Original Article

Infant and Young Child Feeding Practices among Mothers Attending a Government Hospital

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ABSTRACT

Background: Appropriate young children (from birth to two years of life) feeding practice is very crucial to boost up children's survival and optimum growth and development. Early initiation of breastfeeding (within an hour of childbirth), exclusive breastfeeding for six months and providing nutritionally adequate and appropriate complementary feeding for six months and continued breastfeeding up to two years of age or beyond are the major components of infant and young child feeding (IYCF) practices. The objective of the study was to find out the IYCF practices of mothers.

Methods: Descriptive cross-sectional research was used and all 180 mothers attending government hospital of Biratnagar were the sample. Interview-based data collection was used by a self-developed, structured and semi-structured questionnaire. Data were analyzed using descriptive statistics using SPSS version 25.0.

Result: Less than half (40%) mothers started breastfeeding within an hour after delivery, 90.6% fed colostrum, 73.3% practiced exclusive breast feeding and 89.4% continued to feed breastmilk along with complementary feed to under two years children. Among mothers, 68.3% started feeding complementary food at appropriate age, 70.6% of the mothers fed minimum numbers of time or more according to their child age, 80% mothers used to provide diverse food and 66.1% children were receiving minimum acceptable diet.

Conclusion: The prevalence of timely initiation of complementary feeding at 6 months, minimum dietary diversity, minimum feeding frequency and minimum acceptable diet were satisfactory as almost two third and more children have met minimum acceptable diet. However, practice of early initiation of breast feeding is still low.

Keywords: Infant and Young Child, Feeding Practice, Mothers

INTRODUCTION

Undernourishment of children is still widespread across low- and middle-income nations. Early undernutrition causes long-lasting negative effect on a child's physical and cognitive development. A crucial window of opportunity exists during the first two years of life to prevent undersized growth and undernutrition by providing the right amount of food. Therefore, improving infant feeding practices should be a top global concern, especially for infants under two years old.[1] As most of a child's development occurs in the first 1,000 days, from conception to age two, World Health Organization (WHO) advises exclusively breastfeeding from birth to six months of age, after which time complementary foods should be introduced and breastfeeding should continue for up to two years.[2]

If infants are fed breast milk exclusively for the first six months of life, and in addition to breast milk, complementary feeds (CF) are introduced at six months of age with continued feeding breastmilk until two years of life, as recommended by the WHO, it may decrease the death rate of infants by 19 percent and prevent malnutrition, especially in developing nations like ours.[3]

According to the Nepal Multiple Indicator Cluster Survey (NMICS) 2019 report, Nepal has made considerable progress in reducing stunting and underweight among children under the age of five. The percentage of stunting has decreased from 57% in 2001 to 32%. But over the past ten years, wasting level has remained constant: 11% in 2001, 13% in 2006, 11% in 2011, 10% in 2016, and 12% in 2019. Even while stunting and underweight among children under the age of five have decreased, all forms of undernutrition remain serious public health problems since their levels are higher than the globally accepted cutoff points.[4]

According to the Nepal Demographic Health Survey (NDHS) 2016, Nepal, two thirds (66%) of infants under the age of six months were exclusively breastfed, while 76% of infants under three months were exclusively breastfed. Nearly all (99%) newborns under the age of two years breastfeed at least occasionally. Exclusive breastfeeding sharply declines with age.[5] According to a study conducted in the Lalitpur district, mothers did not always follow the best feeding practices, and complementary feeding methods were notably mediocre in terms of initiation time, consistency, frequency, volume, and meal variety.[6]

The study done in western part of Nepal showed that the percentages of women who started breastfeeding within one hour after delivery, fed breastmilk exclusively for six months, breastfeed their child up to two years of age, started complementary feeding at appropriate age, minimum dietary diversity, minimum meal frequency, minimum acceptable diet were 69.2%, 47.6%, 95.6%, 53.3%, 61.5%, 67.3%, and 49.9% respectively.[1]

A minimum acceptable diet for young children should be provided to support proper growth and development. Infants and young children are especially susceptible to stunting and micronutrient deficits when there is insufficient variety and frequency of meals. As a result, this study assisted in examining how mothers in KoshiProvince practice feeding their infants to enhance the infant's nutritional condition because early nutrition is linked to performance in later years.[7]

METHODS

A Descriptive Cross-sectional study was conducted in Maternal and Child Health (MCH) clinic of Koshi Hospital Biratnagar, Koshi Province, Nepal. Respondents were mothers of children aged 6 months to twenty-three months who had been in immunization clinic for vaccination of their child. Purposively 180 samples were selected and sample size was calculated according to the derived formula $z2pq/d^2$ where z = 1.96 (at 95% confidence level) and prevalence (p) is taken 36% (According to NDHS 2016 who meet the standards of a minimally acceptable diet prevalence)[5]. Those children who were not accompanied by their mother for immunization were not included in the study. Ethical approval was received from TU, Institute of Medicine, Kathmandu and the ethical approval reference number was 465(6-11) E2, 078/079. Informed consent was taken from respondents before proceeding data collection.

