Faridpur Med. Coll. J. 2021;16(1):30-33

Original Article

Pattern of Complementary Feeding Practices among Mothers Attending at a Tertiary Level Hospital in Bangladesh

MK Hassan[1], AFM Pervez[2], KA Syfullah[3], MM Hossain[4], GU Ahmed[5], MN Hossain[6], R Biswas[7]

Abstract:

Optimal growth and development of a child depends mostly on proper breastfeeding and complementary feeding practices. However, many children yet suffer from malnutrition and the recommended practices of complementary feeding have yet not been established among the majority of the population. In this observational study, we looked for the causes behind the improper complementary feeding practices among the mothers attending the outdoor and indoor units of the Department of Pediatrics, Faridpur Medical College Hospital, Faridpur, Bangladesh, from January 2018 to January 2019. A total of 447 mothers were interviewed regarding their complementary feeding practices and data were analyzed to find out the demographic and social influences. The majority of the respondents were between the age group of 21-25 years (54%). Thirty five percent were illiterate, 60% were from the rural area, 78% were housewives, 64% came from a nuclear family, and 87% had a monthly family income of 5000-20000. Most of the deliveries were conducted at home (58%) and the most common source of feeding related information was healthcare workers (66%). Only 41% of the mothers started complementary feeding at the age of 6 months. The most common complementary food was Suji, 60% of them lacked the knowledge of food preparation and 35% of them practice forceful feeding to the children. The promotion of proper complementary feeding needs to be ensured to achieve the children's catch-up growth and development.

Key words: Complementary feeding, Malnutrition, Feeding practice, Child growth.

Introduction:

Complementary feeding is accustoming the infant to nourishment by a gradual introduction of food other than breast milk or breast milk substitute[1]. In a recommended practice, infants should get exclusive breastfeeding for the first six months of their life. After that, a transition from breast milk to safe and nutritionally adequate complementary foods are necessary to meet their increased nutritional requirements[2,3].

1. Dr. Md. Kamrul Hassan, MBBS, DCH, Senior Consultant, Department of Pediatrics, Faridpur Medical College Hospital, Faridpur.

2. Dr. Abu Faisal Md Pervez, MBBS, MD, Assistant Professor (Neonatology), Head of the Department of Pediatrics, Faridpur Medical College, Faridpur.

3. Dr. Khalid Ahmed Syfullah, MBBS, MD (Pediatrics), Assistant Professor (Pediatrics), Faridpur Medical College, Faridpur

4. Dr. Md. Monir Hossain, MBBS, MD (Pediatrics), Assistant Professor (Pediatrics), Faridpur Medical College, Faridpur.

5. Dr. Gias Uddin Ahmed, MBBS, FCPS (Pediatrics), MD (Pediatrics), Assistant Professor (Pediatrics), Faridpur Medical College, Faridpur.

6. Dr. Mohammad Neamat Hossain, MBBS, MD (Neonatology), Assistant Professor (Neonatology), Faridpur Medical College, Faridpur.

7. Dr. Rajib Biswas, MBBS, Project Research Physician, International Centre for Diarrhoeal Disease Research, Bangladesh.

Address of correspondence :
Dr. Md. Kamrul Hassan, MBBS, DCH, Senior Consultant, Department of Pediatrics, Faridpur Medical College Hospital, Faridpur. Mobile: +88-01913-389808,
E-mail: hassankamrul007@gmail.com

World Health Organization (WHO) and United Nations Children's Fund (UNICEF) recommends introducing energy-dense, easy-to-digest solid and semisolid foods that are typically prepared at home such as mashed rice with Dal, Khichuri, vegetables, egg, fish, mango, banana and others[2]. Complementary foods made with home ingredients help the child to be accustomed to the family food items. Adequate quantity and appropriate quality of supplementary foods and recommended breastfeeding are necessary for proper nutritional support of the children aged 6-24 months[4]. Poor nutritional quality of food during this period may lead to nutritional deprivation and make the children prone to diarrhea, respiratory illness and various long-term conditions such as malnutrition, kwashiorkor and other diseases[4-6].

Nowadays, commercially available weaning foods are being marketed aggressively. They offer no advantage over the home-made complementary foods and are very expensive for a vast majority of the population[7]. Most of the time, their expense lead to over dilution and consequent malnutrition[8].

