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Original Article

Practices of Complementary Feeding of Mothers Attending a Tertiary Care Teaching Hospital in the Northern Part of Bangladesh

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Abstract

Background: Adequate nutrition during infancy and early childhood are essential to ensure growth and development, and it depends significantly on the pattern of complementary feeding. As Bangladesh is a high burden of infant malnutrition, the present study was designed to assess the practices regarding complementary feeding among mothers attending a tertiary care hospital.

Objective: To observe the attitude and practices of mothers regarding complementary feeding.

Methodology: This cross-sectional study was conducted at the Department of Pediatrics in Rajshahi Medical Hospital for one year. A total of 227 mothers of children aged between 6 to 24 months attending pediatric OPD at Rajshahi Medical Hospital were included in this study. Data collection was conducted through a pre-designed questionnaire. After data collection of data, data were analyzed by SPSS 23.0.

Results: A total of 227 parents were interviewed. The mean age of the respondents was 26±8.42 (SD) years. Nearly half (45%) of the mothers belonged to lower-middle-income families. Of all, 82% of the mothers knew about the perception of complementary feeding, and about 21% knew the WHO recommended age for complimentary food initiation (at six months). About 71% and 60% had knowledge about iron-rich food and iodized salt accordingly. Half of them knew the appropriate consistency of complimentary food. About 64% of mothers gave complementary foods ≤2 times a day while 36% fed≥3 times a day. Regarding attitude, 78% of mothers approached the necessity of maintaining dietary diversity and variety of food for a balanced diet. In comparison, 52% preferred homemade food, 22% preferred commercially available food, and 26% preferred a combination of both. About 71.8% of mothers believed in different food taboos. In this study, dilution of cow's milk as a complementary food was done by 76% of mothers, while complementary feeding was discontinued by 80%. About 78% and 65% of the mothers reported washing their hands and utensils and baby's hand before feeding the child, 66% of them covered the food after cooking, and 43% reheated the food before serving.

Conclusion: This study shed light on existing knowledge, attitude, and practice among mothers attending a tertiary care hospital. But to get the exact scenario, further extensive study is recommended.

Keywords: complementary feeding.

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Introduction

Adequate nutrition during infancy and early childhood must be ensured for optimum growth and development. Complementary foods must be nutritionally adequate, safe, and appropriately fed to meet the young child's energy and nutrient needs.[1] WHO recommends that, infants should receieve complementary foods at six months of

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age in addition to breast milk. It should be given initially 2-3 times a day between 6-8 months, increasing to 3-4 times daily between 9-11 months and 12-24 months, with additional nutritious snacks offered 1-2 times per day, as required.[2] It has been studied that complementary feeding interventions are most efficient in reducing malnutrition and promoting adequate growth and development in addition to disease prevention strategies.[3,4] However, complementary feeding is often fraught with various problems.[5] Complimentary foods may often introduce too soon or too late. The frequency and amounts of food offered may be less than required for normal child growth, or their consistency or energy density may be inappropriate for the child's needs.

Conversely, too much poor complimentary food could displace the more nutritious breast milk in the child's diet. Other factors, such as the feeding pattern (e.g., whether to breastfeed and follow it with complementary foods or vice versa), may affect breast milk intake. In addition, the nutrient content of these foods may be inadequate, or other components could impair the absorption of these foods. Insufficient quantities, inferior quality of complementary foods, and poor child-feeding practices have a detrimental impact on health and growth in these crucial years.[6] Suboptimal infant and young child feeding practices are prevalent worldwide. They are critical determinants of childhood malnutrition.[7] Malnutrition has been responsible, directly or indirectly, for 60% of the 10.9 million deaths annually among children under five. Well over two-thirds of these deaths, often associated with inappropriate feeding practices, occur during the first year of life, and the proportion of infants introduced to complementary foods promptly remains low in many countries.[1,8] In our country, CF practices are not ideal. Suboptimal infant feeding practices are widespread in Bangladesh. Only 18% of infants 6-11 months receive a minimally acceptable diet, and complementary feeding is delayed for more than one-third of infants aged 6-8 months.[8,9]

Though there have been considerable developments in breastfeeding and complementary feeding practices in Bangladesh, the scope for further progress is substantial.[10] Improving maternal knowledge and attitudes through nutrition counseling and education can lead to improved infant and young child feeding practices and, consequently, improved child growth and development, especially in settings with low maternal literacy.[11,12] Therefore considering the circumstances, this study is undertaken to assess the knowledge, attitude, and practices regarding complementary feeding among mothers.

Results

This cross-sectional descriptive study was conducted in the Paediatrics department of Rajshahi Medical College and hospital. The study enrolled 227 mothers of children aged between 6 to 24 months attending the Paediatrics unit of the hospital, and the duration of the study was for 12 months.

