Original Research Article

Food insufficiency among returnee migrants during COVID-19

Bidur Bastola*[1], Unnata Timalsina[2], Ranju K.C.[2], Ramesh Adhikari[2,3]

[1] Development Worker (Freelancer)
[2] Center for Research on Education, Health and Social Science (CREHSS), Kathmandu Nepal
[3] Tribhuvan University, Kathmandu, Nepal
* Correspondence: bidbas@gmail.com
   ORCID: 0000-0003-2391-8052

Abstract

Remittance from the employed in the foreign countries has been contributing a lot to Nepal's economy, supporting the livelihoods of millions of families. The COVID-19 pandemic has been a catalyst for unprecedented social and economic change and exacerbated food insecurity levels in the short- and longer-term across the world. The study's objectives are to examine the status and determinants of food insufficiency due to COVID-19 among returnee migrants of the far western province of Nepal. Data for this survey were collected through telephone interviews with the respondent using cross-sectional research design selecting 1182 respondents as the sample. Among these returnee migrants 94.2% were males and one third of them were the youth of less than 25 years. The data were analyzed conducting univariate, bivariate and multivariate statistical tools. It was found that 18% of returnee migrants had food insufficiency in their households during the survey period. Multivariate analysis showed that the households with single women were about 1.9 times more likely to have food insufficiency (aOR=1.867, 95% CI=1.12-3.11) than those households who did not have single women. Respondents with any health-related problem were two times more likely to have food insufficiency (aOR=2.443, 95% CI=1.48-4.03) than those who did not have any health-related problem. Similarly, migrants from poor households were two times more likely to have food insufficiency (aOR=2.620, 95% CI=1.52-4.52) than somehow well- to-do households. The female migrants who were physically disabled had lost their jobs in the host country and had been suffered more from food insufficiency.

Keywords: COVID-19, food insufficiency, Nepal, returnee migrants, Sudurpaschim Province

Introduction

Remittance from the employed in the foreign countries has been contributing a lot to Nepal's economy, supporting the livelihoods of millions of families. Nepal is one of the most remittance-dependent economy countries (IOM, 2020). Remittance accounted for 26.5 percent of the GDP in 2019 (The World Bank, 2020). Over 4 million labor migrant workers have been issued foreign labor approvals since 2008 (MoLESS, 2020). However, due to the ongoing COVID-19 pandemic, migration has been severely affected, and its profound implications can be seen in migrant workers and remittance-dependent counties like Nepal (Bircan, 2020).

The COVID-19 pandemic, followed by an inevitable economic downturn, has affected significantly to the economy and the livelihood of millions worldwide (Rasul et al., 2021). The impact of the COVID-19 pandemic has already started to surface in several sectors, such as tourism, trade and production linkages, supply, and health (Pandey & Fusaro, 2020). In 2019, about 750 million were exposed to severe levels of food insecurity. Meanwhile, about 2 billion people worldwide do not have regular access to nutritious and sufficient food (FAO et al., 2020). The situation is worse due to the effect of COVID-19 (Rasul, 2020). Due to the COVID-19 pandemic, a total of 820 million people are expected to suffer from hunger around the world. The largest number of undernourished people live in Asia, mainly in South Asian countries, according to Food and Agricultural Organization (FAO, 2019). The World Bank predicted that up to 100 million people could be pushed back below the poverty level, and almost one-third could be in South Asia (World Bank, 2020). The pandemic has exacerbated food insecurity in the short- and longer-term (Kent, 2020).

The pandemic might add between 83 and 132 million people undernourished in the world in 2020, depending on the economic growth scenario (FAO et al., 2020). The Global Food Security Index score of Nepal is 46. Similarly, Nepal's score of 20.8 on the Global Hunger Index is still high (NPC, 2020). Addressing food insecurity has been recognized through the second goal of the Sustainable Development Goals (SDGs) 2030. Almost half of the households in Nepal are food secure (48%) and have sufficient food for a year to the Nepal Demographic and Health Survey, 2016 (MOH et al., 2017).

