

Original Research Article

Complementary feeding practice in infants of 6-12 months: a study from tertiary care centre of eastern Nepal

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ABSTRACT

Background: Initial years of life are crucial for child growth and development. Breast feeding for first six months of life, followed by adequate complimentary feeding is necessary for preventing malnutrition and its complication in children. This study accessed the complementary feeding practice and the time of initiation of complementary feeding among infants.

Methods: This was a cross-sectional study conducted for 3 weeks, among 92 infants. Details of feeding practice were taken from the parents from semi-structured questionnaire and nutritional status was evaluated by anthropometric assessment tools.

Results: Ninety-two mothers were interviewed, and their corresponding infants were evaluated. The mean age of infant was 8.8 months with equal proportion of male and female. The mean age of mother interviewed was 26.6 yrs. 59.8% had timely initiation of complimentary feeding. Timely complimentary feeding was directly related to maternal literacy where literate mother follows the practices of appropriate complimentary feeding ($p < 0.007$). There was significant association between ethnicity and timely initiation of complimentary feeding practices. 78.2 % babies who had timely initiation were of higher ethnicity. Overall in our cohort 18.4% were stunted, 14.1% were wasted. The stunted and wasted child were significantly more in whom there was absence of timely initiation of complimentary feeding ($p < 0.05$).

Conclusions: Proper complimentary feeding is still lagging in our society, proper parental education and nutritional counselling will be required to prevent under nutrition in infants.

Keywords: Complimentary, Feeding, Infant, Under nutrition

INTRODUCTION

The World Health Organization (WHO) has defined complementary feeding period as the period during which other foods or liquids are provided along with breast milk and nutrients containing foods or liquids given to young children. It ensures that the child continues to have enough energy, proteins and other nutrients to grow normally. After six months of age, breast milk alone is not enough to make an infant grow well. Poor nutrition due to improper feeding pattern is the prime cause of

malnutrition. Hence WHO recommends exclusive breastfeeding in the first six months of life and to start complementary feeding at six months of age while continuing breast feeding.¹ There are also evidences from European countries which recommends that complementary feeding should be initiated from 6 months of age.^{2,3} According to UNICEF, exclusive breast feeding up to six months of age was 38.8% in Nepal from 2008-2012. While in 65.5% of the infant there was earlier introduction of solid, semi-solid or soft foods, before 6 months.⁴ We conducted this study to find out current

scenario of infant feeding practice in this region of country.

METHODS

This was a cross sectional study conducted between 30th March 2015 and 24th April 2015 at Pediatric OPD, B.P. Koirala Institute of Health Sciences (BPKIHS), Dharan, Nepal. All the Infants of age 6-12 months attending pediatric OPD, BPKIHS, Dharan was included. Convenient sampling was used and the sample size was 92. Parents who were not willing to give consent or participate in the study and sick infants requiring emergency management were excluded. Data collection was carried out at pediatrics OPD. Self-prepared semi-structured questionnaire was used and face to face interview was done. The questionnaire was translated into local language (or Nepali) and the linguistic validity was done by back translation. The questionnaire included 24 items. The weight and length of the children was taken on Seca weighing scale and infantometer respectively. The nutritional assessment was done using WHO anthropometric chart for infants. All interviewed questionnaire and anthropometric data were indexed and kept on file. Database was entered in Microsoft Excel 2007 and exported to SPSS 11.5v for statistical analysis. Descriptive statistics were used to describe the population, while Chi-square were used for inferential statistics at appropriate places. Ethical Permission was taken from Institutional Ethical Review Board.

RESULTS

Ninety-two mothers to child pairs were interviewed in this study. The mean age of the infant was 8.8 months with equal number of male and female. The mean age of mother was 26.6 years. There was significant association between timely initiation of complementary feeding and ethnicity. Higher ethnic groups 78.2% timely initiated complementary feeding ($p=0.05$). Ninety four percent of the mother were literate and out of these 39.1% had completed secondary schoolings. Majority of the mothers (82.6%) were home maker. 96.8% of the father were literate and out of these 45.7% had completed their secondary schoolings. Majority of the fathers (85.9%) were employed. About 87% percent of the respondents fed their child 3-8 times a day with complementary food.

