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Assessment of Infant and Young Child Feeding Practices of Caregiver's in Jashore City, Bangladesh

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Abstract

Since infant and young child feeding practices play an important role in ameliorating childhood nutrition, an exploratory and descriptive study has thus been conducted employing a previously developed questionnaire at Ad-din shisu Hospital, Jashore, Bangladesh to obtain better insights about the breastfeeding and complementary feeding practices among infant and young child feeding caregivers. Out of 260 babies, 54% were female and 46% were male. Nearly all caregivers were found having the idea that breast milk is the best food for newborn babies. Around 81.9% of caregivers think that breast milk contains all the nutrients the baby needs to flourish, but in case of protection from disease, only 18.1% of caregivers think that it protects the baby from certain diseases. Around 46.9% mothers practiced early initiation of breastfeeding and they offered breast milk to their newborn right away (within one hour) after delivery, 53.5% lactating mothers had proper knowledge about breastfeeding methods, 39.6% mothers never practiced burping after breastfeeding, 66.4% mothers had normal delivery, 33.6% mothers had caesarian section, 99% mothers offered colostrums to their babies and only 1% of them didn't give the colostrums. Besides, 88.8% continued breastfeeding up to 24 months or more along with 83.8% caregivers starting complementary feeding from six months, 55.4% caregivers said baby's immune system is less developed, so they get attacked by infection easily and 44.6% caregivers said "their tummies are vulnerable to infection", and 48.8% of the caregivers followed the type of hygiene required. Our findings revealed information on the knowledge, attitude, and practices of the caregiver's towards breastfeeding and complementary feeding.

Keywords

Breastfeeding, Complementary Feeding, Infant and Young Child, Caregivers

1. Introduction

Breastfeeding; the divine act of providing milk to a newborn or infant from the mother's breast is a mode of providing ideal food for the infants to grow and flourish [1] [2]. Breast milk is sterile, easily-digested, and non-allergenic responsible for transmitting maternal antibodies to the newborn or infant that protect against many ailments, infections and illnesses [3] [4]. Researches transpired [4] [5] that breastfeeding is the most advantageous and complete method of infant feeding occupying almost all the necessary nutrients, growth factors, and immunological components in terms of the requirement for an infant for proper development. Internationally, breastfeeding is promoted as the preferred method of feeding infants up to 6 months of age and continuing up to 2 years of age [6]. Although the health benefits of breastfeeding are accredited extensively, opinions and recommendations are divided on the optimal duration of exclusive breastfeeding. Exclusive Breastfeeding is as the World Health Organization (WHO) says exclusive breastfeeding is when feeding an infant is only limited with breast milk without any additional supplementation or food components such as water, juices or solids [7]. Global monitoring studies found that approximately 38% of infants fewer than 6 months of age in the developing countries are exclusively breastfed, whereas in Bangladesh the exclusive breastfeeding rate is 43% up to 6 months [8] [9]. The duration of breastfeeding is an important factor to extend exclusive breastfeeding [7]. Unfortunately, the breastfeeding initiation and duration rate was quite low in both developed and developing countries and particularly in Bangladesh [8]. In Bangladesh, more than two-thirds of all infant deaths occurred due to diarrheal diseases and respiratory tract infections [10]. The prevalence of diarrhea and acute respiratory infection in infants aged between 0 - 3 months was significantly associated with a lack of exclusive breastfeeding [11]. Thus, breastfeeding is indispensable to reduce neonatal and infant mortality and morbidity rates. Breastfeeding is also a cost-effective approach for children's health improvement and decreases the load of childhood diseases [12]. Children born in a health facility or those whose births were attended by a health professional had a lower likelihood of breastfeeding within one hour of birth than those born at home [13]. The tradition of giving pre-lacteal feeds is widely practiced with 62% of newborns receiving such feeds [13] [14]. The most common early feeds consist of sugar or glucose water (42%), milk other than breast milk (36%), and honey (33%) [13] [14], thus the proportion of exclusively breastfed infants drops sharply from 52% at 2 - 3 months to 23% at 4 - 5 months [13] [14]. Besides, delayed initiation of breastfeeding is common in Bangladesh. Studies conducted in Bangladesh reported that only 60 percent of the infants were given colostrums [15] [16]. An earlier report showed that 69 percent of the women initiated breastfeeding on the third day [15] [16]. There are several factors influencing breastfeeding practices among caregivers. These include mother's motifs and beliefs about insufficient breast milk, support from the family members, financial insufficiency, household workload and apathy towards feeding [17]. Alongside, Support from a baby's father by active participation in decision making about breastfeeding has a powerful effect on the initiation and duration of breastfeeding [17]. The father's role includes child caring, doing household work, ensuring the mother's care during breastfeeding or when the mother feels tired [18]. Mothers from rich families stopped breastfeeding earlier than mothers of poorer families due to their ability to buy powdered milk and other baby formulas [5] [7]. A study in Bangladesh revealed that the women who lived in rural areas were less likely to stop breastfeeding than the mothers who lived in urban areas [6]. Another study mentioned that women whose partners were highly educated and had professional or executive occupations were more likely to breastfeed their babies than women whose partners had lower educational levels and lower-status occupations [19]. Breastfeeding in Bangladesh is almost "universal" while several other aspects are still problematic including delayed initiation of breastfeeding, use of pre lacteal feeds, and use of supplements from an early age [14]. In Bangladesh, almost 97% of mothers breastfeed their children for a while [6] [13] [20] A study was conducted in Dhaka, Bangladesh that looked at the effects of community-based peer counseling on exclusive breastfeeding practices showed a significant increase in women who breastfeed exclusively [21]. Seventy percent of women in the intervention group who participated in community-based peer counseling were giving exclusive breastfeeding, compared to only 6% in the control group [21]. Recent data showed that only 38 percent of children aged 2 - 3 months were exclusively breastfed and 23 percent of children were given complementary foods before the 6 months [11]. In Bangladesh, the rate of exclusive breastfeeding practice is about 43 percent [10]. Complementary foods are introduced to an infant at a time when breast milk alone is not sufficient to meet the energy and nutrient requirements of the growing infant [10] [16]. Therefore the aim of introducing complementary foods is to serve as a complement to breast milk to meet the infant's requirements [16]. Implying that, the energy intake from breast milk decreases as the infant age increases; therefore the deficit in the energy of 200 kcal/day, 300 kcal/day and 550 kcal/day at age 6 - 8, 9 - 11 and 12 - 23 months respectively are to be met from complementary food [10] [16]. The WHO & UNICEF have recommended that complementary feeding starts at 6 months, with continued breastfeeding for up to two years. The complementary feeding period is the most challenging when it comes to infant feeding as it has been widely recognized that optimal complementary feeding does not depend on only what is fed but also on how, when, where and by whom the child is fed [10] [16].

