

Evaluating the Factors Affecting the Duration of Breastfeeding Practice Among Mothers in Tangail, Bangladesh

Mohammad Esrafil, Mesbah Uddin Talukder, Farhana Akther*

Department of Food Technology and Nutritional Science, Faculty of Life Science, Mawlana Bhashani Science and Technology University, Tangail, Bangladesh

Email address:

esrafilmbstu@gmail.com (M. Esrafil), mesbah.du06@gmail.com (M. U. Talukder), farhanafns@gmail.com (F. Akther)

*Corresponding author

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Abstract: Proper breastfeeding practices are effective techniques for reducing childhood morbidity and mortality. The aim in here is to evaluate breastfeeding pattern, factors affecting the duration of breast feeding, infant formula feeding pattern, and weaning introduction. The sample size was 75. Mothers were interviewed using a questionnaire which was designed to elicit information on the socioeconomic & demographic characteristics of the respondents, exclusive breast feeding practices, knowledge & attitude of the respondents regarding breast feeding, weaning practice as well as formula feeding practice. Statistical analyses were done using SPSS (version 20), whereby chi-square tests were used to evaluate relationships between different selected variables. From the study we found that low breast milk formation is the main cause of the cessation of breast milk. About 63% of the respondent mothers stop breast feeding due to low milk formation. There is also a strong relationship between delivery process and duration of the breast feeding ($P=0.013$, significant at 90% level). The prevalence of exclusive breast feeding were only 54.7%. About 20% respondents stop breast feeding before 4 month of their child. Respondents' knowledge & attitude about breast milk were in satisfactory level. But they initiate other foods (37.3%) rather than breast milk, may be because of their culture/food taboos. The study revealed that along with other causes low breast milk formation was the prime reason for early cessation of breast milk.

Keywords: Breastfeeding, Breast Milk, Cessation, Formula Feeding, Questionnaire

1. Introduction

Adequate nutrition during infancy and early childhood is essential to certify the growth, health, and development of children to their full prospective [1]. It has been recognized worldwide that breastfeeding is beneficial for both the mother and child, as breast milk is considered the best source of nutrition for an infant [2]. The world health organization (WHO) recommends that infants be exclusively breastfed for the first six months, followed by breastfeeding along with complementary foods for up to two years of age or beyond [2]. Exclusive breast feeding can be defined as a practice whereby the infants receive only breast milk and not even water, other liquids, tea herbal preparations, or food during the first six months of life, with the exception of vitamins,

mineral supplements, or medicines [3]. Several studies have shown that mothers find it difficult to meet personal goals and to adhere to the expert recommendations for continued and exclusive breastfeeding despite increased rate of initiation [4]. Some of the major factors that affect exclusivity and duration of breastfeeding include breast problems such as sore nipples or mother's perceptions that she is producing inadequate milk; societal barriers such as employment and length of maternity leave; inadequate breastfeeding knowledge; lack of familial and societal support; lack of guidance encouragement from health care professionals [2, 5]. These factors in turn promote the early use of breast milk substitute [6]. Breastfeeding is the feeding of an infant or young child with breast milk directly from female human breast (lactation) rather from a baby bottle or

other bowl [7]. Babies having a sucking reflex that enables them to suck and shallow milk [8]. Many specialists recommend mothers exclusively breastfed for six months or more, without the addition of infant formula or solid food [9]. There are conflicting views about how long exclusive breastfeeding remains beneficial [10]. Not all the properties of breast milk are understood, but its nutrient content is relatively stable [11]. Breast milk is made from nutrients in the Mothers bloodstream and bodily stores [12]. Breast milk has just the right amount of fat, sugar, water and protein that is needed for a baby's growth and development [13]. Because breast milk use an average of 500 calories a day [14]. It helps the mother lose weight after giving birth [15]. The composition of breast milk changes depending on how long the baby nurses at each session, as well as on the age of the child [16]. The quality of a mothers breast milk may be compromised by smoking, alcoholic beverage, caffeinated drinks, marijuana, methamphetamine, heroin, methadone [17]. The American Academy pediatrics states that Tobacco smoking by mothers is not a contradiction to breast feeding [18]. Breastfeeding also has economic health benefits because it results in reduced health care costs [19]. The general objective of this study is to assess the causes affecting the duration of breastfeeding practice.

