks) are also good, but mother's milk is better."

(case no. 18, not exclusive, mother)

"This (tinned milk) is of course good, that's why everyone is doing this."
(case no. 28, not exclusive, mother)

The main positive qualities associated with tinned milks are that they are nutritious and contain 'vitamins', albeit in less quantity than breast-milk, and that they fill the child's stomach. The second of these is important both in terms of satisfying the child's hunger, and in terms of keeping the child peaceful (aram, shanti) and thus reducing the bother (jhamela) for the caretaker.

"Nothing fills the stomach like this (tinned milk)."

"I could tell couldn't I? If the child cries then you can tell that it is hungry, if I fed this (tinned milk) then it used to fill the stomach, the child used not to disturb (birokto), he didn't cry."
(case no. 18, not exclusive, father)

Attitudes towards tinned milks were not all positive however. Among fathers, four individuals expressed uncertainty about tinned milks, and two openly expressed a strong dislike for these products (1 exclusive and 1 not exclusive). Among the mothers, three individuals expressed a strong dislike for tinned milks, and two others felt that the less tinned milk fed the better.

"We can not see what is in these things, only the doctors and the scientists can see what is in them, that is why I believe in cow's milk and mother's breast-milk."
(case no.1, exclusive, father)

Interviewer: *"Have you fed any of your children any milk from outside, any tinned milk?"*
Respondent: *"No, I have not fed any outside milk."*

Interviewer: *"Why not?"*
Respondent: *"I don't like it."*
Interviewer: *"Why don't you feel like giving it?"*
Respondent: *"I don't like it, I haven't fed this, it's not good, it's bad, I don't know about it, and I don't trust it."*
Interviewer: *"Have you seen powdered milk in any shops?"*
Respondent: *"I have seen it, people give it, they feed the children, but I can not say the names of these things."*
Interviewer: *"Everybody feeds it, so what's the reason that you don't feel like it?"*
Respondent: *"I need money and my earnings are small, that (tinned milk) is very expensive."*
Interviewer: *"So, if you had money would you feed it?"*
Respondent: *"No, I wouldn't feed it, we'd feed ground rice (chal bata), aside from that the cost of one tin is 80 or 90 taka, I haven't fed any child and I won't feed it."*
Interviewer: *"If, from birth, the child had not got breast-milk, then what would you have fed?"*
Respondent: *"Even if that had happened I wouldn't have bought tinned milk, I would have fed ground rice, we do not need it, we are Bengali, we feed rice."*
(case no.27, not exclusive, father)

Aside from individuals who expressed a general dislike for tinned milks, many respondents identified potential problems with feeding these new products to their children.

Digestion

The infant's digestive system is delicate and may not be able to tolerate the tinned milk, which may result in either constipation or

diarrhoea. As mentioned above, foods that are regarded as high in energy and vitamins may also be difficult to digest. For this reason, several respondents mentioned that they chose to feed a 'half-cream' milk to their young child, since a full-cream milk would be too strong and cause diarrhoea. Similarly, some respondents reported that they made the tinned milk thin (patla) and light (halka) to ensure digestion.

Interviewer: *"How did you prepare Dano for the child?"*
Respondent: *"I boiled the water, added two or three spoons of milk and mixed some sugar or molasses."*
Interviewer: *"Have you ever fed your child more than two or three spoons?"*
Respondent: *"No, if you use more than two or three spoons then it will be thick."*
Interviewer: *"Is there any harm if you feed the thick milk?"*
Respondent: *"I don't think the child would be able to take it."*
(case no. 12, exclusive, father)

Nutritional Value

Several respondents, both male and female, expressed concerns that tinned milk is not very nutritious and contains few vitamins. The negative consequences of this were identified as the child suffering repeated illness, as well as not growing into a rounded figure.

"The child's health is not good because she is taking the tinned milk, there are not many vitamins in this, and so she often gets diseases, like fever and diarrhoea."
(case no. 17, not exclusive, mother)

"The child is getting thinner and thinner by drinking the tinned milk and getting taller and taller like a stick."
(case no. 14, exclusive, mother)

It is interesting to note, however, that several respondents identified an important contradiction. They felt that tinned milk is less nutritious than breast-milk, or even cow's milk, but drew attention to the fact that the children of rich families, who are fed largely on tinned milks, appear to be fat and healthy.

Purity and spoiling

It is generally recognised that tinned milk may spoil, and that feeding this would cause harm to the child, particularly diarrhoea. Spoiled milk is characterised by a change in colour, often to grey or blue, a bad smell, and lumpiness (chaka). This spoiling may occur before the milk reaches the market because of contamination, or through improper use. Respondents who were feeding tinned milks mentioned checking the tin, ensuring that the seal was not broken and looking at the expiry date to check that the milk would still be in good condition before buying. It is also important to keep the lid of the tin firmly closed between use to ensure its freshness and to throw away milk that is not drunk.[18] On the whole, however, respondents interviewed did not appear to regard this as a major reason why tinned milks should be avoided. So long as caution is employed, the feeding of tinned milk should not incur these dangers.

