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Food security practices of Chepang community of Nepal

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Abstract

Food security indirectly plays vital role for under five years children's health, which helps physical and mental growth. In this relation the study has explored the main objectives to explore and analyse the food security and breast feeding in the study area. In total 511 Non-Chepang, 365 (71.42%) had food sufficiency whereas out of 736 Chepang, 262 (34.65%) had food sufficiency. The data show that Chepang community had more food crisis than the non-Chepang community, which can determine the nutrition status of Children in both communities. The study was conducted in rural area of Chitawan and Makawanpur districts of Nepal among 1250 respondents.

Keywords: additional food, Bottle feed, breast-feeding, colostrum (Bigauti), food security, food insufficiency

Introduction

Nutrition and food security are multidimensional in nature. Hence, other multi sector statistics such as education, agriculture, WASH, etc. are also very much related to them. The multi sector indicators work in bidirectional pathway meaning they are contributors to poor nutrition and food insecurity and can also be their manifestations. Most of the development indicators continue to have wide disparities by region, sub-region and urban versus rural areas in Nepal.

The determinants of nutrition and food security are multi-sectoral and hence various government and non-government sectors are responsible to provide multi-pronged responses. National Planning Commission (NPC) has an over-arching position and a stewardship role amid all government and non-government sectors. This unique portal is thus under the aegis of the NPC. It is designed for all national and international stakeholders to access the nutrition and food security related knowledge, information, tools, practices and services in Nepal. The portal aims to provide a platform to promote coordination, cooperation and collaboration among government, external development partners and non-governmental organizations working in the field of nutrition and food security in Nepal.

According to WHO figures, for Nepali children who are under-5 years old, 40% are stunted, 29% are underweight, and 11% are wasting. Chronic malnutrition has debilitating effects, such as blindness, brain damage, and infectious diseases, which often can result in lifetime damage (National Planning Commission, 2017).

For families living in Nepal's remote highland regions, chronic food insecurity and hunger are part of daily life. Their own agricultural production is low; imported food is expensive; and as men migrate to find work elsewhere, women are left to manage farms and households alone. Climate change is making the situation worse (Kilpatrick, 2011).

Khadka (2012, p. 177) wrote in his case studies on food security about the major nutritional issues in Nepal as follow:

1. Harmful feeding practices and behaviours (e.g. males eat first, low weight during pregnancy, traditional practices toward pregnant women and young)
2. Inadequate understanding of nutrition, particularly for pregnant women and young children (e.g. breastfeeding, complementary feeding, infant and young child feeding)
3. Limited access to safe drinking water and sanitation facilities and poor sanitation and hygiene awareness (e.g. food safety and preparation; hand washing)
4. Inadequate access to and/or utilization of high nutrient food, and

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5. Food behaviours and practices remain the major barriers and lack of food diversity (Khadka, 2012, p. 177)

National Planning Commission (NPC) has prepared food security and nutrition planning frame work and action plan. Government of Nepal as decided that Ministry of Agriculture Development is focal point for food security. In recent year, significant efforts have been made for awareness and commitment for addressing food insecurity and malnutrition. Food security and nutrition has received considerable priority in the three years plan, 2010-13, and global Scaling up Nutrition (SUN) framework. NPC is providing policy guidance and leadership for the food and nutrition Security Plan of Action. The World Bank, UNICEF, the World Food Program and the REACH Initiative have all committed to supporting the NPC to create a Secretariat to track the implementation of the multi-sectorial planning framework for food security and nutrition. Ministry of Agriculture development has implemented the Nepal Food Security Monitoring and Analysis System (NeKSAP) with the WFP (Khadka, 2012).

Objectives

The main objective of this study is to find out the nutritional status of three to five years children of rural area of Chitawan and Makawanpur districts of Nepal. The specific objectives of the study are as follows:

1. To explore and analyse the food security in the study area.
2. To analyse the breast feeding.

Materials & Method

"A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Kothari, 2009)". A research design provides the framework for the collection and analysis of data. This research was an explorative based on mixed method. Through such research we can analyse the various factors which motivate people to behave in particular manner or

which make people like or dislike in food intake in Chepang community of Chitawan and Makawanpur districts of Nepal. This study was non-experimental cross sectional.