On the basis of objective of study, data collection instrument was prepared by using reference of Infant and Young Child Feeding Practices Monitoring Tool developed by WHO and UNICEF in 2011(2)(1)(2)[8] which is valid tool and is used worldwide and also used by Nepal Government for demographic health survey.[9] There were three parts of questionnaire, first part was for obtaining socio-demographic information of the respondents, second part was for obtaining information regarding characteristics of children and the third part was for obtaining information Infant and Young Child Feeding practices. There were 14 questions to assess the practice of IYCF. Interview technique was used to gather information which was based on respondents' 24-hour recall of feeding child.

Three indicators i.e., minimum meal frequency (MMF), minimum dietary diversity (MDD) and minimum accectable diet (MAD) were measured to identify feeding practices.

A. Minimum meal frequency: Proportion of breastfed and non-breastfed children 6–23 months of age who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times, or more.

- Twice for breastfed infants aged 6-8 months,
- Three times for breastfed children aged 9-23 months.
- Four times for non-breastfed children aged 6-23 months

B. Minimum dietary diversity: Proportion of children 6–23 months of age who receive foods from five or more food groups.

C. Minimum acceptable diet: Proportion of children 6–23 months of age who receive a minimum dietary diversity and the minimum meal frequency during the previous day with Breastfed children age 6–23 months.[5,8]

RESULTS

Majority (84.4%) of the participants were belonged to the 20–30 years age range. The mean age of respondents was 25.95±4.35 years. Respondents from Madhesi ethnic group were 51.1% and 88.9% of respondents follow Hindu religion, 61.7% respondents were residing in joint family, 86.1% were from within Biratnagar, 53.3% family earned twenty-five to fifty thousand rupees per month.

Regarding educational status of respondents, 46.7% completed secondary level. Occupation, majority (87.8%) were home maker. Regarding respondents' husbands' education level, 37.2% and 33.9% had passed secondary level and bachelor and above level respectively. On the aspect of respondents' husband occupation, 33.5% had been involved in business, 28.2% were working on the basis of daily wages, 26.5 % were involved in service and 11.8% were working in foreign countries as a labour. Approximately equal number of respondents had one child (44.1%) and two children (44.7%). The mean age of the children in months was 11.89±3.23 and 55.3% were male. Less than half (40%) mothers started breastfeeding within an hour after delivery, 90.6% fed colostrum, 73.3% practiced exclusive breast feeding and 89.4% continued to feed breastmilk along with complementary feed to under two years children. Among mothers, 68.3% started feeding complementary food at appropriate age, 70.6% of the mothers fed minimum numbers of time or more according to their child age, 80% mothers used to provide diverse food and 66.1% children were receiving minimum acceptable diet.

Table 1: Demographic Information of Respondents (n=180)

Variables	Frequency	Percentage (%)
Age		
<20	2	1.1
20-30	152	84.4
≥31	26	14.4
Mean±SD (25.95±4.357)		
Ethnicity		
Dalit	9	5.0
Janajati	39	21.7
Madhesi	92	51.1
Muslim	17	9.4
Bhramin/Chettri	23	12.8
Religion		
Hindu	160	88.9
Buddhist	3	1.7
Christian	1	0.6
Islam	16	8.9
Type of family		
Nuclear	69	38.3
Joint	111	61.7
Residence		
Inside Biratnagar	155	86.1
Outside Biratnagar	25	13.9
Family Income		
<25000	56	31.1
25000-50000	96	53.3
>50000	28	15.6

Table 2: Demographic Information of Respondents **(n=180)**

Variables	Frequency	Percentage (%)
Educational level		
Illiterate	8	4.4
Literate	12	6.7
Foundation	27	15.0
Secondary level	84	46.7
Higher education	49	27.2
Occupation		
Home Maker	158	87.8
Service	15	8.3
Business	7	3.9
Husband's Education		
Illiterate	5	2.8
Literate	13	7.2
Foundation	34	18.9
Secondary	67	37.2
Higher education	61	33.9
Husband's Occupation		
Business	63	35.0
Services	49	27.2
Daily wages	48	26.7
Foreign	20	11.1
Number of children		
One	80	44.4
Two	79	43.9
Three and More	21	11.7

Table 3: Infant and Young Child Feeding Practices **(n=180)**

Characteristics	Frequency	Percentage (%)
Early initiation of breastfeeding after delivery		
Within an hour	72	40.0
After one hour	108	60.0
Fed colostrum		
Yes	163	90.6
No	17	9.4
Exclusive breast feeding up to six months		
Yes	132	73.3
No	48	26.7
Still breast feeding		
Yes	162	89.4
No	18	10.6

Table 4: Other Indicators of Mothers on Infant and Young Child Feeding Practices (n=180)