Furthermore, the escalating spread of COVID-19 has pushed the already vulnerable migrants and their families further into deeper poverty (IOM, 2020). Disruption of agricultural production, food supply chains, unemployment, and a rise in food prices across different countries, including Nepal, has severely impacted household food security (Rasul et al., 2021). Similarly, loss of jobs, rising costs of essential items, and health-related concerns, as a result, pose a severe threat to food security. So, food security is the biggest challenge faced by the poor and marginalized groups when such crises as pandemics (NPC, 2020) occurred.

There are very few studies conducted in Nepal that examine the status and determinants of food insufficiency due to COVID-19 among returnee migrants. The underlying cause of the high prevalence of food insufficiency needs further investigation and exploration to be better understood and appropriately addressed by the programs. It is important to identify the factors of food insufficiency to develop effective strategies. This study examines the current status and determinants of food insufficiency due to COVID-19 among returnee migrants of the far western province of Nepal. So, this paper aims to provide a guidance to program planners and policymakers to understand various factors influencing food insufficiency and to assist in implementing the program to reduce food insufficiency.

Method and Materials

Data for this survey were collected through telephone interviews with the respondents under the cross-sectional research design using quantitative method. The study was conducted in the Achham, Doti, and Kailali districts of the Far-western province. The Ministry of Home Affairs has reported that 700,000 migrants returned home from India during the lockdown

period (IOM, 2020). Name, geographic, and contact details of returnee migrants were available in the Kailali entry point record managed by the Nepal Government. The list of returnee migrants was prepared separately by districts based on the entry point and holding center migrant returnee record ledger. Telephone numbers of returnees' migrants were obtained and the required number of returnee migrants were interviewed using a phone survey. The research ethic and proceedings were followed during the entire process. A total of 1182 respondents were selected using systematic random sampling. The sample size was calculated using the formula for the known population with a 5% significant level and non-response adjustment. Of the total required sample size, 396 in the Achham district, 394 in the Doti district, and 392 in the Kailali district were selected. A set of validated interview schedules was developed to accumulate quantitative information about food sufficiency among returnee migrants. Tools were pretested among a similar population. Telephonic interviews were conducted with returnee migrants after taking verbal consent from the respondents.

The independent variables were districts, sex of the respondents, age group, level of education, family size, disability status, presence of elderly/single women, health problems, and poor household (Poor household in this study is defined as those households that do not have their own production land or livestock and not having any self-enterprise), whereas food insufficiency was the dependent variable. In this study, food insufficiency is defined as a household having food stock for less than three months. Univariate, Bivariate and multivariate analyses were performed. Initially, univariate or descriptive analysis was used to describe the respondents' socio-demographic characteristics. Then, after controlling for the socio-demographic variables, multivariable analysis was used to identify whether independent variables affected food sufficiency. For the analysis, a statistical package for social science (SPSS-26 version) was used.

Results

Background Characteristics of Respondents

An overwhelming proportion of the respondents were male (94.2%), while only (5.8%) were female. More than one-third of the respondents (33.6%) were youth below 25 years. Similarly, more than two-thirds (68.2) of the respondents had below secondary education. Meanwhile, nearly two out of five (37.3%) respondents were household heads. In regards to family size, more than 60 percent of the respondents have six or more family members in their family. One out of ten respondents (11.4%) had a physical disability. Besides these, more than one-fourth (26.6%) of the respondents have at least one elderly, while almost one-tenth of the respondents (9.7%) have at least one single woman in their household. It was found that three-fifths of the respondents (60%) were from poor households.

