

Feeding Practices and Nutritional Status of Chepang Children of Dhading District, Nepal

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Abstract

Background: Proper feeding with supplement is a vital means for compensating health deficits and enhancing the nutritional status of children. However, documentation about child-feeding practices and the nutritional status among ethnic communities like the Chepang is limited.

Objective: The present study therefore aims at exploring the feeding practices and nutritional status of Chepang children in two municipalities of the Dhading district of Nepal.

Method and material: The study was cross-sectional in nature. It approached mothers of children aged 6-24 months. A quantitative study was conducted between February and March 2018. Height, weight and mid-upper arm circumference (MUAC) of the children were measured and analyzed according to WHO cut-offs.

Results: A total of 347 mothers (238 from Benighat Rorang and 109 from Gajuri Rural Municipality) participated in the study. It was found that 26.8% children were underweight, 66% were stunted and 6.6% were suffering from wasting. There was no significant association between exclusive breast-feeding and nutritional status, dietary diversity, malnourishment, minimum meal frequency and health-related status.

Conclusion: It was observed that parents of Chepang children were aware of the benefits of exclusive breast feeding, dietary diversity and meal frequency, but there was no difference in their exclusive breast feeding practices with nutritional food items for the children. So further study is needed to explore other factors to promote healthy growth and development of the children.

Keywords: Chepang, nutrition, stunting, underweight, wasting.

Introduction

Children are responsible citizens for accomplishing national development goal in their young age with acquired ability and qualification. Child health should be the first priority of every parent for the healthy growth and development, thus the future personality of their progeny would progress by virtue of better scores in education, community acts and extra-group roles to contribute surrounding areas with acquisition of skill and talent through bodily fitness (Abera, Dejene, & Laelago, 2017). Importance of nutrition is strongly promoted in the sustainable development goals oriented to societal and national march for increased agricultural and industrial productivities aftermath of proper involvement of capable man power resource. It is found that 12 of the 17 Sustainable Development Goals contain indicators that are highly relevant to nutrition of human organs from the successful steps in environmental care on the part of rich and core countries in world (International Food Policy Research Institute, 2016).

It was reported that world widely, 178 million children were stunted and 52 million among them were wasted of organs separately, 99 % of their weight had been found below the average level in Sub-Saharan Africa and South Asian nations where food grains are scarce and the people stricken of poverty in those provinces depend on the supply of items from developed worlds (Derso, Tariku, Biks, and Wassie, 2017). It is projected by specialists in public health that under-nutrition in the total evaluation including fetal development to a confinement of stature and fitness, stunting, wasting, and insufficiencies about vitamin A and zinc for eye, skin, blood, mind and digestion for child alongside suboptimum breastfeeding is a reason for 3.1 million youngster to die yearly or 45% of all children's deaths become in 2011 after negligence from relevant institutions for food and treatment (Smith & Haddad, 2015). Estimates indicate about 35% of child death and 11% of total global diseases had burden

are due to poor nutritional level (Katepa-Bwalya et al., 2015). A stamped decay has been made in the course of the last couple of decades in the burden of child under nutrition in developing nations (Derso, Tariku, Biks, & Wassie, 2017).

The Nepal Demographic and Health Survey (NDHS) 2016 has shown a declining trend compared to previous surveys in child under-nutrition rates like stunting, underweight and wasting of 36%, 27% and 10% respectively like in other parts of backward countries suffering from political and economic problems being unable to manage larger outcomes from natural, industrial and commercial means. However, the report of Ministry of Health apprised of the current rate of under-five age mortality in Nepal remained unacceptably high since because there has been occurring 38 deaths per year in 1,000 live births in the country which is thought to be habitually average while comparing that all timely data it is not doubtless (Ministry of Health, 2017). It is true that nutrition is a cornerstone that affects and defines the health of all people by its role to prevent infectious diseases and other health disorders in human body through compensation of food, neat and clean factors, thus an increase in immunity system against even onsets of non-infectious case. Conversely, malnutrition makes all aged people more vulnerable to disease onslaught because of low grade role of inner physical mechanism along with cellular organs and can also make the premature death from anemia, pneumonia, heart as well as brain strokes, fatigue and some chronic stages of muscular complaint. It is an issue, especially for poor people undeveloped areas and unprivileged societies, since poverty is a key reason for family food insecurity and its consequence malnutrition, which is one of the major and most squeezing health goodness influencing youngsters and adults to long life (Betebo, Ejajo, Alemseged, & Massa, 2017).

