

RESEARCH PAPER

Constraints to Exclusive Breastfeeding among Rural Mothers at Selected Villages of Patuakhali District in Bangladesh

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ABSTRACT

Continuation of only breast milk up to six months of age is called exclusive breastfeeding that ensure maximum benefits to child and mother. In Bangladesh, the rate of exclusive breastfeeding is not satisfactory. This study was done to find out the factors that impede exclusive breastfeeding and determine the nutritional status of two years non-exclusively breastfed child. This cross sectional study was conducted in Angaria union of Dumki upazila of Patuakhali district from July to December, 2017 in which among 157 mother's 63 non-exclusive breastfed mothers were interviewed purposively. Statistical analysis was carried out using ENA and SPSS 16 software. Exclusive breastfeeding was found in 59.87% cases. Among the nonexclusive breastfed child, 19% reported get breast milk up to three months, 36.5% up to four months where only 14.3% mothers were able to feed breast milk to their child up to five months. Main constraints to exclusive breastfeeding were the mothers' belief not enough breast milk production during lactation period to satisfy their babies (57.2%) because of lower intake of food by mother during their pregnancy and lactation period and doctors suggestion on early initiation of formula feeding (38.1%). Workload of mother, lack of nutrition education, less EBF (Exclusive Breastfeeding) benefits campaign, refuse breast milk by child, mother's illness were other significant influential reasons too. Among the nonexclusive breastfed child majority of them were stunts (60.31%) followed by underweight (41.26%) and wasting (14.29%). The study revealed some important factors contributing to low rate of exclusive breastfeeding also with the nutritional risk of nonexclusive breastfed child. Therefore, to improve children as well as mother's health removing of constraints of exclusive breastfeeding by organized program and activities need attention.

Key words: Constraints, exclusive breastfeeding, nutritional status, rural mothers

Introduction

Breastfeeding as a practice was recommended by world health organization (WHO, 2001) for optimal feeding (i.e. exclusive breast feeding for the first 6 months and continued breastfeeding for up to 2 years, with the introduction of other foods). The natural way of getting breast milk from maternal breast by infants is known as breastfeeding (Kong *et al.*, 2004) whereas exclusive breastfeeding means the infant receives only breast milk without any additional food or drink, not even water (WHO, 2001). Breast milk is considered the best source of essential nutrition needed for an infant as well as

breastfeeding is beneficial for both mother and child (Ku and Chow, 2010). A plenty of evidence shows that breastfeeding is associated with low risk of infectious disease in low economic countries and breastfeeding play an important role in interrupting the vicious cycle of malnutrition and infection (Victora *et al.*, 2016; Sankar *et al.*, 2015; Horta *et al.*, 2015). Infectious disease considerably leads to concomitant anabolic and catabolic reaction which helps to stimulate immunity but on the other hand can have negative consequences on the nutritional status due to loss of appetite, consequently lowering the dietary intake. Meanwhile,

macro and micronutrients are diverted for immune responses while the basal metabolic rate including the energy and nutrient requirements are generally increased. Similarly, during gastroenteritis, nutritional deficiencies are aggravated by malabsorption, urinary nitrogen losses and nutrient losses with particularly high risks in severe, persistent or repeated infections. Multiple studies have shown that breastfeeding is the number one preventive intervention to reduce child deaths (Horta *et al.*, 2015; Lonnerdal, 2016; Sankar *et al.*, 2015; WHO, 2000; Scherbaum & Srour, 2016). In a meta-analysis, no evidence has been found that full term exclusively breastfed child suffers from growth deficit during the first six months of age. Recently a study found that there is an association between exclusive breastfeeding and a reduced risk of under nutrition in low and middle income countries and some study revealed that exclusively breastfed child was less likely to develop stunting and/or underweight (Kuchenbecker *et al.*, 2015; Urteaga *et al.*, 2018).

