

# Infant and Young Child Feeding Practices in Chepang Communities

Subedi N,<sup>1\*</sup> Paudel S,<sup>2</sup> Rana T,<sup>1</sup> Poudyal AK<sup>2</sup>

<sup>1</sup>Nepal Public Health Foundation, <sup>2</sup>Department of Community Medicine and Public Health, Institute of Medicine, Tribhuvan University, Kathmandu, Nepal.

## ABSTRACT

**Background:** Infant and young child feeding (IYCF) practices differ in communities due to difference in knowledge, culture, health service utilization, and other socio-economic factors. The objective of this study was to explore the knowledge and practices of Chepang mothers on IYCF and their correlates.

**Methods:** Cross sectional descriptive study was conducted in Chepang communities of Makawanpur district. Quantitative methodology was used in which 360 mothers of under children under two were randomly selected. Logistic regression analysis of selected child feeding indicators were done to find their association with socio-economic and health related factors.

**Results:** Feeding practices of mothers were found better than their knowledge level. About 35% had knowledge about early initiation of breastfeeding. Exclusive breastfeeding and introduction of complementary foods at the age of six months were 81% and 90% respectively. Literate mothers were found initiating breastfeeding early than the illiterate (OR=2.61, 95% CI, 1.59-4.27). Growth monitoring service utilization was found to have significant association with exclusive breastfeeding practices (OR= 2.75; 95% CI, 1.30-5.78). Feeding diverse complementary foods was associated with average monthly family income and duration of food sufficiency.

**Conclusions:** Feeding practices in Chepang community were associated with health and socioeconomic determinants. Some of the feeding practices were found good however, meal frequency for the children 9-23 months of age and feeding diverse foods for children 6-23 months were found lower which needs to be improved through health education programs. Qualitative studies are needed to explore cultural factors.

**Keywords:** complementary feeding; chepang; exclusive breastfeeding; infant and young child.

## INTRODUCTION

Infant and young child feeding practices directly affect the nutritional status of children under two years, impacting child survival.<sup>1</sup> Child feeding practices are linked with knowledge of mother and socio-economic and cultural dimensions of the community.<sup>2-4</sup>

There is a wide variation in the state of malnutrition throughout Nepal, both ecologically and regionally.<sup>5</sup> Stunting is more common in mountain areas than Terai, whereas underweight and wasting are more common in Terai.<sup>6</sup> Breastfeeding practice is nearly universal in

Nepal and the median duration of any breastfeeding is 34 months while the mean duration is about 30 months.<sup>7</sup> Exclusive breastfeeding on the other hand is relatively short, with a median duration of 3 months and mean of 4 months. Only about half (53%) children less than age 6 months are exclusively breastfed. Complementary food is not introduced in a timely fashion for children. At 6-9 months, three in four children receive complementary food.<sup>8</sup>

The study has explored and assessed the existing knowledge and practice of Chepang mothers, residing in

**Correspondence:** Narayan Subedi, Nepal Public Health Foundation, Kathmandu, Nepal. Email: subedi.narayan@gmail.com, Phone: 9841497585.

Makawanpur district of Nepal, on infant and young child feeding and their correlates.

## METHODS

A cross sectional descriptive study was carried out in August-September 2010 in Chepang communities of Makawanpur district. Six out of forty three village development committees (VDCs) of the district were selected purposively based on population density of Chepang. Study unit was mother with child under two years of age. The name and age of child were obtained from Vitamin A register available in respective health facility of each VDC and verified by female community health volunteers of respective VDC and wards. Altogether, 360 Chepang mothers with the child from the sampling frame of 960 were randomly selected and interviewed regarding their knowledge and practices on infant and young child feeding. Quantitative data was collected using structured questionnaires which were administered face-to-face to the mothers in their home setting.

Ethical approval was taken from Department of Community Medicine and Family Health, Institute of Medicine, Tribhuvan University. Verbal consent was taken from each respondent mother and permission to carry out the study was taken from District Health Office, Makwanpur and from respective Village Development Committees.

Definitions of feeding practices were elicited from manual indicators for assessing infant and young child feeding practices part 1 developed by World Health Organization in 2008. Except early initiation of breastfeeding which was through a child lifetime historical recall, all the other feeding practices were obtained from mothers using a 24-hour recall. Auxiliary nurse midwives with more than one year work experience were hired and mobilized for data collection together with the researcher. Average monthly family income, land ownership and duration of food sufficiency were used as proxy makers of household socioeconomic status.

Data entry was done in Epi-Info version 3.5.1 while analysis was done using SPSS version 17.0. Logistic regression analysis of selected child feeding indicators were done in order to find their association with demographic, socio-economic and health related factors. The goodness-of-fit for regression models were assessed with the Hosmer and Lemeshow test.

