

## OUT OF POCKET AND HEALTH FACILITY CHARGES AMONG PATIENTS UNDERGOING DIALYSIS AT SERVICES HOSPITAL, LAHORE

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### Abstract

**Objective:-** Dialysis is the process of removing waste products and excess fluid from the body. Dialysis allows the patient with kidney failure a chance to live a productive life. However, the out-of-pocket expenditure on this essential procedure can result in financial burden on these patients. The purpose of this study was to assess out of pocket expenditures and health facility charges among patients undergoing dialysis at Services Hospital, Lahore.

**Methods:** It was a descriptive cross-sectional study conducted in the Dialysis unit of Services Hospital. About 130 patients undergoing maintenance hemodialysis were included in the study after an informed consent. Data were collected using a pretested questionnaire regarding all the study variables and was entered in SPSS for analysis to determine the out-of-pocket expenses in these patients.

**Result:** Mean out of pocket expenditure (both medical and non-medical) was Rs.4950/- week while mean out of pocket charges on lab investigation were Rs.10300/- rupees during one year of dialysis. Mean monthly transport charges were Rs.1500, wheelchair charges were 150, expenditures on medicine were 2100 while charges of OPD and other treatment cost was Rs.1200. Study shows that 69.2% of the patients who had irregular treatment were suffering from co-morbidity while only 8.4% had no issue other than renal disease. There were 33 patients who reported irregularity in treatment. The reason for this irregularity was due to out-of-pocket expenditures, while 9.09% was due to other reason.

**Conclusion:** Our research concluded that although the health facilities provided by the dialysis unit of Services hospital to the patients is free of cost, still a considerable proportion of money is being spent in form of medical and non-medical expenses which are not being covered by the government facilities. Strategic measures should be taken to decrease these expenses as well as to relieve the financial burden of these patients.

Key words: Out of Pocket. Hemodialysis, Financial burden, Co-Morbidity.

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The incidence and burden of hemodialysis is rising dramatically with increasing burden on health care system in Pakistan. The proportionate mortality

due to kidney failure rose from 2.1% in 2001 to 2.9% in the year 2010–15.<sup>1</sup> The life of renal patients can be saved by removing waste products and excess fluid from the patient's body thus increasing the life expectancy of renal patients. However, the services of hemodialysis can only be provided at health facilities. Government of Pakistan is providing these services through their various public sector hospitals and by special institute like Pakistan Liver and kidney Institute in Lahore. Sehat sahat card is another facility being provided by the government of Pakistan through which services of hemodialysis can be availed free of cost

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even at private set-up which have enrolled themselves with the program. Out of pocket expenses means paid your own money rather than with money from another source.<sup>1</sup>

Although access to government and free medical services for the purpose of Hemodialysis has increased over a period, only a few numbers of patients are able to continue their treatment on long term basis. This is mostly because of the high out of pocket expenses. There is a widespread increase in the percentage of expenditure on long term treatment of complications like chronic kidney disease. The average annual direct costs of hospitalized patients are more than double that of those not hospitalized.<sup>2</sup>

About 10% population worldwide is suffering from chronic renal disease and due to this millions of people die each year because they do not have access to affordable treatment.<sup>3</sup> Chronic kidney disease was ranked 27th in the list of causes of total number of deaths worldwide in the year 2000 which rose to 18th rank in the year 2010.<sup>4</sup> Most of people cannot afford the cost due to hemodialysis and the complications of chronic kidney disease which in turn lead to death of more than one million people yearly due to untreated kidney failure.<sup>5,6</sup>

In Pakistan, the average cost of routine dialysis (twice a week) ranges between Rs.3500 to Rs.4500. A government servant earning about average rupees 12000 per month cannot afford the costly treatment. Renal dialysis is a stressful procedure with morbidity and eventually mortality. 35% of patients treated with Hemodialysis stay alive after five years.<sup>7,8</sup>

Only limited published research is available from Pakistan focusing on the financial hardships of these patients. This study explores different categories of expenses and its impact on their life.

## METHODS

It was a Cross sectional analytical study carried out in Dialysis unit of Services Hospital, Lahore. Ethical approval was taken from the ethical review board medical education department services Institute

of medical sciences and Services hospital Lahore. After getting approval, hemodialysis patients attending dialysis center for their dialysis were included in the study during study period. A sample size of 130 was calculated using WHO statistical software's size at confidence interval of 95%, anticipated population proportion of 75% and relative precision of 10%.

In study, Out of pocket means paid for with your own money rather than with money from another source (such as company you work for or an insurance company). For this study a pretested questionnaire and check list were used. The questionnaire was translated into the local language for the convenience of data collection and interviewed by research team of students of 4th year MBBS ensuring both patient's privacy and confidentiality. The questionnaire was pretested in different settings and Cronbach's alpha scale was used for its validity. A face-to-face interview was conducted. SPSS computer software was used for data entry and analysis of the data. For qualitative variables frequency and percentage distribution table was calculated while mean and standard deviation was calculated for income and expenses. Chi square was applied to know the relationship of out-of-pocket expenses with drop out of treatment. p value of 0.05 or less was taken as significant.

