Exclusive breastfeeding and its associated socio-demographic factors in Rajshahi, Bangladesh

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Abstract

Background: Promotion of proper breastfeeding practices for the first six months of life is the most cost-effective intervention for reducing childhood morbidity and mortality. However, the adherence to breastfeeding recommendations in many developing countries including Bangladesh is not satisfactory. **Objectives:** To find out the breastfeeding status in children up to six months of age and the socio-demographic factors associated with the breastfeeding practices. **Methods:** This was a cross-sectional type of descriptive study conducted at Pediatric Out Patient Department (OPD), Rajshahi Medical College Hospital, Rajshahi, Bangladesh. All the children up to 6 months of age attending with their mothers at Pediatric OPD constituted the study population. Total 354 children were enrolled in this study purposively. Data were collected by a pretested semi structured questionnaire by face to face interview of the attending mothers. Chi-square test was applied to find out the association between the breastfeeding status and the socio-demographic characteristics of the children. **Results:** A total of 354 children, only 63 (17.8%) were breastfed within one hour of their birth, 122 (34.5%) were introduced pre-lacteal feeding, 258 (72.9%) received colostrum and 215 (60.7%) were exclusively breastfed (EBF). Bivariate analysis revealed that young (p=0.0001), day labourer (p=0.0164) and illiterate mothers (p=0.0000) significantly less exclusively breastfed their babies up to 6 month. The babies of illiterate fathers (p=0.0000) and having high monthly family income (p=0.0001) were also less exclusively breastfed. **Conclusion:** Exclusive Breastfeeding practices should be improved by behavioral change communication of the parents special attention on young, day labourer and low educated mothers to keep away from prelacteal foods, initiate the breastfeeding within one hour of newborns birth and maintain EBF up to 6 months avoiding the early weaning reassuring about the sufficiency of their breast milk.

Key words: exclusive breastfeeding, socio-demographic factors, Bangladesh

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Introduction

Exclusive breastfeeding up to 6 month of age is the fundamental component of child nutrition and survival. Exclusive and sustained breastfeeding provides nutritional and immunological support for normal growth and development. Children who are not breastfed appropriately have repeated infections, grow less well and are almost six times more likely to die by the age of one month than children who receive at least some breast milk.[1] Infant mortality in developing countries is reduced by 13% through promoting exclusive breastfeeding.[2] Non exclusive breastfeeding rather than exclusive breastfeeding can increase the risk of dying due to diarrhea and pneumonia among 0-5 months old infants by more than two fold.[3] The World Health Organization (WHO) recommends the practice of exclusive breastfeeding of infants for the first six months of life after birth. Exclusive breastfeeding means that the infant receives only breast milk. No other liquids or solids are given not even water with the exception of oral rehydration solution or drops/syrups of vitamins, minerals or medicines.[4] Non-exclusive breastfeeding means that the child who has received breast milk and in addition also received milk (cow's milk, goat's milk, formula milk) and other foods including water, cereal, rice powder, suji, fruit/ fruit juice, egg, meat/fish, dal, other family foods.[5]

Traditionally Bangladesh is a bteastfeeding country. It is universal.[6] But it is not optimal. Maximum 64% of the Bangladeshi children are exclusively breastfed.[7] There are improper breastfeeding practices like introduction of prelacteal feeds, rejection of

colostrums and delayed initiation of breastfeeding, water intake during early months (within 6 months), early weaning (within 6 months).[7] In Bangladesh, 57% children were breastfed within one hour after birth, 27% of the children received a prelacteal feed and more than 11% of the children rejected colostrums.[8]

Several factors have been identified associated with exclusive breastfeeding: place of residence, infant's age and sex, mother's employment status and education level, knowledge about good breastfeeding practices, monthly family income, socio-economic position, prelacteal feeding, parity, positive attitudes towards exclusive breastfeeding, timely initiation of breastfeeding, infant's birth weight, health system practices, discarding colostrum and community beliefs.[9-12]

Over the last couple of decades, a lot of resources have been invested for implementing different health programs to enhance the optimal breast feeding practices as well as to achieve and sustain universal EBF up to 6 months of age of Bangladesh children. So it is important to see the extent of our achievement now. At the same time in this study, we also intended to identify the associated factors of EBF which will be essential for proper planning and implementation of different programs to achieve the ultimate objective i.e. universal EBF of the study population.

Methods

This study was a cross-sectional descriptive type of study conducted at Pediatric out patient department (OPD), Rajshahi Medical College Hospital. All the children up to 6 months of age attending with their mothers at Pediatric OPD constituted the study population. Total 354 children were enrolled in this study purposively. Very sick children(features of very severe disease), children with orofacial congenital defect or having neurological abnormality that hampers breastfeeding were excluded from the study. Data were collected by a pretested semi structured questionnaire by face to face interview of the attending mothers. The purpose, procedure and time required for the interview was fully explained to the attending mothers before requesting to volunteers and took written consent from them before interview. The questionnaire was designed to record the information on feeding practices of the children and their parents' socio-demographic characteristics.

