

## A Community Based study on Breast Feeding Practices in Gampaha District

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### Abstract

**Objective:** To determine the prevalence of exclusive breast feeding, the predominant breast feeding rate and the bottle feeding rate, and to identify the factors influencing exclusive breast feeding in the Gampaha district.

**Methodology:** A sample of 1075 mothers, each with a child aged less than 365 days was identified from two randomly selected Medical Officer of Health areas. Information related to birth and feeding practices were obtained using an interviewer-administered structured questionnaire. Mothers' knowledge on breast-feeding was also assessed.

**Results:** Initiation of breast feeding was universal, with an exclusive breast feeding rate (EBF) of 63.7%. Logistic regression analysis identified that 'mother working outside the home', delivery being not a normal delivery, not receiving antenatal education and poor knowledge on EBF were negatively associated with EBF.

**Conclusions:** Even though an improvement in the EBF rate is seen over the past years, there is a need to strengthen antenatal and post-natal practices to encourage EBF and to develop innovative strategies to promote EBF among working women.

### Introduction

Breast milk provides the best possible nutrition for the child's physical and mental development. Studies have continued to demonstrate the reduction of mortality and morbidity associated with breast-feeding (1,2). Even though the importance of breast-feeding has been well documented, exclusive breast-feeding is a

relatively new entity. Studies have shown that all beneficial effects of breast-feeding are enhanced by ensuring the practice of exclusive breast-feeding (EBF) during the first 4 - 6 months of life (3).

Reports from Sri Lanka in the 1980s and 1990s indicate that even though initiation of breast-feeding has been almost universal, introduction of formula milks early in infancy has been a frequent occurrence (4,5). In view of the emphasis placed on EBF as a factor promoting child health, this study was carried out to determine the prevalence of exclusive breast-feeding, predominant breast-feeding rate and bottle-feeding rate, and to identify factors influencing EBF.

### Methodology

A community based cross-sectional descriptive study design was used to study the breast feeding practices in the Gampaha district, one of the three districts in the Western Province of Sri Lanka, with a population of approximately 1,400,000.

Two out of the 14 health areas in the district were randomly selected. All mothers resident in the selected areas who had a child less than 365 days of age on the day of the study, were identified using the Birth and Immunization Register maintained by the Public Health Midwife as the sampling frame. A total of 1075 mothers were thus identified. Mothers of infants who had congenital abnormalities or were ill at the time of the study, were excluded.

An interviewer administered structured questionnaire was used to collect information related to the birth of the child, feeding during the first few hours after birth, hospital practices related to infant feeding, reasons for starting other fluids, antenatal and postnatal support for exclusive breast-feeding and the current feeding history. The questionnaire included a 24-hour recall of food/fluids given to the infant. All interviews were conducted during a home visit and the respondent was the mother. A questionnaire was used to assess the level of knowledge of the mother on breast-feeding. The score developed, was used to assess the level of knowledge.

Ten pre -intern medical officers were trained as interviewers. Data collection of all study units

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from one health area was carried out within a period of approximately 2 weeks.

A multivariate analysis using a logistic regression model was applied to identify the factors associated with exclusive breast-feeding.

## Results

Of the 1075 infants, 51.7 % were males and 48.3% females. 95.1% were singleton deliveries while 4.9% were twin deliveries. The majority, 79.6%, were normal deliveries and 15% were

Table 1. Indicators related to breast feeding

Indicator	Rate %
Exclusive breast feeding rate	62.9
Predominant breast feeding rate	75.8
Bottle feeding rate	44.4
Ever Breast-fed Rate	100
Timely First-sucking Rate	75.1

deliveries by caesarean section.

