

Household Expenditures on Primary, Secondary and Higher-level Health Care in Pokhara Metropolitan, Nepal

Sony Pandey,¹ Sushila Baral,¹ Dipendra Kumar Yadav²

¹Manmohan Memorial Institute of Health Sciences, Kathmandu, Nepal

²School of Health and Allied Sciences, Pokhara University, Nepal

ABSTRACT

Introduction: Household health expenditures are the costs related to the health care and services from a house. The household health care expenditure constitutes a larger share (55.4%) of total health expenditures in Nepal which imply that health care can place a significant financial burden on households. Therefore, the aim of the study was to estimate the household expenditures on primary, secondary and higher-level health care in Nepalese households.

Methods: A community based cross sectional study was conducted among 335 household heads in Lekhnath municipality, Kaski, Nepal later changed in to Pokhara Metropolitan. An interview schedule was used to collect the data through face to face interview. Cluster sampling technique was used to select desired number of participants.

Results: More than eight out of ten participants (88.1%) visited private health facility for the treatment. More than half (61.5%) had taken secondary and higher-level services. Among out-of-pocket household expenditure the mean (\pm SD) direct cost was NRs.24100 \pm 36870 where minimum expenditure was NRs.50 while maximum expenditure was NRs.255025. Similarly, mean (\pm SD) indirect cost was NRs.784.48 \pm 2319 where majority expenditures (96.8%) were direct costs while 3.2% were indirect costs. The mean (\pm SD) cost for primary health services was NRs.905.07 \pm 1729 where minimum was NRs.60 and maximum was NRs.10110. Similarly, the mean (\pm SD) cost for secondary and higher-level services was NRs.23200 \pm 37390 where minimum was NRs.50 and maximum was NRs.255025.

Conclusion: The average (\pm SD) household expenditure on different health services was NRs. 24800 \pm 38630 per annum, which is higher health expenditures for health service. The majority (96.8%) of health expenditures were included to direct costs while only 3.2% were in indirect costs. Higher expenditure was on secondary and higher-level services and it was NRs.23200 per annum while least expenditure on primary health services was NRs.905.07 per annum.

Keywords: Household expenditures, Primary, Secondary, Higher level health care

INTRODUCTION

In Nepal, Ministry of Health and Population (MoHP) plays a leading role in improving the health of the people including mental, physical and social well-being, for overall national development with the increased participation of the private sector and non-government institutions in the implementation of programs. MoHP has been delivering promotive, preventive, diagnostic, curative, and palliative health care services.¹ Different health service institutions are established from central level to local level to deliver health services to population.

Primary Health Care aims to provide health care to people and they deal with a broad range of psychological, physical and social problems instead of specialists in any particular disease area.² These healthcare professionals are often the first point of contact with patients and mostly Primary Health Care Center, Health Posts, community centers/

hospitals are the nearest service delivery institutions, who can then be referred to medical specialists and hospitals for further health checkup and treatment.³

Secondary care is the medical care provided by the medical specialists who has more specific expertise related to specific health problems. Specialists focus either on a specific body system or on a specific disease/condition. Higher level health care consists of tertiary/specialized care. It is also known as specialized consultative healthcare usually for inpatients and on referral from primary and secondary healthcare for advanced medical investigation and treatment,² Nepal has committed to improving the

Correspondence: Sony Pandey, Manmohan Memorial Institute of Health Sciences, Kathmandu, Nepal, Email: pandeysony98@gmail.com

health of its people, using an approach that is rooted in primary health care and targets those most marginalized and excluded.³ The health sector budget has also been increased to NRs 65.3 billion in FY 2018/19. Among the total budget the curative service accounts for 12 percent, Free health programme for 3.4 percent and Impoverished citizen treatment 2.1 percent. A policy of free health care services to the poor and vulnerable citizens attending primary health care centers and district was adopted since 2007 and the per capita public health spending was seen to be increased more than two fold since 2006/07.³ The household health care expenditure constitutes a larger share (55.4%) of total health expenditure in Nepal.⁴ This high level of health expenditure implies that health care can place a significant financial burden on households.

Government health expenditure, as a percentage of the GDP for FY 2018/19 is 1.9 percent whereas the 2010 World Health Report stated that public spending of about 6 percent of the GDP on health will limit out-of-pocket payments to an amount that makes the incidence of financial catastrophe negligible.⁵ The government health expenditure as a percentage of the GDP is critically low.