Table 1

Background Characteristics of Returnee Migrants

Characteristics		%	N
Districts	Achham	33.5	396
	Doti	33.3	394
	Kailali	33.2	392
Gender	Female	5.8	69
	Male	94.2	1113
Age group	Less than 25 years	33.6	397
	25-34	37.1	438
	35-44	20.1	238
	45 or above	9.2	109
Level of education	Primary and below	31.5	372
	Lower secondary	36.7	434
	Secondary	16.2	192
	SLC and above	15.6	184
Head of household	No	62.7	741
	Yes	37.3	441
Family size	Up to 5 members	39.1	462
	6-8 members	47.3	559
	9 or more members	13.6	161
Physical disable	No	88.6	1047
	Yes	11.4	135
Have at least one elderly in household	No	73.4	868
	Yes	26.6	314
Have at least one single woman in the household	No	90.3	1067
	Yes	9.7	115
Any health-related problem	No	89.6	1059
	Yes	10.4	123
Poor household	No	40.0	473
	Yes	60.0	709
Total		**100.0**	**1182**

Bivariate Analysis

It is prominent that 18% of returnee migrants had food insufficiency. Bivariate analysis showed a significant association of food insufficiency with variables such as districts, sex of respondents, level of education, household head, family size, physical disability, presence of elderly and single women in the household, and poor household.

A significantly higher percentage of the migrants (27%) who lived in Kailali than in Doti (22.3%) and Achham (4.8%) had food insufficiency (p<0.001). Similarly, a significantly higher proportion of females (33.3%) than males had food insufficiency (p<0.01). Likewise, more than one-fourth (26.9%) of the respondents whose educational level was primary or below lower secondary (14.7%) have a significantly higher proportion of food insufficiency (p<0.001). Meanwhile, a comparatively higher proportion of migrants who were head of the household (23.6%) than those who were not head of household (14.7%) had food insufficiency (p<0.001). A significantly higher percentage of respondents who were not physically disabled (19.1%) than those who were physically disabled (9.6%) had food insufficiency (p<0.01). Likewise, a higher percentage of migrants who did not have elderly in the household (20.4%) than those who had

elderly in the household (11.5%) had food insufficiency (p<0.001). However, a higher proportion of households that had single women (27%) than those that did not have single women in the household (17.1%) had food insufficiency (p<0.001). A significantly higher percentage of returnee migrants with at least one health related problem had food insufficiency than those who do not have any health-related problem (28% vs. 17%). Besides these, a significantly higher percentage of poor households (26.1%) than rich households (6%) had food insufficiency (p<0.001).

Table 2

Background Characteristics of Respondents by Food Insufficiency Status

		Current food stock enough for				
		No stock	Sufficient for 1-3 months	Sufficient for 3-6 months	Sufficient for more than 6 months	Total N
Districts ***	Achham	4.8	57.6	35.1	2.5	396
(Chi-square =87.7 and p=0.000)	Doti	22.3	38.6	33.5	5.6	394
	Kailali	27.0	41.1	27.0	4.8	392
Sex of the respondents **	Female	33.3	39.1	26.1	1.4	69
(Chi-square =12.4 and p=0.006)	Male	17.1	46.2	32.3	4.5	1113
Age group	Less than 25 years	14.4	45.1	35.3	5.3	397
	25-34	21.0	45.9	29.5	3.7	438
(Chi-square =11.5 and p=0.242)	35-44	16.4	47.1	32.8	3.8	238
	45 or above	22.9	45.0	27.5	4.6	109
Level of education***	Primary and below	26.9	50.8	18.5	3.8	372
(Chi-square =70.3 and p=0.000)	Lower secondary	14.7	46.3	35.0	3.9	434
	Secondary	14.6	41.7	41.1	2.6	192
	SLC and above	11.4	38.6	41.8	8.2	184
Head of household***	No	14.7	45.3	35.2	4.7	741
(Chi-square =19.8 and p=0.000)	Yes	23.6	46.5	26.3	3.6	441
Family size *	Up to 5 members	22.1	46.3	28.4	3.2	462
(Chi-square =15.3 and p=0.018)	6-8 members	16.5	45.6	32.7	5.2	559
	9 or more members	11.8	44.7	39.1	4.3	161
Physical disability **	No	19.1	45.8	30.5	4.6	1047
(Chi-square =13.8 and p=0.004)	Yes	9.6	45.2	43.0	2.2	135
Have at least one Elderly in the Household **	No	20.4	43.5	32.3	3.8	868
	Yes	11.5	51.9	30.9	5.7	314
(Chi-square =1.8 and p=0.001)						
Have at least one single woman in the household**	No	17.1	45.2	33.0	4.8	1067
	Yes	27.0	51.3	21.7		115
(Chi-square =16.1 and p=0.001)						
Any health-related problem**	No	16.9	46.5	31.9	4.7	1059
(Chi-square =12.0 and p=0.007)	Yes	27.6	39.8	31.7	0.8	123
Poor household ***	No	5.9	45.5	42.9	5.7	473
(Chi-square =97.7 and p=0.000)	Yes	26.1	46.0	24.5	3.4	709
Total		18.0	45.8	31.9	4.3	1182

