Study on Infant Feeding Practices among Selected Income Groups in Dhaka

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Introduction

Infant feeding is a very important aspect of child nutrition. Breast feeding has been identified as a major component of child survival concept. Breast feeding is the key point in the issue of infant feeding and nutrition[1]. Breast feeding accounted a net reduction of 70% of infant mortality in Bangladesh[2]. According to a UNICEF report the situation of infant, children and maternal malnutrition in Bangladesh is among the worst in the world[3].

The poor nutritional and health status of the country is also due to lack of health and nutritional awareness and ignorance of correct infant feeding practices. These affect intrafamilial food distribution, breast feeding practices and almost every other aspect of food in our lives. The recent report showed that infant mortality rate (IMR) among Bangladeshis estimated to be 83[4] and it is densely populated country with 80% of its population living below the poverty line[5]. The American Academy of Pedriatrics recommended that no nutritional advantage is gained by giving the infant supplementary food before the age of four to six months[6].

A study of rural area in Bangladesh by Das, Talukder and Sella found that though all the mothers investigated breastfed their infants for one year, only 20% exclusively breastfed for 5 months. At one month, 16% of the infants had already received bottlefeeding, consisting mainly of watered down cow's milk, powdered milk, sugar water, wheat gruel and barley[7]. Another study by Muttalib found that 20% of urban women never breastfed[8].

Women studied in an urban area of Lucknow, India, by Singh and Kumar were more likely to breastfeed sons longer than daughters. The

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average weaning age was 8.2 months. Only 36.3% of the educated mothers and none of the illiterate mothers knew that breastfeeding conferred immunity[9]. Although breastfeeding is almost universal among rural women and practiced by most urban women in Thailand, studies in the decade from 1969 to 1979 indicated modern and relatively steady decline in the duration of breastfeeding among both rural and urban women of all classes. Full breastfeeding was discontinued within the first few months after birth[10].

Supplementary feeding is the introduction of solids or semi-solids other than breastmilk or modified cow's milk to the baby's diet. Waterlow *et al.*[11], opined that normal weight gain of an infant who is exclusively breastfed can be continued for only four-six months under favourable conditions. A study in Bangladesh concluded that growth faltering of infants starts after about 6 months of age[12]. The weaning period (the time during which the baby is gradually weaned away from milk by the introduction of other foods) is very critical for children. Deaths during this period in developing countries are about 10-15 times higher than in developed countries[13]. Another study found that mean age of introduction of solid foods was 13.5 months in North Bangladesh, breastfeeding was only ceased when the mother becomes pregnant again. The nutritional status of the children was better in families with higher income than lower incomes[14]. Rafiquzzaman[15] found that just 12.22% of rural mothers knew the correct age for introduction of supplementary food (4-6 months). Again 31.67% and 36.11% thought the age was 7-9 months and 10-12 months respectively.

Hussain and Rafiquzzaman[16] examined the impact of socio-economic factors on weaning age in two villages. About 85% of mothers thought weaning ought to occur by the age of one year. 19% of mothers who had babies under 6 months of age thought their babies would be harmed by early weaning. Monthly family income was found to be statistically significantly related to weaning regardless of educational level.

It is expected that there would be difference in infant feeding practices among different socio-economic group in an urban area due to various reasons. Thus, this study was undertaken to compare the responses of the two groups who live close by in the same general area but have widely differing income levels, knowledge and practice about infant feeding.

Materials and Methods

Study Population : This study was carried out on mothers living in two adjacent areas of Dhaka city: Uttara Model Town and a nearby semi-slum settlement popularly known as Irshinagar, located along the New Airport Road. These two areas were selected purposively on the basis of income and social status. A sample size of 200 was taken purposively for convenience.

Selection of Sample : The sample size was 200 which was taken through proportional allocation technique from 6872 households using the statistical formula below:

$$n/N \times ni$$

Where

n =Sample size = 200

N = Total population = 6872

and ni = population of each individual area.

Thus, the observations were drawn from Uttara Model Town and Irshinagar amongst 84 and 116 respondents respectively.

Study Instrument : The study instrument consisted of a precoded and pretested questionnaire containing both closed and open-ended questions pertatining to various aspects of infant feeding practices.

Analysis of Data : The "Statistical Package for the Social Sciences" (SPSS/PC+) software package was used to analyze the data. Proportion test was used to test for significance.

