

Original Article

Out of Pocket Expenditure in Patients on Maintenance Hemodialysis: A Single Center Study

Krishna Kumar Agrawaal¹, Santosh Shah²

¹Nephrology unit, Department of Internal Medicine, Universal College of Medical Sciences, Bhairahawa, Nepal

²CTVS unit, Department of Surgery, Universal College of Medical Sciences, Bhairahawa, Nepal

ABSTRACT

Introduction: Government of Nepal has been providing free dialysis for lifetime to its citizen since 2016. Most of the patients have to spend from pocket to meet their medical demands to sustain life. This leads to financial burden and may lead to sale of property. The aim of this was study to look into different categories of expenses done by patients in the Bipanna nagarik free HD program provided by government of Nepal.

Materials and Methods: This descriptive cross-sectional study was carried out from 9th February 2022 till 30th September 2022 under Nephrology unit, Department of Internal Medicine at Universal college of Medical Sciences, Bhairahawa, Nepal. Ethical clearance was taken from Institutional Review committee (IRC letter reference no. UCMS/IRC/049/22). Patients receiving free basic hemodialysis services under BippanaNagarik Scheme of Government of Nepal and giving informed and written consent were enrolled in the study. Non-Probability Sampling Method – Convenience Sampling was done.

Results: In our study of 50 patients on HD, the mean age was 46.24 ± 15.31 years. Mean duration on dialysis of the study population was 126.80 ± 332.52 months. The average family income per annum was approximately NRs. 31000. The total out of pocket expenditure was approximately NRs. 35305/month. Cost of blood investigations was approximately NRs. 13000 in three months.

Conclusion: The monthly out of pocket expenditure was approximately NRs. 35000 which was directly related to hemodialysis in spite of free basic hemodialysis services by Government of Nepal.

Keywords: Chronic kidney disease; Expenditure; Hemodialysis; Renal failure:

Correspondence:

Dr. Krishna Kumar Agrawaal, MD
Associate Professor, Nephrology unit, Department of Internal Medicine, Universal College of Medical Sciences, Bhairahawa, Nepal
ORCID ID: 0000-0002-4148-6903
Email: krishna@drkkagrawal.com

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INTRODUCTION

Government of Nepal has been providing free dialysis for lifetime to its citizen since 2016.¹This covers basic dialysis services and most of the patients have to spend from pocket to meet their medical demands to sustain life. This leads to financial burden and may lead to sale of property.²According to Department of

Health services, among patients' receiving government program, chronic kidney diseases (CKD) were the second highest numbers of service users after cancer. About 11,648 received hemodialysis (HD) service, and 818 people received peritoneal hemodialysis.³In Nepal, every year approximately 2,600 new cases of CKD

developed end stage renal disease patient.⁴ Though HD is free in Nepal, there are many areas of out-of-pocket expenditure that is occurred by patients. The aim of this was study to look into different categories of expenses done by patients in the Bipanna nagarik free HD program provided by government of Nepal.

MATERIALS AND METHODS

This descriptive cross-sectional study was carried out from 9th February 2022 till 30th September 2022 under Nephrology unit, Department of Internal Medicine at Universal college of Medical Sciences, Bhairahawa, Nepal. Ethical clearance was taken from Institutional Review committee (IRC letter reference no. UCMS/IRC/049/22). Patients receiving free basic hemodialysis services under Bipanna Nagarik Scheme of Government of Nepal and giving informed and written consent were enrolled in the study. Non-Probability Sampling Method – Convenience Sampling was done and the final sample size calculated was 50. Clinical, demographic and laboratory data were collected as per the performa. Extra cost incurred on medications & travel was collected. The data were analyzed using the Statistical Package for the Social Science version 17. Point estimate at 95% Confidence Interval was calculated along with frequency and percentages for binary data and mean with standard deviation for continuous data.

RESULTS

In our study of 50 patients on HD, the mean age was 46.24 ± 15.31 years with Male: Female ratio of 1.27:1. Socio-demographic data of study population is given in Table 1.

Table 1: Socio-demographic data of study population (n=50).