2. Methodology

2.1. Study Area

The study was conducted at Ad-din shisu Hospital in Jashore, Bangladesh during a period of 5 months starting from July 2018 to November 2018.

2.2. Study Design

An exploratory and descriptive cross-sectional was conducted to obtain better insights about breastfeeding and complementary feeding practices among infant and young child feeding caregivers.

2.3. Study Population

The study population was 260 babies from 0 to 24 months of age who came to Ad-din shisu Hospital for regular checkups and treatment. The babies were from various villages of Jashore district, Bangladesh.

2.4. Data Analysis

Data we reanalyzed using the Statistical Package for the Social Science (SPSS) (version 16.0) and descriptive analysis was employed to calculate frequency and percentage. Frequency tables and charts were used to present the summarized data.

3. Results and Discussion

The study was conducted to assess the situation of breastfeeding and complementary feeding practices of children of 0 - 24 months at Ad-din shisu Hospital in Jashore, Bangladesh. Among 260 babies, 54% (140 babies) were female and 46% (120 babies) were male. The age group of the babies categorized in months. Socio-demographic characteristics of respondent babies and caregivers are summarized in (**Table 1**). About 15% of babies were between 0 - 6 months, 38% were between 7 - 12 months, 27% were between 13 - 18 months and 20% were between 19 - 24 months of age (**Table 1**). The majority of the babies had normal birth weight 63.9% (2.5 - 3.9 kg) but the percentage of low birth weight 25.3% (1.5 - 2.4 kg) was not too low. There was a very low birth weight (0 - 1.4 kg) baby and 0.7% (>4 kg) overweight baby. Studies reported that rates of low birth weight among Bangladeshi children are among the highest in the world with 30% - 40% of babies weighing less than 2500 g at birth [5] [6]. It has been thought that improved nutrition for mothers during pregnancy in an utmost necessity to reduce these skyrocketed rates [14].

The caregiver's knowledge about food during pregnancy and for baby's data is summarized in (**Table 2**). All mothers think that breast milk is the best food for newborn babies among 260 respondents. About 81.9% of mothers think that breast milk contains all the nutrients the baby needs but only 18.1% of mothers think it protects the baby from certain diseases. On the other hand, for the early initiation of breastfeeding, only 46.9% of mothers practice early initiation of

 Table 1. Socio-demographic characteristics of respondent babies and caregivers.

