## **Original Research Article**

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20213771

# Household expenses in healthcare and its coping mechanism in rural Nepal

## Aliza Shrestha\*, Susmita Nepal, Aassmi Poudyal

Department of Public Health, Om Health Campus, Kathmandu, Nepal

**Received:** 25 August 2021 **Accepted:** 17 September 2021

\*Correspondence: Dr. Aliza Shrestha,

E-mail: alizas180@gmail.com

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## **ABSTRACT**

**Background:** In Nepal, the most frequent mode of payment for health care is household expenditure. It accounts for more than half of all health-care expenditures. In addition, the study intends to investigate household expenditure on health care and its coping mechanisms in Nepal's rural districts.

**Methods:** This is a quantitative, cross-sectional study in which 410 households were chosen using a multiple sampling procedure. The research study region was chosen using a purposive sampling strategy. The two wards for the study were chosen by a lottery system. The estimated households were then chosen using a systematic random selection technique. A semi-structured questionnaire was utilized to gather data, and a face-to-face interview with the household head was undertaken to obtain the data. SPSS version 20 was used to analyze all of the data.

**Results:** The overall household health expenditure in Miklajung rural municipality was determined to be 31.7% in the previous six months, with the biggest expenditure in medicine/drugs or pharmacies, followed by in-patient care and health treatment abroad. Income/savings was discovered to be a major coping mechanism used to deal with household expenditure and was found to be significantly associated in a bivariate analysis with type of illness, age, and more with a confidence interval of 95% in a bivariate analysis.

**Conclusions:** At the conclusion of the investigation, we discovered that people spent the most money on medicines and drugs, followed by in-patient hospital care. According to the findings, a significant portion of the target group used their income and savings to cover unexpected healthcare costs.

Keywords: Household expenditure, Coping mechanism, Acute disease, Chronic illness

## INTRODUCTION

In many developing countries, household expenditure accounts for a large fraction of payment on health care by patients and their families. Household expenditure is the prime source of financing in health in Nepal which accounts for 62% of the total health expenditure. Similarly, the government is the second largest source of financing, accounting for 17% of total health expenditure while official donors and international not-for-profit agencies contribute about 10 and 11% of total expenditure in health. According to the recent data, the total health expenditure in health is only 5.8% of the total

GDP and the private sector accounts for 70% of total health expenditure.<sup>3</sup> This might be due to high consultation to a private setting which is 66%.<sup>4</sup> The most common coping mechanism of out-of-pocket expenditure adopted by families was loans, savings, and health insurance.<sup>5</sup> In a study, it was found that current income and savings were the major means to cope with the household expenditure for non-poor households while borrowing money or loans is the major means to cope for poor households.<sup>6</sup>

Even though household expenditure is one of the most concerning issues in the context of Nepal, very few studies have been conducted in the sector of health financing in Nepal most of which were done using secondary data. Even the studies taken place were conducted in urban settings but this study will incorporate data in rural settings. The main aim of this study is to identify household expenditure and its coping mechanism on health care in rural Nepalese settings and to identify associated factors with household expenditure as well as to find out coping mechanisms to adjust with cost.

#### **METHODS**

This is cross-sectional descriptive research. A quantitative study was conducted to determine household health-care expenditures, associated factors, and coping mechanisms. Miklajung rural municipality, Wards 7 and 8 of Morang district, was the study area. It was a rural location that met the study's objectives and had a diverse population of ethnic and economic backgrounds, which was advantageous to the research. The NHRC ethical clearance board approved the ethical clearance.

## Selection and description of participants

Individual households in the study region made up the study population. The selected household's head of family member was interviewed. The next adult member present at the time of data collection was interviewed in the absence of the family's head. Households that incurred health-care expenses or had a family member fall ill in the previous six months were included in the study, while those that did not were omitted.