A small number of mothers (4) specifically mentioned the risk that bottle-feeding carries in terms of the transmission of disease to the child. The fact that no fathers mentioned this suggests that mothers may have

[18] Though these things were mentioned, an observational study would be needed to ascertain the extent to which they are actually followed in practice.

learnt this from health field-workers who visit their homes, or from NGO clinics.[19]

1.6.2 Selecting a brand of tinned milk

A wide range of tinned milks and infant formulas are available in Dhaka city. However, two tinned milks are in particularly widespread use, both as infant feeds and for other uses, namely; Dano (a Danish product) and Red Cow (from Australia). In fact, Dano is so common that it has become the generic term for tinned milk in many houses, with expressions such as "Dano-Mano" being used.

Respondents were aware of different types of tinned milk, though most could name only one or two brands (Table 9). Rather than differentiating between milk powders and infant formulas, as might be the obvious dividing line among public health circles or allopathic medical practitioners, respondents gave importance to other factors. However, little consistency was found in the opinions expressed about particular brands of tinned milk. Instead, different local wisdom appears to prevail in different areas. For example, in some communities Dano has the reputation for being the most suitable of the tinned milks, whereas in other areas it was regarded as inferior to other brands.

[19] See [6] for a fuller discussion of the different sources of information available to men and women.

Table 9. Awareness of different brands of tinned milks and infant formula among respondents (parents) by reported breastfeeding status of the children

	Distribution of respondents			
	Fathers		Mothers	
Brands of tinned milk and formula	Exclusively breastfed	Not exclusively breastfed	Exclusively breastfed	Not exclusively breastfed
Dano	13	13	9	13
Red Cow	8	5	2	7
My Boy	1	4	1	5
Lactogen	0	2	1	4
Cerelac	0	3	0	1
Other infant formula (Lactamil/Boyameal/ Proshobi)	1	2	0	2
Total number of tinned milks named:				
0	1	1	3	1
1	6	4	8	2
2	5	3	2	5
3	2	3	2	4
4+	1	2	0	1

Note: The interview included open-ended discussion of alternative brands of tinned milk so that the responses were spontaneous.

In some cases, the choice between certain milks was made on the basis of nutritional content.

Interviewer: *"So what difference is there between Cerelac and Dexolac?"*

Respondent: *"Cerelac has fruit juices in it which the child needs, in that (dexolac) there are no fruits, so there is some difference between them."*

Interviewer: *"And what about between Dano and Dexolac?"*

Respondent: *"Yes there is a difference. Dano is not so good, it does not have as many vitamins and things. I won't say it is bad, but it does not have all the things that the child needs, if it were good the doctor would have advised Dano."*

Interviewer: *"So are you saying that Cerelac is better than Dexolac and Dexolac is better than Dano?"*

Respondent: *"It also depends on age, Dexolac is alright up to 8 or 9 months of age but then Cerelac is needed because it has solid food in it."*

(case no. 25, not exclusive, father)

Among respondents who were familiar with several brands, price is taken to be an important indicator of quality, with individuals often aspiring to buy more expensive brands.

In summary, attitudes and opinions regarding tinned milk products are complex and often ambivalent. In sharp contrast to the prevailing understanding surrounding breast-milk and traditional supplements, the views expressed about tinned milks were extremely heterogeneous. However, despite potential problems, these products are, on the whole, associated with a wealthy and modern life style. The feeding of tinned milks is likened to giving other 'vitamin-rich' foods, such as bananas and eggs, and is seen as an added extra that will make the child fat and increase the child's strength. Men are more knowledgeable than women about tinned milks, though this

relates mainly to familiarity with alternative brands, prices and availability, rather than to their actual content or origin.

1.7 Other Foods for Infants

In addition to tinned and animal milks, other supplements for infants include liquid and semi-solid gruels made from cereals and water, often referred to as 'lota' or 'tola'. Respondents mentioned feeding ground rice (chaler gura), barley, and wheat (gomer suji). Ground rice is the most traditional of these, with wheat and barley having been introduced more recently. Though some respondents opted for ground rice on the basis of it being good for their child in terms of the energy and nutrition it contains, on the whole these substances were mentioned less often than animal or tinned milks. However, children are often fed a mixture of substances. A common preparation would contain some kind of cereal (suji, barley or rice), together with tinned or animal milk and some kind of sugar.[20]

2. Other Factors Related to Feeding the Child

The discussion so far has focused on the qualities of alternative foods for infants. However, it is obvious that the perceived advantages and disadvantages of different foods relate not only to their inherent characteristics, but also to the factors involved in actually feeding them.

2.1 Convenience

It is perhaps not surprising to find that mothers were more likely than fathers to talk about the pros and cons of preparing and feeding different foods, the time involved, and the implications this has for their other

[20] The interviews did not produce as detailed information on these types of foods as for animal milks and tinned milks. This may reflect the fact that these substances are becoming less common as breast-milk substitutes. Nonetheless, future investigations could give more attention to these foods.

activities. Almost all mothers mentioned the convenience (shubidha) or bother (jhamela) associated with methods of feeding, though interestingly there was little consistency in opinions. Fathers who discussed the convenience of different options for feeding also expressed a range of opinions.