The first 1,000 days of life (0-23 months) are a very critical phase in a child's life in poverty-stricken countries like Somalia, Brazil, India, Nepal and other South Asian states, during which rapid physical and mental development can best occur if sponsored aid is given by concerned, first-world agencies providing food grains instead of societal construction programs (Akombi, Agho, Merom, Renzaho, & Hall, 2017). Interventions including breastfeeding, further complementary feeding and vitamin A and zinc supplementation could save about 25% of total deaths in the under-five age group preventing non-infectious conditions of the circulatory system like blood pressure, diabetes, and heart ailments which happen due to a deficiency of hormones in the body (Katepa-Bwalya et al., 2015).

This study was conducted among the Chepang community living in the rural areas of the Dhading district of central Nepal, because no previous research has ever been conducted to find out their pre-natal, natal, and child feeding habits as well as the nutritional status of infants and young children aged 6 to 24 months like malnutrition, which requires medical treatment with supplementary drugs. It is possible to prevent bad nutrition early on period if children are well fed and taken care of by family members under the aegis of governmental and non-governmental health care programs in remote, poverty-stricken areas.

Methods and materials

Study design and data collection

This cross-sectional study employed quantitative method. A set of structured questionnaires was administered to mothers in the Chepang community to collect data about child feeding practices i.e. early initiation of breastfeeding, exclusive breastfeeding, introduction of complementary foods and food diversity. Anthropometric measurements (height, weight and MUAC) of the child were obtained using a Salter scale and length board. Three days of training were undergone by six enumerators who were deployed to collect quantitative data in February and March 2018 in Dhading district of Nepal.

Sampling technique

The study has adopted the purposive sampling technique to select the respondent because there was no availability of data of exact population of mother having with 6-24 months children so snowballing technique was adopted under the purposive sampling. Children aged 6-24 months were assessed. Mothers and their children were the primary targets respondents of this study. The total sample size was 347.

Data management and analysis

Data was collected using KOBO tablets. Quality control audits of all data in the database were made after entering data from each field exercise. The main variables of this study were early initiation of breastfeeding, exclusive breastfeeding, dietary diversity and minimum meal frequency and its association with nutritional status of children. Microsoft Excel and SPSS were used for analysis. Frequency distribution (cross tabulation) and the Pearson chi-square test was used to show the association between two variables at the 5% significance level.

Ethics

The study obtained ethical approval from the Nepal Health Research Council, Government of Nepal. Individually, verbal consent was obtained from all participants.

Results and discussion

A total of 347 mothers (238 in Benighat Rorang and 109 in Gajuri) participated in the study. The questionnaire was administered to all identified mothers residing in the selected households. The interview was conducted only with mothers of the children. They were asked about how they fed their children. Questions covered areas such as the early initiation of breast feeding, exclusive breast feeding, dietary diversity and minimum meal frequency.

Early initiation of breast feeding and nutritional status of children

The data presented in Table 1 shows the cross tabulation of early initiation of breast-feeding practices and nutritional status of Chepang children. The data shows that out of 347, 327 (94.2%) initiated breastfeeding within 1 hour of birth which indicates that majority of Chepang mothers were aware on the importance of breastfeeding. In total, 26.8% children were underweight, 66% children were stunted and 6.6% were wasted.