Characteristics	Categories	Number	Percentage
Age groups (in years)	18-39	18	36
	40-59	20	40
	≥60	12	24
Sex	Male	28	56
	Female	22	44
Educational status	Illiterate	16	32
	Literate without formal education	11	22
	Literate with formal education	23	46
Religion	Hindu	41	82
	Muslim	7	14
	Buddhist	1	2
	Christian	1	2
Occupation	Farmer	10	20
	Salaried Worker	10	20
	House Maker	18	36
	Self Employed	4	8
	Migrant worker	4	8
	Unemployed	4	8

Mean duration on dialysis of the study population was 126.80 ± 332.52 months. Etiology of patients on hemodialysis is given in figure 1. The average family income per annum was approximately NRs. 31000. Out of pocket expenses towards blood investigations is shown in Table 2. About 15 (30%) reported emergency visit due to medical problem which adds on to the pocket expenses as shown in Table 3.

Figure 1. Etiology of Chronic Kidney disease of study population (n=50).

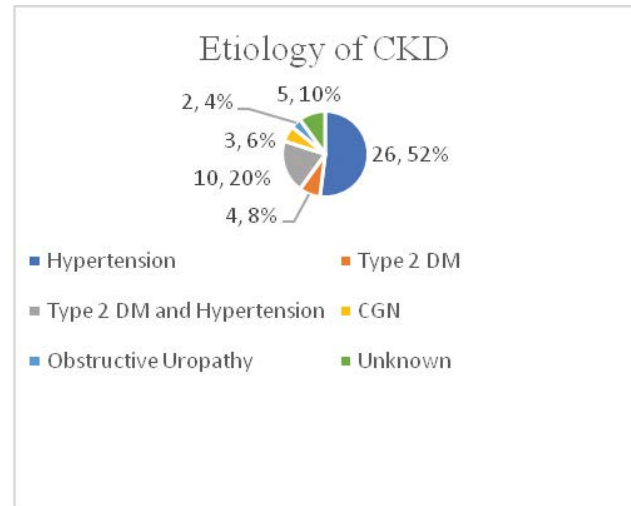


Table 2: Out of Pocket expenses for blood investigations (n=50)

Blood Investigations	Frequency of Investigation	Mean Expenditure in NRs
Hemoglobin	15 days	100
Pre HD KFT	1 month	1150
Serology (HIV/HBsAg/HCV)	3 months	2550
Post HD KFT	1 month	1150
Serum Calcium	1 months	370
Serum Phosphorous	1 months	600
Serum iPTH	3 months	2500
Serum albumin	3 months	300
Iron Profile	6 months	2500
Total Investigation Costs		11220

Table 3: Indirect out of pocket expenses (n=50)

Out of Pocket costs	Mean Expenditure in NRs
Transportation/month	1200
Injection Erythropoietin/month	6870
Blood Transfusion/month	2000
Medication/month	3240
Iron Injection/dose	475
Emergency visit costs/visit	9000
OPD consultation/visit	300
Total Monthly Expenses	NRs. 24085

There are other hidden expenses such as having food during waiting period, loss of job of patient and caretaker also. The total out of pocket expenditure was approximately NRs. 35305/month.

DISCUSSION

Our study showed the out-of-pocket expenditure incurred by the patients on HD besides getting free basic dialysis services. The mean age of study population was 47 years which is similar to the study done by Ghimire S et al.⁴In last 7 years out of pocket expenses have increased by nearly double from NRs. 20000 to 35000 as compared to a study from National Kidney Center, Kathmandu done in 2015 which included similar patient profile.⁵Our study population showed that approximately 30% of the population attended emergency visits which was mainly due to missed schedule and fluid overload state which was higher than the study done in Sri Lanka by Senanayake et al.⁶ This led to catastrophic health expenditure in study population.⁷Direct costs involved in our study was higher than the mean annual income. In a study done by Kaur et al, in India found similar findings. The cost analysis revealed that patients need to sale their properties and take loans to fulfill the direct and indirect costs incurred in HD.⁸In a similar study done by Thapa et al at Pokhara, the total expenditure done for HD patients was 32000 including all

blood investigations and medication expenses which was very much similar to our study. The travel expenses were also very much similar.⁹Our study showed that, though there is free basic HD service, out of pocket expenditure is high. Currently, Health insurance scheme provided by the government will provide some relief to the patients (NRs. 100000/annum) but will still keep them in deficit of approximately NRs. 320000/annum as per the current estimate.

CONCLUSIONS

The monthly out of pocket expenditure was approximately NRs. 35000 which was directly related to hemodialysis in spite of free basic hemodialysis services by Government of Nepal.

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