Results

The salient findings of the study are presented in tabulated and figurative forms below:

Table 1 shows that 63.1% of the respondents of the higher income group (monthly income range from Tk. 8,000 to above Tk, 33,000) and 60.3% respondents of the lower income group (monthly income range between Tk. 1,000 to Tk. 5, 000) had family size of 3-4 members and about 84% and 57% of the respondents' ages were between 20-34 years. Most of the mothers of the lower income group (69.9%) had monthly income between Tk. 3,001 to Tk. 5,000 whereas 50% of the higher income group mothers had income range between Tk. 13,001 -23, 000.

Breastfeeding And Supplementary Infant Feeding practices : Figure 1 and 2 as well as Table 2 to 6 illustrate various aspects of the breastfeeding and supplementary feeding practices of the mothers interviewed.

Figure 1 shows that a majority of mothers in both income groups recommended feeding colostrum to a newborn after birth. Honey was

Table 1. Socio-demographic characteristics of the respondents (n= 200).

Family size (No.)	Lower income group (%) (n = 116)	Higher income group(%) (n =84)
3-4	60.3	63.1
5-6	34.5	27.4
7 and above	5.2	9.5
Mothers 'age (Years)		
15 -19	6.9	-
20 - 39	83.6	57.3
40 and above	9.5	42.9
Family income (Tk.)		
	Mean ± SD (Tk.)	
	3,263 ± 989	
1000-3000	30.1	-
3001- 5000	69.9	-
		Mean ± SD (Tk.)
		24,058 ±15,134
8, 000 - 13,000	-	11.9
13,001 - 23,000	-	50.0
Above 33,000	-	38.1
Total	100	100

mentioned by 32.8% of lower income group women and 9.5% of the higher income group women and sugar water by 13.8% and 2.4% of the women respectively.

Feeding Colostrum : Table 2 shows the knowledge and practice of the respondents with respect to feeding colostrum after childbirth.

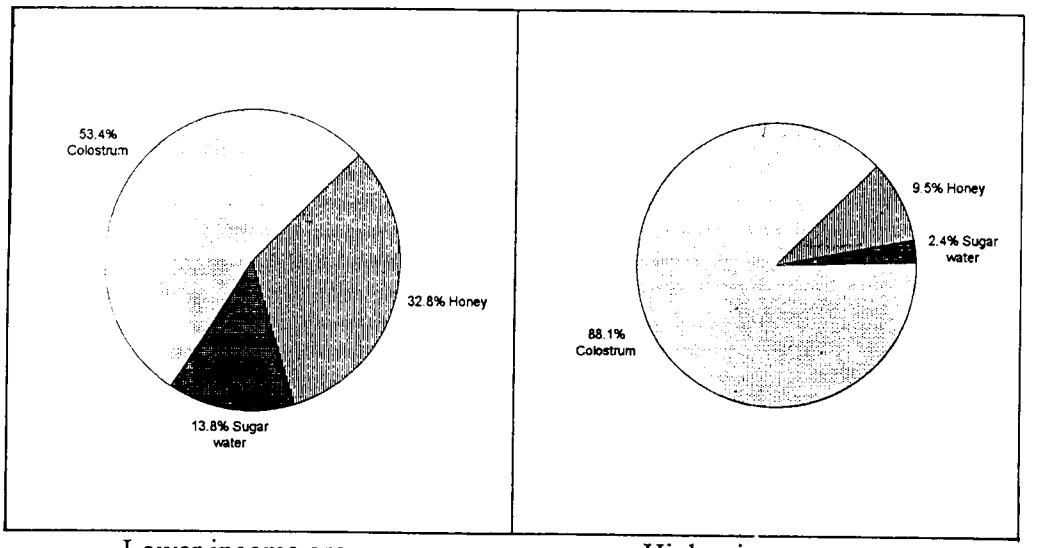

Figure 1: Distribution of the respondents in both income groups by what to feed newborns right after birth.

