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Original Research Article

"Pattern in Infant and Young Child Feeding Attending in the Outpatient Department in Primary Care Hospital, Dhaka, Bangladesh"

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Abstract: ***Background:*** Breastfeeding along with appropriate complementary feeding has now been well recognised as one of the most effective interventions for child survival particularly to address morbidity and mortality related to three major problems. Over two thirds of these deaths are often associated with inappropriate feeding practices and occur during the first 2 years of life. ***Objective:*** To assess the Pattern in Infant and Young Child Feeding Attending in the Outpatient Department In tertiary care hospital, Dhaka, Bangladesh. ***Methods:*** This is a cross sectional study conducted at the outpatient department of Upazilla health complex, Gazaria, Munshiganj, Bangladesh from January 2018- December 2019. Total 328 infants with their mother attending Pediatric outpatient department were included in the study. Investigator herself interviewed the mother using a structured questionnaire. All responses were recorded by 24 hours recall method except for initiation of breast feeding and exclusive breast feeding in children 6 to 24 months of age which were elicited by historic recall. ***Results:*** A total of 328 infants (0 to 24 months) were included in this study who visited in Upazilla health complex, Gazaria, Munshiganj, Bangladesh during the study period. Demographic profiles of the infants showed Mean age of children in month was 6.85±6.15 months. Among the study children 58.23% were below 6 months of age and 41.77% were of 6 to 24 months age group. 54.57% were male and 45.43% were female. Among the mothers 79.26% were housewives and 20.74% were students or professionals. Mean age of mothers was 29.68 ±5.1 year. 42.9% mothers were diabetic. At the time of interview 59.82 % mothers had single child. 92% were delivered by caesarian section. Breastfeeding was initiated with in 1 hour of birth in 68.60% of the study children (0-23 months). Exclusive breastfeeding was found in 66.67% children under 6 months of age. At the time of interview 79.31% of children of 12 to 15 months age were continuing breastfeeding. Complimentary feeding was introduced after completion of 6 months of age in 83.72% children. Introduction of complimentary feeding before 6 months was found in 9.9% and 6.3% children were introduced solid or semisolid food at 8 months or more. ***Conclusion*:** Exclusive breast feeding was more than national data, no mother delayed in starting complementary feeding but still there is significant mild growth retardation. So the finding of the present study demonstrates that appropriate feeding practices should be developed and practiced for better health and to achieve the IYCF goal.

Keywords: Breast Feeding, Infants, Nutritional Status, Mild Growth Deficiency, Supplementary Food.

INTRODUCTION

Globally, more than a third of child deaths and above 10% of the disease burden are attributable to maternal and child under nutrition [1]. Additionally, early under nutrition has long lasting effects on physical as well as cognitive growth of the child [1, 2]. Early and Exclusive breastfeeding (EBF) along with appropriate complementary feeding has now been well recognised as one of the most effective interventions for child survival particularly to address morbidity and mortality related to three major problems i.e. neonatal infections, diarrhoea and pneumonia [3]. It has nutritional, economical, behavioural, psychosocial and immunological benefits [4]. While breastfeeding provides optimal nutrition to an infant, improvements in

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complementary feeding substantially reduces stunting and related burden of disease [3]. According to the WHO's 2002 Global Strategy for Infant and Young Child Feeding, Malnutrition has been responsible, directly or indirectly, for 60 per cent of the 10.9 million deaths annually among children under five. Over two thirds of these deaths are often associated with inappropriate feeding practices and occur during the first 2 years of life [5]. Poor feeding and repeated infections resulted in 30% of stunted under five children worldwide [6]. Suboptimal breastfeeding still accounts for death of 1.4 million deaths of children under five deaths and 10% of the diseases burden in children younger than 5 years [7]. Unfortunately, exclusive breastfeeding for the first six months has not shown any rise over the past two decades since India began measuring them. Only 25 % of new-borns were put to the breast within one hour of birth. Less than half of children (46%) under six months of age are exclusively breastfed. Only 20 % children age 6-23 months are fed appropriately according to all three recommended practices for infant and young child feeding (IYCF) [3]. Infant and young child feeding practice is suboptimal throughout the world [8], especially the late initiation of breastfeeding, prelacteal feeding, early or late introduction of optimal complementary foods, giving poor quality, quantity and unhygienic complementary food, and using a bottle to fed the child are the common practices in developing countries [9]. Furthermore, the optimal feeding practice is low in Amhara region where 38% of neonates start breastfeeding within one hour of birth and one in three (34%) children are fed the minimum meal frequency per day [2]. Only, 2.1% of children received the minimum dietary diversity and minimum acceptable diet. Feeding practice is poor especially in slum areas as they are densely populated informal settlements with substandard housing conditions, poor environmental hygiene and more likely to be uneducated or less educated people [10].

