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Original Article

Chronic Renal Disease and Related Factor in Patients Undergoing Hemodialysis at Public Hospital, Lahore City

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ABSTRACT

Objective: To identify association of sociodemographic, clinical, anxiety and medication adherence factors with health-related factors of patients with chronic kidney disease. **Methods:** It was a cross-sectional study including 100 patients with chronic kidney disease on hemodialysis. A pre-tested questionnaire having sociodemographic and kidney disease related questions was used to assess the patients. They were asked regarding the duration of disease, complications arising before and after hemodialysis or any comorbidity. Data was analysis using SPSS latest version. **Results:** It was observed that there is high associations between sociodemographic and clinical factors with improved health related quality of life. Complications that may arise were depression, repetitive infections, pain, anemia, weakness after the dialysis session. **Conclusions:** It is very important to manage the health related factors that are associated with chronic kidney disease. It will help the suffering patients and improve their quality of life and ailment.

INTRODUCTION

Kidney damage for almost more than three months can lead chronic kidney disease (CKD). If rate of glomerular filtration is more than 60 mL/min then it will be abnormal only in case if the imaging test reports will be abnormal and if the rate is less than this value then it will be confirmed abnormal [1]. As the age increases chances of CKD increases that is why older people have more chances of having this disease [2]. A great percent of the world population is suffering from chronic renal diseases. Some harmful environmental toxins are the cause of this disease but in all over the world diabetes mellitus is the major reason other causes include age after 60 years and family history have more chances of having CKDs [3].

Prevalence of milder CKD is estimated to be 5-7% worldwide which is due to hypertension and diabetes [4]. Feeling lethargic, lack of energy, difficulty in sleeping and itching are the main symptoms of CKDs [5]. Other symptoms include abdominal pain and gas, easily damage any part of the body and start bleeding and muscle cramps [6]. Urine is the most common source of laboratory test for the diagnosis of CKD because it is easily available and easily collected [7]. Other diagnosis included Blood test, estimated glomerular filtration rate, kidney biopsy, blood urea nitrogen (BUN) and urinary tract ultrasound [8]. Hypertension, lifestyle changes, dietary modification, anemia, dyslipidemia and mineral metabolism should be treated first for the better results for the treatment because these problems trigger chronic renal diseases [1]. After this dialysis and kidney transplant are recommended [9]. Phosphorus is harmful for chronic renal disease patients so their diet should be restricted in phosphorus like whole grains, dairy products, nuts and beans. Phosphorus that has been added to food in the form of an additive is found in ready to eat foods, cheese, canned and bottle beverages [10]. High protein diet on daily

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basis from a long period of time may cause negative effects on kidneys [11]. 1.2g/Kg/day is recommended protein intake for hemodialysis patients. For pre-dialysis patients 0.8g/Kg/day is recommended [12]. Salt increases the chances of hypertension and weight gain that is why sodium consumption is restricted for CKD patients [13]. Energy intake for hemodialysis patients should be low as around 22-24 Kcals/Kg body weight. If total food intake does not meet the recommended dietary intake, then supplements should be given to these patients to meet all the nutritional requirements [14].

Quality of life of hemodialysis patients is low as compared to quality of life of patients suffering from other diseases. Unable to achieve required nutrients may cause protein energy malnutrition which in result decrease the quality of life [15]. Treatment related stress may lead to depression which cause poor quality of life. These patients face many psychological issues like anxiety, feeling of hopelessness, trying to suicide, feeling guilty, become more sensitive [16]. Patients undergoing hemodialysis feel fatigue and lethargic in general that effects on daily routine activities and cause poor quality of life [17]. Environment is the main factor that affects the quality of life of hemodialysis patients. Unemployment, depressed personal life, living in rural areas, low socio-economic status, distance covered to reach hospital, more time taking in hemodialysis affects the quality of life [18]. Economic and social factors decrease the quality of life. Low monthly income leads to low social activities which cause poor quality of life [19].

The researcher tried to highlight the possible factors responsible for substandard quality of life among patients undergoing hemodialysis so that attempt could be made after ruling out the negative factors by the researcher to re-address all the responsible features to improve the quality of life among suffered patients as decreased quality of life causing economic burden on society.

An observational study was conducted by Anees M *et al*, in 2014 to determine the factors that affect the quality of life in patients undergoing hemodialysis. 125 patients were selected from Shalamar hospital. These patients from the last three months were undergoing hemodialysis. The results showed that environment is the main factor that affects the quality-of-life 0f hemodialysis patients. Patients undergoing hemodialysis were having good jobs, education and good quality of life. Depressed personal life, jobless, living in rural areas, low socio-economic status, distance covered to reach hospital, more time taking in hemodialysis affects the quality of life [20].