Note. ***=Chi-square test significant at p<0.001, **p<0.01 and *= p<0.05

Multivariate Analysis

Multivariate analysis shows that districts, sex of the respondents, level of education, Physical disability, presence of elderly in the household, presence of single women in the household, and the poor household were significant predictors of households with food insufficiency returnee migrants in Nepal.

It is found that migrants from the Kailali district were about four times (aOR=4.5, 95% CI=2.3-8.7) and Doti about three times more likely to have food insufficiency than migrants from the Achham district. Male migrants were less likely to have no-stock food (aOR=0.23, 95% CI=0.13-0.25) than female migrants. Migrants with lower secondary (aOR=0.45, 95% CI=0.3-0.7), secondary, and SLC were less likely to have food insufficiency than those who had primary or below education. Furthermore, respondents who were physically disabled were less likely to have food insufficiency (aOR=0.3, 95% CI=0.14 -0.5) than those who were not physically disabled. The presence of the elderly in the household decreases food insufficiency. For example, households with older people were less likely to have no-stock food (aOR=0.543, 95% CI=0.4-0.8) than households with no elderly. Similarly, households with single women were about 1.9 times more likely to have food insufficiency (aOR=1.867, 95% CI=1.12-3.11) than those who do not have single women. Similarly, returnee migrants who had any health-related problems were two times (aOR=2.4) more likely to face food insufficiency in their households than those who do not have any health problems. Meanwhile, migrants from poor households were two times more likely to have food insufficiency (aOR=2.620, 95% CI=1.52-4.52) than rich households.

Table 3

Adjusted Odds Ratios (aOR) and 95% Confidence Interval (CI) of Households with Food Insufficiency among Returnee Migrants in Nepal

Predictors		aOR	95% CI	
			Lower	Upper
Districts	Achham (ref.)	1.00		
	Doti	3.607***	1.910	6.812
	Kailali	4.492***	2.311	8.731
Sex of the respondents	Female (ref.)	1.00		
	Male	0.237***	.127	.445
Age group	Less than 25 years (ref.)	1.00		
	25-34	1.440	.942	2.201
	35-44	0.767	.437	1.346
	45 or above	1.163	.586	2.307
Level of education	Primary and below (ref.)	1.00		
	Lower secondary	0.447**	.300	.668
	Secondary	0.579*	.334	.996
	SLC and above	0.516*	.286	.930
Head of household	No (ref.)	1.00		
	Yes	1.256	.821	1.922
Family size	Up to 5 members (ref.)	1.00		
	6-8 members	0.889	.620	1.275
	9 or more members	0.773	.429	1.393

Physical disability	No (ref.)	1.00		
	Yes	0.279***	.144	.543
Have at least one elderly in the Household	No (ref.)	1.00		
	Yes	0.543***	.350	.843
Have at least one single woman in the household	No (ref.)	1.00		
	Yes	1.867*	1.120	3.114
Any health-related problem	No (ref.)	1.00		
	Yes	2.443***	1.480	4.033
Poor household	No (ref.)	1.00		
	Yes	2.620***	1.518	4.522
	Constant	0.214**		
	-2 Log likelihood	**917.03**		
	Cox & Snell R Square	**0.154**		