Table-1 knowledge of mothers about complementary feeding (n=227)

Knowledge of the mother	Frequency(n=227)	Percentage (%)
Complementary feeding is an act of giving food other than breastfeeding	186	82
Initiation of complementary feeding		
Earlier than six months	83	36
At six months	47	21
At eight months	97	43

Knowledge about adding iodized salt		
Yes	136	60
No idea	91	40
Knowledge about iron-rich food		
Yes	66	29
No idea	161	71
Consistency of the food given		
Appropriate	113	50
Thick	45	20
Thin	69	30
Method to increase calories in food		
Yes	36	16
No idea	191	84
Frequency of complementary feeding		
Twice a day or less	145	64
Thrice a day or more	82	36
Continuation of breastfeeding after six months		
Yes	130	57
No	97	43

Table-2 attitude of mothers regarding complementary feeding (n=227)

The attitude of the mother	Frequency(n=227)	Percentage (%)
Dietary diversity(different food groups)	177	78
Preference for complimentary food		
Homemade	118	52
Commercially available	50	22
Both	59	26

Traditional and social food taboos		
Mothers believe in food taboos	163	71.8
Eating bananas causes cold, cough, and infection	86	38
Eating meat and eggs causes digestive problems	77	33.9
Mother's preference for food preparation		
Prepare CF separately for children	70	31
Prepare combine as an adult food	157	69
CF practices and frequency during illness		
Decrease quantity and frequency of food during illness	104	46
Withheld quantity and frequency of food during illness	32	14
Maintain the same quantity and frequency during illness	91	28

Table-3. Practices of mothers regarding complementary feeding (n=227)

Practices of mothers	Frequency(n=227)	Percentage (%)
Dilution of top milk in complimentary feed		
Yes	172	76
No	55	24
Continuation of CF during fever/vomiting/diarrhea		
Continued	53	23.3
Discontinued	174	76.7
Use of oil/ ghee		
Yes	86	38
No	141	62
Wash hands and utensils before feeding		
Yes	197	78
No	30	22

Wash hands of children before feeding		
Yes	147	65
No	80	35
Covers food after cooking		
Yes	149	66
No	78	34
Reheat leftover food before serving		
Yes	97	43
No	130	57

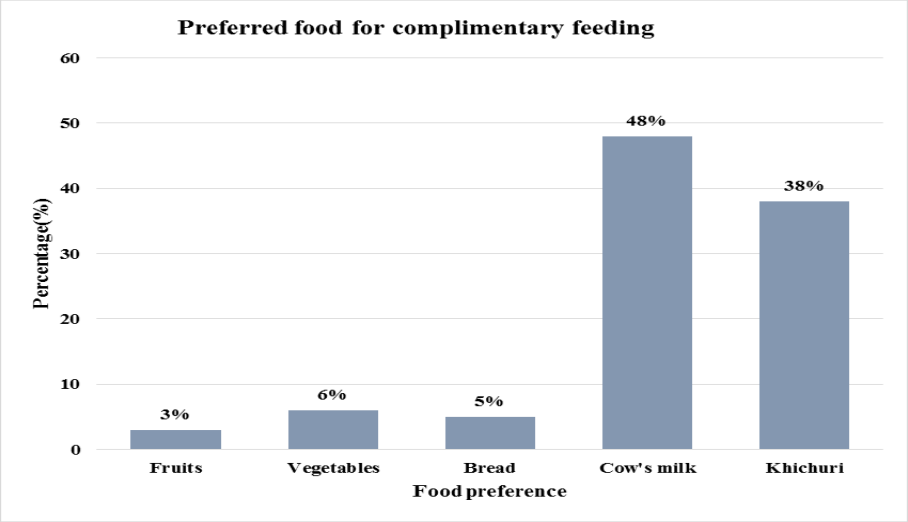

Figure: 1 Mother's preference for complementary food for the baby (n=227)

Among the respondents, most mothers tended to give cow's milk as a complementary food (48%). Khichuri was preferred by 38% of the mothers, and bread, vegetables, and fruits were preferred by 5%, 6%, and 3% of the mothers, respectively.

Discussion

Optimum nutrition is essential for the proper growth and development of the infant. A review of the literature revealed that there are wide variations in infant feeding influenced by various social and demographic variables. This study aimed to assess the knowledge, attitude, and practices of complementary feeding of children in mothers who visited the pediatric department of Rajshahi medical college and hospital. The association between education level and the socioeconomic status of the mothers and complementary feeding practices were also determined in this current study.