Respon	dent Babies	
Characteristics	Frequency	Percentage (%
Gender		
Male	140	53.85
Female	120	46.15
Birth weight		
Very low (0 - 1.5 kg)	5	1.92
Low (1.6 - 2.4 kg)	66	25.38
Normal (2.5 - 3.9 kg)	166	63.85
Over Weight (>4 kg)	7	2.70
Age (months)		
0 - 6	39	15
7 - 12	99	38
13 - 18	70	27
19 - 23	52	20
Birth Defect		
No	252	96.93
Heart	1	.38
Stomach	6	2.31
Musculoskeletal	1	.38
Physical disabilities		
Yes	5	1.92
No	255	98.08
Complications of CF before 6 months		
Fever	32	12.31
Digestion problem	81	31.15
No complication	147	56.54
Car	egiver's	
Educational status of Father		
Illiterate	15	5.77
Primary	100	38.46
SSC	51	19.62
HSC	52	20
Graduate	27	10.38
Postgraduate	15	5.77
Educational status of Mother		
Illiterate	11	4.23
Primary	133	51.15
SSC	69	
SSC	09	26.54

Continued

Graduate	10	3.85
Post graduate	6	2.31
Father's monthly income (BDT)		
5000 - 10,000	77	29.62
10,000 - 15,000	83	31.92
15,000 - 20,000	65	25
20,000 - 30,000	35	13.46
Breastfeeding complications		
Yes	2	0.77
No	258	90.23
Breastfeeding failure		
Yes	0	0
No	260	100

 Table 2. Caregiver's knowledge about food during pregnancy and for babies.

Categories	Frequency	Percentage (%)
Avoided foods during pregnancy		
7 up, medicine	1	0.38
Coconut	1	0.38
Palm, Pineapple	1	0.38
Papaya	44	16.93
Papaya, pineapple	36	13.85
Pineapple	11	4.23
Don't know	166	63.85
Advantages of breastfeeding		
Contains all the nutrients	213	81.92
Protects baby from diseases	47	18.08
Best food for newborn baby		
Breast milk	260	100
Early initiation of breastfeeding		
Within 30minutes to 1 hour	122	46.92
Any time in the first day of life	57	21.92
After 1 day or more	77	29.62
I don't know	4	1.54
Colostrum contains antibodies		
Yes	237	91.16
No	14	5.38
Don't know	9	3.46

Continued

234	90
26	10
19	7.31
4	1.54
5	1.92
232	89.23
250	96.15
9	3.46
1	.39
236	90.77
24	9.23
139	53.46
121	46.54
260	100
0	0
3	1.15
257	98.85
51	19.62
102	39.23
23	8.85
39	15
28	10.76
17	6.54
144	55.38
116	44.62
	26 19 4 5 232 250 9 1 236 24 139 121 260 0 3 257 51 102 23 39 28 17

breastfeeding within 1 hour of delivery and 53.1% mothers didn't practice early initiation of breastfeeding. Among them, 35% of mothers had a normal delivery and 65% of mothers had a caesarian section. About 99% of mothers were offered colostrums and only 1% didn't give colostrums. Pre lacteal feeding rate was found 13%. There were some specific reasons of pre-lacteal feeding. About 52.9% offered pre-lacteal food because breast milk did not flow, 23.5% because it was their tradition and 23.5% because the baby was hungry (Figure 1). About 65.4% of respondents were practicing exclusive breastfeeding and 34.6% didn't practice exclusive breastfeeding. It shows that 88.8% of respondents were continued breastfeeding up to 2 years and 11.2% didn't continue. Different surveys are done by the Bangladesh Demographic and Health Survey, United Nations Children's Fund (UNICEF), and Bangladesh Breastfeeding Foundation (BBF) showed a rate of exclusive breastfeeding to be around 32% - 52% [22] [23] [24], [25] [26]. In Bangladesh, many programs and projects have been promoting breastfeeding for many years and fortunately, nationally initiation of breastfeeding within one hour of birth, feeding colostrums and exclusive breastfeeding is now increasing day by day [25] [26].

This study also found complementary feeding information of babies. About 83.8% of respondents had started complementary feeding at 6 months and 16.2% didn't start at 6 months. There are some complications of starting complementary feeding before 6 months. About 12.5% of babies were suffered from fever, 31.25% of babies were suffered digestion problems and 56.25% didn't suffer any complication. There are some reasons for giving breastfeeding along with complementary feeding. About 18.1% of mothers said its nutritious, 39.2% mothers said it's needed, 15% mothers said it's for satisfaction, 10.4% mothers said baby is willing, 3.1% mothers said it's healthy and 3.5% mothers said it's essential [Figure 2]. The caregiver's attitude about the food of babies is summarized in (Table 3). Only 1.2% of respondents know about restricted foods before 1 year of age and 98.8% respondent didn't know about restricted foods before 1 year of age.19.6% caregivers were known about salt, 39.1% caregiver's were known about honey, 8.7% caregiver's were known about sugar, 15.2% caregiver's were known about raw or partly cooked eggs, 10.87% caregiver's were known about

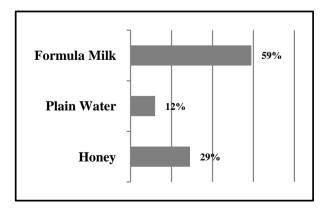


Figure 1. Pre-lacteal feeding of babies.

