Knowledge, Attitude and Practices among Mothers of Children 6 to 24 months of Age Regarding Complementary Feeding

Sabina Shrestha, Manoj Pokhrel, Smriti Mathema

1Department of Pediatrics, Kathmandu Medical College and Teaching Hospital, Kathmandu, Nepal, 2Department of Obstetrics and Gynaecology, Kathmandu Medical College and Teaching Hospital, Kathmandu, Nepal.

ABSTRACT

Introduction: Complementary foods fill the gap between the total nutritional needs of the child and the amounts provided by breast milk. Inappropriate feeding practices are a major cause of the onset of malnutrition in young children. The objective of this study was to assess the knowledge, attitude, and practices of mothers of children between 6 to 24 months of age regarding complementary feeding.

Methods: This Knowledge, Attitude, and Practice Study was conducted among 250 mothers in Kathmandu Medical College and Teaching Hospital from June 2019 to November 2019 after obtaining ethical approval from the institutional review committee (Ref no. 150320199). Convenient sampling method was applied. The mothers of children between 6 to 24 months were interviewed using a structured questionnaire to ascertain the knowledge, attitude, and practices regarding complementary feeding. Statistical analysis was done using SPSS version 20.

Results: Two hundred and fifty mothers were interviewed. 151 (60.4%) mothers knew initiation of breastfeeding soon after birth and 179 (71.6%) were knowledgeable about exclusive breastfeeding for 6 months. 161 (64.4%) mothers knew the proper age of initiating complementary feeding but only 139 (55.6%) mothers practiced it. Early initiation of complementary feeding was done by 87 (34.8%) mothers while 24 (9.6%) mothers delayed it beyond 6 months.

Conclusions: There was a gap in knowledge and practice among mothers regarding adequate age of initiation of complementary feeding, complementary foods, preparation, and practices.

Keywords: attitude; complementary feeding; knowledge.

INTRODUCTION

Complementary feeding (CF) is defined as the systematic process of the introduction of suitable food at the right time in addition to mother’s milk to provide needed nutrients to the baby. The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of life. By 6 months of age, exclusive breastfeeding becomes insufficient to meet the energy and nutrient needs of the growing infant.1,2

Children are highly susceptible to growth faltering, especially between 6 and 24 months of age when breast milk is replaced by low nutrient density foods. Moreover, it is difficult to reverse stunting after 2 years.3 Therefore, for proper physical growth and neurocognitive development, complementary foods should be introduced timely, adequate in nutrition, appropriate in consistency, in sufficient quantity and hygienic.4

The study aims to assess the knowledge, attitude, and practices regarding complementary feeding among mothers with children between 6 months and 24 years.

Correspondence: Dr. Sabina Shrestha, Department of Pediatrics, Kathmandu Medical College and Teaching Hospital, Sinamangal, Kathmandu, Nepal. Email: sabinashrestha135@hotmail.com, Phone: +977-9841289935.
months of age.

**METHODS**

A Knowledge, Attitude, and Practice study was conducted in Kathmandu Medical College and Teaching Hospital over six months from June 2019 to November 2019. Ethical approval was obtained from the institutional review committee of Kathmandu Medical College before initiation of the study (Ref no. 150320199). Mothers having children between 6 to 24 months of age attending the outpatient department of Pediatrics were included in the study. Mothers with children below 6 months or above 24 months and those suffering from chronic illnesses or requiring emergency care were excluded. A convenient sampling method was used and 250 mothers were interviewed during the study period. Data was collected after attaining informed consent from the mothers using a structured questionnaire to ascertain the knowledge, attitude, and practices regarding complementary feeding. Statistical analysis was done using Statistical Package for the Social Sciences (SPSS) version 20.

**RESULTS**

Out of the total 250 participants, almost half of the mothers (49.2%) belonged to the age group 26-30 years. The mean age of mothers being 28 ± 4.25 years. Likewise, the maximum number of babies in the study were in the age group 12-18 months with the mean age being 13.95 ± 5.84 months. There were 127 (50.8%) male babies and 123 (49.2%) female babies. Nuclear family system 161 (64.4%) was more common than the joint family 89 (35.6%). Most of them were from urban areas 219 (87.6%) followed by semi-urban areas 19 (7.6%) and rural areas 12 (4.8%). The socio-demographic profile of the participants is shown (Table 1).