## Sample size calculation

It was calculated using the formula:

$$n=z^2 \; pq/d^2$$

Here, prevalence of out-of-pocket was retrieved from bulletin of world health organization (WHO) where Nepal's prevalence on household expenditure was (48-69%). Calculating the mean from the data, prevalence is 59%. Marginal error (d) is 0.05, and confidence interval of 95% (1.96). Substituting the values in the above equation, the sample size was found to be 371. Considering 10% non-response rate, the final sample size was determined to be 408 (410).

## Sampling technique

Using convenient sampling approaches, the district and rural municipalities where the study took place were chosen. The selected rural municipality had a total of nine wards. As a result, the wards for the study were chosen using simple random sampling (lottery method). The sample household was then chosen using systematic random sampling.

The WHO tool was tweaked to fit the study's goals. The study data was gathered using a face-to-face interview technique. To strengthen the validity of the data, questions were asked concerning health-related spending in the previous six months. Pre-testing was undertaken among 30 homes in Mahalaxmi municipality, ward number 6, Lubhu, Kathmandu, to boost the reliability. After pretesting, necessary changes to the tool's defects and errors were made. Every phase of the research was carried out by the researchers themselves.

## Data analysis technique

After the data was collected, it was rigorously verified, modified, and coded into several categories. For analysis, data was entered in SPSS version 20 and then transferred to Microsoft word and excel for interpretation. To present the study findings, descriptive statistics in the form of frequency counts, univariate and bivariate analyses were used. The Chi-square test was used to demonstrate the relationship between variables. P values between 0.0.5 and 0.01 were considered significant, indicating that there was a link between variables.

## **RESULTS**

A total of 59 percent of the 410 people in the sample were female, while only 41% were male. Also, 41% of the population was between the ages of 41 and 60, whilst just 6% of the population was between the ages of 0 and 20. Furthermore, nearly half of the population (46%) was illiterate, with only 2% of population having completed high school. Similarly, 80% of the population was married, a little over a third of the population was employed in some capacity, 84% of population was Hindu, and 66% of population lived in a joint household (Table 1).

The 99.5% had experienced some form of disease in the previous six months, with 21% having had acute illness and 79 percent having experienced chronic illness. As a result, it was determined that chronic disease was more frequent in the population. Furthermore, the most common acute sickness was cold/cough/fever (47%); but the most common chronic diseases were hypertension (59%), diabetes (30%), arthritis (15%), heart disease (11%), and asthma (10%), with hypertension being the most common disease among the respondents. Similarly, only 227 people had visited the health facility for routine and follow-up visits in the previous six months, while only 15 people had been admitted to the hospital (Table 2).

The 91% of the 410 respondents said they used their salary and savings to cover their medical expenditures, while 11 percent said they borrowed money from friends or family. To cover the expense of their medical care, 3% sold their fixed assets, properties, or jewelry, while 16% used their remittances/incentives as shown in the Table 3).

Total household health spending was determined to be 31.7 percentage of total household spending. The most money was spent on health by financially secure families (55.1 and 26.4 percentage respectively) (i.e., fourth and fifth quintile). The Newar (35.5 percentage), Brahmin/Chhetri (31.4 percentage), and Janajati (31.6 percentage) groups, on the other hand, had the highest health-care costs. People with chronic illnesses had a higher prevalence of out-of-pocket the health spending (36 percentage).

The dependent population (those under the age of 18 and those over the age of 65) and the independent population (those under the age of 18 and those over 65) were reclassified as needed (population aged from 18 to 65 years old is referred as independent population). As a result, it was discovered that people over age of 65 paid 24.7% of their entire household expenditure on health, while the independent population spent the 34.5% (Table 4).

Pharmacies received 35.1% of total household health expenditures, 19.2% went to in-patient treatment, and 1.2% went to out-patient care. In addition, diagnostic and laboratory costs accounted for 2 and 0.5% of total costs, respectively. Similarly, 2.8% was spent on rehabilitation

services, 5% on supplementary charges such as transportation and lodging, and 30.2% was spent on medical care in another nation (within or outside the country) (Table 5).

Income/savings was the most popular source of coping method for chronic sickness and acute illness, with 73.09% and 81.9%, respectively. Remittance/incentive as a coping method was also more common among populations over 65 years old, i.e., the dependent on the group.