## RESULTS

Out of the total 360 respondent mothers of under two year age children interviewed, half of them (51%) were in 20-34 year age group followed by less than 20 years (42%). Mean age of the mothers was 22.8 ( $\pm$  5.2) years. Likewise, median age of children was 10 months.

Agriculture was the main occupation of 74% of the mothers while those involved in paid jobs were minimum (0.6%). Although 61% respondents had owned some piece of land however, only about 6% had food sufficiency throughout the year from their own farm production.

**Table 1. Demographic and socio-economic characteristics of respondents**

Characteristics	Number (n=360)	Percentage (%)
<b>Age of mother (in years)</b>		
> 20	153	42.50
20-34	185	51.40
$\leq$ 35	22	6.10
Mean age $\pm$ SD	22.84 $\pm$ 5.29 years	
<b>Education status of mother</b>		
Illiterate	190	52.80
Non-formal education	103	28.60
Primary	58	16.10
Secondary	9	2.50
<b>Age of child (in months)</b>		
0-5	99	27.50
6-8	57	15.80
9-23	204	56.70
Median age	10 months	
<b>Sex of child</b>		
Male	180	50.00
Female	180	50.00
<b>Main occupation of mother</b>		
Agriculture	267	74.20
Paid jobs	2	0.60
Small scale business	30	8.30
Daily labor	61	16.90

Concerning health service utilization, although 57% mothers had received ANC service only 29% visited health facility for postnatal care. About half of the children under two years of age were monitored about their growth. Home delivery was common (75%) and also the self delivery practice.

**Table 2. Health service related characteristics**

Characteristics	Number (n=360)	Percentage (%) / No.
<b>Antenatal care (ANC)</b>		
Yes	204	56.70
No	156	43.30
Average ANC visits		2
<b>Postnatal care (PNC)</b>		
Yes	105	29.20
No	255	70.80
Average PNC visits		2
<b>Growth monitoring</b>		
Yes	172	47.80
No	188	52.20
Average growth monitoring visits		2
<b>Place of delivery</b>		
Home	273	75.80
Health facility	54	15.00
Others (Jungle, workplace etc.)	33	9.20
Self delivery practice (those who delivered at home)	73	26.60

Study found that only 35% of the Chepang mothers had knowledge about breastfeeding initiation within one hour and 62% had known about exact time for exclusive breastfeeding. About 81% mothers had knowledge about appropriate time for introduction of complementary feeding and total time for breastfeeding.

Practices of mother were found better than their knowledge level. Mothers who initiated breastfeeding within one hour were 37% and exclusive breastfeeding upto 6 months were 82%. About 90% of the mothers initiated complementary feeding at the age of 6 months. Diversity of foods ( $\geq 4$  items) fed to children was very less (about 24%), however, feeding frequency was quite good in 6-8 months children (93%) and relatively less (about 57%) in 9-23 months children.

The adjusted analysis of the factors using logistic regression model showed initiation of breastfeeding practice, associated with education status of mother. It was associated two times higher with the literacy status of the mothers (OR=2.61, CI: 1.59-4.27). Antenatal care services were also found significantly associated with initiation of breastfeeding (adjusted OR=5.39, CI: 3.15-9.23). About the place of delivery, mothers delivering at health facility were found to initiate breastfeeding within one hour after birth 3 times higher than those delivering at home or in workplaces (OR=3.58, 1.79-7.17).

**Table 3. Practice of mothers on infant and young child feeding**

Characteristics	Number (n)	Percentage (%)
<b>Breastfeeding initiation (n=360)</b>		
Within one hour	132	36.70
After one hour	228	63.30
<b>Colostrums feeding (n=360)</b>		
Yes	269	74.70
No	91	25.30
<b>Exclusive breastfeeding practice upto 6 months (n=261)</b>		
Yes	213	81.60
No	48	18.40
<b>Complementary feeding practice for children 6-23 months (n=261)</b>		
< 6 month	26	10.00
During 6 month	235	90.00
<b>Continued breastfeeding practice (n=360)</b>		
Yes	354	98.30
No	6	1.70
<b>Minimum dietary diversity for children <math>\geq 6</math> months (n=261)</b>		
Food items < 4	199	76.20
Food items $\geq 4$	62	23.80
<b>Meal frequency (for children of age 6-23 months)</b>		
<b>For 6-8 months children (n=57)</b>		
< 2 times	4	7.00
$\geq 2$ times	53	93.00
<b>For 9-23 months children (n=204)</b>		
< 3 times	88	43.10
$\geq 3$ times	116	56.90