The National Health Accounts shows the expenditures made on the categories of diseases and health conditions at various levels (types of hospital) of both the public and non-public health facilities. However, the household expenditures have not been explained according to the level of health care.⁴ Despite the fact that substantial studies have been done to determine the effect of disease-specific medical costs on household economic status in Nepal, very few research papers have been published in the context of household expenditure on different level of health care. Therefore, this study aimed to estimate the household expenditures on primary, secondary and higher-level health care in Nepalese households.

METHODS

A community based cross-sectional study was conducted to find out the household expenditure on primary, secondary, and higher-level health care in Pokhara Metropolitan. At the time of study, it was Lekhnath Municipality which is now merged into Pokhara Metropolitan City after federalization (10 March 2017). There were 18 wards in Lekhnath municipality. An interview schedule tool was used for data collection.

The sample size was calculated using the formula: $n = (Z^2 \sigma^2 / d^2)$. Where, Z = standard normal deviate, considered to be 1.96 at 95% confidence interval; σ = standard deviation of household catastrophic health expenditure ($\sigma = 0.362$)⁷; $d = 5\%$ maximum allowable error; and with 10% non-response rate. Design effect of 1.5 was added while calculating the sample size to account for the loss of information inherent in the clustered design. Therefore, the total sample size for this study was calculated to be 335. Cluster sampling was used to obtain a sample representative of the municipality. Following are the steps in sampling:

Stage 1: There were 18 wards in the study area. Information from municipality office, Lekhnath was used to generate the sampling frame. Of the total 18 wards in Lekhnath municipality, nine wards were selected by simple random technique. For each ward the required sample size was estimated based on probability proportional to ward size. The ward size was defined as the number of residential households in the ward.

Stage 2: Households within each ward were selected. At first center of the catchment area was reached, and the first household was selected by spinning a bottle or pencil. A bottle or pencil was spun, and the direction shown by the mouth of bottle or tip of the pencil was chosen for data collection. If the selected household did not have any eligible participants, the "nearest door" rule was used, i.e., visit the household whose front door was closest to the door of the household.

Stage 3: Individuals were chosen to participate in the study from a list of all eligible persons residing in the selected households. One eligible participant was surveyed from each household. If more than one eligible participant was present in the household, the head of the household or the eldest participant was interviewed.

Data were entered in Epi-Data 3.2 software and analyzed with help of SPSS version 16. Interview schedule was translated into Nepali language and then data were checked to correct errors on the same day of data collection. In order to get exact information, questionnaire was made practicable and convenient, adequate counseling was done. The study was conducted after the approval of research proposal from Bachelor of Public Health Program, Pokhara University.

RESULTS

Table 1: Socio-demographic information of the participants (n=335)

| Variables | Frequency | Percent |
|--|-----------|---------|
| Age in years | | |
| ≤ 25 | 4 | 1.2 |
| 25-50 | 182 | 54.3 |
| >50 | 149 | 44.5 |
| Mean (±SD) age of the participants = 50.33 ±13.247, minimum = 22, maximum = 90 | | |
| Sex | | |
| Male | 279 | 83.3 |
| Female | 56 | 16.7 |
| Religion | | |
| Hindu | 322 | 96.1 |
| Buddhist | 13 | 3.9 |
| Ethnicity | | |
| Dalit | 21 | 6.3 |
| Disadvantage Janajati | 21 | 6.3 |
| Disadvantage Terai Caste | 5 | 1.5 |
| Advantage Janajati | 63 | 18.8 |
| Upper Caste | 225 | 67.2 |

Table 1 shows that mean age of participants was most 50.33±13.247 years, ranging from 22 to 90 years and most (54.3%) of the participants were between the ages of 25 to 50 years. Most (83.3%) of the participants were male and most (96.1%) of the participants were Hindu. More than half (67.2%) of participants belonged to upper caste.