Primary data were collected by using the structured questionnaires and focus group discussions. Simple frequency distribution was applied to identify the nutrition status of 3-5 years children. Comparative study was conducted between the Chepang and Non-Chepang communities. As well as through FGDs qualitative data were collected and narrated.

Quantitative, cross-sectional survey method has been used. A well-structured questionnaire and measurement of weight and height were used to determine the nutritional status of children of socio-economic, environmental, demographic and household deprivation on nutritional status of the 3-5 years children in rural areas of Chitawan and Makawanpur districts in Chepang communities. It was compared with Brahman/Chhetri of 3-5 years children. Census method was used for questionnaire survey from Chepang population 3-5 year children household for data collection. The key informants were 3-5 years children households.

Quantitative data were gathered by structured questions containing height, weight and mid-upper arms circumference (MUAC) measurement. The anthropometric measure as well as Department of Health and WHO standards were used for the determination of nutritional status of 3-5 years children. Standard deviation of score (Z-score) for weight-for-age (WAZ), height-for-age (HAZ) and weight-for-height (WHZ) were calculated.

Result & Discussion

1. Food sufficiency status throughout the year

Healthy diet in regular basis is one of the main contributors of nutrition. More than this, in Nepalese context, food sufficiency throughout the year is one of the main concern to ask about the proper diet. In total, 50.3% stated that they had food sufficiency throughout the year whereas 47.6% had no food sufficiency throughout the year from their own production. It may be one cause to increase the problem of malnutrition in children.

Table 1: Food sufficiency status throughout the year

District	Food sufficiency status	Non-Chepang	Chepang	Total no.	%
Makawanpur	Yes	219	112	331	52.8
	No	80	155	235	39.6
	Not Stated	14	7	21	80.8
	Total	313	274	587	47.1
Chitawan	Yes	146	150	296	47.2
	No	51	308	359	60.4
	Not Stated	1	4	5	19.2
	Total	198	462	660	52.9
Total	Yes	365	262	627	50.3
	No	131	463	594	47.6
	Not Stated	15	11	26	2.1
	Total	511	736	1247	100

Food scarcity was reported higher in Chitawan district than Makawanpur district. Similarly, out of 274 Chepang, 155 had problem of food insufficiency whereas out of 313 non-Chepang, 80 had problem of food insufficiency throughout the year in Makawanpur district. Similarly, out of 462 Chepang, 308 and out of 198 non-Chepang, 51 had problem of food insufficiency. The data present that in total, out of 511 Non-Chepang, 365 (71.42%) had food sufficiency

whereas out of 736 Chepang, 262 (34.65%) had food sufficiency. Chepang community had more food crisis than the non-Chepang community which can determine the nutrition status in both communities.

2. Months of food insufficiency

Following the data of the Table 2, study had analysed the duration of food insufficiency faced by the respondents in

study areas. The Table 2 shows that in total, 68.2% household were facing around food insufficiency problem around 6 months in a year followed by 12.3% were facing 3 months problem. Similarly, data present that 8.2% had food

problem around 9 months in a year followed by 2% said that they had less than 1 month and 7.4% had around 1 month problem of food insufficiency.

Table 2: Months of food insufficiency.

Food insufficiency status		Non-Chepang		Chepang		Total	
		N	%	N	%	N	%
Makawanpur	1 month	4	5.00	4	2.58	8	3.40
	3 months	3	3.75	13	8.39	16	6.81
	6 months	68	85.00	129	83.23	197	83.83
	9 Months	4	5.00	1	0.65	5	2.13
	Not Stated	1	1.25	8	5.16	9	3.83
	Total	80	100.00	155	100.00	235	100.00
Chitawan	None	10	19.61	2	0.65	12	3.34
	1 month	9	17.65	27	8.77	36	10.03
	3 months	1	1.96	56	18.18	57	15.88
	6 months	17	33.33	191	62.01	208	57.94
	9 Months	14	27.45	30	9.74	44	12.26
	Not Stated	0	0.00	2	0.65	2	0.56
Total	51	100.00	308	100.00	359	100.00	
Total	< 1 Month	10	7.63	2	0.43	12	2.02
	1 month	13	9.92	31	6.70	44	7.41
	3 months	4	3.05	69	14.90	73	12.29
	6 months	85	64.89	320	69.11	405	68.18
	9 Months	18	13.74	31	6.70	49	8.25
	Not Stated	1	0.76	10	2.16	11	1.85
Total	131	100	463	100	594	100	