Bangladesh is a developing country and a study conducted on developing country shows that infants who were not breastfed had a six-fold greater risk of dying from infectious diseases within the first two months of life than those who were breastfed (Inayati, 2012). According to UNICEF one out of every three children is exclusively breastfed for the first six months of life in the developing countries. In Bangladesh, the rate of EBF (Exclusive Breast Feeding) is 55.3% (BDHS, 2014). Delayed breastfeeding initiation, colostrum deprivation, supplementary feeding with local traditional food, early introduction of complementary feeding, and faulty weaning from breast milk are commonly found practices in communities around the world (Kumar *et al.*, 2006). Evidence shows that maternal age, income, education, culture, support and guidance from family, friends, community, and healthcare professionals have a significant impact on the starting and maintaining of EBF among postpartum women (Bevan & Brown, 2014; Brand *et al.*, 2011). A current program on exclusive breastfeeding is continued by WHO targeting to increase the exclusive breastfeeding rate up to at least 50% by 2025. Both UNICEF and the Government of Bangladesh also works with WHO for improving the child health and nutrition, in which exclusive breastfeeding has been greatly focused (BDHS, 2007; WHO 2003; National IYCF Strategy, 2007). This study was done through extracting the reasons to pull out the factors those impede exclusive breastfeeding and determine the nutritional status of two years non-exclusively breastfed child.

Methodology

This study was a descriptive cross sectional study. The study was conducted among 157 mothers who had under five years of age children at Angaria union of Dumki upazila of Patuakhali district during the period of July to December 2017. The respondents list was collected from Nutrition and Food Science faculty of Patuakhali Science and Technology University that has developed a

WASH (Water, Sanitation and Hygiene) database and documented demographic data of Angaria Union. Among 157 mothers 63 non-exclusive mothers were interviewed purposively. A semi-structured questionnaire was developed to obtain the relevant information about socio-demographic characteristics of respected mother, breastfeeding, nutritional status of children, mother's knowledge on breastfeeding, and constraints that impede exclusive breastfeeding. The questionnaire was prepared then pre-tested on 20 respondents and no changes were considered necessary in the questionnaire based on this pilot study. The results of the pre-testing were not incorporated in the final analysis of the data. During data collection the purpose of the study was described to every respondents and consent from each mother was acquired.

The socio-demographic characteristics of mother included mothers age, occupation, educational level, number of having children and birth order of respected child. Information about breastfeeding was based on whether the child was breastfed and exclusively breastfed, at what age mother first initiated other food, at what age mother stopped breastfeeding. The ages were categorized from first month to six month of child age and each month was coded 1,2,3,4, and 5 respectively. To know the child nutritional status anthropometric measurement of children was done by taking height, weight and MUAC (Mid Upper Arm Circumference). Factors that impede exclusive breastfeeding were revealed out through open ended question. The views of respondents were then categorized, coded with number and input in the software. Mothers sometimes initiated other food and drinks to her baby by receiving advice generally from her family, neighbor, doctor and sometimes from her own decision. These answer also were coded by number like decision from family, neighbor, doctor, family and neighbor and family and doctor by 1,2,3,4 and 5 respectively. However, Mothers were asked to state how much they knew about EBF. Established true facts about breastfeeding were used to rate maternal knowledge on breastfeeding, personal factor and awareness path to improve the exclusive breastfeeding. Mothers were asked to respond to establish true facts testing knowledge as strongly agree, agree or disagree.

Data analysis was carried out using Statistical Package for Social Science (SPSS) version 16. To compute nutritional status indices, that is, weight for age (underweight), an overall indicator of a population's nutritional status, height for age (stunting) measure of linear growth and weight for height (wasting) an indicator of current nutritional status was done by using ENA software (Emergency Nutrition Assessment). The software transformed these data into Z-scores so that the prevalence of nutritional conditions such as underweight, wasting and stunting could be calculated. Children were classified as malnourished if their Z-scores were below -2 to -3 standard deviation (SD) of the reference population based on the WHO Child Growth Standards (WHO, 2006). Children with Z-score

below <-2 SD to ≥ -3 are considered moderately malnourished and severely malnourished if Z score goes down below -3 SD. A child below -2 SD from the median of the reference population in terms of weight for height is considered too thin for height (wasted), a condition reflecting acute / recent nutritional deficit. Below -3 SD is severe wasting which is closely linked to mortality risk.