Table 2: Socio-economic characteristics of participants (n=335)

| Variables | Frequency | Percent |
|--|-----------|---------|
| Occupation | | |
| Agriculture | 103 | 30.7 |
| Government service | 40 | 11.9 |
| Private service | 87 | 26.0 |
| Daily wages | 12 | 3.6 |
| Retired | 38 | 11.3 |
| Foreign employment | 55 | 16.4 |
| Average monthly income of the family (NRs) | | |
| ≤ 20000 | 138 | 41.2 |
| 20001-40000 | 112 | 33.4 |
| 40001-60000 | 67 | 20.0 |
| 60001-80000 | 7 | 2.1 |
| ≥80001 | 11 | 3.3 |
| Education of Household heads | | |
| Illiterate | 21 | 6.3 |
| Formal | 47 | 14.0 |
| Primary | 57 | 17.0 |

| | | |
|-------------------|-----|------|
| Secondary | 116 | 34.6 |
| Higher secondary | 49 | 14.6 |
| Graduate and more | 45 | 13.4 |

Table 2 reveals that nearly one-third (30.7%) of participants were engaged in agriculture. Most (41.2%) of the participants had average income less than or equal to Rs 20000. Most (34.6%) of the participants had completed secondary level of education.

Table 3: Information related to disease condition of all family members of households

| Disease condition | Frequency | Percent |
|----------------------------|-----------|---------|
| Cold and flu like symptoms | 114 | 19.1 |
| Fever | 118 | 19.8 |
| Joint problems | 42 | 7.1 |
| Respiratory problems | 49 | 8.2 |
| CVD | 54 | 9.1 |
| Diabetes | 33 | 5.5 |
| Stomach problem | 40 | 6.7 |
| Fractures/injuries | 11 | 1.9 |
| Pregnancy related | 7 | 1.2 |
| Jaundice/Typhoid | 25 | 4.3 |
| Gallstone | 18 | 3.0 |
| Infections/Allergies | 65 | 10.9 |
| Dental | 12 | 2.0 |
| Hernia | 2 | 0.3 |
| Road accidents/injuries | 5 | 0.8 |
| Place of treatment | | |
| Public | 71 | 11.9 |
| Private | 524 | 88.1 |
| Type of care | | |
| Primary | 229 | 38.5 |
| Secondary and higher level | 366 | 61.5 |
| Multiple responses | | |

Table 3 reveals that among the disease condition of all family members of the participants most (19.8%) of them had fever. Most (88.1%) of the family members of the participants visited private health facility for the treatment. More than half (61.5%) of the family members of the participants had taken secondary and higher-level care.

Table 4: Out of pocket expenditure and type of cost

| Cost | Mean | Median | SD | Minimum | Maximum |
|----------|--------|--------|-------|---------|---------|
| Direct | 24100 | 7900 | 36870 | 50 | 255025 |
| Indirect | 784.48 | 0 | 2319 | 0 | 16000 |
| Total | 24800 | 7900 | 38630 | 50 | 271025 |

Table 4 shows that mean total out-of-pocket expenditure was NRs.24,800±38,630. The mean total direct out-of-pocket (OOP) expenditure was NRs.24,100±36,870 which included the cost of registration fee, total pharmaceutical drugs charges, total X-ray, total laboratory charges, surgery, total bed charge per hospitalized days and total emergency room charge. Similarly, mean total indirect out-of-pocket expenditure was NRs. 784.48±2,319 which included the cost of total lodging and food cost per individual in total hospital visits. Here, (96.8%) is direct costs, and (3.2%) is indirect costs.

Table 5: Distribution of households' expenditures for type of care

| Type of care | Mean | Standard | Minimum | Maximum |
|----------------------------|--------|----------|---------|---------|
| Primary care | 905.07 | 1729 | 60 | 10110 |
| Secondary and higher level | 23200 | 37390 | 50 | 255025 |

Table 5 shows that mean cost for primary health care NRs.905.07±1,729, minimum NRs.60 and maximum NRs.10110. Similarly, the mean cost for secondary and higher-level care NRs.23,200±37390, minimum NRs.50 and maximum NRs.2,55,025.

DISCUSSION

In this study, most of the participants had fever and cold/flu frequently. Similar symptoms were reported in a study conducted in Kathmandu valley where fever and cold/flu were reported most frequently.⁷

The present study showed that most of the participants utilized private health facilities and providers. Similar result was found in a study conducted in the same setting among the older adults, the use of private facilities were high compared to public facilities.⁸ Another study done in Kathmandu valley also showed the study household had mostly used just private providers or a combination of private providers with other types of facilities.⁷ Whereas the study done in Jhapa district showed that participants sought treatment from public health-care facilities in the first instance.¹⁰ The higher rates of utilization of private facility could be due to less waiting time, more consultation time with physicians/health workers as compared to public facilities. Those sick individuals from 335 households have mostly (61.5%) used secondary/higher level care for any health checkups/treatments. These might be due to the visit related to non-communicable diseases which are usually routine visits that should be followed in every month or quarterly in a year.