UNICEF estimates that approximately 28% of the children in Bangladesh under five years are malnourished[9]. Inappropriate feeding practice of the infant and young child is one of the leading underlying causes of malnutrition[10,11].

The complementary feeding process shows cultural variation. In India and Bangladesh, many families introduce semisolid food and are associated with a religious ceremony known as "ANNA PRASHANA" held around six months of age[12]. Nationally, Bangladesh Breastfeeding Foundation (BBF) and UNICEF have been supporting the Baby-Friendly Hospital Initiative (BFHI) to improve infants and young child feeding practices[11]. Moreover, different national plans, policies and activities have been taken to ensure proper breastfeeding and complementary feeding practices. Nevertheless, various surveys report that the recommended practice of childhood feeding is not yet achieved for most of the population[11,13].

In this study, we analyzed the present status of complementary feeding by assessing the community's complementary feeding practices, exploring the foods being used for complementary feeding and determining the factors behind improper complementary feeding.

Materials and Methods:

This observational study was conducted at the Department of Pediatrics of Faridpur Medical College Hospital, Bangladesh, from January 2018 to January 2019.

Mothers who came to the outdoor and indoor unit of the Department of Pediatrics, Faridpur Medical College Hospital to treat their children aged from six months to 2 years were interviewed through a pre-tested structured questionnaire. Written informed consent were taken from the mother of the participants prior to interview. The questionnaire contained questions related to the starting time of the complementary feeding, number of meals per day, problems regarding complementary food preparation and factors behind improper complementary feeding.

Data were analyzed using GraphPad Prism version 8.4.0 for Mac (GraphPad Software, San Diego, California, USA). Qualitative data were described in the form of the number of cases and percentages.

Results:

A total of 447 mothers were included in the study. Most of them (54%) were in the age group of 21-25 years. More than one-third of them (35 %) were illiterate, and 60% were from rural areas. Seventy eight percent of the participants were housewives and 64% of them lived in a nuclear family. The majority of the participants (47%) had a monthly family income of 5000-10000 Taka (Table I).

Table I: Demography characteristics of the mothers

Variables	Number	Percentage
Age (years)		
<18	22	4.9
18-20	55	12.3
21-25	243	54.4
26-30	88	19.7
31-35	31	6.9
>35	8	1.8
Educational status		
Illiterate	156	34.9
Class V or less	223	49.9
Class VI-IX	58	13.0
Class X or more	10	2.2
Residence		
Rural	267	59.7
Urban	180	40.3
Occupation		
Housewife	347	77.6
Others	100	22.4
Types of family		
Nuclear	288	64.4
Joint	151	33.8
Expanded family	8	1.8
Monthly family income		
<5000 Tk.	8	1.8
5000-10000 Tk.	208	46.5
11000-20000 Tk.	179	40.0
21000-30000 Tk.	32	7.2
>30000 Tk.	20	4.5

Table II: Distribution of child by age and sex

Variables	Number	Frequency
Age (months)		
6-12	288	64.4
13-24	159	35.6
Sex		
Male	221	49.4
Female	226	50.6

Table III shows that more than half (58%) of the babies were delivered at home. On the other hand, most of the (66%) mothers got feeding information from the health workers.

Regarding the complementary feeding, 28% of them lacked proper knowledge of complementary feeding, more than half (54%) lacked knowledge of preparation of complementary feed, and 20% of them did not maintain proper hygiene during the food preparation. Thirty nine percent of them used family food as complementary feeding and 82% continued breastfeeding during complementary feeding. Among them, 31% feeds more than four times a day and 35% feeds forcefully to the child (Table IV).

Table III: Place of delivery and source of feeding information

Variables	Number	Percentage
Place of delivery		
Home	260	58.2
Hospital	187	41.8
Source of feeding information		
Health workers	297	66.4
NGO workers	44	9.8
Family members	86	19.2
Neighbors	13	2.9
Mass media	33	7.4

Table IV: Knowledge and practice of complementary feeding

Variables	Number	Percentage
Lack of knowledge of complementary feeding	125	28.0
Lack of knowledge of preparation of complementary feed	240	53.7
Lack of proper hygiene during preparation of complementary feed	88	19.7
Using family food as complementary feeding	176	39.4
Continued breastfeeding during complementary feeding	365	81.7
Feeds more than 4 times a day	140	31.3
Forceful feeding to child	156	34.9