Results

Among 157 mothers, 63 mothers were found who didn't breastfeed their child exclusively. Thus exclusively breastfeeding mothers were 94 (59.87%). Here the following results represent the details who weren't

breastfed exclusively. Table 1 represents that from 63 of them, 4.8% of the mothers were found illiterate, 33.3% mother received primary education, 36.5% received secondary education, 19.0% received higher secondary education and the rest 6.3% mother had higher education. About 88.9% of the respondents were found as housewives, only 6.3% were engaged in government job and the rest were found as student. The study found only one mother from our whole respondent who didn't know about EBF. About 22.2% child were introduced to food or drinks at their first month, 7.9% at second month, 19.0% at third month, 36.5% mother at fourth month and 14.3% mother at fifth month of their life.

Table 1: Descriptive analysis of mother socio-demographic characteristics

Criteria	Frequency (n=63)	Percentage (%)
Education of mother		
Illiterate	3	4.8
Primary Education	21	33.3
Secondary Education	23	36.5
Higher Secondary Education	12	19.0
Higher Education	4	6.3
Occupation of mother		
Housewife	56	88.9
Govt. job	4	6.3
Student	3	4.8
Age of introduction of other foods/drinks		
First month	14	22.2
Second month	5	7.9
Third month	12	19.0
Fourth month	23	36.5
Fifth month	9	14.3

Table 2: Nutritional status of the subjected children

	Wasting				Weight -for -age z-scores		Height-for-age z-scores	
	Weight-for-height z-scores		MUAC cut off's		Moderate underweight (MU)	Severe underweight (SU)	Moderate stunting (MS)	Severe stunting (SS)
	Moderate malnutrition (MAM)	Severe malnutrition (SAM)	Moderate malnutrition (MAM)	Severe malnutrition (SAM)				
Boys (n=34)	1(2.9%)	1(2.9%)	1 (2.9 %)	0 (0.0%)	9 (26.5 %)	1 (2.9 %)	8 (23.5 %)	12 (35.3 %)
Girls (n=29)	6 (20.7 %)	1 (3.4%)	2 (6.9 %)	0 (0.0%)	11 (37.9 %)	5 (17.2%)	11 (37.9 %)	7 (24.1 %)
Total (n=63)	7 (11.1 %)	2 (3.2 %)	3(4.76 %)	0 (0.0%)	20 (31.75 %)	6 (9.52 %)	19 (30.16 %)	19 (30.16 %)

Note: MAM=(<-2 z-score to ≥-3 z-score) and (< 125 mm and ≥115 mm), SAM=(<-3z-score) and (< 115 mm), MU=(<-2 z-score and ≥-3 z-score), SU=(<-3 z-score), MS=(<-2 z-score and ≥-3 z-score), SS=(<-3 z-score)

The study revealed that among nonexclusive breastfed child, 11.1% were suffering moderate malnutrition and 3.2% were severely malnourished on the basis of weight-for-height z-score. Based on MUAC (Mid Upper Arm Circumference) score, about 4.76% were suffering moderate malnutrition. On the basis of weight-for-age z-scores, about 31.75% children were found as moderately underweight and 9.52% were severely underweight. According to height-for-age z-scores, about 30.16% were suffering moderate stunting while 30.16% were severely stunted (Table 2).

Table 3 illustrates the constraints that acted behind to prevent EBF practice. A misconception like breast milk isn't sufficient, was the major reason the respondents claimed (30.2%) that lead them introducing formula feeding while they were supposed to give breast milk only.