MATERIALS AND METHODS

This is a cross sectional study conducted at the outpatient department of Upazilla health complex, Gazaria, Munshiganj, Bangladesh from January 2018-December 2019. Total 328 infants with their mother attending Pediatric outpatient department were included in the study. Investigator herself interviewed the mother using a structured questionnaire. All responses were recorded by 24 hours recall method except for initiation of breast feeding and exclusive breast feeding in children 6 to 23 months of age which were elicited by historic recall. Questions regarding feeding practices were adopted from WHO questionnaires for IYCF and the indicators were considered as per guidelines. Inclusion criteria a) Children up to one year of age. Exclusion criteria a) Very sick children (features of very severe disease) b) Mother unwilling to participate in the study.

DATA ANALYSIS

After editing and coding, the coded data was directly entered into the computer by using SPSS software release for Windows, version 16.0 (SPSS, Inc. Chicago. III). Data cleaning validation and analysis was performed using the SPSS software. Categorical data was presented as frequency, percentage and continuous variable was expressed as mean ± SD (standard deviation).

RESULTS

A total of 328 infants (0 to 24 months) were included in this study who visited in Upazilla health complex, Gazaria, Munshiganj, Bangladesh during the study period. Demographic profiles of the infants showed Mean age of children in month was 6.85±6.15 months. Among the study children 58.23% were below 6 months of age and 41.77% were of 6 to 24 months age group. 54.57% were male and 45.43% were female (fig-1). Among the mothers 79.26% were housewives and 20.74% were students or professionals (Table-1). Mean age of mothers was 29.68 ±5.1 year. 42.9% mothers were diabetic. At the time of interview 59.82 % mothers had single child. 92% were delivered by caesarian section.

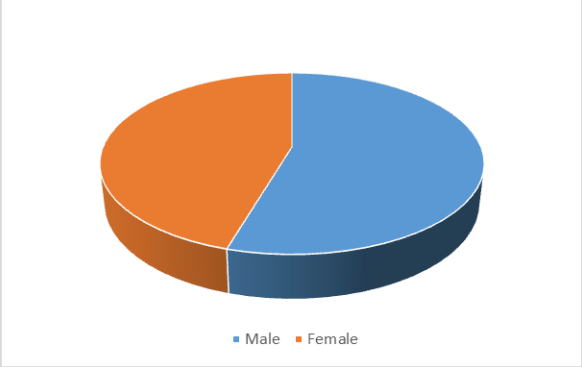

Fig-1: Sex Distribution of study children.

Table-1: Socio-demographic pattern of study children (n=328)

Indicators	No	%
Age of child		
0-6 months	191	58.23
6-24 months	137	41.77
Mothers education		
Secondary incomplete	12	3.01
Secondary complete	213	64.95
Higher	103	31.4
Mothers occupation		
Housewives	260	79.26
Working and students	68	20.74
Fathers education		
Secondary incomplete	0	0
Secondary complete	38	11.59
Higher	290	88.41

Breastfeeding was initiated with in 1 hour of birth in 68.60% of the study children (0-24 months).