The occupation, on the other hand, was reclassified as paid or profit work (including agriculture, business, overseas employment, and private employment) and unpaid labour (including student, housewife and unemployed). As a result, the study found that those in pay or profit jobs (83.3%) used their income/savings to cover health-care costs. People classified as unpaid workers, on the other hand, used remittance/incentive to cover their health-care costs.

Under the parameters of p $\le$ 0.05 and p $\le$ 0.01 and a 95% confidence interval (C.I), all of these factors demonstrated a significant relationship with coping techniques (Table 6).

Table 1: Socio-demographic information of respondents, (n=410).

Socio demographic variables	Frequency	Percentage (%)
Gender	Trequency	Tercentage (70)
Male	169	41
Female	241	59
Age categories (years)		
0 to 20	26	6
21 to 40	94	23
41 to 60	168	41
Above 60	122	30
<b>Educational status</b>		
Illiterate	190	46
Primary level	91	22
Secondary level	121	30
Graduate and so above	8	2
Marital status		
Married	328	80
Unmarried	34	8
Widow	44	11
Divorced	4	1
Occupational status		
Agriculture	55	13
Business	133	32
Private job	5	1
Student	28	7
Unemployed	124	30
Housewife	56	14
Foreign employment	3	1
Labor worker	6	2

Continued.

Socio demographic variables	Frequency	Percentage (%)
Religious status		
Hindu	344	84
Buddhist	36	9
Kirat	26	6
Christainity	4	1
Ethnicity		
Brahmin/Chhetri	135	33
Terai/Madhesi	31	8
Dalit	43	11
Newar	134	33
Janajati	67	16
Type of family		
Joint	270	66
Nuclear	140	34

Table 2: Health information of respondents.

Variables	Frequency	Percentage (%)						
Anyone sick in the past six months, (n=410)								
Yes	408	99.5						
No	2	0.5						
Type of illness, (n=408)								
Acute illness	86	21						
Chronic illness	322	79						
Acute illness* (n=86)								
Cold/cough/fever	34	47						
Acute gastritis	10	14						
Surgery related	10	14						
Different infections	8	11						
Different type of pain	19	26						
Chronic illness* (n=322)								
Hypertension	190	59						
Diabetes	96	30						
Asthma	33	10						
Heart disease/cholesterol	37	11						
Arthritis	47	15						
Eye disease	9	3						
Cancer	6	2						
Neuro	30	9						
Chronic gastritis	13	4						
Other chronic diseases	17	5						
Anyone injured in the past six months, (n=	410)							
Yes, admitted in hospital	6	1						
Yes, not admitted in	3	1						
hospital		1						
No	401	98						
Taking medicine regularly, (n=410)								
Yes	292	71						
No. of OPD visit in health facility, (n=227)								
One time	134	59						
More than one time	93	41						
No. of IPD visit in health facility, (n=15)								
One time	7	47						
More than one time	8	53						
Preferred health institution, (n=246)								
Public institution	41	17						
Private institution	205	83						

Continued.

Variables	Frequency	Percentage (%)					
Distance of health facility, (n=410) (Min)							
<30	351	86					
>30	59	14					
Anyone travelled abroad for health treatment, (n=410)							
Yes	67	16					
No	343	84					

(\*Multiple response set)

Table 3: Coping mechanism, (n=410).

Coping mechanism*	Frequency	Percentage (%)
Income/savings	370	91
Loans/borrowings	44	11
Selling of fixed assets	13	3
Remittances/incentives	67	16

(\*Multiple response set)

Table 4: Percentage of total household expenditure in health, (n=410).