About 27% of the respondents' had found who didn't take enough food during their pregnancy and early lactation period that may be the reason of producing less milk, 17.5% mother were suffering illness during lactation period that made them apathetic to give breast milk to their child, 7.9% mother thought that intake of medicine especially antibiotics during lactation period clog breast milk production, 9.5% mother agreed that they didn't give enough time to their child as they were being unsupported by their husband or family, whereas 3.17% children grew up by another caretaker because of mothers occupation and 3.2% children refused breast milk. About 38% mother stated that they introduced formula feedings based on doctor recommendation and 49.2% mother followed family decision to give formula feed to their child.

Table 3: Factors that impede exclusive breastfeeding practice

Criteria	Frequency (n=63)	Percentage (%)
Factors that impede exclusive breastfeeding practice		
Breast milk was not enough	19	30.2
Less diet during pregnancy and lactation period	17	27.0
Mother or child illness	11	17.5
Medicine clog breast milk production	5	7.9
Mother paid less time to childcare	6	9.5
Child refuse breast milk	2	3.2
All factor	3	4.8
Decision from different categories of people		
Own family decision	31	49.2
Neighbor decision	1	1.6
Doctors decision	24	38.1
Own plus doctor decision	4	6.3
Own plus neighbor decision	3	4.8

Table 4: Knowledge level and awareness path of Respondents

Opinion	Strongly agree	Agree	Disagree
The knowledge level of mother on breastfeeding			
Colostrum is only what a baby needs for the first few days	41(65.1%)	20(31.8%)	2(3.1%)
Breast milk is sufficient for six months of age of a child	23(36.5%)	39(61.9%)	1(1.6%)
Breastfed baby are healthier	27(42.9%)	36(57.1%)	0(0.0%)
Artificially fed baby are healthier	15(23.8%)	24(38.1%)	24(38.1%)
Exclusive breastfeeding makes baby refuse to eat other food.	19(30.2%)	27(42.9%)	17(26.9%)
Ways that could aware mother about exclusive breastfeeding practice			
Inspiration and support in exclusive breastfeeding is important.	59(93.7%)	4(6.3%)	0(0.0%)
Family, relatives & friend's encouragement is important for exclusive breastfeeding.	39(61.9%)	24(38.1%)	0(0.0%)
Health message on exclusive breastfeeding during antenatal and postnatal clinic should be available	9(14.21%)	21(33.3%)	33(52.4%)
The society should value exclusive breastfeeding	5 (7.9%)	43(68.2%)	15(23.8%)

The study found that about 65.08% of the respondents' strongly agreed with the benefits colostrums as babies first and only needs and the rests response were likely that they disagree with it. Only 36.51% mother strongly agreed that exclusive breastfeeding for the first 6 months of life is enough to fulfill their needs, 61.91% mother had confusion about it and only one among them disagreed. About 42.86% mother strongly agreed that breastfed infants are healthier than artificially fed infants and 23.81% mother had the opposite opinion. About 30.16% mothers strongly agreed that exclusive breastfeeding makes baby refuse to eat other food after six months. A major percentage of mother gave their consent that awareness, inspiration and support from family, friends and relatives on exclusive breastfeeding and health messages during antenatal and postnatal care from health care may raise this practice to its desired percentage (Table - 4).

Discussion

Association of exclusive breastfeeding in different age between national (Bangladesh) and study area

Figure 1 revealed that in Bangladesh, the exclusive

breastfeeding rate is 55.3% whereas we found 59.87% in our study area. Mother tends to breastfed their child exclusively for the first few months. In Bangladesh, the prevalence of exclusive breastfeeding in <1 month was 80.3%, 61.8% for 2-3 months and 31.7 % for 4-5 months. But this study found exclusive breastfeeding as 77.8% for <1 month, 73.02% for 2-3 months and 49.21% for 4-5 months.