**Table 4. Factors associated with early initiation of breastfeeding practice (n=360)**

Characteristics	Number (%)	Unadjusted OR (95%CI)	Adjusted OR (95%CI)
<b>Education of mother</b>			
Illiterate	190 (52.80)	-	-
Literate	170 (47.20)	3.043 (1.94-4.75)	2.61 (1.59-4.27)
<b>Occupation of mother</b>			
Agriculture	267 (74.20)	-	-
Job and small scale business	93 (25.80)	1.94 (1.20-3.13)	-
<b>Antenatal care</b>			
No	156 (43.30)	-	-
Yes	204 (56.70)	6.18 (3.69-10.35)	5.39 (3.15-9.23)
<b>Place of delivery</b>			
Home/ workplace	273 (75.80)	-	-
Health facility	87 (24.20)	5.35 (2.84-10.08)	3.58 (1.79-7.17)

Regarding exclusive breastfeeding, after adjusted analysis, only post natal service utilization and growth monitoring of children were found significantly associated. Exclusive breastfeeding practice was found 2.7 times higher (95% CI, 1.04-7.47) in mothers' receiving postnatal care service.

**Table 5. Factors associated with exclusive breastfeeding practice (n=261)**

Characteristics	Number (%)	Unadjusted OR (95%CI)	Adjusted OR (95%CI)
<b>Education of mother</b>			
Illiterate	132 (50.60)	-	
Literate	129 (49.40)	1.91 (1.00-3.65)	
<b>Mother's occupation</b>			
Agriculture	198 (75.90)	-	
Jobs, small scale business etc.	63 (24.10)	2.55 (1.03-6.33)	
<b>Sex of child</b>			
Female	129 (49.40)	-	
Male	132 (50.60)	1.91 (1.00-3.65)	
<b>Antenatal care</b>			
No	107 (41.00)	-	
Yes	154 (59.00)	3.68 (1.89-7.13)	
<b>Postnatal care</b>			
No	182 (69.70)	-	-
Yes	105 (30.30)	3.65 (1.48-8.98)	2.79 (1.04-7.47)
<b>Growth monitoring</b>			
No	123 (47.10)	-	-
Yes	138 (52.90)	2.39 (1.25-4.59)	2.75 (1.30-5.78)

## DISCUSSION

Most of the infant and young child feeding practices in Chepang community were found relatively better than the knowledge of the mother. The study found that the mothers had good practices like colostrum feeding, exclusive breastfeeding, timely initiation of complementary foods and continuity of breastfeeding. These were found better than the national average. Meanwhile, early initiation of breastfeeding and dietary diversity were found poor.

Three out of four children were fed colostrums by their mother. About 82% of the mothers had practiced exclusive breastfeeding and 90% of them had initiated complementary feeding at the age of six month of their

child. The result might have been observed due to socio-cultural practices. Furthermore, the result of the study might be influenced by government led programs, along with non-governmental organizations. However, a report of global data bank on infant and young child feeding stated that complementary foods are often introduced too early or too late in developing countries.<sup>3</sup> Knowledge level of mother and some of the practices on child feeding in this study were similar to the findings of NDHS 2006.

After adjusted analysis, positive association was found between mother's education status and initiation of breast feeding and minimum dietary diversity. The findings might be due to adequate exposure of literate mothers to nutrition messages and information through the health and nutrition programs conducted by government health institutions and NGOs. Similar studies have mixed findings with this study. Studies done in Nigeria and India found statistically significant association between maternal education and initiation of breastfeeding and timing of complementary feeding practices<sup>4,5</sup> but a study done in Nepal found no association between mother's education and initiation of breastfeeding.<sup>6</sup> Studies carried out in Nepal, Latin America and the Caribbean found higher maternal education was associated with a lower probability of breastfeeding.<sup>7,8</sup> The study showed the statistical association between breastfeeding initiation and diversity food feeding practice with the literacy status of mother.

Age of mother, family size, family type and birth order were not found statistically associated with infant and young child feeding practices. Similarly, association was not observed between gender and feeding practices in multivariate analysis although male preference was found in bivariate analysis. Previous similar studies had found contrasting results. A study conducted in Nepal found that mother's age, sex of child and birth order were found not significant with the initiation of breast feeding but type and size of family were found statistically associated with early initiation.<sup>6</sup> A comparative study conducted in four Asian countries found significant association of increased rates of timely complementary feeding with maternal age and education but lower rates of exclusive breastfeeding.<sup>9</sup> Study conducted in Nigeria did not find significant association between maternal age and early initiation of breastfeeding but found significant association with exclusive breastfeeding.<sup>10</sup> However, there were no significant difference between demographic factors and child feeding practices. The result might be due to the similar exposure of all mothers to health messages and similar cultural influences in a closed community such as that, with similar geographical settings.