The statistical analysis was performed using SPSS, version 19. Descriptive analytical techniques involving frequency distribution, computation of percentage etc were done. Chi-square test was applied to find out the association between the breastfeeding status and the socio-demographic characteristics of the children.

Results

A total of 354 children, 215 (60.7%) were exclusively breastfed (EBF) and the rest 139 (39.3%) were non exclusively breastfed (NEBF) (Figure 1). Among 354 studied children, only 17.8% were breastfed within one hour of birth, 55.1% within 24 hours and 27.1% were breastfed after 24 hours of birth. More than thirty four percent (34.5%, 122/354) of the mothers in this study introduced pre-lacteal feeding before initiation of breastfeeding. Honey was the most common (46, 37.7%) as prelacteal feed, other prelacteal feeds were sugar water (35, 28.7%), infant formula (30, 24.6%) and cow's milk(11, 9%). Of the total 354 mothers, 258 (72.9%) mothers gave colostrum to their babies.

Among 139 non exclusively breastfed children, more than 73% mothers started supplementary foods before 12 weeks (Table 1). The causes of early introduction of supplementary foods before 6 months were insufficient milk production (82.8%), working mother (10%) and illness of mother (7.2%). Of the 139 children, 71 (51.0%) children were given infant formula. Cow's milk was given in 20% children (Figure 2).

The highest percentage of the mothers were in 21-30 years old (71.2%), housewives (82.8%), educated up to Secondary school level (40.1%) and urban dwellers (74.3%) . Majority (58.2%) of the mothers had monthly family income Taka 10000 20000. More than 54% of the children's fathers were educated up to higher secondary or above (Table 2).

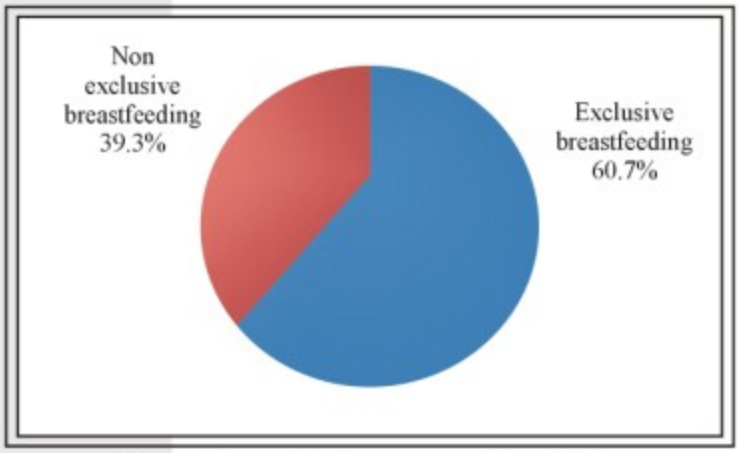

Figure1: Breastfeeding status of the children

A total of 70 teenaged mothers, 28 (40.0%) mothers exclusively breastfeed their babies. The prevalence of exclusive breastfeeding was increased to 64.3% in 21 30 years old mothers and 78.1% among the mothers > 30 years of age. The prevalence of breastfeeding was directly associated with the mothers' age (p=0.0001). Exclusive breastfeeding has a statistically significant association with maternal (P=0.0000) and paternal education level (P=0.0000). Housewife and service holder mothers were more successfully exclusively breastfed their babies than day laborers (p=0,0164). Breastfeeding status of the babies had a significant association (P=0.0001) with their family incomes. Lower income families patronized exclusive breastfeeding more than higher income families. Urban dwellers were practicing breastfeeding more than the rural and urban slum dwellers (P=0.0000) (Table 2).

Table 1: Age of starting supplementary foods before six months among non exclusively breastfed infants (n=139)

Age of starting other foods (in weeks)	Number N	Percentage (%)
0—4	51	36.7
5—8	31	22.30
9—12	20	14.4
13—16	15	10.8
17—20	12	8.6
21—24	10	7.2
Total	139	100