Nutritional Status of non-exclusively breastfed child Wasting

According to UNICEF (2016) published report the wasting rate among under-5 children was 14.3% (3.1% severely wasting). According to BDHS report (2014), about 14% children were wasting (3% severely wasting). The total prevalence of wasting was 14.29% (3.2% severely wasting) on the basis of weight-for-height z-scores and based on MUAC, 4.76% children were moderately malnourished.

Underweight

UNICEF (2016) reported that 32.6% under five children were underweight. The BDHS (2014) report showed that 33% of under-5 children were underweight (8% severely underweight). This study found 41.26% children as underweight (9.52% severely underweight).

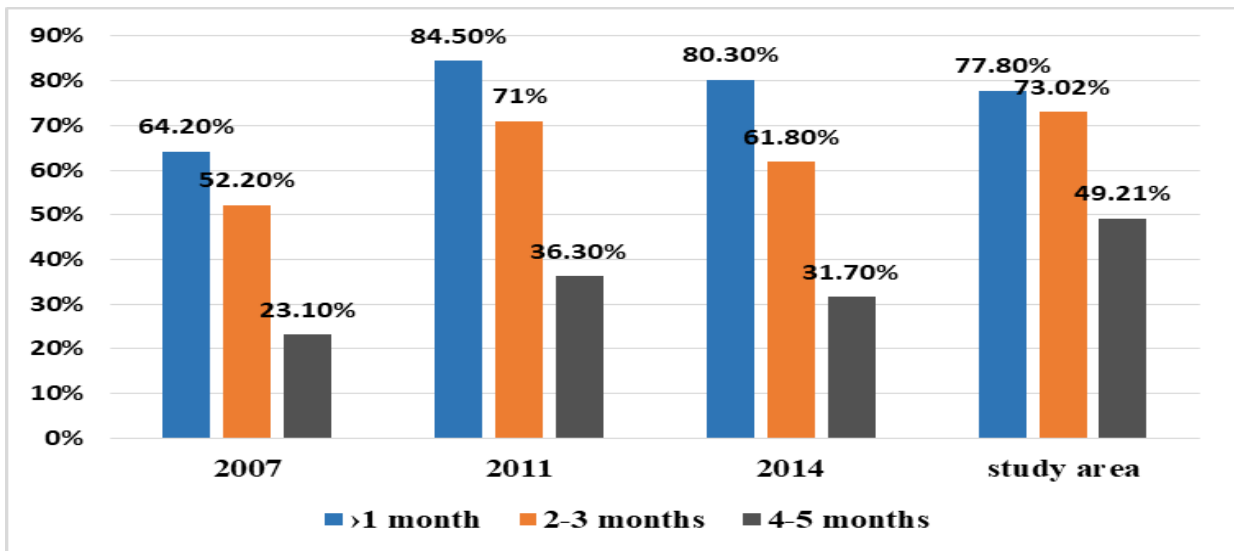


Figure 1: Comparison of exclusive breastfeeding at different age
Source= BDHS (2014)