The district wise ethnicity data show that in Makawanpur district, out of 80 non-Chepang, 4 (5%) had 1 month food insufficiency problem in comparison of out of 155 Chepang, 4 (2.58%). Similarly, 85% non-Chepang had faced 6 months crisis of food insufficiency followed by 83.22% Chepang had 6 months problem of food insufficiency.

3. Colostrum (Bigauti) feeding status

Caring of children is determined because of the socio-

cultural orientation of parents too. In Nepal, different ethnic communities have different culture and practice. Still in many more closed rural communities mothers do not want to visit health post during the pregnancy period or for delivery because they do not want to disclose their personal issue or organs in front of medical person on the one hand. On the other hand, they had no knowledge about the importance of Colostrum (Bigauti) of mother so they do not allow to feed that milk to baby.

Table 3: Colostrum (Bigauti) milk feeding status

District	Ethnicity		All Fed	Half Fed	Not Stated	Total
Makawanpur	Non-Chepang	#	203	109	1	313
		%	64.9	34.8	0.3	100
	Chepang	#	264	2	9	275
		%	96.0	0.7	3.3	100
	Total	#	467	111	10	588
		%	79.4	18.9	1.7	100
Chitawan	Non-Chepang	#	198	-	-	198
		%	100	-	-	100
	Chepang	#	457	7	-	464
		%	98.5	1.5	-	100
	Total	#	655	7	-	662
		%	98.9	1.1	-	100
Total	Non-Chepang	#	401	109	1	511
		%	78.5	21.3	0.2	100
	Chepang	#	721	9	9	739
		%	97.6	1.2	1.2	100
	Total	#	1122	118	10	1250
		%	89.8	9.4	0.8	100

The Table 3 shows that 64.9% non-Chepang whereas 96% Chepang mothers reported that they fed all Colostrum (bigauti) to their babies in Makawanpur district. Similarly, 100% Non-Chepang and 98.5% Chepang mother said that they had fed all Colostrum (bigauti) to baby in Chitawan

district. Data present that in total, respondents of Chitawan district were found more aware about the importance of Colostrum (Bigauti) of mother to baby than the Makawanpur district. Similarly, in total, 97.6% Chepang against the only 78.5% non-Chepang mother had fed

Colostrum (bigauti) to their children. It means, Chepang had better practice on breast-feeding of Colostrum (bigauti) than non-Chepang.

4. No. of breast-feeding times

Breast feeding times and duration also determine the sufficiency of nutrition food for child. Up to 6 months of birth, child's growth totally depends on the breast-feeding of mother. The study also identified the practices of breast-feeding of mother. The Table 24 gives the data of breast-feeding times and duration.

The data present that in total 13.5% had practiced breast-

feeding less than 6 times in a day whereas 85.9% had practiced more than 6 times. Among them, 14.6% non-Chepang and 11.7% Chepang had less than 6 times and 85.4% non-Chepang and 86.6% Chepang had practiced more than 6 times per day. More than 90% of both Chepang and non-Chepang had practiced breast-feeding more than 6 times in Makawanpur district. As compare with Chitawan district, around 80% Chepang and non-Chepang had practiced breast-feeding more than 6 times in a day. As result of data, mothers of Makawanpur district had done adequate breast-feeding to children in a day than the Chitawan.