Bottle-feeding vs breast-feeding

Although messages from health workers emphasise that bottle-feeding is time consuming, and that breast-feeding is convenient for the mother, the reality is very different for most bottle-feeders. As has been noted in other settings [13], bottle-feeding is practiced in the urban slums of Dhaka in such a way as to maximise convenience and minimise the time spent by the mother. The mother rarely holds the child during feeding, instead older children may do so, or the child may be left with the bottle propped on a pillow. In addition, the mother herself may not have to prepare the bottle. Older children or other individuals can do this; even husbands know how to make up the bottle and reported doing so on occasion. Corners are cut; for instance, by heating up water once and keeping it in a flask for the whole day, and by cleaning the bottle only once a day instead of after every feed. Among both exclusive and not exclusive breast-feeding women several respondents (6/15 and 7/13 respectively) mentioned convenience as a factor motivating the use of 'feeders'.

Khadeza's case illustrates that in certain circumstances the convenience of using the feeder outweighs the belief that breast-milk is the preferred option for the child. She herself has never used a feeder to feed her children, but she recognises the benefits of it:

"Some people give the feeder just out of fashion so that they can move about, they will go about putting the feeder in the baby's mouth, if a

mother breast-feeds then she cannot leave the baby at home. Whereas she can go many places if she uses the feeder. I was never tempted to do this."

For Khadeza, breast-feeding was always compatible with her household role. However, her eldest daughter's situation is a sharp contrast. She is five months pregnant with her first child and Khadeza says that the child will be given the feeder straight after birth since her daughter will be studying for an examination. If she were not studying Khadeza would advise her daughter to breast-feed the child for as long as possible. However, under the circumstances the decision to use the tinned milk is perfectly reasonable to her.
(case no. 3, exclusive, mother)

There were also mothers in both groups who felt that breast-feeding is less of a bother than feeding in other ways. The opinion of any particular woman is no doubt shaped by the other demands placed upon her and the extent to which these are incompatible with breast-feeding. Among the not exclusive group of women, work outside the home was mentioned by three as a reason for introducing the feeder, though this was not necessarily the primary reason for the first introduction of supplements. It is important to note that it is not only the location of certain tasks that make them incompatible with breast-feeding.

Rekha feels that her breast-milk is coming well and she does not go to work outside the house. However, she is still feeding her child tinned milk in a feeder alongside the breast-milk. This is because she has to do a lot of household work, and she finds collecting water from the well, and washing clothes to be particularly incompatible with breast-feeding. This 'cold work' makes her body and milk cold, which could then pass on the cold to her child. For her it is convenient to feed the child a warm bottle

of powdered milk during the day while she completes the household tasks, and to feed the breast at night when she is free of these chores.
(case no. 21, not exclusive, mother)

Alternative supplements

Having decided to introduce a supplement to the child's diet the choice of what particular supplement to employ is often influenced by considerations of convenience. In the urban setting powdered tinned milks that can be stored for long periods of time and quickly prepared, are often found to be the most convenient. Traditional supplements, such as ground rice, require time-consuming preparation, and cannot be kept for a long period of time. Similarly, cow's milk, though nutritious, is inconvenient since it quickly spoils in the absence of refrigeration.

2.2 Effect on the Mother's Figure and Health

The fear that breast-feeding will deform the breasts has been implicated in the decline of breast-feeding in other settings [14]. In our study population this does not as yet appear to be an important consideration, and indeed few women are abandoning breast-feeding completely. Nevertheless, some respondents were aware of this perception. Eight fathers and two mothers spontaneously mentioned this as a reason why some women, particularly among the rich, do not breast-feed.

In one case a father reported that if he had enough money he would feed only tinned milk and his wife would stop breast-feeding altogether. Although he acknowledged that breast-milk is the best food for children, he regarded tinned milk as the preferred alternative since it contains many vitamins and if it were fed then his wife's health would be protected. His wife had become weak and thin through breast-feeding their six children.

2.3 Cost

In discussing the relative merits of different types of foods for infants, their cost was frequently mentioned, and this appears to be an important factor in deciding what to feed the child.

In two exclusive cases respondents said that their decision to feed only breast-milk was financially motivated, and that if they had more money they would opt for introducing something else to the child's diet. In both cases the child was over six months of age.

Interviewer: *"What is the difference between Red Cow and Dano?"*
Respondent: *"I can't say what difference there is between them. But those who feed Red Cow, or Dano or any other kind of milk, those who have a lot of money, those who buy the high quality milk, their children stay well. Don't they stay well? I think that if I could feed my child in that way then she would stay well. But I am unable to buy high quality and expensive milk, I feed only breast-milk. So my child's health is not good. If I had a lot of money, I would have fed high quality milk to my children."*
(case no. 1, exclusive, father)

Among families where the child was being fed foods other than breast-milk, the decision regarding the type of supplement was also often influenced by financial considerations. In some cases tinned milk was preferred to cow's milk because it is cheaper. However, in other cases individuals who could not gather together enough money to spend 90 or 100 taka[21] on a small tin of milk, were forced to purchase cow's milk since they could buy a little daily, even though the long term expenditure is more.

