

# EXCLUSIVE BREAST FEEDING PRACTICE AND NUTRITIONAL STATUS OF MOTHERS ATTENDING IN A TERTIARY HOSPITAL: A CROSS-SECTIONAL STUDY

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## ABSTRACT

*To assess the nutritional status of mothers and to find out their exclusive breastfeeding practices a cross-sectional study was conducted on 226 lactating mothers recruited by purposive sampling. Data were collected by face-to-face interview. The mean ( $\pm$  SD) age of the respondents was 26.12  $\pm$  4.40 years with more than one-third (35.6%) belonging to age group of 21 to 25 years and with primary level education, while the majority (94.1%) were housewives. The average monthly family income was 21822.03  $\pm$  7525.56 BDT, the maximum (71.2%) earned 15000 to 30000 BDT. While 83.1% of the respondents were living in single family, about half (58.1%) in an urban area. The mean body mass index (BMI) was 23.85  $\pm$  3.87 with a range of 38.09 and 17.5. According to BMI the maximum (78.4%) were normally nourished while a considerable number (20.3%) were overweight, only 1.3% were underweight. The duration of exclusive breastfeeding (six to twelve months) was reported by 65.3%. There was no relation between BMI of the mother and the exclusive breastfeeding.*

**Keywords:** Exclusive breastfeeding practice, nutritional status, BMI, Bangladesh

## INTRODUCTION

Exclusive breastfeeding (EBF) is a globally recommended way of feeding and caring for young infants (0-6 months). Its benefits to both infants and mothers have been established (Briend et al., 1988). Exclusive breastfeeding

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(EBF) is the best nutrition for children during the first six months of life. However, EBF remains a challenge. Breast feeding is universally practiced in Bangladesh. However, the recommended practice of exclusive breastfeeding for 6 months is not followed optimally (BDS, 2009). The trend of the EBF, as evidenced through Bangladesh demographic and health survey shows more or less static figure through 1995 to 2009 and it was 46%, 42% and 43%, respectively (BDHS, 1995, BDHS, 2005, BDHS., 2009) and there has been marked improvement to 64% in 2011 (BDHS, 2011).

The global picture of breastfeeding practice shows that exclusive breastfeeding rates are low, at about 25% in Africa, 45% in Asia and 31% in Latin America and the Caribbean (Lauer et al., 2004). The prevalence of continued breastfeeding is about 86% of infants 6-11 months of age in the developing world and children 12-23 months of age, it is about 37% in Latin America, in the Caribbean 70% and 72% in Africa and Asia (Lauer et al., 2004). National survey shows the mean duration of EBF was 3.3 month, and the median duration of total breastfeeding 32.8 months (BDHS, 2009). In comparison to other South Asian countries like India, Pakistan and Sri Lanka, where average durations of breastfeeding were 18.4, 21.8 and 23.2 months respectively, breastfeeding duration is relatively higher in Bangladesh (Rajaratnam, 1994, Page et al., 1992 and Mahler, 1996).

The nutritional and health status of mothers is of great concern in the contemporary world. Because the multiple roles played by mothers (childbearing, lactating, serving, and feeding others) give rise to serious health and nutritional problems (Bhutta et al., 2013). The situation is even worse in countries where societal norms and sex discrimination have forcefully subjected mothers to satisfy the health and nutritional needs of their families at their own expense (Ene-Obong et al., 2011). Mothers are vulnerable to malnutrition for social and biological reasons (McGuire et al., 2010).

During the childbearing age of mothers and thereafter post-partum, good nutrition is important for increasing demands at this period (Janaina, et al., 2012; Lammi-Keefe et al., 2008). New evidence reinforces the importance of the maternal nutritional status, both for the health of the mother and for ensuring healthy fetal growth and development. Rasmussen and McGuire (1996) reported that location, however, many have a different effect on maternal nutritional status depending on its duration and intensity, while its economic development. Winkvist et al., (1992) suggested that the biological effect of breastfeeding on the nutritional status of the mother needs to be evaluated in the context of the whole reproductive cycle, this is because some portions of the reproductive cycle would deplete the mother, and some periods allow the mother to recuperate. Thus, breastfeeding is commonly thought of as a time of depletion, but this is probably true only of the period of exclusive breastfeeding (Rasmussen and McGuire, 1996).