Exclusive breastfeeding was found in 66.67% children under 6 months of age (Table-II). At the time of interview 79.31% of children of 12 to 15 months age were continuing breastfeeding (Table-II). Minimum dietary diversity (MDD) and Minimum meal frequency (MMF) were found adequate in 61.24% and 57.36% children of 0-24 months. Only 39.53% children were fed with Minimum acceptable diet (MAD). 62.79% children got iron rich food or iron supplementation and 58.8% of them were fed iron from animal source (Table-II). 27.9% infants below 6 months were getting plain water, fruit juice, formula other milk or complimentary food along with breast feeding and 5.3% were fed with formula alone (Fig-2).

Table-II: IYCF status among study children (N=328)

Indicators	status	N	%
Early initiation of breastfeeding	Within 1 hour	225	68.60
Among 0-24 months(n-328)	After 1 hour	103	31.40
Exclusive breastfeeding	Yes	124	66.67
among 0-6 months (n-186)	No	62	33.33
Continued breastfeeding	Yes	46	79.31
Among 12-15 months(n-58)	No	12	20.69
Minimum dietary diversity	Adequate	79	61.24
Among 6-24 months (n-129)	Inadequate	50	38.76
Minimum meal frequency	Adequate	74	57.36
Among 6-24 months (n-129)	Inadequate	55	42.64
Minimum acceptable diet	Adequate	51	39.53
Among 6-24 months(n-129)	Inadequate	78	60.47
Consumption of iron rich	Yes	81	62.79
Among 6-24 months(n-129)	No	48	37.21

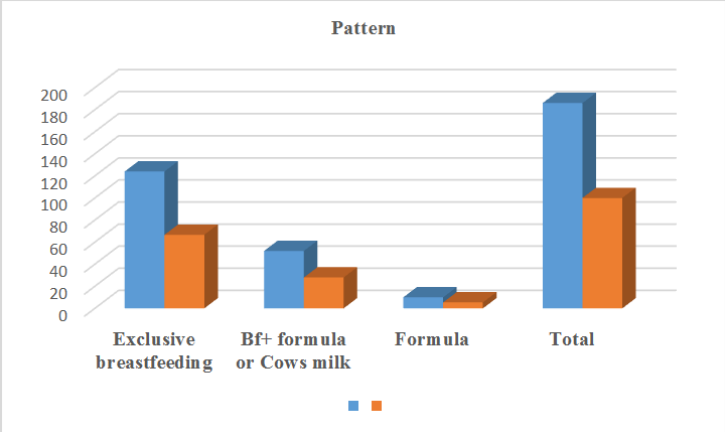

Fig-2: Feeding pattern in 0-6 months old infants (n-186)

Table-III: Rate of exclusive breastfeeding according to age (0- 6 months n-186)

Age(month)	Status	No	%
0-<2	Yes	84	70.59
	No	35	29.41
1-<4	Yes	21	65.6
	No	11	34.4
4- <6	Yes	19	54.3
	No	16	45.7

Exclusive breastfeeding rate was highest among 0-2 month age group (70.59%) and after that it was declining, 65.6% in 2-4 month and 54.3% in 4-6 month age group (Table-III). Complimentary feeding was introduced after completion of 6 months of age in 83.72% children. Introduction of complimentary feeding before 6 months was found in 9.9% and 6.3% children were introduced solid or semisolid food at 8 months or more (Fig-3).

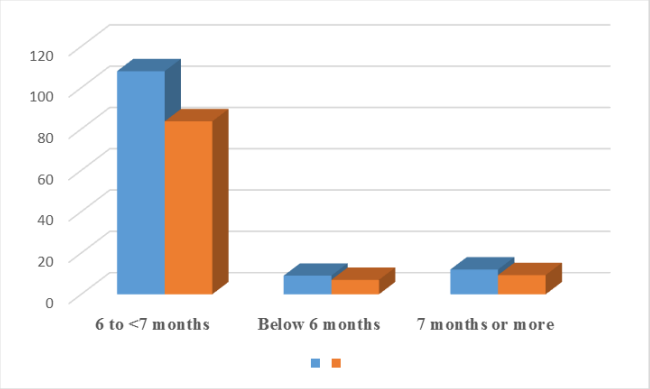

Fig-3: Timing of introduction of complimentary food (6-24 months). N-129

Rate of exclusive breastfeeding was higher (76.61%) among the children of housewives than children of working mothers which is 23.39%. Among 12-15 months of age group who continued breast feeding 73.91% were children of housewives and 26.09% were children of working mothers (Table-IV).