Table 2: Distribution of the respondents in the two income groups about colostrum by knowledge and practice

Response	Percentage of lower income group (n = 84)		Percentage of higher income group (n = 116)	
	Knowledge	Practice	Knowledge	Practice
Fed promptly	79.3	69	97.6	79.8
Thrown away	20.7	31	2.4	20.2
Total	1001	100	100	100

Proportion test: $p < 0.05$ for knowledge and $p > 0.05$ for practice

Time of Feeding Breastmilk : Table 3 shows that most respondents in both income groups thought newborns should be given breastmilk shortly after birth or within half an hour of birth. The next majority advised feeding within one or two days. Again 9.5% of lower income respondents and 2.4% of higher income respondents advised feeding after two days but within a week.

Table 3: Distribution of the respondents in two income groups by response when newborns should be given breastmilk.

Response	Percentage of respondents (lower income group) (n= 116)	Percentage of respondents (higher income group) (n=84)
Shortly after birth	28.4	57.1
Within half an hour	37.9	16.7
Within half an hour to one day	11.2	15.5
After one day but within two days	13.0	8.3
After two days but within a week	9.5	2.4
Total	100	100

Table 4: Distribution of the respondents in two income groups by duration of exclusively breastfeeding.

Duration (month)	Percentage of respondents (lower income group) (n=116)	Percentage of respondents (higher income group) (n = 84)
1-3	19.8	33.3
4-6	38.8	58.3
7-9	37.1	8.4
Above 9	4.3	-
Total	100	100

Proportion test: $p < 0.05$

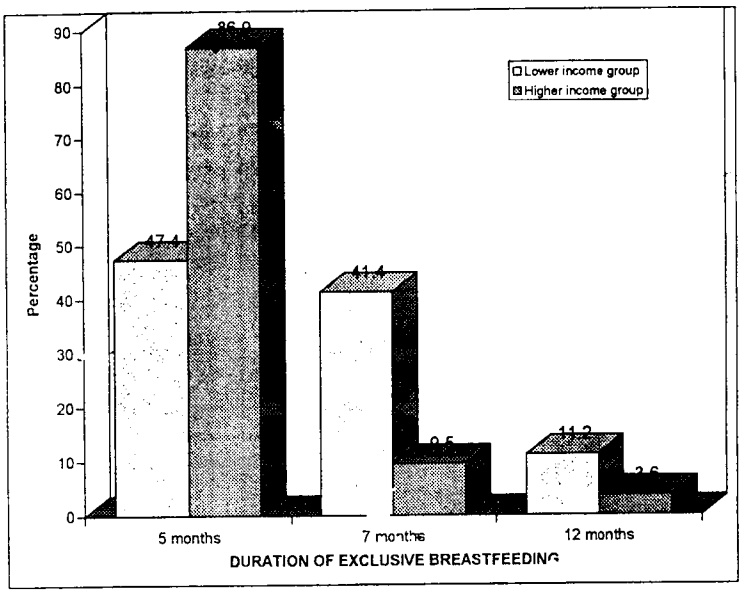

Figure 2: Percentage distribution or respondents in both income groups by their opinion on duration of exclusive breastfeeding.

Exclusive Breastfeeding : The bar diagram in Figure 2 shows the opinion of the mothers on the duration of exclusive breastfeeding. Again 47.4% of lower income group mothers and 86.9% of higher income group mothers said 5 months was the correct duration, while 41.4% in the first group and 9.5% in the second group thought that it was 7 months. Again 11.2% and only 3.6% respectively favoured 12 months of exclusive breastfeeding.

The actual time of exclusive breastfeeding is shown in Table 4. In the lower income group, 19.8% fed for 1-3 months, 38.8% for 4-6 months, 37.1% for 7-9 months and 4.3% carried on for more than nine months. In contrast, 58.3% of the higher income group fed exclusively for 4-6 months, 33.3% for 1-3 months and 8.4% for 7-9 months. None prolonged feeding beyond 9 months in this group. There was a significant difference between the women in the two income groups who breastfed exclusively for the correct 4-6 months.

Table 5 shows the reasons of not exclusively breastfeeding for atleast 5 months. Of the 28 women in the lower income group who fell in this category, 4 said the reason was "work outside the home" and 24 said it was "shortage of milk". In the higher income group, 38 women fell in this category, among whom 12 said "work outside the home", 23 said "shortage of milk" and 3 gave

other reasons such as" illness" or" medication".