Therefore, the aim of this study was to assess the nutritional status of exclusively breastfeeding mothers and to find out their exclusive breastfeeding practices.

## **MATERIALS AND METHODS**

This cross-sectional study was carried out in the outdoor department of Institute of Child and Maternal Health (ICMH) which is located in the south zone of Dhaka city. A total of 236 mothers having at least 12 months old children and who gave consent were eligible for the study. The subjects were selected from purposive sampling technique.

Data were collected by face-to-face interview followed by measurements of weight and height of the respondents (WHO, 1995). The interview was taken at the hospital of the participants, ensuring the privacy and confidentiality. Before the interview, detail of the study was explained to each respondent and informed consent was taken. Interviews were carried out in the morning between 9 am to 2 pm, each interview requiring around 25- 30 minutes.

## **RESULTS and DISCUSSION**

The demographic and socioeconomic characteristics of the mothers are presented in Table 1. The mean age of the mothers was  $26.1 \pm 4.4$  years with a range of 18 to 36 years with 35.6% belonging to the age range of 21-25 years, 10.2% were < 20 years and 54.2% was above 25 years. The educational attainment of the subjects showed that 41.1% had primary school education, 34.3% secondary education, 13.2% higher secondary education and 2.5% of the subjects did not have formal education. Most of the mothers (94.1%) while the highest (83.1 %) of the respondents was from single family. About two-thirds of the participants were living in pacca house and the maximum (58.1%) were from the urban area. The maximum (71.2%) of the respondent's monthly income was between 15000 to 30000 BOT with an average monthly income of  $21822.0 \pm 7525.6$  BOT where the urban family income ( $23273.7 \pm 7681.1$ ) was higher than rural mother's income ( $19813.1 \pm 6848.8$ ).

**Table 1: Socio-demographic characteristics of mothers distributed by residence**

Social-demographic variables	Residence					
	Rural (n=99)		Urban (n=137)		Total (n=236)	
	n	%	n	%	n	%
<b>Age Group</b>						
≤ 20 years	22	91.7	2	8.3	24	10.2
21 to 25 years	30	35.7	54	64.3	84	35.6
> 25 years	47	36.1	81	63.4	128	54.2
<b>Mean age(±SD)</b>	24.5 ± 4.1		27.3 ± 4.2		26.1 ± 4.4	
<b>Educational Status</b>						
Illiterate	6	100	0	0	6	2.5
Primary (I-V)	37	38.1	60	61.9	97	41.1
Secondary ((VI-X)	38	46.9	43	53.1	81	34.3
Higher Secondary (XI-XII)	16	51.6	15	48.4	31	13.2
Graduation	2	9.5	19	90.5	21	8.9
<b>Employment Status</b>						
Housewives	99	44.6	123	55.4	222	94.1
Service Holder	0	0	14	100	14	5.9
<b>Family Type</b>						
Single	80	40.8	116	59.2	196	83.1
Joint	19	47.5	21	15.3	40	16.9
<b>Housing Type</b>						
Pacca	34	22.8	115	77.2	149	63.1
Semi-pacca	64	74.4	22	25.6	86	36.4
Katcha	1	100	0	0	1	0.5
<b>Monthly family income (In Taka)</b>						
< 15000	24	43.6	31	56.4	55	23.3
15000 to 30000	75	44.6	93	55.4	168	71.2
> 30000	0	0	13	100	13	5.5
<b>Mean Income (±SD)</b>	19813.1 ±6848.8		23273.7 ±7681.81		21822 ±7525.6	

Among the total respondents, 65.3% practiced exclusively breastfeeding and 79.2% practiced colostrum's feeding (Table 2). Yet, the practice of colostrum feeding was the highest (69.5%) in the urban area. About 47% of the respondents practiced about the exact duration (0-6 months) of exclusive breastfeeding of whom 57.3% were from the urban area. About 35% did not practice exact duration of exclusive breastfeeding while 18.6% of the respondents practiced more than 6 months.