## RESULTS

Mean age of participant was 45±5. Out of 130 patients, 12(9.2%) were between 16-26 year age, 26(20.1%) were between 27-36, 39(30%) were between 37-46, 19(14.6%) were between 47-56 age, 24(18.5%) were between 57-66, 9(6.8%) were between 67-76 and 1(0.8%) was between 77-86 years of age.

Mean family income was 20K±7K with frequency distribution showing 68(52.2%) had incomes between 10000-25000 rupees, 52(39.9%) had their incomes between 26000-40000, 7(5.5%) had between 41000-55000, 3(2.4%) had incomes between 56000-70000 rupees. Table-1

It was also seen that 70(53.9%) were undergoing

dialysis for last 1 year while majority 60 (46.1%) were undergoing dialysis for more than 1 year. On inquiring about the frequency of hemodialysis it was seen that

**Table 1:** Socio-demographic parameters of people under study

Personal characteristics	Frequency	%	Mean ± Standard deviation
<b>Age distribution</b>			45 ± 5
19-40	25	19	
41-60 and above	105	81	
<b>Sex distributing</b>			
Male	78	60	
Female	52	40	
<b>Monthly Family income</b>			20K ± 7K
10000-25000	68	52.3	
26000-40000	52	40	
41000-55000	7	5.3	
56000-70000	3	2.3	

3(2.3%) were undergoing dialysis once a week, 119 (91.5%) were undergoing dialysis twice a week and only 8(6.2%) cases had their dialysis treatment more than twice a week.

The average total out of pocket expenses in a week were about PKR 4950, Mean transport charges were 1500, wheelchair charges were 150, expenditure on medicine were 2100 while charge of OPD and other treatment cost was 1200/-

Average out of pocket expenses required for lab investigation once in a year was 10300 in which about 3000 rupees for blood complete picture, for Serology (HIV/HBsAg/HCV) 1500/ (every three month), for Pre and post HD KFT 1500/- separately every month. Serum albumin cost 3000/- repeated on every three-month basis. (Shown in Table-2 and Table-3)

On exploring the transportation facility used to access the health care center, 67(51.1%) used public

**Table 2:** Mean Indirect out of pocket expenses/ Week(n=130)

Out pocket Cost	Mean Expenditures in NRs
Per week transport charges	1500
Wheel chair charges	150
Expenditures on medicine	2100
OPD and other treatment cost	1200
Total	4950

transport to reach the hospital, 52(40%) used personal transport to visit the hospital and 11(8.5%) used both

**Table 3:** Out of pocket expenses for lab investigation during Hemodialysis (n=130)

Out pocket Cost	Frequency of investigation	Mean Expenditures in PKRs
Blood complete pictures with hemoglobin.	Every 15 days	250
Serology (HIV/HBsAg/HCV)	Three month	3000
Pre HD KFT	One month	1500
Post HD KFT	One month	1500
Serum Calcium	One month	400
Serum Phosphorous	One month	600
Serum albumin	Three month	300
Iron Profile	six month	3000
Total		10300 (PKR)

transport facilities (public and personal) to reach the hospital. Transport expense indicates that 56(43.1%) spent up to 1000 rupees on transport and 44(33.8%) spent from 1000 to 2000 rupees and 30(23.1%) patients spent from 2000 up to 3000 rupees on transport per visit. Out of 130 patients, 42(32.3%) paid their transport charges on their own and 88(67.7%) patients paid their transport charges through financial support of their family. Inquiring about the regularity of the treatment revealed that 30(23.1%) were irregular in taking treatment due to over burden on their domestic expenditures while 3(2.3%) were irregular due to some other reason and 97(74.6%) took their treatment regularly. It was also seen that 88% were seeking treatment from the government hospitals while 12% preferred both private and government sector hospitals for dialysis. About 98.5% patients were provided with bed facility, 3% of patients avail free medicine facility, 5% patients avail the opportunity of getting food and 56.9% patients received facility of basic lab tests. Out of 130 patients, 55(42.3%) paid up to 50 rupees, 40(30.8%) paid from 50 to 100 rupees, 20(15.3%) paid from 100 up to 150 rupees and 15(11.6%) patients paid from 150 to 200 rupees for wheelchair facility per visit. Out of 130 cases, 63(48.5%) paid up to 600 rupees for treatment and further 63(48.5%) paid from 600 up to 1200 rupees, 2(1.4%) patients paid from 1200 up to 1800 rupees, 1(0.8%) patient paid about 1800 to 2400 rupees and further 1(0.8%) patient spent up to 3000 rupees on treatment per visit of 130(100%) patients, the treatment charges of 40(30.8%) were