In Table 6, the various types of food started as supplementation are shown. It shows that a majority of the lower income group respondents gave cow/goat milk (36.2%) followed by "khichuri" (20.7%) while most of the higher income group respondents gave rice, fish, lentils and

Table 5: Frequency distribution of the respondents in both income groups by the reasons who did not exclusively breastfed for atleast 5 months.

Reason	Number of respondents (lower income group)	Number of respondents (higher income group)
Work outside home	4	12
Shortage of milk	24	23
Others*	-	3
Total	28	38

**Others: Ill-health of mother and on medication.*

Table 6: Distribution of respondents in both income groups by type of supplementary food given to child.

Food	Percentage of respondents (lower income group) (n=116)	Percentage of respondents (higher income group) (n = 84)
Cow/Goat milk	36.2	16.6
Mashed banana	9.5	6.0
Mashed rice	8.6	1.2
Khichuri	20.7	27.4
Semolina	11.2	3.6
Mixture of rice, fish, lentils, vegetables	12.9	34.5
Others*	0.9	10.7
Total	100	100

Others : Formula food*

vegetable mixture (34.5%) followed by "khichuri" (27.4%). Formula food was preferred only by 0.9% respondent in the lower income group and 10.7% in the higher income group. Mashed rice was favoured by 8.6% respondents in the first group but only 1.2% in the second.

Discussion

This study was undertaken to see the differences related to infant-feeding which existed between two groups of people living close to each other but have different income levels. For this purpose, 116 families with lower income and 84 families with higher income were studied.

The socio-demographic conditions of the respondents varied according to their income group. Most (83.6%) lower-income respondents were aged 20-39 years (Table 1). The higher-income group mothers had given colostrum at a higher percentage than the lower income group mothers, proving greater awareness and practice about the beneficial factors of colostrum feeding (Figure 1). Furthermore, the knowledge about the importance of colostrum feeding was found significant among the two groups using proportion test while this practice was found insignificant statistically (Table 2).

Most mothers in this study advocated giving the child breastmilk shortly after birth or within half an hour of birth (Table 3). When asked for their opinion on the duration of exclusive breastfeeding most higher income mothers responded accurately (5 months) while about half of the lower income mothers advocated for 5 months and half for 7 months. Only 11.2% said 12 months was the correct duration (Figure 2).

About one-third of the higher income mothers exclusively breastfed for 1-3 months and a little more than half did so for 4- 6 months. In the case of the lower income group, 19.8% exclusively breastfed for 1-3 months, 38.8% for 4-6 months, 37.1% for 7-9 months and the rest above 9 months (Table 4). The reasons given by the women for not exclusively breastfeeding for the full 4-6 months was work outside the home, shortage of milk, mothers bad health, etc. (Table 5). The number of higher income group mothers who exclusively breastfed for the correct duration was significantly higher than the number of lower income mothers who did. Another study by Bilkis and Wahed showed prevalence of exclusive breastfeeding to be 20% upto 5 months among Dhaka city slum dwellers[17].

It was found that the higher income group mothers gave nutritious and

balanced diet like mixture of rice, fish, lentils and vegetables while the corresponding figure for the lower income group mothers was one third (Table 6). A study by Banik in India revealed that most of the mothers in the higher socio-economic group started solid food at about six months of age of the infants while mothers from the lower socio-economic group started solid food after one year of age[18].

The study thus highlighted existing difference in terms of colostrum feeding, duration and practice of breast feeding as well as supplementary foods given to the infant amongst the two study groups.

Summary

The study was carried out with a sample size of 200 taken purposively in Dhaka from both higher and lower income groups. Mean family income of the lower group was Taka 3263 (± Taka 989) and of the higher income group was Taka 24,058 (± Taka 15,134). Most mothers said colostrum was beneficial and should be fed to the newborn baby. The two income groups showed no significant difference in their practice of feeding colostrum to newborns. Most of the higher income mothers knew the correct duration of exclusive breastfeeding (5 months) while about half of the lower income group mothers advocated for 5 months and the rest for 7 months. Significant difference regarding exclusive breast feeding was found between this groups. Work outside the home, shortage of milk supply and mother's bad health were some reasons mentioned by the respondents for not feeding breast milk exclusively for 4-6 months. It was also seen that higher income group women tended to start supplementary feeding earlier than their lower income group counterparts. "Khichuri", milk and mashed banana were given as supplementary food by both income groups, but formula food was preferred more by higher income group mothers.

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