[21] For comparison, the average room rent for slum dwellers is 300 taka per month, and a kilogram of cheap rice costs around 12 taka.

Individuals aspire to being able to feed better foods to their children, most commonly more expensive types of tinned milks, and special medicines.

Respondent: *"People feed according to their means. Some people feed lots of good things, they feed Dano, they feed with a feeder, they give lots of good things, but we don't have a lot of money so we can not feed in that way."*
Interviewer: *"What would you do if you had more money?"*
Respondent: *"I would feed my children like the rich people, I would bring a good medicine (oshud). There are vitamin medicines that make the children strong.*
(case no. 28, not exclusive, father)

3. Time For Supplementation

Having discussed the characteristics of particular foods, we turn now to consider in more detail the issue of timing of supplementation.

In the first year, or year and a half of life, the overriding reason for introducing foods other than breast-milk to the child's diet is that the breast-milk is no longer sufficient to satisfy the child's hunger. When the child is still young, if breast-milk is not sufficient, tola or alga must be fed. This tola may consist of tinned milk, animal milk, or some other liquid or semi-solid preparation such as suji, or chaler bata. Among exclusive and not exclusive families, both fathers and mothers commonly explained the introduction of the first food other than breast-milk as a response to the child no longer receiving enough breast-milk. Thus, whether the child was first given a supplement after two weeks, or after nine months, the explanations offered by parents were very similar.

"The child is getting bigger so the breast-milk is not completely filling the child's stomach. The child cries after eating because the breast does

not fill its stomach, so we have to feed tola. If the stomach is not filled then the child cries. There is not enough milk in the breast."
(case no. 5, exclusive, father, child first given supplement at 5 months)

Interviewer: *"Why did you give DANO?"*
Respondent: *"The child only received a little breast-milk."*
Interviewer: *"From what age did you give?"*
Respondent: *"Six or seven months."*
Interviewer: *"How long can a child receive breast-milk?"*
Respondent: *"Some mothers breast-feed the child up to one year while others can't even continue for three months due to lack of milk."*
(case no. 4, exclusive, father)

Respondents recognised differences in the supplementation patterns between the urban and the rural setting, noting that the use of tinned milks and feeding bottles is more common in the urban areas. However, supplementation when breast-milk becomes too little, was recognised to be the norm in both settings. Some respondents suggested that greater supplementation in the urban area was due to ready availability of suitable foods for infants, while others drew attention to the unhealthy conditions of the city making mothers' milk production less.

"In the village most people feed the breast-milk not powdered milk, then at eight or nine months, when the stomach is not filled, they feed ground rice, vegetables and things, and if cow's milk is available they also feed that."
(case no. 17, not exclusive, father)

"In the village they usually start to give tola at five or six months, but if they get breast-milk then they do not give it."
(influential woman, no. 4)

In addition, respondents noted that in the past supplementation of the young child's diet was also common when breast-milk was not sufficient.

"In the past the women used to feed the breast-milk, and then when the breast-milk got less and the child started to cry then they started to feed cow's milk, this was from say two or three months of age."
(influential man, no. 1)

"I gave breast-milk to all my children until about three months of age when I did not have enough breast-milk and the children used to cry, and then I gave them ground rice."
(influential woman, no. 3)

Thus, it appears that the practice of giving the first supplement when the breast-milk is perceived to be insufficient, is not a new phenomenon. A concern with the production of an adequate quantity of breast-milk appears to have been common for several generations, and perhaps a good deal longer. On the one hand this means that liquid, or semi-solid supplements may be introduced within the first few weeks of life, and on the other hand that, provided the production of breast-milk adequate, there is no need to introduce other foods to the child's diet. Thus, a child may receive no other foods until one year of age, or even older. A passive child that does not cry is judged to be receiving adequate food through the breast-milk alone and will usually not be given other foods. Since breast-milk is the most nutritious and purest food, it makes sense to feed this alone.

When questioned about the appropriate timing of introduction of 'other foods' (meaning foods other than breast-milk and <u>tola</u>) many respondents mentioned a certain age of the child, though there was a good deal of variation in responses (Table 10). Further investigation suggested that in many cases these were normative responses, echoing current health

messages, and that actual practice may differ considerably. Women in particular often mentioned four, five or six months as the appropriate age for the introduction of other foods, though probing often revealed that this had not been done for their own children.