METHOD:

A Cross – sectional study was conducted At Urology department of Sir Ganga Ram hospital, Lahore, for the duration of 4 months. Sample size of 100 patients both male and femlae were collected vy by Non-probability convenient sampling technique. Patients of both gender above 18 years of age suffering from renal disease undergoing hemodialysis were included in the study.

RESULTS:

The demographical profile of patients shows 68% of them are male, 53% belongs to lower class, 60% of them are living in rented houses and 69% of them had family history of hypertension and diabetes.

Variables		Percentage
Gender	Male	68%
	Female	32%
Socio-economical status	Lower class	53%
	Middle class	47%
Residential status	Own	40%
	Rented	60%
Family history of	Hypertension and Diabetes	69%
	Dialysis	22%
	HTN+DM+dialysis	9%
Family history of chronic kidney disease	No	67%
	Yes	33%

Table 1: Distribution of patients According to the demographical profile

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The available complications among CKD patients on dialysis. About 61% of them are suffering from depression, 79% are hypertensive, 57% had diabetes mellitus and 77% feels fatigue and weakness. 63% CKD patients on dialysis were consuming too much antibiotics due to CKD pain as shown in Table 2.

Variables	Number of patients
Absence of depression	61%
Pressence of depression	39%
Complications and intercurrences	
Hypertension (HTN)	79%
Diabetes Mellitus (DM)	57%
Anemic	48%
Pressence of nausea	43%
Fatigue and weakness	77%
Insomia	37%
Change in urine output	66%
Antibiotics intake	63%

Table 2: Prevalence of depression and comlications among patients suffering from chronic kidney diesease during hemodylysis session

Dialysis sessions		Percentage
Frequency of dialysis session/week	2	2%
	3 or more	98%
Gap between dialysis session	1 day	2%
	2 days	86%
	More than 2 days	12%

Table 3: History of dialysis among CKD patients

The table 3 showed 98% patients had more than 3 sessions in a week of hemodialysis and 86% had a gap of 2 days between dialysis sessions.

DISCUSSION

According to the findings majority of the patients (62%) were dealing with the diabetes & hypertension and some of them (22%) were having the family history of dialysis and a few also mentioned other diseases running in family history. Brancati FL *et al* reflected on how the end stage renal disease and diabetes are interlinked. It was seen that diabetes was the independent strong facet for causing end stage renal disease. It was also observed that preventive measure taken for diabetic patients reduced a higher number of end stage renal disease incidences [21]. Current study also reflected a potential number that is facing the hypertension alongside the CKD. Ridao N*et al* mentioned that hypertension was very much prevalent in patients with end stage renal disease. It was also concluded that prevalence of hypertension actually dependent on the degree of the renal disease & also on the type of the nephropathy. The current paper also highlighted the blood pressure which seemed to be high & should be in control to reduce or control the treatment of the renal disease [22].

According to the findings of current paper economic status of the patients and how it does impact the quality of their life was taken into account. It was observed that majority of the patients (60%) were not having their own houses while the rest of them had. A great majority of 97% were from urban areas while the rest of them were from rural areas. A majority of patients were doing their private jobs and were from poor background. Sesso R *et a., l*reflected upon the socioeconomic status and its potential impact on the quality of life in patients with end stage renal disease. Socioeconomic status was said to an important aspect which ultimately impacting on how well a patient deal with the renal end stage disease. Patients with lower socioeconomic status were not doing so well with the quality of life and were prone to anxiety and depression rather than the patients with higher socioeconomic status [23].

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According to the findings majority of patients (67%) were not having any family history of chronic renal disease while 33% of them were having family history of the renal disease. One of Freedman BI *et al* emphases on the genetic factor that might involve in transferring the end stage renal disease. It was concluded and observed that majority of the patients with end stage renal disease usually have very close relative with this disease. There might be preventive measure to reduce the number of incidences of renal disease. Genetic factors directly contributing to the chronic renal disease is yet to be discovered [24].

Other physical symptoms were also being assessed such that majority of patients (57%) did not feel nausea while the rest of them feel nauseated all the time. They also observed changes in their urination duration. Majority of the patients (66%) believed that there was a significant change in urination than the others. Majority of them (77%) felt tired and weak all the time while the rest of them were not having these symptoms. 37% of them also felt sleep disturbances during night time, it was difficult for them to fall asleep. The previous research findings showed that fatigue and depression were significantly seen among the patients with renal disease. The majority of patients were in depressive mood which ultimately impacted their quality of life as well as treatment of renal disease [25].

CONCLUSIONS

According to the findings of this paper the patients suffering from chronic renal disease can lead to severe depression and mental health problems that can ultimately impact the journey of treatment. It was observed that patients going through dialysis found it difficult to have a better quality of life.

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