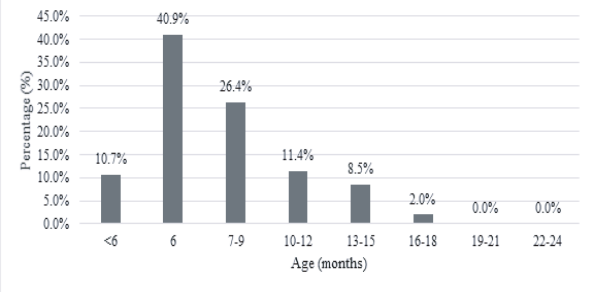

Figure 1 shows that most of the respondents (41%) started complementary feeding at the age of 6 months.

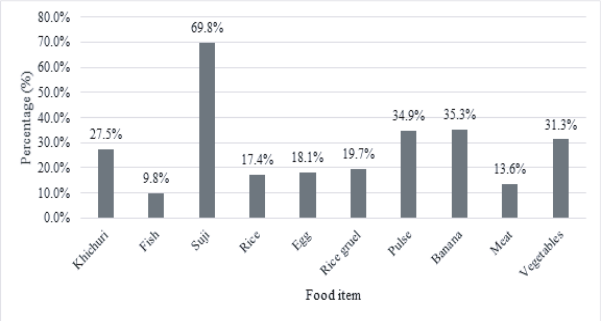

Figure 2: Bar diagram showing types of complementary foods

Discussion:

Feeding practice during the early ages of an infant is one of the main determinants of a child's nutritional status and optimal growth. The ideal practice of breastfeeding and complementary feeding maximizes the chances of proper growth and development. In early childhood, poor feeding practice may lead to malnutrition and impaired physical and mental development, which is a significant threat to the economic and social development of a society[14].

In our study, most of the participants (54%) were from the age group of 21-25 years and a large number of them (35%) were illiterate. It has been previously established that the mother's education is directly related to her child-raising activities, including the feeding practices[15]. However, only 2.2% of the participants in our study have completed secondary schooling.

Although the government has taken many initiatives for delivery at health facilities, 58% of our study respondents had delivered at home. Unless the institutional delivery could be ensured, proper exclusive breastfeeding counseling and complementary feeding counseling by the expert healthcare workers will be hampered[16]. Furthermore, the chance of improper feeding knowledge from the outside environment could not be minimized. In our study, however, 66% of the participants got the feeding information from the healthcare workers. In this regard, only 7.4% of the participants could recall the feeding information from mass media. This could be a result of countless TV and radio channels that rarely circulate any informative program regarding proper feeding practices of the children. Previous studies have also suggested that mass media interventions for spreading information regarding child feeding play little role in feeding practices[17,18].

Most of the participants in our study were housewives (78%), were from rural areas (60%) and belonged to a nuclear family (64%). Previous studies have found that urban mothers have more access to accurate information on child feeding but less time to implement them, whereas rural women have more time to recognize the children's appetite cues but have minimal access to proper feeding information[19].

Also, 11% of the participants started complementary feeding earlier than the sixth months, and most of them (48%) were late to start complementary feeding. Even 10.5% of the children had their first complimentary food a year after their birth in our study.

Among the food items, Suji was the most given complementary food. It also complements another

finding that more than half (54%) of the participants had a lack of knowledge of properly preparing the complimentary food for the children. As Suji is mostly primed carbohydrate, baby lacks protein and micronutrients and suffer from malnutrition, anemia and other deficiency related problems. It is alarming that the children will still get malnourished without the proper nutritional value of the complementary foods. However, around 40% of the participants were using family food as complimentary food in our study. It is essential to introduce the children to family food early, making them accustomed to family food items. Our study also found that 34.9% of the participants try forceful feeding to their children.

In Bangladesh, almost two-thirds of the infants die due to infectious diseases such as diarrhea and other respiratory diseases[2]. Poor nutritional status of the infants is mostly responsible for these conditions. The protective effects of proper breastfeeding and complementary feeding can help a child provide the proper nutritional values for the children's optimal growth and development.

Conclusion:

Proper practice of complementary feeding for the development of the children is of immense importance. Focus on disseminating the appropriate information on child feeding practices during the pregnancy period and after the delivery can reduce the futile practices and improve the overall status of complementary feeding practices among the mothers.