Nilufar mentioned that she had heard from the NGO clinic that extra foods like suji or mashed banana should be fed from four months of age, but since her breast-milk was sufficient she did not start to give these things until one year of age.
(case no. 27, not exclusive, mother)

Table 10. Respondents' opinions as to the appropriate age of child for the introduction of "other foods" (aside from breast-milk), by reported breastfeeding status of the children

	Distribution of respondents (parents)			
	Fathers		Mothers	
Age of child	Exclusively breastfed	Not exclusively breastfed	Exclusively breastfed	Not exclusively breastfed
4-5 months	3	1	0	5
6-7 months	2	1	5	2
8-9 months	2	2	1	0
10-11 months	1	0	1	0
1 year	4	2	1	0
1½ years	1	2	0	2
3 years	0	2	1	2
Age not specified	2	3	6	2
Total	15	13	15	13

The prevalence of health messages was also apparent by the many respondents that named khichuri (a preparation of rice, lentils and vegetables heavily promoted by health workers) as the appropriate food to give children alongside breast-milk. Again, further questioning revealed that few children were receiving this on a regular basis.

The delay in introducing other things to the child's diet is also explained in part by a reluctance to give foods that are not felt to be suitable for the young child. Giving certain foods too early can have negative consequences. Individuals are concerned that the child will not be able to chew, swallow and digest certain foods, that eating particular foods will cause an upset stomach or fever; and that it will result in detrimental consequences, such as making the child's stomach large, or the body heavy. Thus, rather than adhering to specific ages, it was common for respondents to say that other foods would be given *"when the child wants to take them"*. In addition, the process of introduction of new foods is often gradual, with experimentation with different foods over time. Other indicators of the time for introduction of other foods were; *"when the child crawls"*, *"when the child's teeth come"*, *"when the child can hold the food itself"*, and *"when the child can walk"*, though these were mentioned less often.

It is important to note here that the local classification of foods differs in important ways from that which might be employed by public health researchers or health workers. For example, grouping foods into the categories liquid, semi-solid and solid, obscures important differentiating criteria employed by individuals. As mentioned above, the terms tola and alga are used to refer to various substances, both liquid and semi-solid, which are fed essentially to make up for a short fall in breast-milk. Among solid foods, some such as biscuits and breads are regarded as snacks (habi-jabi), rather than proper adult foods, and as such may be given to children somewhat earlier in life than other solids. Fruits may be given before

vegetables, since they are sweeter and the child will take them more easily. Vegetables may also be given much later because they are difficult for the child to digest.

Local understanding surrounding the feeding of rice to young child is particularly complex. Different preparations of rice are perceived in quite different ways. For example, ground rice (chaler bata, chaler gura) is a suitable supplement to breast-milk even in the very early weeks after birth, whereas rice prepared as adults would eat it, bhat,[22] is not considered appropriate for the child until perhaps one year of age or older. It is interesting to note that several respondents referred to the feeding of khichuri to children of six or seven months of age, but still felt that rice would be fed later, thus drawing a distinction between the two.

In addition to perceptions about the need for additional foods and the suitability of different foods at different ages, the timing of introduction of foods is, of course, dictated by other, more practical factors. As an example, many of the respondents who identified khichuri as something that should be fed to children from around six months of age had themselves fed this only rarely, or not at all to their children. Reasons included the fact that it is expensive, and that is time-consuming to prepare.

4. Defining Families as Exclusive and Not Exclusive Breast-feeders

As mentioned above, one of the main objectives of the present study was to try to understand more about why certain children are given foods other than breast-milk early in life. For this reason, the study sample was comprised of two types of families: those where the youngest child was exclusively breast-fed; and those where the youngest child was not

[22] It should be remembered that the term 'bhat' literally means rice, but is also often used to refer to adult food, or a full-meal, since rice constitutes the main body of most meals. For example, when asking what someone ate for a meal one would commonly ask '*What did you eat with the rice?*'.

exclusively breast-fed. The study aimed to draw comparisons between the responses of individuals from these two groups.

Having said this, throughout our analysis of the knowledge and views regarding infant feeding, breast-milk (its quantity and quality), other traditional infant foods, and the appropriate timing for supplementation, there was a striking lack of variation between these two groups. As the quotations cited above illustrate, both groups of parents, and indeed both men and women, expressed very similar attitudes and knowledge when questioned about these things. Thus, a relatively homogeneous, traditional understanding appears to prevail among the urban slum dwellers.

In only one area could a noticeable difference be found in the knowledge and attitudes of the two groups: familiarity with tinned milks and infant formula. Fathers and mothers of not exclusively breast-fed infants were more familiar with different types of tinned milks and expressed more opinions about tinned milks and formula than individuals whose youngest child was exclusively breast-fed (Table 9). However, to what extent this reflects a different orientation towards tinned milk products, or simply greater experience using them is unclear. It seems that in many cases where the mother's milk is insufficient to feed the child, parents are forced to seek alternatives, and out of necessity become familiar with other infant foods, including tinned milks.

However, the findings of the study also suggest that there is a minority of individuals for whom the feeding of tinned milk or formula is perceived differently. For this group, tinned milks are seen as a convenient and modern alternative to breast-feeding, rather than merely a second-rate but necessary supplement. This type of thinking represents a sharp break with more traditional understanding, and is potentially much more detrimental to breast-feeding. To what extent this is an emerging attitude deserves greater investigation.