2. Methods and Materials

2.1. Study Design

The study was an observational study. The study was conducted among breast fed mothers in Tangail municipality. The aim of the study was to evaluate the factors affecting the duration of breastfeeding. We collect data from 75 respondents.

2.2. Sampling Technique and Sample Size

Simple random sampling was followed. At first, a pilot survey was done among the different areas of Tangail municipality and collected information about demographic and socio-economic information such as age, educational qualification, occupation, income expenditure, and condition of living, breastfeeding condition, etc. The researcher visited the rural area of the respondent bearing households. After fulfilling the selection criteria (having under 5 children) inclusion in the study, the sample was selected randomly and 75 respondents were interviewed.

2.3. Pilot Survey

A pilot survey evaluate the ease of content, wording and expression, the tropical sequence of questions and duration of interview and the reliability, sustainability, suitability, and clarity and value of the measuring instruments, was conducted among 10 respondents from Tangail municipality just one week prior to the actual field work. After pre-test, the questionnaires which were related for quantitative data collection were improved and reformed to ensure content coverage, the reliability and the validity of the study.

2.4. Consent

The purpose nature of the study was explained to the respondents and after having permission a questionnaire for each respondent was filled up by asking questions to the respond. After getting the verbal consents then the respondents were recruited in the study.

2.5. Data Collection

The respondents were interviewed to collect information. Date were collected from different area of Tangail by door to door visit. All the individuals selected for the study were given an identification number. After received from the respondents, Date were collected through a self-information questionnaire. To avoid information missing or faulty information, the collected information from the location were checked, coded every day and crosschecked at the field sites in order to avoid any miss reporting. Any confusion arising in this matter was settled on the following day during subsequent spot visit.

2.6. Collection of Breastfeeding Information

In the section of respondents were asked about the breastfeeding practice. The time of first breastfeeding, exclusive breastfeeding time, parity, delivery process, birth weight, gestational period, others feeding before breastfeeding, formula feeding and details information were collected from respondents.

2.7. Collection of Socio-economic and Demographic Information

All of the respondents were interviewed about personal characteristics, educational information, occupation, family type, monthly income, monthly expenditure, source of income living condition etc. All of the information was recorded in the respective places of the questionnaire.

2.8. Data Verification

Questionnaires were checked each day after interviewing and these were carefully checked after completing of the data collection and coded before entering into the computer. To minimize the errors after entering the data set into the compute, these are checked and resolved by correction.

2.9. Data entry and Analysis

All the statistical analysis and all other data processing were done by using SPSS-20 (statistical programmed for social science) [20]. Descriptive statistics was mainly used. Data were analyzed in terms of frequency distribution and percentage. Statistical test and correlation co-efficient were used to find out the association between cessation of breastfeeding with socio-economic and demographic factors.

3. Results

This study was conducted to evaluate the factors affecting

the duration of breastfeeding practice among the mothers.

Table 1. Demographic information of the respondents.

	Frequency	Percentage
a. Distribution of mother according to their age		
Mother Age		
<20	1	1.3
20-30	68	90.7
> 30	6	8.0
Total	75	100
b. Distribution of respondents according to their educational level		
Educational Qualification		
Illiterate	16	21.3
Primary	14	18.7
Secondary	27	36.0
Higher Secondary	11	14.7
Graduation	7	9.3
Total	75	100
c. Distribution of respondents by their occupation		
Occupation		
Housewife	69	92.0
Employee	4	5.3
Day labor	1	1.3
Servant	1	1.3
Total	75	100