Variables	Number of persons	Total household expenditure	Total health expenditure	Percent of total household expenditure in health (%)	
All	410	42012.6	13298.4	31.7	
Wealth quintile					
Wealthiest	82	14722.7	3881.8	26.4	
Fourth	78	8549.1	4709.1	55.1	
Middle	86	8115.3	1761.5	21.7	
Second	79	5793.3	1149.9	19.8	
Poorest	85	4832.2	1796.2	37.2	
Ethnicity					
Brahmin/ Chhetri	135	12896.6	4054.9	31.4	
Terai/Madhesi	31	3188.6	455.4	14.3	
Dalit	43	3286.9	985.5	30	
Newar	134	16764	5944.5	35.5	
Janajati	67	5876.5	1858.1	31.6	
Family type					
Joint	270	29009.1	9975.8	34.4	
Nuclear	140	13003.5	3322.7	25.6	
Illness type					
Acute	86	8046.7	1082.1	13.4	
Chronic	322	33828.3 12193.4		36	
Age (Years)					
Under 18	24	2411.9	322	13.4	
18 to 64	312	32700.2	11270.7	34.5	
65 or more	74	6900.5	1705.7	24.7	
Gender					
Male	169	17572.3	3234.6	18.4	
Female	241	24440.2	10063.8	41.2	
Institution					
Public hospital	41	4251.9	1149.7	27	
Private hospital	205	21767.4	10760.7	49.4	
Distance (Min)					
<30	351	36367.9	10556.1	29	
>30	59	5644.6	2742.3	48.6	

**Table 5: Percentage of total health expenditure.** 

Variables	IPD expenses	Check- up expenses	P'ceutical cost	Dental expense	Health products	Diagnostic cost	Lab cost	Re- habilitation cost	Extra charge	Extra charge abroad	Medical cost abroad
All	19.2	1.2	35.1	0.2	0.2	2	0.5	2.8	5	3.6	30.2
Wealth quintil	e										
Wealthiest	19.6	1	20.7	0	0.3	1.7	0.3	2.5	6.4	6.2	41.3
Fourth	25.4	0.7	33.4	0.1	0	1.8	0.3	0	3.4	1.3	33.5
Middle	6.5	1.7	58.3	0	0	0.9	0.3	0	4.4	2.8	25.1
Second	0	3	53	0.6	0.7	2.9	1.4	23.9	5.9	2.7	5.9
Poorest	26.8	1.2	36.4	1.1	0.6	3.6	0.7	0	6	5.1	18.5
Ethnicity											
Brahmin/ Chhetri	22.1	1.6	29.6	0.1	0.3	1.5	0.6	2.4	5	2.6	34.2
Terai/Madhesi	0	3.3	67.8	0	1.7	9.7	0.4	0	7	4	6.1
Dalit	20.7	0.6	31.3	0	0	0.5	0.1	0	4.7	4	38.2
Newar	17.1	0.8	31.6	0.3	0.2	2.1	0.4	0	5.3	5.1	37.1
Janajati	23.5	1.3	52.1	0.4	0	1.8	0.7	14.8	3.5	0.6	1.3
Type of family											
Joint	20	1.2	37.3	0.1	0.3	2.3	0.4	3.7	3.4	2.6	28.7
Nuclear	16.6	1.1	28.6	0.8	0.1	1.1	0.6	0	9.7	6.6	34.8
Type of Illness											
Acute	25.9	3.7	10.6	0	1.2	0.9	0.6	0	5.1	2.1	49.9
Chronic	18.5	1	37.3	0.3	0.1	2.1	0.5	3.1	4.9	3.7	28.6
Age category (	Years)										
Under 18	43.1	2.4	9.7	0	0	0.6	1.1	0	3.9	1.9	37.3
18 to 64	0	7.2	56.2	0	0	3.2	0.2	0	12.5	8	12.8
65 or more	28.3	0.6	21.5	0.1	0.2	1.1	0.4	1.2	3.9	3.7	39.2
Gender											
Male	0.1	1.4	64.4	0.2	0	3.6	0.6	8.5	6.4	3.6	11.2
Female	25.3	1.1	25.7	0.3	0.3	1.5	0.4	1	4.5	3.6	36.4
Preferred heal	th institution (	Hospitals)									
Public	3.1	1.4	57.1	1.7	0.4	4.3	1.6	0	10.1	6.7	13.7
Private	23.4	1.2	26.3	0.1	0.1	1.9	0.4	3.5	4.2	3.4	35.5
Distance of hea	alth facility (M	in)									
<30	18.9	1.1	39.2	0.3	0.2	2.3	0.6	0.9	4.1	3.1	29.3
>30	20.4	1.6	19.3	0	0.3	0.7	0.1	10	8.3	5.5	33.8

Table 6: Association with coping mechanism.