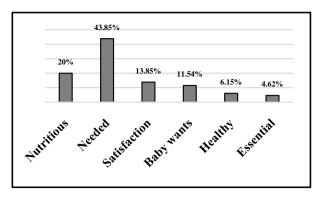


Figure 2. Reason of giving breast feeding along with complementary Feeding.

Table 3. Caregiver's attitude about the food of babies and practice of restricted food during pregnancy.

Categories	Frequency	Percentage
Breastfeeding up to 2 years		
Yes	231	88.85
No	29	11.15
Pre-lacteal feeding		
Yes	34	13.08
No	226	86.92
Breastfeeding is beneficial for mother		
Yes	236	90.77
No	24	9.23
Starting Age of complementary feeding		
5 months	8	3
6 months	252	97
Giving restricted food before 1 year		
Yes	3	1.15
No	257	98.85
Not maintaining restricted food		
Raw or partly cooked eggs	44	16.92
Raw or partly cooked meats	41	15.77
Raw milk	36	13.85
Liver	48	18.46
Caffeine	45	17.31
Raw or partly cooked fish	46	17.69

raw or partly cooked fish and 6.5% caregivers were known about nuts should be avoided before 1 year of age (**Table 3**).

The practice of caregivers is summarized in (**Table 4**). There was some importance to practice hygiene in complementary feeding. About 55.4% of respondents think "Baby's immune system is less developed, so they attack by

Table 4. Practice of caregiver.

Categories	Frequency	Percentage
Food storage		
Don't reheat foods	5	1.92
Store food in the fridge	15	5.77
Don't use baby's left foot	240	92.31
Exclusive breastfeeding		
Yes	170	65.38
No	90	34.62
Start CF at 6 months		
Yes	218	83.85
No	42	16.15
Times of feeding		
<6 - 8 times	111	42.69
= 6 - 8 times	95	36.54
>6 - 8 times	54	20.77
Burping after breastfeeding		
Yes	157	60.38
No	103	39.62
Times of giving CF per day		
2 times	92	35.38
3 times	114	43.85
4 times	25	9.62
6 times	29	11.15
Give breastfeeding along with CF		
Yes	250	96.15
No	10	3.85

infection easily' and 44.6% of respondents think 'their tummies are vulnerable to infection". Wash hands before preparing meals for the baby were maintained by 48.8% caregivers, 1.5% caregivers have washed the floor, kitchen area with hot, soapy water and 40.8% caregivers have maintained hygiene when baby eat himself/herself wash his hand before eating. 46.9% of caregivers maintain early initiation of breastfeeding, 65.4% caregivers practice exclusive breastfeeding, 88.8% caregivers continue breastfeeding up to 24 months or more and 83.8% caregivers' started complementary feeding from 6 months (Table 4). So it can be concluded that the rate of early initiation of breastfeeding is very low but the other rules are maintained approximately. IYCF rules are not maintained fully though its rate of maintenance is higher than before.

4. Conclusion

The present finding uncovered information on the knowledge, attitude, and practices of the caregiver's towards breastfeeding and complementary feeding. Adequate nutrition during infancy and early childhood is essential to ensure the growth, health, and development of children to their full potential. It has been recognized that breastfeeding is beneficial for both the mother and child, as breast milk is considered as the best source of nutrition for an infant. This study revealed that early initiation of breastfeeding is very important for the baby. From the findings of this study, it can be concluded that the IYCF rules are not fully maintained especially the early initiation of breastfeeding. Most of the caregivers are not conscious about adding extra salt in the infant's diet which could potentially harm the immature kidneys of the baby. A large part of the caregivers are not informed that partially cooked egg can cause typhoid fever of her child. Mothers have to be more conscious and educated. The government should implement more awareness campaigns about breastfeeding and complementary feeding. Health facilities can play a vital role in this concern. Family members also have to be more aware and careful about the baby and mother. Therefore, sustain education is recommended to the mothers, their families, and communities to improve knowledge about breastfeeding and complementary feeding to enhance the health and nutrition outcomes of mothers and their babies.

Ethical approval

Not required.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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