Characteristics	Frequency	Percentage (%)
Introduction of complementary feeding		
At six months of age	123	68.3
Before six months of age	57	31.7
Consistency of complementary feeding		
Thin	29	16.1
Appropriate	151	83.9
Amount of complementary feeding		
Appropriate	86	50.58
Inappropriate	84	49.42
Snacks in between meal		
Yes	136	75.6
No	44	24.4
Snacks frequency per day (n=136)		
One time	90	66.2
Two times and more	46	33.8

Table 5: Major Indicators of Mothers on Infant and Young Child Feeding Practices

Minimum Meal Frequency	127	70.6
Minimum Dietary Diversity	144	80.0
Minimum Acceptable Diet	119	66.1

DISCUSSION

Present study result showed that only 40% mothers reported early initiation of breast feeding (breast feeding within one hour of delivery). The result of this study is supported by The result of the study done in Western Nepal among 735 mother-infant pairs to assess the factors associated with early initiation of breastfeeding supported this findings that only 42.2% mothers initiated early breast feeding.[10] and also supported by the study done in Kingdom of Saudi Arabia among 1700 mothers to identify the determining factors of the early initiation of breastfeeding, which also showed that only 43.6% mothers reported for early initiation of breast feeding.[11] This is also supported by the result of secondary analysis of the WHO global survey, said that the prevalence of early initiation of breast feeding is approximately 50% in many developing countries.[12] The barriers for early initiation of breast feeding might be because of lack of support and milk insufficiency during early period of delivery.[13]

Regarding practice of exclusive breast feeding, this study result showed that 73.3% respondents fed only breast milk to their children up to five to six months of age. The finding is inconsistent to the finding of the study done in mid-western and eastern region

of Nepal as it showed only 23.2% mothers fed exclusively breast milk to their children.[14] Another study done in Nepal, the finding also contradict to this finding that less than half (47.6%) of mothers fed exclusively breastmilk to their children.[15] This might be because the majority (86.1%) of the present study respondents were from inside Biratnagar Metropolitan area and aware of importance of exclusive breast feeding.

Present study revealed that 68.3% mothers timely (at the age of six months) started complementary feeding to their infant. This conclusion is in line with the finding of the evidence of review done to assess complementary feeding practices for infants and young children of eight countries (Nepal, India, Pakistan, Bhutan, Bangladesh, Maldives, Sri Lanka and Afghanistan) of South Asia region. Review was done in latest nationally representative nutrition survey and it showed that 57.4% mothers timely initiated complementary feeding i.e., when the infants were six months old. [16] But present study results contradicted to the study result which was aimed to evaluate Knowledge, Attitude and Practice (KAP) done among 492 mothers of children age 6-24 months in KOSOVO revealed that only 38.4% mothers timely started complementary feeding to their infant. [17]

In present study, 70.6% mothers fed meal minimum number of times or more according to their infant and child age (two or more times to 6-8 months breast feeding children and three and more times to 9-23 months breast feeding children). This result is consistent with the finding of research of Ethiopia revealed that there were 72.2% infant and children receiving minimum meal frequency.[18] This finding is totally contradicted to the finding of the study done in Chapagaun, Lalitpur, Nepal, presented that only 19.4% mothers used to feed age appropriate minimum frequency of meal[6] and also the result of review study of South Asia showed that less than half i.e., 47.7% mothers used to feed age appropriate minimum frequency of meal.[16]This difference may result from ethnic, religious, cultural, belief, and traditional differences, as well as from factors like food production and purchasing power.

The result of the present study on minimum dietary diversity of food (minimum four groupsor more of food among WHO recommended seven groups of food) was that 80% infants and children were receiving adequately diverse food. The result of the National Family Health Survey (NFHS) of India (2015–16) give support to this conclusion that 80·6 % infants and children were getting minimally diverse food.[19] But the few study results are inconsistent to present study findings as a result of the study done in Bangladesh showed that only 28.8% children were receiving MDD[20] and the study result of Zambia also showed the same type of result i.e., 12%.[21]

Present study result showed that 66.1% children met minimum acceptable diet (other than breast milk). This study result is contradicting to the result of a Multilevel Analysis of Nepal Multiple Indicator Cluster Survey 2019[22] and the prevalence of children who ate minimum acceptable diet was 30.1%. Similarly, the study result is inconsistent to the result of the study done in mid-western region of Nepal which showed that less than fifty percent (49.4%) children met minimum acceptable diet.[15]

CONCLUSION

This results shows findings on mothers' practice with regard to infants and young children. The prevalence of timely initiation of complementary feeding at 6 months, minimum dietarydiversity, minimum feeding frequency and minimum acceptable diet were satisfactory as almost two third and more children have met minimum acceptable diet. However, practice of early initiation of breast feeding is still low. Hence this research study concludes that mothers and family members must be educated about benefits of early initiation of breast feeding and must be keep on utmost priority.

Conflict of Interests

The authors don't have any conflict of interest

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