References :

1. Dratva J, Merten S, Ackermann-Liebrich U. The timing of complementary feeding of infants in Switzerland: Compliance with the Swiss and the WHO guidelines. Acta Paediatr. 2007; 95(7):818-25.

2. Saizuddin M, Hasan MS. Infant and young child feeding (IYCF) practices by rural mothers of Bangladesh. J Natl Inst Neurosci Bangladesh 2016; 2(1):19-25.

3. Pearce J, Taylor MA, Langley-Evans SC. Timing of the introduction of complementary feeding and risk of childhood obesity: A systematic review. Int J Obes. 2013; 37(10):1295-1306.

4. Lutter CK, Rivera JA. Nutritional status of infants and young children and characteristics of their diets. J Nutr. 2003; 133(9):2941S-2949S.

5. Michaelsen KF. Complementary Feeding of Young Children in Developing Countries: a Review of Current Scientific Knowledge. Am J Clin Nutr. 2000; 71(2):605-6.

6. Lutter K C, Mora JO, Habicht JP, Rasmussen KM, Robson DS, Sellers SG, et al. Nutritional supplementation: Effects on child stunting because of diarrhea. Am J Clin Nutr. 1989; 50(1):1-8.

7. Omueti O, Jaiyeola O, Otegbayo B, Ajomale K, Afolabi O. Development and quality evaluation of low-cost, high-protein weaning food types: Prowena and Propalm from soybean (Glycine max), groundnut (Arachis hypogea) and crayfish (Macrobrachium spp). Br Food J. 2009; 111(2):196-204.

8. Rabiee F, Geissler C. The impact of maternal workload on child nutrition in rural Iran. Food Nutr Bull. 1992; 14(1):43-48.

9. United Nations Children's Fund. Bangladesh sees sharp decline in child malnutrition, while violent disciplining of children rises, new survey reveals [Internet]. [cited 2020 Oct 12]. Available from: https://www.unicef.org/bangladesh/en/press-releases/bangladesh-sees-sharp-decline-child-malnutrition-while-violent-disciplining-children.

10. Moore AC, Akhter S, Aboud FE. Responsive complementary feeding in rural Bangladesh. Soc Sci Med. 2006; 62(8):1917-30.

11. Faruque ASG, Ahmed AMS, Ahmed T, Islam MM, Hossain MI, Roy SK, et al. Nutrition: Basis for healthy children and mothers in Bangladesh. J Heal Popul Nutr. 2008; 26(3):325-39.

12. Sachdev HPS. Infant Feeding: Major practical considerations. 1st ed. Nutrition in Children in Developing Countries. BI Publications Pvt Ltd; 2004. p.79.

13. National Institute of Population Research and Training - NIPORT/Bangladesh, Mitra and Associates and II 2016. Bangladesh Demographic and Health Survey 2014. NIPORT, Mitra and Associates, and ICF International. 2016.

14. Kumar D, Goel NK, Mittal PC, Misra P. Influence of infant-feeding practices on nutritional status of under-five children. Indian J Pediatr. 2006; 73(5):417-21.

15. Guldan GS, Zeitlin MF, Beiser AS, Super CM, Gershoff SN, Datta S. Maternal education and child feeding practices in rural Bangladesh. Soc Sci Med. 1993; 36(7):925-35.

16. World Health Organization. Infant and young child feeding: model chapter for textbooks for medical students and allied health professionals. World Health Organization; 2009.

17. Kim SS, Roopnaraine T, Nguyen PH, Saha KK, Bhuiyan MI, Menon P. Factors influencing the uptake of a mass media intervention to improve child feeding in Bangladesh. Matern Child Nutr. 2018; 14(3):e12603.

18. Menon P, Nguyen PH, Saha KK, Khaled A, Sanghvi T, Baker J, et al. Combining intensive counseling by frontline workers with a nationwide mass media campaign has large differential impacts on complementary feeding practices but not on child growth: Results of a cluster-randomized program evaluation in Bangladesh. J Nutr. 2016; 146(10):2075-84.

19. Naila N, Nahar B, Lazarus M, Ritter G, Hossain M, Mahfuz M, et al. "Those who care much, understand much." Maternal perceptions of children's appetite: Perspectives from urban and rural caregivers of diverse parenting experience in Bangladesh. Matern Child Nutr. 2018; 14(1):e12473.