Table 1. Early initiation of breast feeding and nutritional status of children

		Within 1 hour (n=327)	Within 24 hours (n=14)	After 24 hours (n=6)	Total (n=347)
Weight for age	Underweight	26.4%	28.6%	50.0%	26.8%
	Nourished	73.6%	71.4%	50.0%	73.2%
Height for age	Stunted	66.0%	71.4%	50.0%	66.0%
	Nourished	34.0%	28.6%	50.0%	34.0%
Weight for height	Wasted	7.1%	0.0%	0.0%	6.6%
	Nourished	92.9%	100.0%	100.0%	93.4%

Source: Field Survey, 2018

The data shows that 7.1% of children who had been breast-fed within one hour of birth were wasted. Similarly, stunting was high among those children who had been breast-fed within 24 hours of birth. The number of underweight children was high (50%) among those who and not been breast-fed until 24 hours. The distribution of the nutritional status of children on the basis of early initiation of breast-feeding shows that underweight was related to breast-feeding after 24 hours. Similarly, stunting was related to breast-feeding within 24 hours and wasted children were found among those who were initiated within 1 hour. In general, it could be observed that nutritional problems were associated with the different time periods of early initiation of early initiation of breast-feeding practices by the mother when the child was born.

Regarding the status of stunting of children, the findings of the previous literatures on health showed that stunting had short and long-term consequences such as impaired organs, lower school attainment like poor educational performance, meager economic productivity, poor consumption of edible things

at early life, consequently also loss of human capital, household income allied by increased risk of cardiovascular diseases while reaching adulthood. Burden given out of malnutrition and poor feeding practices, poor health care including limited vaccination coverage makes children in this slum like area to become vulnerable to many types of immunity deficiency caused illnesses. Nutritional status of under five year children is a matter of concern worldwide and malnutrition is a one of the most important public health problems now for the less child cared areas (Aggarwal & Srivastava, 2017).

Exclusive breast feeding and nutritional status

One of the important aspects of feeding practice is exclusive breast-feeding. The mothers were asked about the minimum months of exclusive breast feeding. The data presented in Table 2 shows that more children who were only breast-fed for up to five months from the date of birth were underweight and that stunting was also slightly higher among the same group compared with those children who were exclusively breast-fed.

Table 2. Exclusive breast feeding and nutritional status

		Exclusive breast feeding		Total (n=347)	Pearson chi-square
		Up to 5 months only (n=73)	Exclusive Breast Feeding less than 5 months (n=274)		
Weight for age	Underweight	30.1%	25.9%	26.8%	0.469
	Nourished	69.9%	74.1%	73.2%	
Height for age	Stunted	68.5%	65.3%	66.0%	0.612
	Nourished	31.5%	34.7%	34.0%	
Weight for height	Wasted	8.2%	6.2%	6.6%	0.539
	Nourished	91.8%	93.8%	93.4%	

Source: Field Survey, 2018.

Wasting was measured and it was found that 6.6% of children were suffering from wasting in total, of whom 8.2% had been breast fed up to five months only, whereas slightly fewer children (6.2%) who had been exclusively breast fed suffered from malnutrition. The Pearson chi-square significance values show that there was no significant association between exclusive breast-feeding and the nutritional status of children, because the p value was greater than 0.05.

Dietary diversity and nutritional status of children

The nutritional status of children depends upon dietary habit and diversity. It is commonly believed that the use of more food items may contribute to improving nutritional status. The data presented in Table 3 shows that the underweight status was similar among children who had eaten one to three items and 4 or more items within the 24 - h recall period. Stunting was also similar in both groups, whereas the wasting status was slightly higher among those who had taken one to three items than those who had consumed four or more items.

Table 3. Dietary diversity and nutritional status of children

		1-3 items (n=193)	4 and more items (n=154)	Total (n=347)	Pearson chi-square
Weight for age	Underweight	26.9%	26.6%	26.8%	0.947
	Nourished	73.1%	73.4%	73.2%	
Height for age	Stunted	65.3%	66.9%	66.0%	0.755
	Nourished	34.7%	33.1%	34.0%	
Weight for height	Wasted	7.8%	5.2%	6.6%	0.338
	Nourished	92.2%	94.8%	93.4%	

Source: Field survey, 2018

The Pearson chi-square test shows that there was no significant association between dietary diversity and the nutritional status of Chepang children because the p value of each category of nutritional status was greater than the significant level.