59.8% initiated adequate complementary feeding timely. 67% of the mother whose age was between 16-25 initiated timely complementary feeding whereas 53% of the mother between the age group 26-40 initiated timely complementary feeding. There was significant relationship between age of onset of complementary feeding with maternal educational status ($p<0.007$). Adequate complimentary feeding practice was significantly associated with the literacy rate. 57% of the mother who had completed their primary schoolings, and 72.2% of the mother who had completed their secondary schoolings started complementary feeding timely, while

none of the illiterate mother started timely complimentary feedings.

The percentage of mother having the knowledge of duration of exclusive breastfeeding was 81.5%. 90.2% of the mother continued breastfeeding after the initiation of complementary feeding, there is also significant association between onset of complementary feeding and continuation of breastfeeding 98.2% of the respondents who initiated complementary feeding timely continued breastfeeding whereas 21.6% of the mother who initiated early feeding discontinued breastfeeding ($p<0.002$). Association of timely initiation of complimentary feeding with various factors is presented in Table 1. Among 55 infants with appropriate feeding only 2 infants were stunted and 3 were wasted; while among 37 cases with inappropriate introduction of complimentary feeding 15 were stunted and 10 were wasted ($p<0.001$). In our overall cohort 14.1% were stunted, 4.3% were severely stunted, 8.7% were wasted and 5.4% were severely wasted.

Table 1: Association of time initiation of complementary food with various factors.

Factors	*P-value
Sex of infant	0.056
Ethnicity	0.05
Religion	0.647
Maternal age	0.16
Maternal educational status	0.007
Maternal occupational status	0.80
Educational status of father	0.35
Occupational status of father	0.89
Family income	0.29
Knowledge about exclusive breastfeeding	0.93
Breastfeeding continuation	0.002

* univariate analysis using Chi-square test

DISCUSSION

From 92 mothers and infants we interviewed and assessed, we found that 81.5% of mother had knowledge about exclusive breast feeding and 90.2% of the mother continued exclusive breast feeding after 6 months. There was strong association between timely initiation of complementary feeding and continuation of exclusive breast feeding. Inadequate complimentary feeding was significantly associated with malnutrition.

Similar study done by Chapagain RH, showed that 87.3% of mothers had knowledge about exclusive breast feeding, 8.9% mothers had exclusive breastfeeding after 6 months.⁵ Another study done in Manipal College of medical sciences, Pokhara showed that 34.8% of infants were exclusively breastfed for the first 6 months, following which complimentary feeding was initiated.⁶

An interesting finding in present study was more numbers of mothers were practicing exclusive breastfeeding than

they have knowledge about duration of exclusive breast feeding. Most common reason given by them were enough milk production, acceptability of mother's milk by child and suggestion of the elders in the family. A European study involving five countries found that 37% of formula-fed infants had received solid foods before four months, compared to only 17% of breast-fed infants.⁷ The early introduction of complementary foods in British infants was associated with formula feeding (on average two weeks earlier than in breast-fed infants), lower maternal age and maternal smoking.⁸

Present study showed that there was significant relationship between the age of onset of complementary feeding with maternal educational status. Similar study from Ethiopia showed that the prevalence of timely initiate of complementary feeding was 60.5%. 59% of women whose age from 15-24 years old were initiate timely, 64.7% of women whose age 25-34 years were initiate timely. There was consistent improvement of timely initiation of complementary feeding with their educational status that illiterates, 1-8 grade completed, 9-12 grade completed and 12+ were 52.8%, 55.0%, 82.4%, and 77.8% respectively (p value < 0.007).⁹ Another study from rural KwaZulu-Natal found that 96% of the mother initiated the breast feeding, solid food was given before the age of 4 months in 61% of the infants. They found that 16% of their children were stunted and 23% were overweight.¹⁰ We did not find any overweight cases in present study.

CONCLUSION

This study of complementary feeding pattern showed that timely initiation of complimentary feeding is far from ideal. Early complementary feeding was due to inadequate breast milk production. Few factors like maternal literacy, continuation of breast feeding beyond six months were associated with timely weaning practice.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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