**Table 2: Exclusive breastfeeding practice of mothers stratified by residence**

Characteristics	Residence					
	Rural (n=99)		Urban (n=137)		Total (n=236)	
	n	%	n	%	n	%
<b>Exclusive breastfeeding practice</b>						
Yes	65	42.2	89	57.8	154	65.3
No	34	41.5	48	58.5	82	34.7
<b>Practice about colostrum's feeding</b>						
Yes	57	30.5	130	69.5	187	79.2
No	42	85.7	7	14.3	49	20.8
<b>Practice about duration of Exclusive breastfeeding</b>						
Below 6 months	34	41.5	48	58.5	82	34.7
Up to 6 months	47	42.7	63	57.3	110	46.6
Above 6 months	18	40.9	26	59.1	44	18.6

Among 236 respondents, maximum (78.4%) respondents were normally nourished as reflected by Body Mass Index (BMI) category with about two-thirds (64.3%) urban habitat (Table 3). The overall prevalence of overweight was 20.3% where rural mothers accounted for 62.5%. The overall prevalence of underweight was 1.3% where all the respondents were rural mothers. The mean BMI was  $23.8 \pm 3.9$  with a range of 38.1 to 17.6.

**Table 3: Nutritional Status of mothers scattered by residence**

Nutritional Status	Residence					
	Rural (n=99)		Urban (n=137)		Total (n=236)	
	n	%	n	%	n	%
Underweight	3	100	0	0	3	1.3
Normal	66	35.7	119	64.3	185	78.4
Overweight	30	62.5	18	37.5	48	20.3
<b>Mean age(<math>\pm</math>SD)</b>	$24.5 \pm 3.5$		$23.4 \pm 4.1$		$23.8 \pm 3.$	

In the case of normally nourished mothers, the highest (82.9%) did not practice exclusive breastfeeding rather (76.0%) mothers practiced exclusive breastfeeding (Table 4). Slightly more overweight mothers (22.1%) were among exclusive breastfeeding group the Chi-square test revealed no significant ( $\chi^2 = 2.060$ ,  $P$  value = 0.345) association between the nutritional status of mother and practice of exclusive breastfeeding.

The highest percentages (82.9%) of normal mothers were in the duration of 6 months while overweight mothers were the highest (24.5%) among exclusive breastfeeding and the lowest (15.9%) among mothers (Table 4). There was no significant association between the nutritional status of mother and duration of EBF practice.

**Table 4: Association between nutritional status and period of practicing exclusive breast feeding**

Period of EBF practice	Nutritional Status						Total	P
	Underweight (n=3)		Normal (n=185)		Overweight (n=48)			
	n	%	n	%	n	%		
Below 6 months	0	0	68	82.9	14	17.1	82	
Up to 6 months	2	1.8	81	73.6	27	24.5	110	0.364
Above 6 months	1	2.3	36	81.8	7	15.9	44	

$$\chi^2 = 4.098, P \text{ value} = 0.364$$

The proportion of women who initiated colostrum early is higher in the present study than in other studies (Mullany et al., 2008; Hailelassie et al., 2013 and MOHP, 2011). These dissimilarities may be due to the different socio-economic background and cultural preferences of the study respondents. Furthermore, the duration of EBF practice (46.6%) in this study is relatively higher than the level (38.3%) reported by Malireddy et al., 2012 among mother of infants (0-24 weeks) and the 17.2% reported by the Hailelassie et al., 2013 in Ethiopia.

Malnutrition is a common problem in Bangladesh. The survey shows 59% of women (15-49 year) have a normal BMI, 30% had <18.5, and 12% have BMI 25 or above (BDHS, 2009). A previous study showed 34% of women had BMI<18.5 (BDHS, 2005). The relationship between nutritional status and practice of exclusive breastfeeding were not statistically significant. These finding are consistent with Hailelassie et al., 2013; Ogechi, 2014 and Ene-Obong et al., 2001. These similarities may be due to the same socio-economic background and social preferences of the study participants.

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