paid by themselves and of 89(68.4%) cases were paid by their families while only 1(0.8%) patient received hospital funds to pay his treatment charges. Out of total 130 patients, 112(86.2%) were receiving medicines for health problems along with dialysis while 18(13.8%) were not taking medicines for other health problem but only dialysis. Out of 130(100%) patients undergoing dialysis, 16(12%) were taking medication for gastrointestinal disorders, 47(38%) were taking the medicines for cardiovascular disorders, 10(7%) were taking medicine for respiratory diseases, 39(30%) were taking medicines for endocrinal disorders especially diabetes mellitus while 18(13%) were not taking medicine for any other health problem other than dialysis. Out of 130(100%) patients, 37 (28.5%) paid their medicine charges on their own while 75(57.7%) had financial support of their families for that expenses and 18(13.8%) were such patients who were not taking medicine for health problem other than dialysis. Out of 130(100%) cases, 70(53.7%) spent up to 1000 rupees, 58(44.7%) paid from 1000 to 2000 rupees, 1(0.8%) paid from 2000 up to 3000 rupees and further 1(0.8%) patient paid about 3000 to 4000 rupees for medicine per week. Out of 130(100%) patients, Only 70(53.8%) received dialysis treatment from private hospitals in addition to government while 60(46.2%) received the treatment from government hospitals only. The patients discontinued private treatment because it was costly.

## DISCUSSION

Non medical expenditures either direct or indirect expenses affect the treatment of patients seeking hemodialysis. In Punjab Pakistan, Four out of ten household on Hemodialysis are spending more than forty percent of their nonfood expenses to support their medical needs, while one and half is spending eighty percent of their nonfood expenses. Government of Punjab is claiming that they are providing free medical services specially hemodialysis on priority in all district of Punjab. Even then more than 60% people bearing overburden of their household expenditure to meet their medical requirement. For this a strong policy and comprehensive approach is required to overcome this financial burden for the patients undergoing renal dialysis.<sup>9</sup>

This study was designed to explore the financial

hardships of people seeking renal dialysis from government and trust hospitals. The results of our study were very similar to study in India, China, south Africa, Brazil and Philippine facing rapid increase in Hemo-dialysis patients. As Pakistan is facing severe economic crisis, the cost of medicine and medical treatment is rising day by day making it difficult to face this financial challenge by individual to handle their medical issues. Recent literature showed that in less than five years, a fourfold increase in patients seeking dialysis was seen which is a major concern.<sup>9</sup>

In recent era our policymakers, economist and medical consultants have realized and agreed that increased cost of treatment on lifelong therapy may have financial impact with loss in shape of property, assets and ultimately life of person or his employment.<sup>10,11</sup> In our study the mean age of participants was 45+5 years which is very similar to study conducted by Ghimire S et al.<sup>10</sup> Currently, Sehat Sahoolat card scheme provided by the government of Punjab is providing some relief to the patients (Netrupees Tenlac/year) for their family health issues but majority of the patients are still facing high out of pocket expenditure as only few surgical procedures are in the list of health card scheme from selected hospitals.

It is seen that the cost of medicine greatly affects the regularity in treatment as explained in the research carried In USA by Jose et al. in nephrology department in a tertiary healthcare department.<sup>12</sup>

Similarly a study conducted in Australia by Mateti UV et al reported that majority of the haemodialysis were receiving the treatment for more than one year which are similar to the results of this study.<sup>13</sup>

Further, 51.1% used public transport to reach the hospital, 40% used personal transport to visit the hospital and 8.5% used both transport facilities public and personal to reach the hospital. The results of our study are similar with study conducted by Liu ZH in China.<sup>14</sup> In current study the treatment charges of 30.8% were paid by themselves and 68.4% cases were paid by their families while only 0.8% patient received hospital funds to pay his treatment charges.

This is in contradiction with a prospective, observational study carried out by Suja and Saraswathy in a tertiary care hospital in India which showed that majority of the expenses were borne by the patients themselves.<sup>15</sup> The high burden of out of pocket expenses in our study emphasizes on the insufficiency in medical relief for long term hemodialysis care by government. The results are in accordance with the research in south India by Saravanan AK, Nancy LE, Yuvaram NV, Saravanan S. In most of the tertiary hospital limited medical budget influence the treatment and maintenance of renal dialysis of patients.<sup>16</sup> This highlights the need for more political commitment in this regard to decrease the financial burden on these patients.

## CONCLUSIONS

It can be concluded from this study that there is a hefty monthly out pocket expenditures of the hemodialysis patients despite the free hemodialysis provided by government. The Health card scheme by Government must include all process of hemodialysis free of cost in maximum approachable hospital both in private as well as government hospitals.

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