Table-IV: Breastfeeding status among children of housewives and working mothers.

Indicators	Housewife (%)	Working mothers	Total	P value
Exclusive breastfeeding 0-6 mo	95(76.61)	29(23.39)	124(66.67)	0.454
Continued breastfeeding 12-15mo	34(73.91)	12(26.09)	46(79.31)	0.613

*'t' test,

Early Initiation of breastfeeding was found in 41.7% infants of diabetic mothers whereas the value was 58.3% in infants of non-diabetic mothers. 72% infants delivered by NVD had early initiation of breastfeeding and it was 68.6% in infants delivered by caesarian section. Exclusive breastfeeding in infant of diabetic mothers was (36.29%) and non-diabetic mother (58.2%) (Table-V).

Table-V: Breastfeeding status among children of diabetic and non-diabetic mothers.

Indicators	Dm n (%)	Ndm n (%)	Total	P value
Early initiation of breastfeeding 0-24	94(41.78)	131(58.22)	225(68.60)	0.550
Exclusive breastfeeding (0-6)	45(36.29)	79(63.71)	124(66.67)	0.10
Continued breastfeeding (12-15)	21(45.65)	25(54.35)	46(79.31)	0.640

*'t' test

DISCUSSION

In this based cross-sectional study 85% of mothers initiated breastfeeding within the first hour after delivery. About 84% of mothers who have children aged less than six months exclusively breastfed their index infant in the last 24 h. In our study among the study children 58.23% were below 6 months of age and 41.77% were of 6 to 24 months age group. 54.57% were male and 45.43% were female. Among the mothers 79.26% were housewives and 20.74% were students or professionals (Table-1). Mean age of mothers was 29.68 ±5.1 year. 42.9% mothers were diabetic. The difference might be due to socioeconomic and cultural difference between the study subjects. The majority of the participants in this study were housewives which could increase the likelihood of breastfeeding their child, as it cost less when they have a poor economic status. Khatun and Siddiqua had undertaken a study to observe the patterns of infant feeding practice among the mothers of high and low socio-economic groups in Bangladesh [11]. The rate of exclusive breast feeding among mothers of 2-3 months baby from high socio-economic group was found 41.2% and low socio-economic group 34.4%. From this study it was evident that mothers of low socioeconomic group have poor knowledge regarding the infant feeding practices. Iqbal Kabir, Mansura Khanam *et al*. worked for Determinants of inappropriate complementary feeding practices in infant and young children in Bangladesh [12]. Subba *et al*. found prevalence of breastfeeding was 99.4% and 60.5% were practicing exclusive breastfeeding at 5 months [13]. Our study breastfeeding was initiated with in 1 hour of birth in 68.60% of the study children (0-23 months). Exclusive breastfeeding was found in 66.67% children under 6 months of age (Table-II). At the time of interview 79.31% of children of 12 to 15 months age were continuing breastfeeding (Table-II). Early initiation of breastfeeding within 1 hour of birth was found in 68% of study Children (0-23mo) which is higher than the rate (45%) found in a study by Akhtar *et al*. [9] and FSNSP report 2014 (48%) [14]. It was also higher than the observations of other two similar studies (31.6%