As well as finding consistency in attitudes between the two groups, there was evidence that infant feeding practices can be very changeable. Within our sample there were several families where the feeding history of siblings was quite different.

> *For example, Fatema's oldest son, Faruque, was fed Dano tinned milk from just a few days after his birth when it was seen that the breast-milk was not enough to satisfy him. However, in the case of the younger son, Saiful, both Fatema and her mother were determined that tinned milk should not be fed to the new baby. They wanted some action to be taken in order to ensure that breast-milk would come in sufficient quantity this time. Fatema took a tabiz from a local Fakir which had the desired effect. Saiful was put to the breast two days after the birth and continued to take only breast-milk until seven months of age when tinned milk was introduced.*
> (case no. 11, exclusive)

The above analysis has illustrated that the prevailing attitudes and perceptions among this community are such that breast-feeding is potentially difficult. Traditional beliefs and newer ideas interact to reinforce the perception that breast-milk production may fail and that it may be preferable to resort to supplementation early in the child's life. If such an understanding is common to those who breast-feed exclusively as well as those who do not, then what factors lead to early supplementation in some cases and not others?

It seems likely that in order to answer this question, and to understand why earlier supplementation is an emerging trend in urban Bangladesh, we need to consider situational factors. Under what conditions is the prevailing local understanding supported to such an extent that breast-feeding is undermined and early supplementation results? Factors that may

be important include: the setting before, during and immediately after the birth; networks of support and the messages received via them, including individuals within and beyond the family; the roles and responsibilities of the mother inside and outside the home; and the prevailing local norms with respect to women's behaviour, movements and child-care.[23]

Asha provides an example of how important support and advice from older relatives can be for a young mother with her first child. At the time that we interviewed Asha, her second child had just turned six months and she had just started to feed suji alongside the breast-milk. However, her experience with her first child had been quite different. Although Asha admits that her relatives told her to breast-feed the child she found it difficult and was not given the necessary support to do so. She was embarrassed and confused and within a few weeks turned to feeding tinned milk with a feeder having seen it advertised on the television.

"I did not know in the beginning. He was my first child. I did not put the breast in his mouth, so the breast-milk came down and I felt bad. I felt bad when the child sucked so I did not give him the breast-milk, and the child did not suck."
(case no. 7, exclusive, mother)

Discussion and conclusions

The present paper has discussed the knowledge and views that individuals living in the slums of Dhaka city have regarding alternative ways to feed infants. The study sample was small and generalization must be cautious. It should also be noted that the current paper could not discuss the

[23] The roles played by individuals other than the mother in infant feeding are discussed in more detail elsewhere [6].

many factors besides the prevailing knowledge and attitudes that are important influences on infant feeding behaviour. Nevertheless, the in-depth nature of the interviews allowed a rich variety of information to be gathered and a number of important patterns to be identified. It is immediately clear that the feeding of young children is not straightforward, and that individuals have many concerns and anxieties about it. Urban slum dwellers carry with them much of the same understanding as their rural counterparts, but are at the same time exposed to a complex of new information.

In order to understand the factors behind the current trends in infant feeding patterns, and the possibilities there are for altering these patterns, it is important to identify what has actually changed. At present, in the urban slums of Dhaka, the predominant pattern is one of mixed feeding, in which the large majority of infants are breast-fed, but are given other foods alongside breast-milk within the first few weeks of life. Despite a continued perception of breast-milk as the best food for the young child, many individuals opt to supplement from an early age. However, concerns about breast-milk quantity and quality are not new. Data collected from the rural area of Matlab in the mid 1970s showed that supplementation of the child's diet before six months of age was common [15], and that insufficient milk was a frequently cited reason for cessation of breast-feeding [16]. This traditional wisdom about breast-milk production persists. Many women complain of insufficient milk production, and indeed, this is widely recognised by lay people and health professionals alike, as a problem with few solutions. Thus, what appears to have changed is the extent of this problem; the proportion of women who are affected by it. In addition, there has been a change in the way that infants' diets are supplemented, with greater use of tinned, powdered milks, and feeding bottles. Baqui *et al.* [3] found that among infants receiving milk supplements in Dhaka slums, the use of powdered milk was more than three times as common as the use of fresh, animal milk. Supplementation of the infant's diet in response to

inadequate milk production itself is neither a new, nor a purely urban phenomenon. The question we need to answer is how the modern, urban setting builds upon traditional perceptions in order to make breast-feeding fraught with difficulties, and to decrease the likelihood of exclusive breast-feeding for the first few months of life.

Gussler and Briesemeister [12] have suggested that the insufficient milk syndrome can be explained in large part by the fact that modern patterns of breast-feeding, characterized by limited contact between mother and child, and scheduled or widely-spaced feeds, are incompatible with the biology of human breast-milk production. They point out that human milk is dilute, with a low fat and protein content, meaning that it is digested and absorbed rapidly. Thus, a child who is not fed very frequently will show the signs of hunger. Fearing that their breast-milk is inadequate to satisfy the needs of their infant, many mothers respond by introducing supplements, rather than by feeding the breast more frequently. The present study findings (together with previous research) suggest a number of reinforcing factors that may lead to real or perceived insufficiency in breast-milk in the urban slum setting of Bangladesh. There are several ways in which the prevailing understanding is likely to influence breast-feeding, both directly by circumscribing women's behaviour, and also indirectly by producing anxiety which affects breast-feeding performance.