Definitions given by WHO in1991<sup>1</sup> were used in

Table 2 . Distribution of infants by age and by practice of exclusive breast feeding and predominant breast feeding

	Age in months								Total	
	0-1mth. n=46		2 n = 100		3 n = 101		4 n = 109			
	No.	%	No.	%	No.	%	No.	%	No.	%
Exclusive BF	25	54.3	71	71	64	63.3	64	58.7	224	62.9
Predominant BF	39	84.7	83	83	77	76.2	71	65.1	270	75.8

<sup>1</sup> Ever breast fed rate – Proportion of infants less than 12 months of age who were ever breast fed; Timely first suckling rate - Proportion of infants less than 12 months of age who first sucked within one hour of birth; Exclusive breast feeding rate (EBF) – Proportion of infants less than 4 months of age who are exclusively breast fed in the last 24 hours; Predominant BF rate – Proportion of infants less than 4 months of age who were predominantly breast fed; Bottle feeding rate – Proportion of infants less than 12 months of age who are receiving any food or drink from a bottle.

assessing breast feeding practices (5). Ever breast-fed rate among these infants was 100% indicating that breast-feeding is universal in the study area. The EBF rate was 62.9% with the predominant breast-feeding rate being 75.8%. Predominant breast-feeding rate was higher than the EBF rate, indicating that some mothers gave other fluids and food items during first four months.(Table 1)

Study of the EBF rate by age (in months) shows that this rate was lowest during the first month (54.3%), increased to 71% during the second month and then declined to 63.3% and 58.7% during the third and the fourth month respectively (Table 2). Of the infants in the first month of life, 43% were given the ayurvedic preparation referred to as 'Ratha kalke' and/or other fluids such as coriander water, tea and water. According to the WHO (5), an infant if given any medication in addition to breast milk could be considered as being exclusively breast-fed. Assuming that 'Ratha kalke' is a medication, exclusive breast-feeding rate during the first month increases to 65.2%. Comparison of EBF

rates and the predominant breast-feeding rates for each age group indicates that the predominant breast-feeding rate was 10 - 30 % higher than the EBF.

Timely first-sucking rate for the study sample was 75.1 % indicating that a majority of babies were breast fed within the first hour of birth. Out of all infants in this study, 44.4% were bottle-fed at the time of the study. They were given a variety of food items with the bottle.

Influence of selected maternal factors (age, parity, educational level, ethnic group), infant characteristics (sex, place in the family), practices related to antenatal, natal and postnatal care and mother's knowledge on exclusive

breast-feeding on the practice of EBF was studied. The summary of the findings are presented in Table 3. The variables shown to have a significant negative influence on EBF were: poor knowledge on exclusive breast-feeding, delivery other than normal vaginal delivery, not receiving antenatal education on breast feeding and the mother working outside the home.

Out of 348 mothers who introduced artificial milk, 48 (13.5 %) did so before the infant completed 4 months of age. Among the reasons for introduction of artificial milks were: not enough milk (60.9%), advised by medical personnel (50.2%) and advised by field level health personnel (33 %). Elders influenced the decision in 29.3% of the mothers. The majority of mothers gave more than one answer (Table 5).

Table 3 . Variations associated with exclusive breast feeding - results of the logistic regression analysis

Parameter	Comparison	Estimate	Standard error	Odds ratio	Confidence interval
b <sup>0</sup>		0.3097	0.374		
Knowledge on EBF	Poor vs. satisfactory	- 0.4961	0.251	0.6089	(0.37-0.90)
Type of delivery	Caesarian vs. normal	-0.5417	0.317	0.5817	(0.31-1.08)
Type of delivery	Forceps or vacuum extraction vs. normal	-1.104	0.550	0.3316	(0.11-0.97)
Antenatal education	Not received vs. received	0.6170	0.360	0.5396	(0.27-1.09)
Mother's employment	Not employed vs. employed	0.6139	0.381	1.848	(0.87-3.9)

Of the entire group, 40 (3.7%) mothers had completely stopped breast-feeding at the time of the study, among whom 0.74% of mothers had done so before the infant completed 6 months of age. The majority (75%) of the mothers did so as they believed that they did not have enough milk. Other common reasons given were: poor suckling by baby (42.5%), refusal by the infant (35%), and having to go back to work (12.5%). Many mothers gave more than one reason (Table 4). The working mothers did not commonly practice giving expressed breast milk. Only 20% of the working mothers had routinely given expressed breast milk.