Table 4: No. of breast-feeding times

District	Ethnicity		< 6 times	> 6 times	Not Stated	Total
Makawanpur	Non-Chepang	#	15	141	-	156
		%	9.6	90.4	-	100
	Chepang	#	-	56	3	59
		%	-	94.9	5.1	100
	Total	#	15	197	3	215
		%	7.0	91.6	1.4	100
Chitawan	Non-Chepang	#	28	111	-	139
		%	20.1	79.9	-	100
	Chepang	#	21	99	-	120
		%	17.5	82.5	-	100
	Total	#	49	210	-	259
		%	18.9	81.1	-	100
Total	Non-Chepang	#	43	252	-	295
		%	14.6	85.4	-	100
	Chepang	#	21	155	3	179
		%	11.7	86.6	1.7	100
	Total	#	64	407	3	474
		%	13.5	85.9	0.6	100

Table 5: No. of breast-feeding times.

No. of Breast-feeding duration (Years)									
District	Ethnicity		1 year	2 yrs	3 yrs	4 yrs	5 yrs	Not Stated	Total
Makawanpur	Non-Chepang	#	1	141	163	5	1	2	313
		%	0.3	45.0	52.1	1.6	0.3	0.6	100
	Chepang	#	6	143	114	4	6	2	275
		%	2.2	52.0	41.5	1.5	2.2	0.7	100
	Total	#	7	284	277	9	7	4	588
		%	1.2	48.3	47.1	1.5	1.2	0.7	100
Chitawan	Non-Chepang	#	1	63	132	-	2	-	198
		%	0.5	31.8	66.7	-	1.0	-	100
	Chepang	#	41	128	274	17	2	2	464
		%	8.8	27.6	59.1	3.7	0.4	0.4	100
	Total	#	42	191	406	17	4	2	662
		%	6.3	28.9	61.3	2.6	0.6	0.3	100
Total	Non-Chepang	#	2	204	295	5	3	2	511
		%	0.4	39.9	57.7	1.0	0.6	0.4	100
	Chepang	#	47	271	388	21	8	4	739
		%	6.4	36.7	52.5	2.8	1.1	0.5	100
	Total	#	49	475	683	26	11	6	1250
		%	3.9	38.0	54.6	2.1	0.9	0.5	100

Similarly, the study asked to mothers about the duration of breast-feeding. Data were calculated in years. In total, 3.9% had fed up to 1 year, 38% had fed up to 2 years, 54.6% had fed up to 3 years, 2.1% had 4 years and 0.9% had fed up to 5 years. The data show that 54.6% of mothers had practices of breast-feeding to their child up to 3 years. Higher no. of respondents (48.3%) reported that they had practiced breast-feeding up to 2 years in Makawanpur district whereas 61.3% reported that they had practiced up to 3 years in Chitawan district. 52% Chepang had said that they had fed up to 2

years whereas 52.1% Non-Chepang had said that they had fed up to 3 years. It means, non-Chepang children had got better nutrition than the Chepang children in Makawanpur district. Similarly, 66.7% non-Chepang and 59.1% Chepang mother had practiced breast-feeding up to 3 years from Chitawan district. It means, both Chepang and non-Chepang are equally aware about the importance of breast-feeding in Chitawan district. Chepang children of Chitawan had got longer time breast-feeding than the Chepang children of Makawanpur district.

5. Additional food

Generally, children need additional food after 6 months of birth because breast-feeding will not be adequate for the physical and mental growth of a child. So, it is general practice that mother gives additional food as available in her home.

It was also asked to mothers about their practice to provide supplementary food to their children. Data show that in total, 98.8% reported that they had given the supplementary food to their children. Among them equal no. 98.8%

Chepang and non-Chepang reported that they had given additional food except breast-feeding to their children. 100% respondents of Chitawan district had reported that they had given supplementary food from both communities; Chepang and non-Chepang whereas, 98.1% non-Chepang and 96.7% Chepang of Makawanpur district had given additional food to their children. The data show that parents of Chitawan district were found more aware about the importance of additional food than Makawanpur district.

Table 6: Additional food.

District	Extra food except breast-feed		Non-Chepang	Chepang	Total
Makawanpur	Yes	#	307	266	573
		%	98.1%	96.7%	97.4%
	No	#	3	3	6
		%	1.0%	1.1%	1.0%
	NS	#	3	6	9
		%	1.0%	2.2%	1.5%
Total	#	313	275	588	
	%	100.0%	100.0%	100.0%	
Chitawan	Yes	#	198	464	662
		%	100.0%	100.0%	100.0%
	Total	#	198	464	662
		%	100.0%	100.0%	100.0%
Grand Total	Yes	#	505	730	1235
		%	98.8%	98.8%	98.8%
	No	#	3	3	6
		%	0.6%	0.4%	0.5%
	NS	#	3	6	9
		%	0.6%	0.8%	0.7%
Total	#	511	739	1250	
	%	100.0%	100.0%	100.0%	

Table 7: Additional food.