Firstly, newer, more modern attitudes which have tended to medicalize breast-feeding reinforce traditional understanding that breast-feeding may be problematic [11,14]. Respondents in our sample, particularly men, frequently mentioned doctors as sources of information regarding infant feeding and supplements. Other health workers, working door-to-door or in clinics also give advice about supplementation. Though it does not appear that breast-feeding to a schedule is being promoted by health workers in Bangladesh,

observations in both rural [17] and urban areas[24] suggest that personnel ar not equipped to give proper advice on breast-feeding. Workers do not know how to assist women suffering from insufficient milk, and are themselve usually resigned to this as an unfortunate fact of life. In addition, tinne milks and feeding bottles are associated with modernity, wealth and health and their use is often legitimised by the medical profession. The read availability of these products means that the supplementation of the infant' diet is relatively simple.

Secondly, attitudes regarding the modesty of women interact wit traditional understanding about the dangers of breast-feeding in public, t make it difficult for a mother to feed her child frequently. Women livin in the urban slum are often surrounded by non-kin and as such have to b more careful about their attire, and where and when they feed their children Almost all respondents felt that breast-feeding should be done in private, an often gave reasons that reflected both concerns about correct femal behaviour as well as potential attack by evil forces.

Thirdly, family structures in the poor urban setting are such tha mothers may often lack the traditional support network of female relative to give advice and encouragement, and to take over household task following delivery and in the early months of the child's life. In our preser sample we found that well over half the couples were living as nuclear units The extent to which family structure and support networks influence infar feeding behaviour deserves further investigation.

Though no study has directly compared the frequency of feeding in th two populations, it seems likely that urban slum mothers feed less frequentl than their rural sisters, and that this, together with heightened anxiety an lack of support structures, explain the high prevalence of insufficient milk.

[24] Unpublished data from interviews with field level health and family planning workers.

It should be pointed out that, although insufficient milk is the major factor leading to the use of supplements within the first few months of life, this is not the case for all. The study revealed that certain other factors, unrelated to breast-milk production, may also play a part such as: a need to free the mother for other work; a desire to feed extra, high quality foods to the infant; and a desire to avoid damage to the mother's figure or health. Though these factors are clearly secondary at present, they are worrying since they have the potential to detract from breast-feeding in a more serious way. Factors like these in combination could lead to other foods being used as complete substitutes for breast-milk, rather than supplements, as is currently the predominant pattern.

An additional cause for concern is the fact that, as well as being used to feed young infants, tinned milks and bottles are also used for older children, and thus, replace other foods that may be more beneficial to the growing child.

> *Rafique mentioned that he had heard that khichuri should be fed from four or five months and had tried to do so for a few days. However, he thinks that the child prefers to take the feeder, and he has decided that when he gets more money he will buy more Dano tinned milk instead of feeding khichuri.*
> (case no. 26, not exclusive, father)

Having identified several factors that may explain the increase in early supplementation, we should also highlight a number of things that appear to be favourable in terms of breast-feeding promotion. Breast-milk is still the preferred food for young children and is not, as yet, being abandoned completely. In our sample, only one respondent, a father, suggested that if he could afford to he would give up feeding breast-milk altogether. For the remainder, other things are an added extra, and not something to replace breast-milk altogether.

"It doesn't matter how much tola milk you feed you will still have to feed breast-milk, if you don't feed it then there will be a problem, tola milk is no kind of milk. If the child takes mother's breast-milk the body stays completely full and healthy."
(influential woman, no. 8)

In addition, the feeding of foods other than breast-milk is not straightforward. Individuals are aware of many alternatives, and have to way up the advantages and disadvantages in terms of quality, expense and convenience. Many not exclusive respondents were dissatisfied with the way they were feeding their infant. Attitudes to newer products are less consistent than towards more traditional supplements. Local wisdom, which has developed differently in different areas, is open to change.

Findings suggest that infant feeding patterns are changeable, so that a woman who introduces supplements early in the life of one child may manage to breast-feed a subsequent child exclusively. This suggests that there are possibilities for reversing the current trend away from exclusive breast-feeding.

Recommendations

The findings of the present study suggest several areas where current approaches to the promotion of beneficial infant feeding practices might be modified.