Table 1 represents the distribution of respondents according to age, educational level and occupation. From the table we found that majority (90.7%) of the respondents were in the age group in 20-30 years. About 21.3% were from illiterate level, 18.7%, primary level, 36% secondary level, 14.7% higher secondary level and 9.3% graduation level. In the area we had worked, is completely a rural area & most of the mothers are illiterate. The main reason behind it was that there had not enough educational facilities and another reason was, they were very poor and could not bear their educational cost. Moreover government or development sector has not taken any initiative to improve this situation yet. Almost 92% respondents were housewife, 5.3% employee, 1.3% day labor and 1.3% servant. As it was a very much rural areas of Tangail district so the respondent had no available opportunities to be educated so all were working in their home. Another reason was that the villagers were very restricted about their religion and the people made an obstacle to go outside of the woman.

Table 2. Socio-economic information of the respondents.

	Frequency	Percentage
a. Distribution of the respondents according to their family income level.		
Family Income (TK)		
< 10000	1	1.3
10000-20000	58	77.3
20000-30000	13	17.3
>30000	3	4.0
Total	75	100
b. Distribution of the respondents according to their family expenditure level.		
Family Expenditure (TK)		
< 10000	5	6.7
10000-20000	62	82.7
>20000	8	10.7
Total	75	100

Table 2 shows the respondent family income and expenditure level. 1.3% of the respondents family income was < 10000, 77.3% were 10000-20000 and only 4% was > 20000. About 82.7% of the respondents were in 10000-20000 expenditure status As it was rural area, most of the people were illiterate and very poor and also there had no industry or multi-level company, so they didn't get much more opportunity to do a job. As a result they were involved with farming and household words, which was a little source of income. So the villagers could not support their family properly.

Table 3. Information about the child.

	Frequency	Percentage
a. Distribution of children according to their age.		
Child Age		
0-6 month	1	1.3
6 month-1 Year	4	5.3
1-2 Year	22	29.3
3-4 Year	32	42.7
4-5 Year	16	21.3
Total	75	100
b. Distribution of children according to their gestational period		
Gestational Age		
Pre-term	10	13.3
Term	65	86.7
Total	75	100
c. Distribution of children according to their birth weight		
Birth Weight		
< 2500 gram	24	32.0
2500-3000 gram	44	58.7
>3000 gram	7	9.30
Total	75	100.0
d. Distribution of children according to their delivery process		
Delivery Process		
Normal	40	53.3
Caesarean Section	35	46.7
Total	75	100.0
e. Distribution of children according to their birth position		
Child Position		
First	35	46.7
Second	34	45.3
Third	6	8.0
Total	75	100.0
f. Distribution of children according to their feeding other than breast milk.		
(Before feeding breast milk)		
Others feeding before Breastfeeding		
Taken	28	37.3
Not taken	47	62.7
Total	75	100.0

Table 3 illustrates the distribution of children according to their age, gestational period, birth weight, delivery process, birth position, feeding other than breast milk (Before feeding breast milk). From this table we found that 1.3% of the children were in the age range of 0-6 months, 5.3% were in the age range of 6 months -1 year, 29.3% were in the age range of 1-2 years, 42.7% were in the age range of 3-4 years, and 21.3% were in the age range of 4-5 years. About 13.3% children were born at pre-term and 86.7% at term. The children who were born at term (>37 weeks) are more likely to obtain better birth weight than pre-term baby. We see that who were born at term (86.7%), they have birth weight at the

range of 2500-3000 gram (58.7%). About 46.7% women were taken baby by caesarian section and 53.3% normally. The children who were born by caesarian section, they fed breast milk after a long time of birth than the children born normally. It shows that 46.7% of the Child Were first baby and 45.3% child were in second position. Almost 62.7% children didn't intake other food before breastfeeding. About 37.3% children were eaten other food before feeding breast milk.