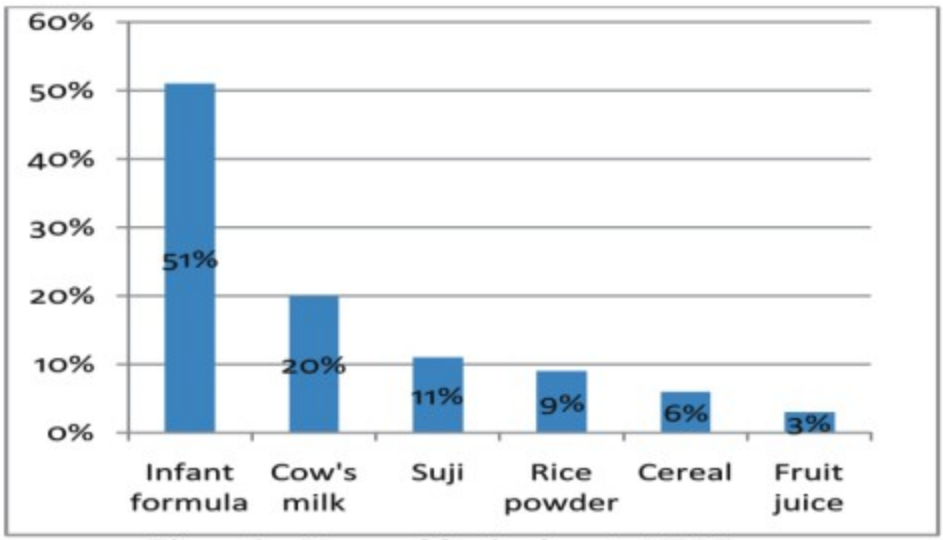

Figure 2. Name of foods given to NEBF (Non exclusively breastfed) infants

Table2 : Exclusive breastfeeding and socio-demographic characteristics

Variable	Breast feeding status		Total	Statictics	
	EBF(n=215)	NEBF(n=139)	N (%)	Chi-square	P-value
	N (%)	N (%)			
Maternal age (Years)					
<20	28 (40.0)	42 (60.0)	70 (19.8)		
21—30	162 (64.3)	90 (35.7)	252 (71.2)	18.01	0.0001
>30	25 (78.1)	7 (21.9)	32 (9.0)		
Maternal occupation					
Housewife	180 (61.4)	113 (38.6)	293 (82.8)	8.21	0.0164
Service holder (Regular salaried job)	31(67.4)	15 (32.6)	46 (13.0)		
Day labourer (Temporary, daily wage)	4 (26.7)	11 (73.3)	15 (4.2)		
Monthly family income(Taka)					
<10000	85 (72.0)	33 (28.0)	118 (33.4)	14.64	0.0001
10000—20000	119 (57.6)	87 (42.4)	206 (58.2)		
>20000	11 (36.7)	19 (63.3)	30 (8.4)		
Maternal education level					
Illiterate	12 (17.1)	58 (82.9)	70 (19.8)		
Primary	34 (37.8)	56 (62.2)	90 (25.4)	133.44	0.0000
Secondary	127 (89.4)	15 (10.6)	142 (40.1)		
Higher secondary & above	42 (80.8)	10 (19.2)	52 (14.7)		
Paternal education level					
Illiterate	12 (21.1)	45 (78.9)	57 (16.1)		
Primary	18 (60.0)	12 (40.0)	30 (8.5)	49.59	0.0000
Secondary	45 (60.0)	30 (40.0)	75 (21.2)		
Higher secondary or above	140 (72.9)	52 (27.1)	192 (54.2)		

Discussion

EBF is the best recommended infant feeding method for the first six months of life and has a protective effect against child morbidity and mortality.[1-4] But like other previous studies[7-9] the present study findings also suggested that it has not yet been universally practiced in Bangladesh. In the early 2000s in Bangladesh, the prevalence of EBF was 43%.[14] In 2011, a remarkable enhancement of it, 64% was reported in BDHS 2011.[7] Unfortunately in 2014, the prevalence of EBF was declined to 55% . However, the present study findings suggested that the downward phase of the prevalence of EBF is turned to upward in the last few years but not achieved up to the previous success in 2011.

BDHS 2014 reported that 57% of Bangladeshi children were breastfed within one hour after birth.[9] Joshi et al.[15] also had a similar observation in Mirzapur in the same year. But in this study, only 17.8% infants started breastfeeding within one hour after their birth. So further study would be needed to investigate of this inconsistency.

In this study 34.5% of the mothers introduced prelacteal feeds before initiation of breast feeding though the unique and ideal first feed for the babies, colostrums was available there. Practically colostrums alone is sufficient to maintain the nutritional demand of the newborns during prelacteal stage of the mothers without any type of prelacteal feeds.[16] At the same time introduction of prelacteal feed often resulted in "insufficient milk syndrome" and leads the newborn to the risk of infection specially diarrhoeal diseases.[17] It was the reflection of their ignorance about the nutritional value of colostrums at the one hand and the ill effect of prelacteal feeds. In this study, honey was the most common (46, 37.7%) as prelacteal feed, other prelacteal feeds were sugar water (35, 28.7%), infant formula (30, 24.6%) and cow's

milk(11, 9%). In a study, Ullah et al. observed that in rural Rajshahi 44% of the mothers introduced prelacteal feed to their babies because the mothers thought that they gave it to their babies since their breast milk was not yet produced, 29.8% of the mothers stated that they just follow others, because it was the tradition to give pre-lacteal feed, more than 10% of the mothers thought that their babies would have a good health due to this pre-lacteal foods.[8] However, mothers should be motivated to accepted the colostrum as the first food for their babies instead of pre-lacteal feeds by explaining the scientific logic and by removing their misbelieves.