Greater attention should be given to educating individuals about how to increase the production of breast-milk and to creating the environment where mothers and families are confident that breast-milk will be produced adequately. It should be recognised that concerns about the production of

breast-milk are not new, but well-established beliefs that need to be worked with. Mothers, fathers, older relatives, health workers and doctors alike, all readily accept the fact that a woman may not produce enough breast-milk for her child. The current health message *'Up to five months of age breast-milk alone is sufficient'* appears to miss the point. The majority of individuals themselves would be happy to feed only breast-milk up to five months, and for many months more, if they felt that they were producing enough. There is therefore a need to equip health workers and individuals themselves with the knowledge and attitudes necessary to encourage the production of breast-milk. Haider[25] has shown recently that mothers who are giving supplements to their infants can revert to exclusive breast-feeding with the right kind of support and encouragement. Health messages need to emphasise the importance of early establishment of breast-feeding following the birth, frequent suckling, and the relationship between suckling and milk production.

Present efforts aimed at promoting breast-feeding tend to focus on the positive attributes of breast-milk, which are accepted anyway, without highlighting the negative aspects of other forms of feeding. Traditional understanding about the suitability of foods for infants, including ease of digestion, energy content, purity and so on, can be built upon in order to increase awareness of the negative aspects of feeding other foods, in particular artificial, tinned milk products. At the same time, efforts should be made to reverse the trend towards bottle-feeding among the richer, middle classes, and to remove the association between bottle-feeding, tinned milks and wealth and sophistication. The current promotion campaign uses pictures of only poor women breast-feeding, thus reinforcing the perception that this is what poor people have to do, while the rich can afford to feed something better.

[25] Personal communication.

In addition to educational efforts, attention needs to be given to the setting in which women deliver and nurse their young infants in the poor urban slums. We need to recognise the conflicting demands on women's time and the factors that may lead to reduced frequency of breast-feeding and use of other supplements. Women do not act independently in their role as the nurturers of their infants, their behaviour being heavily influenced by others around them [6]. There is a need to find ways in which mothers can be supported better, both emotionally and in the carrying out of their tasks and responsibilities, in order to facilitate breast-feeding.

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Appendix

Case Study Household Characteristics

	Father			Mother			Child			
No.	Age[1]	Occupation	Education	Age[1]	Occupation	Education	Sex	Birth order	Feeding status	Religion
01	40	cook, government service	none	30	own household work	none	F	5	exclusive	Muslim
02	25	workshop worker	none	24	own household work	none	M	3	exclusive	Muslim
03	50	vegetable seller	none	38	own household work	none	M	6	exclusive	Muslim
04	30	small shop owner	none	23	own household work	none	F	3	exclusive	Muslim
05	28	rickshaw puller	none	22	house maid	none	M	2	exclusive	Muslim
06	22	mosaic floor maker	class 8	16	own household work	class 5	F	1	exclusive	Muslim
07	35	rickshaw puller	class 3	20-29	house maid	none	M	4	exclusive	Muslim
08	51	cleaner, government service	class 5	42	own household work	none	M	6	exclusive	Hindu
09	30	guard, government service	class 5	20-29	own household work	none	F	6	exclusive	Muslim
10	35	rickshaw puller	none	21	own household work	none	F	2	exclusive	Muslim
11	32	weaver	none	22	own household work	none	M	2	exclusive	Muslim
12	25	shoe maker	none	22	shoe maker	none	M	2	exclusive	Hindu
13	30-39	day labourer	none	30	own household work	none	F	6	exclusive	Muslim
14	20	manager, government service	class 5	17	own household work	class 3	F	1	exclusive	Muslim
15	28	small furniture shop owner	class 5	24	own household work	class 7	M	2	exclusive[2]	Muslim
16	30	rickshaw puller	class 8	26	own household work	none	F	2	not exclusive	Muslim
17	25	van gari puller for a factory	none	20	own household work	none	M	1	not exclusive	Muslim
18	45	tannery worker	none	38	sweeper, government service	none	F	7	not exclusive	Muslim
19	28	shoe salesman	none	20-29	own household work	none	F	2	not exclusive	Muslim
20	24	plastic factory worker	class 8	18	own household work	none	F	1	not exclusive	Muslim
21	30	sweeper, government service	none	23	own household work	none	M	4	not exclusive	Hindu

Case Study Household Characteristics (cont..)

	Father			Mother			Child			
No.	Age[1]	Occupation	Education	Age[1]	Occupation	Education	Sex	Birth order	Feeding status	Religion
22	41	baby taxi driver	class 5	30-39	own household work	none	M	8	not exclusive	Muslim
23	25	supervisor garments factory	class 5	22	garments factory worker	class 3	F	1	not exclusive	Muslim
24	35	mason	none	25	own household work	none	M	1	not exclusive	Muslim
25	30	shoe dyer, home based	class 8	24	shoe dyer, home based	class 5	F	2	not exclusive	Hindu
26	28	rickshaw puller	none	22	own household work	none	M	3	not exclusive	Muslim
27	53	day labourer	class 2	33	house maid	none	F	7	not exclusive	Muslim
28	35	tannery worker	none	30-39	own household work	none	M	3	not exclusive	Muslim

[1] Although probing techniques were used to establish ages the figures should be considered as estimates since respondents could not in general recall dates of birth accurately.

[2] In this case the father and mother gave divergent responses regarding the child's feeding status. The mother's response has been recorded here.