Antenatal care service utilization was found to have positive association with early initiation of breastfeeding but not with exclusive breastfeeding and minimum dietary diversity feeding practice. This might be due to the short time period between ANC service utilization and delivery of the child so that the mother could remember and practice what she was advised during the visits. Analytic study of NDHS 2006 found that mothers who attended antenatal clinics had lower rates of exclusive breastfeeding than those who did not.<sup>7</sup> There was inconsistent association between rates of exclusive breastfeeding and utilization of health services in different countries; higher the number of ANC the higher is the rate of exclusive breastfeeding in India but it was lower in case of Nepal.<sup>9</sup> Similarly, mothers who received clinic-based antenatal care in Nigeria commenced breastfeeding within 1 hour of birth.<sup>10</sup> Antenatal care service was found to be positively associated with complementary feeding in Bangladesh and India. The mothers who visited antenatal clinics were found more likely to give complementary foods on time.<sup>11, 12</sup>

The study found that post natal care visit of the mother and growth monitoring had a positive association with exclusive breastfeeding practice. This might be due to the result of information and counseling that the mothers received from health workers during their postnatal visits and growth monitoring through primary health care outreach clinics. Studies indicated inconsistent findings regarding association of breastfeeding and postnatal care services. Postnatal care received from a public health midwife was found as a positive factor in Sri-Lanka but it was found as negative determinant of exclusive breastfeeding practice in India.<sup>9</sup>

Place of delivery was found to influence initiation of breastfeeding practices in this study but not to exclusive breastfeeding. Mothers who delivered their babies at health facilities were found to initiate breastfeeding on time. This might be due to proper counseling and guidance of health workers for breastfeeding initiation. Study conducted in semi-urban setting of Nigeria showed similar results.<sup>10</sup> Delivery at health care facility was found as a negative determinant of exclusive breastfeeding in India<sup>13</sup> and the findings were similar in a study carried out in Nepal.<sup>7</sup> However, this study did not find significant association between exclusive breastfeeding and the place of delivery.

Most of the study results were found coherent with many previous studies done in other parts of the world but this study found the initiation of breastfeeding and dietary diversity low. However, there is a space for further qualitative and quantitative research, exploring IYCF practices in such minority ethnic communities. This particular study was only limited to the initiation of breastfeeding and exclusive breastfeeding.

## CONCLUSION

The study found that most of the infant and child feeding practices were found better despite the mother's lack of knowledge. Colostrum feeding, exclusive breastfeeding, time of introduction of complementary foods and continued breastfeeding were found higher even than the national average. However, early initiation of breastfeeding, meal frequency of 9-23 months age children and diversity of foods of the children were found lower. There is a need to aware mothers about the importance of early initiation of breastfeeding and about the frequency of meals required for young children. However, the issue of food diversity linked with the availability of foods needs further research. Qualitative studies could also help to explore further to find reasons of poor practices that might be linked with the culture. The study also provides the information to program planners and implementers to explore existing child practices in ethnic communities to design effective and implement effective nutrition programs rather than designing the same program and delivering similar messages for all communities.

## FUNDING SUPPORT

Funding support received for data collection from Center for Community Development Nepal (CCDN) and Mother and Infant Research Activities (MIRA) - NGOs working in Makawanpur. Moral support received from Nepal Chepang Association, People's Health Initiative and Nepal Public Health Foundation

## ACKNOWLEDGEMENT

We would like to extend our sincere thanks to all; Professor Chitra Kumar Gurung, Professor Dr. Sharad Onta and all the faculties of Department of Community Medicine and Family Health of Institute of Medicine, Tribhuvan University, Dr Mahesh Kumar Maskey of Nepal Public Health Foundation, Dr. Suresh Mehta, Er. Mahendra Magar of Center for Community Development Nepal, Professor Dr. Dharma Sharan Manandhar of Mother and Infant Research Activities, Mr. Govinda Chepang of Nepal Chepang Association and People's Health Initiative for their valuable support to carry out research work.

Abstract presented in TEPHINET 6th Bi-Regional Scientific Conference on Global Surveillance Networking for Global Health organized by Ministry of Health Indonesia, WHO SEARO, European Union and Safetynet, Bali, Indonesia, 10<sup>th</sup> November 2011. And abstract presented in the Scientific Symposium organized by Nutrition CRSP Asia through its partners (John Hopkins University and Tufts University) and Institute of Medicine in Kathmandu on 21st March 2012.

## CONFLICT OF INTEREST

There is no conflict of interest in this research work.

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