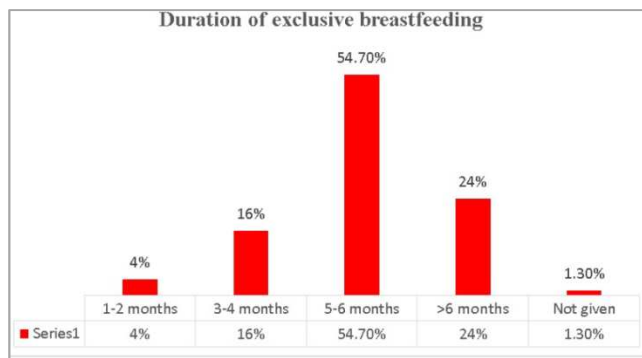


Figure 1. Duration of exclusive breastfeeding.

Figure 1 represents that, about 54.70% of the children were given exclusive breast feeding up to 5-6 months, and 24% of the children were fed breast milk more than six months.

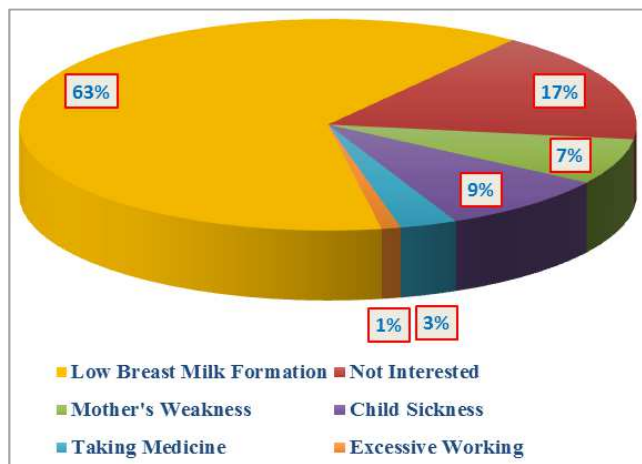


Figure 2. Reasons to feed breast milk below six months.

Figure 2 represents the reasons for feeding breast milk below six months. Above figure indicates that, about 63% women didn't feed breast milk to their child mainly because of low breast milk formation.

Figure 3 represents that 4% mothers ceased breastfeeding after 6 months, 6% mothers ceased within 6 months to 1 year, 31% mothers ceased within 1-1.5 years, 59% mothers ceased within 1.5-2 years.

Figure 4 represents the reasons for feeding breast milk below two years. About figure indicates that, about 63% women didn't feed breast milk to their child mainly because of mother's weakness. Then child sickness-4%, child doesn't want-27%, mother depression-1%, due to pregnancy-1%, due

to operation-3% and others-1%.

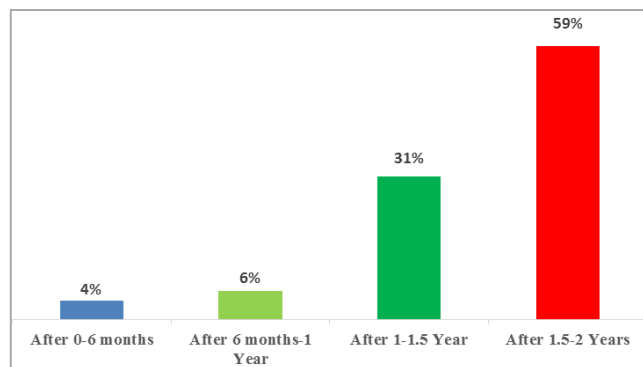


Figure 3. Duration of the cessation of breastfeeding before two years.

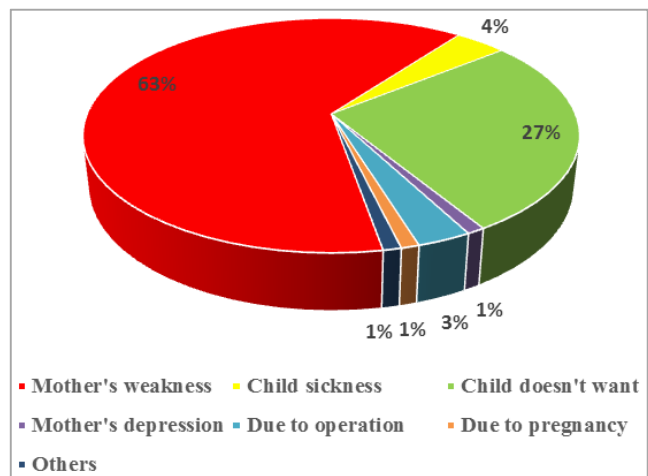


Figure 4. Reasons to breast milk below two years.