	Coping mechanism						
Factors	Income/savings	Loans/ borrow	Selling of fixed assets	Remittance/ incentive	P value		
Type of illness							
Acute	81.9	4.3	0.00	13.8	0.010**		
Chronic	73.09	10.1	3.3	13.6			
Age (Years)							
Under 18	78.6	14.3	0.00	7.1	0.0000**		
18 to 64	79.7	10.2	3.7	6.5	0.0000		
65 or more	58.9	3.6	0.00	37.5			
Type of institution							
Public hospital	60.7	23.2	5.4	10.7	0.0002**		
Private hospital	75	10.7	3.2	11.1			
Occupation							
Pay or profit work	83.3	7.3	3	6.4	0.0000**		
Unpaid work	67.3	10.4	2.3	20			
Wealth quintile							
Wealthiest	20.81	4.55	46.15	13.43			
Fourth	18.92	25.00	15.38	20.90	0.0001**		
Middle	20.54	13.64	15.38	17.91	0.0001**		
Second	19.73	20.45	23.08	25.37			
Poorest	20.00	36.36	0.00	22.39			

<sup>\*\*</sup>p\u2005 and C.I. is 95\u00c8, which means they have a significant association with coping mechanism.

#### **DISCUSSION**

The primary goal of this study is to determine household health spending (out-of-pocket cost) and coping mechanisms in general. The overall household expenditure on health was estimated to be 31.7% of total household expenditure, according to the study's key findings. However, according to data from the WHO bulletin, total household health expenditure in Nepal in 2014 was expected to be (48-69%). As a result, the overall household health expenditure in Miklajung rural municipality, Morang is comparatively low when compared. This could be owing to the fact that the WHO study was based on secondary review data, whereas this is a primary study with greater evidence supporting its findings. Furthermore, the WHO study was conducted in an urban setting and does not include information on rural settings. However, this study portrays the state of rural settings and gives statistics on household expenditure in rural circumstances. Nonetheless, the household health expenditure in Morang district should be taken seriously; the household spending is rather high for a rural context.

In a similar instance, the study's findings revealed a 35.1% higher prevalence of health expenditure on pharmacies. A comparable study in New Delhi, India, found that pharmacies and drugs accounted for the majority of healthcare spending. Similarly, a survey done in Kosovo revealed that pharmacies, medical supplies, diagnostic and laboratory services, as well as in-patient and out-patient services, accounted for the majority of health-related expenditures. In addition, a similar study

in Bangladesh indicated that the cost of medicine was the primary driver of overall out-of-pocket spending. <sup>7,9</sup> The study's main findings are comparable in different nations, but primarily in India and Bangladesh. It's possible that the similarities are due to the fact that they're Nepal's neighbors, and there are some parallels in the rural population's health. This study shows how different illnesses, as well as other socio-demographic and health characteristics, affect healthcare spending.

Income/savings, loans/borrowings, selling of fixed assets, houses or jewelry, and remittance/incentives, on the other hand, were predicted to be utilized to overcome the cost of health treatment at 90.69%, 10.78%, 3.19% and 16.42% respectively. A comparable study in India found that households' primary coping mechanisms are current income and savings, followed by loans and the sale of houses and fixed assets. According to a Cambodian study, households primarily employed a combination of savings, selling fixed assets, and loans or borrowing money to cover their expenses, resulting in a debt pile. 10

Similarly, the chi-square test was used to analyze the relationship between age, type of illness, type of health institution, occupation, and wealth quintile in this research study, and it revealed that the coping mechanism was influenced by age, type of illness, type of health institution, occupation, and wealth quintile. A study conducted in Chile came to the same conclusion. Out-of-pocket spending was linked to the number of chronic illnesses, health-care utilization, household income, and insurance coverage in that study. 11

However, because health insurance had not been implemented in Morang district at the time of the study, we did not include it in our analysis.