Note. *** p<0.001, **p<0.01 and * p<0.05

Discussion

The study shows that self-reporting food insufficiency (no-stock food) among returnee migrants is high (18 percent). However, a higher prevalence of food insecurity was found in other countries, such as migrant workers in Malaysia found relatively high prevalence (57.6%) of food insecurity (Mei, 2020). Similarly, another study in North India reported that 77.2% of households were food insecure (Chinnakali, 2014). In contrast to these statistics, a lower prevalence of food insecurity was found among immigrants (10-11%) in Portugal (Alarcão, 2020). Comparatively to the results of our study, a relatively high prevalence was found in a study conducted in Australia, which shows that 26 percent of respondents had experienced food insecurity to some degree (Kent, 2020). The results of this study were similar to a study conducted in the U.K., where 16.2% of adults had reported experiencing food insecurity since the lockdown resulting from the COVID-19 pandemic, which was high than 7.6% in 2018 (Loopstra, 2020).

The study also found many predictors that contribute to household food insufficiency. Districts, sex of the respondents, level of education, physical disability, presence of elderly in the household, and poor households were the significant predictors of the household's food insufficiency/no-stock food. A similar result was observed in Australia, where age, university-level education, and disability were found as associated factors of food insecurity (Kent, 2020). The study also revealed that the district (place of residence) was also highly significant in the food insufficiency/ no-stock food in a household, which was similar to a study in Malaysia (Sulaiman, 2021) and Australia, where respondents living in rural areas than in urban area were 80% more likely to experience a higher burden of food insecurity (Kent et al., 2020). Concerning the findings from our study, the sex of respondents was found to be highly significant with the food insufficiency in the household, which is similar to the study conducted in Ethiopia that demonstrated a more significant proportion of women/girls were chronically food insecure than boys (Belachew, 2012). Consistent with the literature, gender was also significantly associated with food security in Portugal (Alarcao, 2020) and Ethiopia (Negesse, 2020).

Furthermore, migrants who have lower secondary (aOR=0.45, 95% CI=0.3-0.7), secondary, and SLC were less likely to have food insufficiency than those who had primary or

below level of education which was consistent with the study in Ethiopia, where adolescents who had the educational status of primary level were nearly twice as likely to have chronic food insecurity (OR = 1.97, P = 006) compared to those with an educational level of secondary or above (Belachew, 2012). It also aligns with the study conducted among women of reproductive age in Nepal (Pandey,2020), American Indians (Tomayko, 2017), and the study conducted by Smith D et al. in 134 countries around the world (Smith, 2017). Likewise, physical disability was also found to be highly significant to food insufficiency. This was consistently related to the study conducted in Korea (Kim, 2011) and the USA (Coleman-Jensen, 2020; Heflin, 2019). Meanwhile, respondents reporting health conditions and disabilities were more likely to be food insecure than those without a disability (Kent et al., 2020). This was similar to the survey conducted in the U.K. during the COVID-19 pandemic, where respondents with a disability had a two- to four-fold increased risk of experiencing food insecurity due to economic hardship and a lack of food available in shops and social isolation (Loopstra, 2020). Besides these, respondents with some health-related problems were more likely to experience food insufficiency, similar to a study conducted in Portugal, where the prevalence of all self-reported chronic diseases was higher among Portuguese who were food insecure than those who were food secure (Alarcao, 2020).

There are some limitations in the interpretation of the results of this study. First, as pointed out previously, we restricted our sample to only those returning migrants, so our results regarding food insufficiency should not be generalized to all migrants in Nepal. Second, because the study's cross-sectional design and all of the items analyzed in the logistic regression analysis came from information at the time of the survey, the analysis can only provide evidence of the statistical association between those items and food insufficiency in the households and cannot show cause-effect relationships.

Conclusion

A substantial proportion of returnee migrants experience food insufficiency in the Far Western province of Nepal. Our study found that female migrants, physically disabled migrants, who had elderly in their houses, who had any health-related problems, and migrants from poor households were reported to experience much more food insufficiency. Therefore, there is a need for a comprehensive awareness program and services regarding the importance and need for food security. There is a need for a policy maker and program planners to develop a strategy and implement the program to address such issues that can help reduce food insufficiency and increase the quality of life of returnee migrants and their families.

Acknowledgement

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