Table 4 shows that 94.7% mothers were given formula feeding to their child and only 5.3% mothers didn't give formula feeding to their child.

Table 4. Distribution of children on the basis of consuming formula feeding.

Formula Feeding	Frequency	Percentage
Taken	71	94.7
Not taken	4	5.3
Total	75	100.0

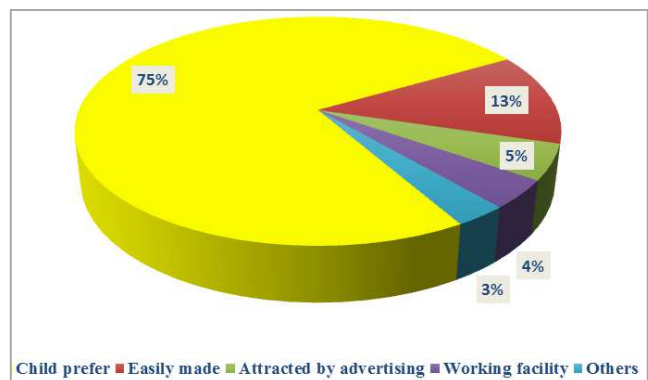


Figure 5. Reasons to intake formula feeding.

Figure 5 represents the reasons for given formula feeding

to their child. This figure showed, 75% children prefer formula feeding. Another reason was 13% for easily making, 5% attracted by advertising, 4% for working facility and others 3%.

Table 5. Link between cessation of breastfeeding with socio-economic and demographic factors.

Category	<1		1-6		7-12		13-18		19-24		Result of Chi- Square test	
	n	%	n	%	n	%	n	%	n	%	X ² Value	P-Value
Mother Age												
<20	0	00.0	1	4.30	0	00.0	0	00.0	0	00.0	9.767	0.135
20-30	5	50.0	19	82.7	27	87.1	7	87.5	3	100		
> 30	5	50.0	3	13.0	4	12.9	1	12.5	0	00.0		
Parity												
Primiparous	3	30.0	4	17.4	20	64.5	5	62.5	2	66.7	0.922	0.445
Multiparous	7	70.0	19	82.6	11	35.4	3	37.5	1	33.3		
Type of Family												
Nuclear	6	60.0	15	65.2	17	54.8	6	75.0	0	00.0	0.687	0.227
Extended	4	40.0	8	34.8	14	45.2	2	25.0	3	100		
Type of Delivery												
Normal vaginal	5	50.0	7	30.4	21	67.7	4	50.0	3	100	3.47	0.013*
Caesarian section	5	50.0	16	69.6	10	32.3	4	50.0	0	00.0		
Educational level												
Illiterate	2	20.0	8	34.7	4	12.9	1	12.5	1	33.3	2.812	0.303
Primary	4	40.0	6	26.0	4	12.9	0	00.0	0	00.0		
Secondary	4	40.0	5	21.7	17	54.8	1	12.5	0	00.0		
Higher secondary	0	00.0	4	17.3	2	6.5	3	37.5	2	66.7		
Graduation	0	00.0	0	00.0	4	12.9	3	37.5	0	00.0		
Occupation												
House wife	8	80.0	22	95.7	31	100	6	75.0	2	66.7	2.012	0.325
Employee	1	10.0	1	4.30	0	00.0	2	25.0	0	00.0		
Day labour	1	10.0	0	00.0	0	00.0	0	00.0	0	00.0		
Servant	0	00.0	0	00.0	0	00.0	0	00.0	1	33.3		
Income (TK)												
< 10000	0	00.0	0	00.0	1	3.22	0	00.0	0	00.0	4.799	0.932
10000-20000	5	50.0	22	95.7	28	90.3	1	12.5	2	66.7		
20000-30000	3	30.0	0	00.0	2	6.45	7	87.5	1	33.3		
> 30000	2	20.0	1	4.3	0	0.00	0	00.0	0	00.0		
Expenditure (TK)												
<10000	2	20.0	3	13.1	0	00.0	0	00.0	0	00.0	5.385	0.776
10000-20000	4	40.0	20	86.9	29	93.5	7	87.5	2	66.7		
>20000	4	40.0	0	00.0	2	6.50	1	12.5	1	33.3		