Table 4 . Reasons for stopping breast-feeding

Reasons for stopping breast feeding*	Number (n=40)	Percentage
Not enough milk	30	75.0
Poor suckling by baby	17	42.5
Child refused	14	3.5
Working mother	05	12.5
Child ill	03	7.5
Mother ill	02	5.0

\* Some mothers gave more than one reason

## Discussion

The ever breast fed rate of 100% observed in this study compares well with findings of the other studies (4,5,7) while the EBF rate of 62.9% was higher compared to data from the Demographic and Health Surveys of 1993 and 2000 which reported the prevalence of EBF among children aged 4 months or less, to be 24% and 50.8% respectively.

Table 5. Reasons for introduction of artificial milk

Reasons for stopping breast feeding**	Number (n=348)	Percentage
Not enough milk	212	60.9
Advice by elders	102	29.3
Advice by field health staff	115	33.0
Advice by other health staff	175	50.2
Because the elder child was given such milks	80	22.9
Working mother	70	20.1

\*\* Some mothers gave more than one reason

Being a cross sectional study, each age group included a different birth cohort of children. The study of variations in the EBF rates by the age of the child was clearly seen with a relatively lower

EBF rates in the group with of 0-1 month old children (65.2%) with 71% in the second month and 63% during the 3rd month. Study findings indicated that 32 -35 % of the infants have been given either water or glucose water during the first month of life and the percentage given other fluids declined to about 5 - 15% during the second month. The findings of DHS, 2000 (7) which included a sample from seven provinces of Sri Lanka, shows a higher EBF rate of 83.9% during the first month of life and a decline as the child grows older (The EBF rate of 65% among infants 2 – 3 months), the pattern being different from that observed in the present study.

Even though the available information does not permit a clear explanation for the differences between the findings of the present study carried out in 1999 and DHS, 2000, these differences could be due to variations in the sample characteristics and/or due to true variations in the EBF rate among the two groups, specially during the first month.

It is possible that in selected population groups, other factors could influence such changes in EBF practice. For example, Sorenson et al (8) in their study in the plantation sector in Sri Lanka reported an EBF rate of 73% during the first month, which showed a marked decline to 23% during the second month. The likely explanation for this difference is that the women in the plantations are a predominantly working population and the change in the EBF practices was related to the mother having to 'return to work'. A study carried out in 12 out of the 24 districts in Sri Lanka in the early '80s, identified employment of women outside the home as a factor that influenced early introduction of artificial milk (4). It is worth noting that even after nearly two decades of highlighting the influence of work on breast-feeding and after adopting changes to the Maternity Benefits Ordinance (9), employment of the mother still continues to be an important factor which has a negative influence on breast feeding practices in Sri Lanka. This indicates the need for innovative approaches to be developed to enable workingwomen to continue breast-feeding such as promoting the use of expressed breast milk.

The practice of exclusive breast-feeding was positively associated with having received educational inputs on breast-feeding during the antenatal period and a satisfactory level of knowledge of the mother on exclusive breast-

feeding. Similar findings have been reported in other studies (10,11). It is reported that in Sri Lanka, almost 98% of pregnant women receive antenatal care (6). Thus, paying more attention to improving educational activities on exclusive breast-feeding aimed at pregnant women during the antenatal period is an important strategy that could be considered to be feasible and effective in promoting exclusive breast-feeding practices.

Mothers who have had a normal delivery, practiced exclusive breast feeding more than mothers who delivered other wise e.g. caesarian section, a forceps delivery or a vacuum extraction. Perez-Escamilla (12) identified delivery by caesarian section as a risk factor for not initiating breast-feeding, and for breast feeding for less than one month. Paying emphasis on proper management of mothers with complicated deliveries could promote EBF.

The reasons given for discontinuation of exclusive breast-feeding such as 'not enough milk' (75%), child refusal (35%) and poor suckling by baby (42.5%) are very similar to those documented in other studies from Sri Lanka (4,7).

The bottle-feeding rate was 44.4% in the study area. Only 3.7% of the mothers stopped breast-feeding before the age of 1 year, while 32.9% of the infants received artificial milk indicating that most mothers practised mixed feeding. The commonest reason for introduction of artificial milk was the assumption that they do not have enough milk.

The findings of the study highlight the need for strengthening the existing maternal health services by providing additional training of the relevant personnel, which will enable them to promote EBF, through improved communication strategies.

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