The mean total out-of-pocket expenditure was NRs.24,800±38630. This might be because more than three fourth of the sick individuals had visited private health facility for treatment. More than half of the sick individuals had received secondary and higher level care which also increase the expenditure of the households. Among the total cost the mean direct cost was NRs.24,100±36,870. The mean indirect cost was NRs.784.48±2,319 with 0 minimum cost and maximum cost of NRs.16,000. These may be because of the types and frequency of cost involved on it. Similar study based on Nepal Living Standards Survey showed that total household health care expenditure was NRs.413.12±1,096.20 in which direct cost was 92.7% and indirect cost was 7.3% which are nearly equal to the present study. Also a study done in Mongolia found the mean out-of-pocket expenditure of household was 25,086.5 Mongolian Tugrik (MT).¹⁰

The mean household expenditure on primary care was NRs.905.07±1,729 with minimum cost of NRs.60 and maximum cost of NRs.10,110. These variations might be because of the time taken to visit the place of the treatment which could be the nearest one or more than half an hour from home. The mean household expenditure on secondary and higher level care was NRs.23,200±37,390 with minimum cost of NRs.50 and maximum cost of NRs.2,55,025. This can also be justified as the same reason of time taken to visit the place of treatment as well as the severity of disease and frequency of the visits.

CONCLUSION

Private facilities were preferred mostly than public facilities by the participants. The mean ±SD of total out-of-pocket household expenditure was found to be NRs 24,800±38,630 in Pokhara Metropolitan. The direct out of pocket health expenditure was more than indirect out of pocket expenditure, where mean ±SD of direct OOP was NRs.24,100±36,870 and mean ±SD indirect OOP was NRs.784.48±2,319. The mean ±SD cost for primary health services was NRs.905.07±1,729 and for secondary and higher-level services was NRs.23,200±37,390. These can be managed by the implication of health insurance policy for entire population in the country. People must be aware about the use of public facilities/programs or policies can be made to motivate people to choose public facilities. Motivating people to use public facilities can reduce household expenditures on primary health services.

REFERENCES

1. MOHP. Annual Health Report 2070/71(2013/2014). Department of Health Service, Ministry of Health, Kathmandu, Nepal, 2015. Available from: https://dohs.gov.np/wp-content/uploads/2014/04/Annual_Report_2070_71.pdf.
2. Types of Healthcare: Primary, Secondary and Tertiary. Triotree Technologies Pvt Ltd. 2016. Available from: <http://triotree.com/blog/healthcare-primary-secondary-and-tertiary-brief-description/>
3. Government of Nepal. Ministry of Health. Nepal Health Sector Programme- Implementation Plan (NHSP-IP). 2004 Oct. Available from: https://dohs.gov.np/wp-content/uploads/2014/04/NHSP_IP.pdf
4. Government of Nepal. Ministry of Health and Population. Nepal National Health Accounts 2012/13-2015/16.2018:123.
5. WHO. World Health Report 2010. Health systems financing: the path to universal coverage. 2010. Available from: <http://www.who.int/whr/2010/en/>
6. Xu K, Evans DB, Kawabata K, Zeramdini R, Klavus J, Murray CJ. Household catastrophic health expenditure: a multi country analysis. *The Lancet*. 2003 Jul;362(9378):111–7.
7. GoN. Progress Report on Financial Management in Nepal's Health Sector 2012/13. Ministry of Health, Kathmandu Nepal, 2014 Jan. Available from: http://www.nhssp.org.np/NHSSP_Archives/jar/2014/03Financial_mgmt_JAR_report_january2014.pdf
8. Acharya S, Ghimire S, Jeffers EM, Shrestha N. Health Care Utilization and Health Care Expenditure of Nepali Older Adults. *Frontiers in Public Health*. 2019 Feb 15;7:24.
9. Mishra SR, Acharya P. What is fuelling privatization in health care in Nepal? *Health for All*. 2013 Aug 25; 1(1):7–11.
10. Dorjdagva J, Batbaatar E, Svensson M, Dorjsuren B, Kauhanen J. Catastrophic health expenditure and impoverishment in Mongolia. *Int J Equity Health*. 2016 Dec; 15(1):105.