The cross tabulation of total household health spending found that it is influenced by wealth quintile, ethnicity, family type, kind of sickness, age, gender, type of health institution, and distance from home to the health facility. Likewise, studies conducted in Bangladesh and Nepal showed a strong association of healthcare expenditure with age and sex where the elderly population were found to be more influenced. 12,13 A study in Brazil found that the household's wealth status had a significant impact on healthcare spending.<sup>14</sup> According to this survey, families that seek healthcare from private facilities spend more on their health than those who seek treatment from public facilities. Similarly, a research conducted in Kaski, Nepal found that mean household expenditure varied depending on the type of health facility used, with families seeking care from private institutions spending more than those seeking care from public institutions.<sup>15</sup>

Furthermore, ten out of every 100 households in Nepal are burdened by a catastrophic healthcare burden due to chronic sickness. The key factors of household health expenditure were found to be household size, kind of disease, and type of health facility. <sup>16</sup> The poorest families with the highest inpatient spending had greater out-of-pocket charges and were more likely to borrow money to cover their costs. <sup>17</sup>

Chronic illness was largely connected with household health expenditure in this study; key ailments were hypertension, diabetes, asthma, and heart disease. Another Korean study found that low-income families with chronic illnesses were especially sensitive to out-of-pocket expenses. Respectively cough/fever, on the other hand, was the most common acute or infectious sickness linked to household spending. According to a WHO survey, these illnesses are the most common cause of household expenditure, with cold/cough/fever being the most common, followed by gastritis and hypertension. Similarly, a research in Vietnam found that common ailments like colds, flu, cough, fever, and diarrhea were responsible for catastrophic household health expenses.

#### Limitation

There are some drawbacks to this study. First, it took place in the middle of winter, between December 2018 and January 2019. The timing of the study could have influenced the occurrence of acute infections including colds, coughs, and fevers, which are more common in the winter. Despite this, the Nepal living standard survey 2010/11 indicated that cold/cough/fever was the most common disease throughout the year. Another restriction is that when asked about the costs of certain health-care services, respondents may not have given accurate answers, resulting in a significant risk of recollection bias.

Despite its limitations, this study shows that characteristics such as age, gender, disease, health institution, and wealth quintile have a substantial impact on household expenditure and coping mechanisms.

## **CONCLUSION**

The findings show that total family health spending in Nepal's Miklajung rural municipality, Morang district, is connected with age, gender, kind of sickness, type of health institution, distance to health facility, and wealth quintile. It reveals that the independent population (aged 18 to 64 years old) spent a lot of money on health, and persons who went to private health facilities spent a lot of money on health. In addition, those in the first and fourth quintiles spent a lot of money on health care. Similarly, the bulk of total household health expenditure was found to be on medicine/drugs, followed by in-patient care and health treatment abroad. Colds, coughs, and fevers were the most regularly reported acute illnesses, whereas hypertension, diabetes, asthma, and heart disease were the most commonly reported chronic illnesses. The most prevalent coping technique was discovered to be income/savings; however, it was also discovered that senior populations over 65 years old employed remittance/incentive as a coping mechanism. The coping technique was discovered to be linked to sickness kind, age, institution type, occupation, and wealth quintile.

## **ACKNOWLEDGEMENTS**

Author would like to thanks all the participants.