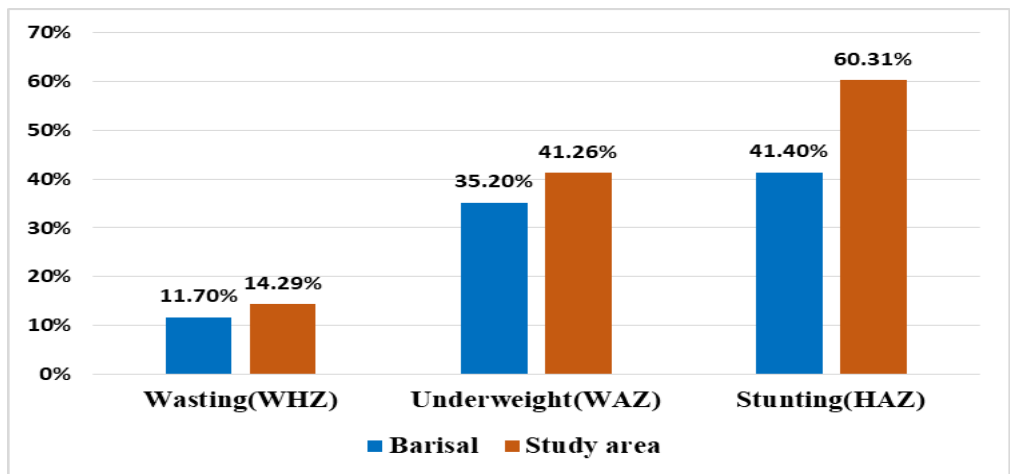


Figure 2: Prevalence of malnutrition
Source= MICS (2013)

Stunting

The stunting prevalence of under-5 children were 36.1% (UNICEF, 2016) and according to BDHS report 2014, about 36% of under-5 were stunting (12% severely stunting). This study found the total prevalence of stunting 60.31% (30.16% severely stunting).

Association of prevalence of malnutrition between Barisal division and study area

According to MICS (2013) report, the prevalence of malnutrition of Barisal division was 11.7% wasting, 35.2% underweight and 41.4% wasting. In the study area, the prevalence of under-5 children malnutrition was: 14.29% wasting, 41.26% underweight and 60.31% stunting.

Factors that impede exclusive breastfeeding practice

One of the factors that reduce exclusive breastfeeding practice mostly was the belief (57.2%) of mother producing less breast milk lower than requirement for a baby’s need because of lower intake of food during their pregnancy and lactation period. About 88.9% of the mothers were housewife and they had to work with their husband at field or another household work that allowed limited time

to care baby. So, workload could be another important reason. Mother who worked far away from home sometimes kept their child to their relatives as a caretaker. In such cases these children didn’t get enough care. Mother being employed had a threefold risk of discontinuing EBF early compared to mothers not employed and could be due to the discrepancy in maternity leave benefit in different work settings (Ratnayake and Rowel, 2018). About 4.8% mothers were students and early married. Ebrahim (1991) found that it was difficult for a mother to care her child if the mother was so young. In the study area, there were 33.3% mother who couldn’t overcome the primary education level. A study done in India showed that about 68% of the literate mother exclusively breastfed compared to 45% of the illiterate mothers who exclusively breastfed (Ashwin et al., 2007). Another study in Nigeria showed higher education of the mother being associated with higher EBF rates 81% (Ojofeitim et al., 2000). Only a few percentages of mothers (3.2%)

claimed that child refuse breast milk and they decided to feed infant with formula feed. It could be because of their inadequate knowledge on breastfeeding posturing. When they felt that baby isn't receiving enough milk they took advice from their family members, relatives and doctors. About 38.1% mother were advised from doctor to feed their child with formula feed beside breastfeeding. Few mothers said that their mother and mother-in-law insisted on giving water, fruit juice, and coriander water to the baby which they can't resist. This study found that about 52.39% mothers were not concerned by the health worker about exclusive breastfeeding as they argued that health provider were not available all the time. Message on exclusive breastfeeding by health worker play a significant role on mother decision to continue EBF till first six months. In a study in Saudi Arabia it was found that those mothers who did not receive education on breast feeding during their antenatal visits were 1.0–2.1 times at higher risk to stop exclusive breast feeding and initiate bottle feed within 6 months of birth (Raheel and Tharkar, 2018).

Conclusion

Less breast milk production, being employee, lack of nutrition education, less EBF benefits campaign, doctor's suggestion on early initiation of formula feeding have been found as impeding factors to EBF practice. The necessity of health service provider and their activities has gained attraction. During pregnancy period mother needs assiduous attention with modest food and nursing to keep her peppy as well as for her baby too. Government should also take special measure to increase health service structure to reach potential message about EBF to mother, Family, community and society.

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