On assessing the mother’s knowledge on infant and young child feeding, 151 (60.4%) mothers knew that breastfeeding should be initiated soon after birth, while 9 (3.6%) had no idea about it. Most of the mothers 179 (71.6%) were knowledgeable regarding exclusive breastfeeding up to 6 months of age. 161 (64.4%) mothers knew about the proper age of initiation of complementary feeding and 172 (68.8%) knew that complementary food should be given thrice a day. Likewise, most of the mothers 178 (71.2%) knew home-made complementary food while 34 (13.6%) knew about commercially available complementary food and 38 (15.2%) knew about both home-made and commercially available complementary food. However, only 120 (48%) mothers had knowledge about iron-rich food while 178 (71.2%) of them knew about adding iodized salt to the complementary food. The mother’s knowledge of infant and young child feeding is shown (Table 2).

**Table 1.** Socio-demographic profile of the participants.

| Characteristics                  | Frequency n (%) |
|----------------------------------|-----------------|
| **Age of the child (in months)** |                 |
| 6-8                              | 55 (22)         |
| 9-11                             | 31 (12.4)       |
| 12-18                            | 109 (43.6)      |
| 19-24                            | 55 (22)         |
| **Sex of the child**             |                 |
| Male                             | 127 (50.8)      |
| Female                           | 123 (49.2)      |
| **Age of mother (years)**        |                 |
| ≤ 20                             | 9 (3.6)         |

**Table 2.** Mother’s knowledge of infant and young child feeding.

| Characteristics                  | Frequency n (%) |
|----------------------------------|-----------------|
| **Initiation of breastfeeding**   |                 |
| Soon after birth                 | 151 (60.4)      |

**Table 2.** Mother’s knowledge of infant and young child feeding.
Most of the mothers 226 (90.4%) think that dietary diversity should be considered while feeding infants and young children. But regarding feeding during episodes of illness, most of the mothers 134 (53.6%) think that the quantity and frequency of food should be decreased, 27 (10.8%) think that the quantity and frequency should be withheld, 65 (26%) mothers believe that the same quantity and frequency of food should be maintained even during illness, while 24 (9.6%) mothers think that it should be increased instead. Regarding cultural and social food taboos, 147 (58.8%) mothers consider banana, yogurt, and rice as cold food, 42 (16.8%) mothers believe that meat, pulses, nuts, and eggs are hot and hard to digest while 45 (18%) believe in both of these food taboos. There were only 16 (6.4%) mothers who did not believe in any social and cultural food taboos. Maximum mothers 207 (82.8%) preferred homemade foods as complementary food and also preferred preparing separate complementary food for children. The attitude of mothers regarding infant and young child feeding is shown (Table 3).

| Characteristics                      | Frequency n (%) |
|--------------------------------------|----------------|
| Dietary diversity                    |                |
| Yes                                  | 226 (90.4)     |
| No                                   | 24 (9.6)       |
| Complementary feeding practices and frequency during illnesses |          |
| Decrease quantity and frequency of food | 134 (53.6)     |
| Withhold quantity and frequency of food | 27 (10.8)      |
| Maintain the same quantity and frequency of food | 65 (26)        |
| Increase the quantity and frequency of food | 24 (9.6)       |
| Cultural and social food taboos      |                |
| Banana, yogurt, and rice as cold food | 147 (58.8)     |
| Meat, pulses, nuts, and eggs are hot and hard to digest | 42 (16.8) |
| Both                                 | 45 (18)        |
| Does not believe in food taboos      | 16 (6.4)       |
| Preferences about complementary food |                |
| Homemade                             | 207 (82.8)     |
| Commercially available foods         | 19 (7.6)       |
| Both                                 | 24 (9.6)       |
| Preferences about the preparation of complementary food |          |
| Prepare separate complementary food for children | 207 (82.8) |
| Prepare combinedly as adult food     | 43 (17.2)      |
practices regarding complementary feeding are shown (Table 4).

| Characteristics                  | Frequency n (%) |
|----------------------------------|-----------------|
| **Washing hands before cooking** |                 |
| Yes                              | 250 (100)       |
| No                               | 0               |
| **Boils drinking water**         |                 |
| Yes                              | 240 (96)        |
| No                               | 10 (4)          |
| **Initiation of complementary feeding** |             |
| Before 6 months                  | 87 (34.8)       |
| At 6 months                      | 139 (55.6)      |
| After 6 months                   | 24 (9.6)        |
| **Reason for delayed complementary feeding** |          |
| Vomits everything                | 2 (0.8)         |
| Milk is enough                   | 17 (6.8)        |
| Elder told to do so              | 2 (0.8)         |
| The child did not accept other food | 3 (1.2)       |
| **Types of complementary food**  |                 |
| Commercial food as complementary food | 25 (10)     |
| Litto                            | 27 (10.8)       |
| Jaulo                            | 36 (14.4)       |
| Rice, dal, vegetables            | 20 (8)          |
| Commercial food and litto        | 21 (8.4)        |
| Commercial food and jaulo        | 6 (2.4)         |
| Litto and jaulo                  | 34 (13.6)       |
| Commercial food, litto, jaulo    | 15 (6)          |
| Jaulo and rice, dal, vegetables  | 16 (6.4)        |
| All (litto, jaulo, rice)         | 50 (20)         |
| **Frequency of complementary feeding** |            |
| Thrice a day                     | 210 (84)        |
| Twice a day                      | 40 (16)         |
| **Consistency of complementary food** |          |
| Thick                            | 137 (54.8)      |
| Thin                             | 113 (45.2)      |