Table 5 indicates the link between cessation of breastfeeding with socio-economic and demographic factors. We found that the delivery process is strongly correlated with the duration of breastfeeding ($p=0.013$).

4. Discussion

This observational study was done evaluate the causes and the factors affecting the duration of breastfeeding practice among 75 respondents. The study also expresses the pattern of the socio-economic and demographic characteristics of the respondents. In this study, majority of the respondents were within 20-30 years old. Among them, 21.3% were illiterate and 36% were secondary educational level and only 14.7% higher secondary and 1.3% graduation level. About 92% women were housewife, 5.3% employee, 1.3% day labor and servant. Their family income level was within 10000-20000 TK per month (77.3%) and expenditure level was within 10000-20000 TK per month (82.7%). In this study, children were within 0-5 years old. Among them 86.7% children were

full term baby and 46.7% children were born by caesarian section. About 58.7% children had birth weight range within 2500-3000 gm. Maximum children were Multiparous (53.3%). We found out, about 37.3% children were fed other food before breastfeeding. About (54.7%) children were exclusively fed breast milk and 24% of them fed more than six months and (1.3%) children didn't get breast milk. the main reasons to feed breast milk below six months was "low breast milk formation" (63%). there were also some reasons which affected the duration: 17% children didn't interest, and 9% child weakness and 7% mother weakness. The study also found out that 59% mother ceased breastfeeding after 1.5-2 years and 4% ceased after six months. There were some reasons to cease breastfeeding before two years like mother's weakness (63%), child doesn't want (27%) and child sickness (4%). As the children could not fully intake breast milk, they were dependent to take formula feeding (94.7%) other than breastfeeding because of child preference (75%), easy to prepare- (13%), influenced by advertising-(5%), and working facility-(4%). Now, it is clear that various causes affected the

duration of breastfeeding among them low production of breast milk is the most responsible cause. They were unable to feed their child for various reasons. Among those low breast milk supply was the prime reason of early cessation of feeding [21]. There was also a link between early cessation of breastfeeding with socio-economic and demographic factors. Our analysis, found various demographic factors: mother age, educational qualification, occupation, family status, delivery process, parity which significantly affected the duration of breastfeeding at various percentages and this study also found some socio-economic factors: family income, expenditure which affected the breastfeeding duration economically. This study shows, the delivery process has the most significant influence on the duration of breastfeeding ($P=0.013$).

5. Conclusion

The study was undertaken to evaluate the factors affecting the duration of breastfeeding. The study revealed that along with many maternal and child causes various socio-economic and demographic factors affect the duration. Here we could found that they were unable to feed breast milk due to different reasons like low breast milk formation, delivery process, parity etc. The study findings strengthen the notion that low breast milk formation was the prime reason affecting the duration of breastfeeding. Breastfeeding especially, exclusive breastfeeding to six months of age has been one of the primary aims of nutrition and public health programs across the world. So, every mother should be careful and concerned about breastfeeding and should breastfeed their child exclusively up to six month without initiation any other foods.

Limitations of the Study

We collect data from the village Santosh where most of them were housewife. So, we can't generalize the factors for those of the working mother. The sample size was too small to conclude a decision to the whole population. Some respondents were not co-operative. We didn't collect dietary pattern of the child's mother to find out the cause of low breast milk formation. We have to believe on the mother's information about feeding practice of their child as well as their knowledge and attitude about breastfeeding.

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Conflict of Interest

The authors declare that they have no competing interests.

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