Dietary diversity is directly associated with the nutritional status of children. Considering the public concern in nutritional status of children, there are many programs lunched by the government and non-government organizations to sensitize the community people to health matters. Better health status is important for the critical and creative work performable by fitted young people about limbs and organs for the belonging community. Some previous authors have also stated that improved human capital regarding health and hygiene attributed to by better nutritional status coupled with economic growth on productive side are basic elements of societal change to use along compensation to sustainable aspects in communities of needy area, in other words some definitely helpful launching for all beneficial purposes. Good nutrition enhances the physical and mental qualities endowed to human life maintenance together-with the working capacity of a beginning child, productivity and earnings, which in turn contributes to economic and social developments of those dwelt residential areas (Biadgilign, Shumetie, & Yesigat, 2016).

Minimum meal frequency and nutritional status

Most Nepalese people heavily eat twice a day, in the morning and evening. Breakfast is often not eaten in rural societies. Food is taken around 9-10 am and again in the evening around 7-8. In the case of children, parents provide food at more frequent intervals. Meal frequency depends upon the availability of food items, how much time the parents have and the age of children.

Table 4. Minimum meal frequency and nutritional status

		Up to 2 times (n=37)	3 and more times (n=310)	Total (n=347)	Pearson chi-square
Weight for age	Underweight	24.2%	27.8%	26.8%	0.665
	Nourished	75.8%	72.2%	73.2%	
Height for age	Stunted	54.5%	67.6%	66.0%	0.130
	Nourished	45.5%	32.4%	34.0%	
Weight for height	Wasted	15.2%	5.9%	6.6%	0.044
	Nourished	84.8%	94.1%	93.4%	

Source: Field survey, 2018

The data presented in Table 4 shows that 27.8% of children who had been given three or more meals within the 24-h study period, which was higher than those in comparison of who had only been given up to two meals. Similarly, stunting was also high (67.6%) among those children who had been given food three and more times compare to those who had been given up to two meals only. Wasting on the other hand was higher (15.2%) among those children who had only been given up to two times than those had been given three or more meals.

The perspective of child growth is a most widely used measure for nutritional status of under-aged sufferers of the food deficit problem in less productive, industrial and income generating places where governmental and non-governmental agencies have not been interventional. The first 1000 days of life (0-23 months) are a very critical phase in a child's life of poverty stricken countries like Somalia, Brazil, India, Nepal and other South Asian states during which rapid physical and mental developments can occur best way if sponsored aid are availed by concerned welfare agencies of first world territories with food grains instead of societal construction programs (Akombi, Agho, Merom, Renzaho, & Hall, 2017).

Conclusion

The study had drawn the conclusion based on quantitative analysis of data. This study measured the nutritional status (underweight, stunting and wasting) of 347 children aged 6-24 months. The study found the better practices of early initiation of breastfeeding because 94.2% initiated breastfeeding within 1 hour of birth and 79% (274 out of 347) did the exclusive breastfeeding. The results show that 26.8% were underweight, 66% were stunted and 6.6% were suffering from wasting in the Chepang

community. In particular, stunting was very high in comparison to the other indicators. Statistically, there was no significant association between feeding practices and nutritional status because the p value of each indicator was more than the 0.05 significance level.

Recommendation

The results indicate that there are other causative factors which have significant effects in determining the nutritional status of Chepang children. Further research is needed to identify these influences to promote healthy growth and development.

Acknowledgements

The author is grateful to Dr. Deepak Paudel for his overall guidance and to Dr. Tej Bahadur Karki for his support in this research and their endless encouragement and help. I would also like to thank the enumerators and other contributors. Finally, I extend my gratitude to the study participants involved in this study.

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