Overall, 82% of the mothers had sound knowledge of what complementary feeding practices meant, which was similar to a study in Kosovo (88%)[13] but significantly higher when compared with reports from countries like Kenya and Nigeria, where only 33.5% and 15% of the mothers had sound knowledge of

complementary feeding practices respectively.[35] The study further revealed that they were a significant association of knowledge complementary feeding practices with the education level and socioeconomic status of the mother($p>0.05$), which followed a similar trend as other south-Asian countries like Pakistan.[36] The higher the education level and socioeconomic status the more likely the mothers had proper knowledge and understanding of complementary feeding.

Furthermore, only 21% of the mothers followed the WHO recommended time for complementary feeding, which is at six months, and 43% of the mothers were late in initiating complementary feeding at the right time, which led us to the conclusion that timely initiation of complementary feeding was significantly associated with the education level of the mother, the higher the level of education of the mother the more likely that the mother would follow the recommended initiation time of WHO which is six months after birth ($p<0.002$), these findings were consistent to a study conducted in a rural sub-district of Kishoregonj in Bangladesh.[8] 36% of the mothers started complementary feeding earlier than six months which was due mothers not being able to provide an adequate amount of breast milk to their child which leads them to give alternative foods to meet the dietary nutrition of the child.[37]

In the current study, 60% of the mother had good knowledge about adding and utilizing iodized salt properly in food; this percentage was similar when compared with studies from other countries like India and South Africa, where the percentage was 57% and 63%, respectively.[14,38] A huge portion of the mothers had scanty knowledge about iron-rich foods; only 29% of them could identify, and 71% of them couldn't identify what iron-rich foods were, which upon further study was found to be related to the mother's education level($p<0.05$) a finding was also seen in other south-Asian countries like India and Pakistan.[14,39]

In the study, the mother's beliefs about cultural and social food taboos were also inquired about. 163(71.8%) mothers believed that food taboos are related to children's illnesses if included in complementary foods, out of which 38% believed that Bananas are cold in nature that can cause chest infection or cough if introduced in complementary feeding, and (34%) reported that meat and eggs are hot and hard in nature to digest that can cause diarrhea and digestive problems which is similar to finding in India.[14] This phenomenon was quite common in mothers of south-Asian origins because of the persistent influence of the beliefs and cultural practices of elderly women towards the young mothers in the society.[40]

It was also reported that when it came to defining the criteria of complementary feeding practices, 52% of the mothers preferred homemade food and 22% preferred commercially available cereals and fast foods, which is higher than a study conducted on rural mothers of Bangladesh(12.6%).[37] However, when asked about the frequency of feeding, more than half (64%) of the mothers fed their children less than two times or two times whereas 36% mothers fed three or more than three times a day. In India, 39.3% of children take three or more feeds per day, and in Pakistan, 50% of 12-23-month-old children receive complementary feeding at the recommended frequency of three or four times a day.[36] This might be as a result of social, cultural and educational differences existing between the current study and others.

The mother's practices of complementary feeding during illness were also recorded, and 80% of them withheld from feeding their child during fever, diarrhea, and illness, which is similar to the study in India(78%).[14] The study also showed the predominance of cow's milk(48%) and khichuri(38%) as the most frequented preferred food by mothers who generally are the most preferred foods in south Asian countries due to its abundance and affordability.Vegetables(6%) and fruits(3%) were consumed in a very less proportion which showed a lack of diversity and an imbalanced amount of dietary nutrition required by the child, which is not surprising given that a lot of studies suggested the same scenario.[41]

In the present study, 77% and 78% of the mothers properly washed their hands and utensils and their child's hands before feeding the child, respectively, which is comparatively a lot higher than in countries like northwestern Nigeria.[35] 65% and 46% of the mothers had knowledge about storing food properly and preparing food before serving hence reflecting on the positive attitude towards correct food hygiene practices.

This study reported a significant association between the level of education of mothers and proper understanding of complementary feeding, timely initiation of complementary feeding, and knowledge of iron-rich foods. Apart from the level of education of the mother, socioeconomic status also played a vital role in the proper understanding of complementary feeding practices in mothers of children 6-24 months. There are no significant differences according to the socioeconomic status of the mother and knowledge,

attitude, and practices of complementary feeding. As we found a high percentage of mothers not maintaining the WHO recommended feeding practices of complementary feeding and lack of providing diverse foods in the diet of the child, there is a need to explore further socio-cultural factors and their impact on ensuring proper timing for starting complementary feeding and constantly providing awareness to the mothers.

This study suggests an urgent need for honest efforts to increase girl child education, female literacy, and dissemination of information through mass media and education of mothers during antenatal visits and immunization sessions about optimal breastfeeding and complementary feeding practices at the community level.

Conclusion

This study observed the pattern of knowledge, attitude, and practice regarding complementary feeding among mothers. A gap in knowledge and inappropriate feeding practices were observed in a certain number of study participants. Hence, it is essential to provide proper knowledge and education to mothers and caregivers regarding appropriate complementary feedings and their necessity.

Conflict of interest: none declared

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