[15] and 57% [16]). A study on rural population however found that 81% mothers initiated breastfeeding with in 1 hour of birth [17]. Early initiation of breastfeeding was more common in infants delivered by normal vaginal delivery (72%) than infants delivered by caesarian section (68.2%). In the present study 66.8% of 0- 6 month old children were found to be exclusively breastfed which is almost similar (66.7%) to the observation by aparajita *et al*. [14] In this study rate of exclusive breastfeeding was higher among 0-2 month age group (70.9%) and after that it is declining 65.6% in 2-4 month and 54.3% in 4-6 month age group. In a study of rural Bangladesh rate of exclusive breastfeeding was found 78.3% at 1 month and declined to 10.7% at 6 mo [18]. The pattern is also declining in another study (74.2 at 1 month and 9% at 6 months) [15]. 27.9% infants below 6 months were getting plain water, fruit juice, formula other milk or complimentary food along with breast feeding and 5.3% were fed with formula alone. Our study in exclusive breastfeeding rate was highest among 0-2 month age group (70.59%) and after that it was declining, 65.6% in 2-4 month and 54.3% in 4-6 month age group (Table-IV). According to BDHS. 2011, 27.2% infants are getting plain water, fruit juice or other milk, 8.5% were getting complimentary feeding along with breastfeeding and 0.8% were not breast fed. Among the children who were not exclusively breastfed bottle feeding was quite common. In a Delhi based study prevalence of bottle feeding was 26% [19]. In our study rate of exclusive breastfeeding was higher (76.61%) among the children of housewives than children of working mothers which is 23.39%. Among 12-15 months of age group who continued breast feeding 73.91% were children of housewives and 26.09% were children of working mothers (Table-VI). This cannot be explained how, but it may be speculated that each episode of breast feeding might not be of appropriate length and as the data collected by 24 hour recall method long term feeding status could not be evaluated here. This may be due to maternal malnutrition too. Mother may have failed to breast fed as they are undernourished or these mother are working mother or due to poverty they could not breastfed. In a similar study exclusive breastfeeding was common among illiterate mothers and no association was found with mode of delivery [20]. Unlike the present study a previous study shows significant association of exclusive breastfeeding with maternal education [21]. Unfortunately, most of these studies have found that the mothers are not aware themselves, that prelacteal feeds could be a source of infection [22]. In our study too, the mothers agreed to give the prelacteal feed because of the prevailing social custom. Exclusive breastfeeding was followed by 47.8% of the mothers in our study compared to the national average of 46.3% (NFHS 3, 2) and 77.2% in a rural population [22]. Our study early Initiation of breastfeeding was found in 41.7% infants of diabetic mothers whereas the value was 58.3% in infants of non-diabetic mothers. 72% infants delivered by NVD had early initiation of breastfeeding and it was 68.6% in infants delivered by caesarian section. Exclusive breastfeeding in infant of diabetic mothers was (36.29%) and non-diabetic mother (58.2%) (Table-VII). Also, it was observed that most of the mothers with higher education or from higher income group did not follow the proper breastfeeding practices. Families who can afford cow's milk or formula feed, often introduce bottle feeding before six months perceiving it to be better and healthier than breast milk [23]. BDHS 2011 showed 41% of children under 5 year were stunted, 16% were wasted, and 36% were underweight. Muaz *et al*. found in their survey, prevalence of wasting was 42.3% whereas that of stunting and underweight was 80.2% and 73% respectively [29]. A study by Salim *et al*. in rural Bangladesh found 24% children had weaning at appropriate time where early weaning was prominent (50.4%) [25]. 80.4% children of 12-15 months age group were on continued breast feeding which is lower than BDHS data (95%) but higher than other two other studies 43% [11] and 71.7% [27]. In this study minimum dietary diversity was found to be adequate 61.4% children of 6-23 months age group. It was 45.16% in a study conducted in Bangladesh [28]. The findings are of particular importance in light of the recent suggestion that to improve the health status we should assure good infant feeding practice.

CONCLUSION

Exclusive breast feeding was more than national data, no mother delayed in starting complementary feeding but still there is significant mild growth retardation. So the finding of the present study demonstrates that appropriate feeding practices should be developed and practiced for better health and to achieve the IYCF goal. Exclusive breast feeding practice and continued breastfeeding was lower in working mothers than housewives. So it is recommended that steps should be taken to improve the existing situation. Awareness building programs about child care and feeding practices must be included in antenatal care, postnatal care and also during well baby visit to convey the right message about IYCF to parents and family.

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