**DISCUSSION**

The period of complementary feeding between 6 and 24 months of age is considered to be a crucial window of opportunity for preventing undernutrition and its long term negative outcomes in infants. According to the WHO guidelines, complementary feeding should be started at 6 months of age, while continuing breastfeeding up to 2 years or more. Introduction of complementary foods at an appropriate age is essential for proper physical growth and neurocognitive development. Initiating complementary feeding too early may increase the risk of gastrointestinal and respiratory tract infections, weight gain during infancy, and obesity in later life. The late introduction of complementary feeding may increase the risk of nutritional insufficiency, immune disorders, and type 1 or 2 diabetes in later life among high-risk populations.

In this study, we tried to establish the duration of breastfeeding, the age at which complementary feeding was started, what common foods were given as complementary food, and various other aspects related to complementary feeding.

The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of life. This study showed that the knowledge about exclusive breastfeeding was high (71.6%) and initiation of breastfeeding soon after birth was satisfactory (60.4%). Likewise, 64.4% of mothers knew about adequate time for initiation of complementary feeding but only 55.6% were found to be practicing it. This shows that there is a gap between knowledge and practice about infant and young child feeding. Even a higher gap in knowledge and practice regarding initiation of complementary feeding was found in a study conducted in Kanti Children’s Hospital in Nepal in 2011.

In our study, early initiation of complementary feeding was found in 34.8%. One of the major reasons for early initiation may correlate to the cultural practice among Nepalese people of introducing semi-solid food in a ceremony known as rice feeding ceremony or Pasni which is usually done at 4-5 months of age. Once introduced, people tend to continue with semi-solid foods thereafter. Similarly, early initiation was still high in another study conducted in Kanti Children’s Hospital in Nepal in 2011.

It was also found that 9.6% of mothers delayed initiation of complementary feeding beyond 6 months of age. The most common reasons given by them were enough milk production, non-acceptance of other foods by the baby, vomiting when other foods were given, and some delayed complementary feeding as per the advice given by the elders in the family. A study done in tertiary care hospital of Nepal showed similar reasons for the delayed introduction of complementary food.

In one study conducted in Nepal in 2015, 77.7% of mothers knew that complementary feeding should be started at 6 months of age. However, irrespective of this knowledge, only 50% of the mothers started complementary feeding at 6 months of age. In the same study, 40.3% of the mothers started complementary feeding before the recommended age and 9.7% delayed
The mother’s preferences on the type of complementary food were varied. However, the study showed that they preferred homemade food preparations as compared to commercially available complementary food. This may be because family members were the major source of knowledge regarding complementary foods. The other sources of knowledge about complementary foods were health professionals, relatives, and electronic media. However, the use of commercially available complementary foods is also increasing which may be because of easy availability, easy preparation, and aggressive marketing policies.

The study also found that 210 (84%) mothers were giving complementary food thrice a day, but a thin consistency complementary food was prepared by 113 (45.2%) mothers. In a study done in India, 25.5% to 30% of mothers knew and practiced the proper consistency of complementary feeding, which is still lower than the finding in our study (54.8%).

Though the frequency of feeding is adequate, the food preparation may be deficient in calories and nutrients as most of the mothers were preparing thin consistent complementary foods. This might be one of the factors responsible for the high prevalence of undernutrition, wasting, and stunting in our country.

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CONCLUSIONS

The knowledge regarding timely initiation of complementary feeding among the mothers is inadequate and feeding practices are inappropriate. The initiation of CF is ideal in only half of the respondents with majority initiating complementary feeding before 6 months of age. False beliefs as well as social and cultural taboos tend to wean the child at an inappropriate age and prevent consumption of nutritious food.

Hence, it is essential to provide proper knowledge and education to mothers and caregivers regarding appropriate timing of initiating complementary feedings, complementary foods, preparation, and practices to prevent malnutrition and improve the health status of children.

Conflict of Interest: None.
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