Funding: No funding sources Conflict of interest: None declared

Ethical approval: The study was approved by the

Institutional Ethics Committee

#### **REFERENCES**

- 1. Saito E, Gilmour S, Rahman MM, Gautam GS, Shrestha PK, Shibuya K. Catastrophic household expenditure on health in Nepal: a cross-sectional survey. Bull WHO. 2014;92(10):760-7.
- World health Organization, Country Office for Nepal. Health System in Nepal: Challeneges and Strategic Options. Phulchowk, Lalitpur. 2007.
  Available at: https://apps.who.int/iris/bitstream/handle/10665/2052 58/B1361.pdf;sequence=1.
- 3. World Health Organization. out-of-pocket expenditure. 2014. Available at: https://apps.who.int/gho/data/view.main.GHEDOOP SCHESHA2011v.
- 4. His Majesty's Government of Nepal, National Planning Commission Secretariat, Central Bureau of Statistics. Nepal Living Standard Survey. Thapathali, Kathamndu, Nepal. 2006.
- 5. Daivadanam M, Thankappan KR, Sarma PS, Harikrishnan S. Catastrophic health expenditure and

- coping strategies associated with acute coronary syndrome in Kerala, India. Indian J Med Res. 2012;136(4):585-92.
- Basumatary J, Srivastav N. Household's Coping Mechanism of Out-of-Pocket Expenditure pn Health Care: a Case Study of Assam, India. J Humanities Social Sci. 2018;23(1):70-84.
- 7. National Health Systems Resource Centre. Household Health Expenditures in India (2013-14). New Delhi: Ministry of Health and Family Welfare, Government of India. 2016.
- 8. Arenliu Qosaj F, Froeschl G, Berisha M, Bellaqa B, Holle R. Catastrophic expenditures and impoverishment due to out-of-pocket health payments in Kosovo. Cost Effectiveness and Resource Allocation. 2018;16(1):26.
- Mahumud RA, Sarker AR, Sultana M, Islam Z, Khan J, Morton A. Distribution and Determinants of Outof-pocket Healthcare Expenditures in Bangladesh. J Preventive Med Public Health. 2017;50(2):91-9.
- Damme WV, Leemput L, Por I, Hardeman W, Meesen B. Out-of-pocket health expenditure and debt in poor households: evidence from Cambodia. Wiley Online Library. 2004;9(2):273-80.
- 11. Correa-Burrows P. Out-Of-Pocket Health Care Spending by the Chronically III in Chile. Procedia Economics and Finance. 2012;1:88-97.
- 12. Tahsina T, Ali NB, Hoque DME, Huda TM, Salam SS, Hasan MM et al. Out-of-pocket expenditure for seeking health care for sick children younger than 5 years of age in Bangladesh: findings from cross-sectional surveys, 2009 and 2012. J Health, Population, Nutri. 2017;36:33.
- 13. Brinda EM, Rajkumar AP, Enemark U, Prince M, Jacob KS. Nature and determinants of out-of-pocket

- health expenditure among older people in a rural Indian community. Int Psychogeriatrics Asso. 2012;24(10):1664-73.
- 14. Torres da Silva M, Barros JDA, Bertoldi A, Jacinto P, Matijasevich A, Santos I et al. Determinants of out-of-pocket health expenditure on children: An analysis of the 2004 Pelotas Birth Cohort. Int J Equity Health. 2015;14:53.
- 15. Adhikari C, Sharma BP, Subedi S. Out-of-Pocket and Catastrophic Expenditure of Neonatal Health Care in Kaski District, Nepal. Economic J Development Issues. 2018;21(22):2016.
- 16. Thapa AK, Pandey AR. National and Provincial Estimates of Catastrophic Health Expenditure and its Determinants in Nepal. J Nepal Health Res Council. 2021;18(4):741-6.
- 17. Leive A, Xu K. Coping with out-of-pocket health payments: empirical evidence from 15 African countries. SciELO Public Health. Bull World Health Organ. 2008;86(11):849-56.
- 18. Ruger JP, Kim H-J. Out-of-Pocket Healthcare Spending by the Poor and Chronically III in the Republic of Korea. Am j public health. 2007;97(5):804-11.
- 19. Thuan NTB, Lofgren C, Chuc NTK, Janlert U, Lindholm L. Household out-of-pocket payments for illness: Evidence from Vietnam. BMC public health. 2006;6(1):283.

Cite this article as: Shrestha A, Nepal S, Poudyal A. Household expenses in healthcare and its coping mechanism in rural Nepal. Int J Community Med Public Health 2021;8:4750-8.