Use of Lito as additional food					
District		Lito	Non-Chepang	Chepang	Total
Makawanpur	Yes	#	224	9	233
		%	72.73%	3.35%	40.67%
	No	#	84	259	343
		%	29.27%	96.65%	59.33%
	Total	#	308	268	573
		%	100.0%	100.0%	100.0%
Chitawan	Yes	#	53	35	88
		%	26.8%	7.5%	13.3%
	No	#	145	429	574
		%	73.2%	92.5%	86.7%
	Total	#	198	464	662
		%	100.0%	100.0%	100.0%
Total	Yes	#	277	44	321
		%	54.21%	6.0%	25.68%
	No	#	234	695	929
		%	45.79%	94.04%	74.32%
	Total	#	505	730	1235
		%	100.0%	100.0%	100.0%

Respondents were asked about the use of Lito (locally prepared food by mixing of different cereals and pulses) as supplementary food. In total, 25.68% reported that they had given Lito to their children where 54.21% non-Chepang and only 6% Chepang had given Lito to their children. It seems that either Chepang were unaware about the use of Lito or had economic problem to collect different cereals to prepare it. 72.73% non-Chepang and only 3.35% Chepang had given Lito to their children in Makawanpur district whereas,

26.8% non-Chepang and 7.5% Chepang had given Lito to their children in Chitawan district. The data showed that non-Chepang of Makawanpur district were more aware about the use of Lito as additional nutrition than non-Chepang of Chitawan district. It showed that, the level of awareness and economic status of ethnic communities is different in both district because practice of giving additional food is different between the Chepang and non-Chepang communities as well as, in different districts.

6. Distribution of respondents by bottle feeding

It is also in practice that people use to give bottle feeding to their children if breast-feeding is not adequate. The data show that in total, only 11.3% had given bottle feeding to their children. 22.1% non-Chepang and only 3.8% Chepang had used bottle-milk to feed their children during the breast-feeding period.

Table 8: Distribution of respondents by bottle feeding

District	Ethnicity	Bottle Feeding	
		Yes	%
Makawanpur	Non-Chepang	Yes	92
		%	29.4
	Chepang	Yes	6
		%	2.2
	Total	Yes	98
		%	16.7
Chitawan	Non-Chepang	Yes	21
		%	10.6
	Chepang	Yes	22
		%	4.7
	Total	Yes	43
		%	6.5
Total	Non-Chepang	Yes	113
		%	22.1
	Chepang	Yes	28
		%	3.8
	Total	Yes	141
		%	11.3

Table no 8 shows that 16.7% in Makawanpur district and 6.5% in Chitawan district had reported their practices as the use of bottle feeding to their children. District wise ethnicity practices also reported higher in non-Chepang communities than Chepang communities. From the medical perspective, bottle feeding is not good.

Conclusion

The study has focused to explore the food security practices of Chepang and non-Chepang community of Makawanpur and Chitwan districts of Nepal. Children health status dependent on the food sufficiency and use of nutritious food. In total 511 Non-Chepang, 365 (71.42%) had food sufficiency whereas out of 736 Chepang, 262 (34.65%) had food sufficiency. Chepang community had more food crisis than the non-Chepang community which can determine the nutrition status in both communities. Total, 97.6% Chepang against the only 78.5% non-Chepang mother had fed Colostrum (bigauti) to their children. It means, Chepang had better practice on breast-feeding of Colostrum (bigauti) than non-Chepang which support the improvement of children health in future. After 6 months parents provide additional food (Lito) to their Children. Chitawan district mothers were found more aware than Makawanpur district mother used additional food. Total 16.7% in Makawanpur district and 6.5% in Chitawan district had reported their practices as the use of bottle feeding to their children. From the medical perspective, bottle feeding is not good.

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