Rejection of the colostrum and delayed initiation of breast feeding was a major problem of breastfeeding practices in Bangladesh. In the 80s and 90s it was reported that most of the mothers squeezed and threw away the colostrums first and then initiated breastfeeding. Only a few mothers initiated breastfeeding on the first day of delivery and majority on the third daya.[6] In contrast, in this study, more than 72% of the mothers initiated their breasfeeding within 24 hours and only 27.1% mothers squeezed out their colostrum before initiation of breastfeeding. It indicates that the situation is far improved than the 90s. Some recent studies also suggested this.[18,19]

Exclusive breastfeeding provides satisfactory calorie and nutrient requirements for the activity and growth of infants up to the age of six months,[20,21] yet in this study it was found that a remarkable portion of the mothers introduced supplementary foods to their child before that time. This suggests that either the mothers had no knowledge or trust on breast milk as unique ideal food for the infants up to the age of 6 months, or they were not aware that supplementary food acts as routes for infection. Insufficient breast milk was a most common identified reason for early introduction of supplementary foods to the infants in the study. It corresponds with the findings of other studies.[15,22] The reason for early introduction of supplementary foods by mothers is because they assumed that their milk production is not sufficient, though this assumption was not based on any scientific evidence. This problem of insufficient breast milk is more a psychological issue than a problem of mother's inability to produce enough breast milk.[16] The mother in such situation must be given reassurance that she has enough milk. Mothers should be encouraged and motivated to breast feed their babies. The health workers should discuss this problem with the mothers. The physiology of breastfeeding and its importance, and the risk factor for the infection, should be explained to them so as to convince them to continue exclusive breastfeeding up to 6 months of infant's age. The mothers should also be advised how to increase their milk production and promote child growth and development.

The findings of this study relating maternal age and exclusive breastfeeding agree well with Li et al.[23] Older mother is more often associated with exclusive breastfeeding than younger. Older maternal age may serve as an important predictor for exclusive breastfeeding. It may be that older mothers have more experience about breastfeeding due to their previous children and exposure to supportive environments.[24,25]

Previous studies[26,27] revealed that the rate of exclusively breastfeeding is remarkably higher in housewives than service holders (Regular salaried job) But the present study does not agree with this. The present study suggests that the practice of EBF in service holders (regular salaried job) and housewives are more or less same, but the practice of EBF is significantly lower among the mothers who works on daily wage basis temporary jobs (day labourer) than the former two groups. The possible explanation of this finding might be that in Bangladesh, in the last three decades there are several steps or programms have been taken to create a breastfeeding friendly environment/ workplace for the working mothers like, six month paid maternity leave, the Labour Act 2006

[28]entitles women workers to 16 weeks' maternity leave with pay, establishment of baby care centre as well as breast feeding corner in the working place.[29] These facilities are only available in formal sector which may be enjoyed by the service holders (Women have a regular salaried job). But the day labourers can not enjoy these facilities. However, It needs to further investigation.

We found that prevalence of EBF to be higher among children belonging to poorest wealth quintile than those belonging to richer wealth quintile. It is consistent with the other studies. [30,31] Mothers belonging to richer wealth quintile may have better education level, easier access to media and health services which may have increased their awareness and made them relatively more conscious about EBF.

In this study maternal and paternal education level of the children had a significant influence on the prevalence of EBF up to age of 6 month. This is similar to the finding of Jeeson et al.[32] But it is contrary about the direction of influence, because in Jeeson's study maternal education had a negative influence but in the present study it was just opposite. It is most probably therefore in Jeeson's study it may be due to effect of modernization but in this study it may be due to effect of ignorance of less educated mothers about the ill effects of prelacteal foods, the time of introduction of supplements and role of supplements as routes of disease transmission.

This study have some methodological limitations that must be taken into consideration. First, this was not a community based study, so the results might not reflect the community picture, Second, respondents were selected purposively Third, data were collected retrospectively by recall even more than 5 months.

The results of this study have certain implication for Child health promotion and protection in Bangladesh. The study findings suggest that there are many avenues to improve the breastfeeding status of the study population by motivation of the parents special attention on young, day labourer and less educated parents to avoid prelacteal foods, initiate the breastfeeding within one hour of newborn birth and maintain EBF up to 6 months avoiding the early weaning reassuring them about the sufficiency of the mother milk with some exception.

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