

## The Effect of Dialysis on the Psychological State of Hospital Entrance in the Renal Centers

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### Abstract

**Aim:** The aim of the present study was to predict the effect of hemodialysis on the psychological state of patients and the development of these patients according to response to the hemodialysis.

**Methods:** A study was conducted at ESICMCH, Bihta, Patna, Bihar, India and 200 subjects were included in the study. Patients were selected who were available at the time of interview. A verbal permission was taken from these patients and/or their relatives. A questionnaire was prepared and included a general history, family diseases, drug regimen, and socioeconomic condition. Duration of study from October 2022 to November 2023.

**Results:** Above sixty years represent more than thirty percent, the male was more than sixty five percent. More than fifty percent was married and about forty percent was not educated, five % had earned a university degree, and 1% was postgraduates, with regard to occupation, more than twenty percent was without a job. More than half of the patient was make dialysis less than a year and most of the total sample was perform the dialysis two times a week. In regard to kidney disease, the glomerular renal disease were found to be a main cause of end stage of the disease (39.5%), followed by Diabetic Nephropathy (DN) 31% which contributed to about third of the cases, hypertension 18.5% and rest other. Obstructive neuropathy were about 2%, renal stones about 4% of the sample.

**Conclusion:** The most regarded reason of (ESRD) was the glomerulonephritis and diabetic nephropathy was the second one. Most of patients are uneducated which may play a role in incidence of ESRD.

**Keywords:** End stage renal failure, nephropathic hyperglycemia, transplantation, hemodialysis, nephrotic, nephritic, glomerular filtration rate

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### Introduction

It is well known that the kidney had a crucial rule in regulation of body volume and electrolyte disturbances in addition to regulation of excretion of metabolic and drugs and toxin waste products. It had a role in activation of an inactive vitamin D in to active one. [1-4] Many glomerular and/or tubular kidney problems attached this filtration organ. Some of them are induce a nephrotic, nephritic while other ends with a renal failure. Regardless the reasons and its prognosis, the diagnoses base one laboratory investigations, renal functions test (glomerular filtration rate: urea and creatinine with urea to creatinine ratio), biopsy, tumor markers and ultrasound investigations and finally CT scan to discover whether or not there is an anomaly. [3,4] End stages renal diseases could be treated by hemodialysis or it not worked could be ends with organ transplantation. [5]

In addition to general fatigue, fatigue and activity, symptoms can include rare passage of urine, Apnea,

Nausea, Muscle spasm, back ache. [6] Diseases that often cause kidney malfunction are increase the glucose concentration and high pressure of the blood, especially if they are not controlled by treatment. Other conditions that cause chronic renal failure are glomerulonephritis, polycystic kidney disease, recurrent cystic spondylitis, recurrent renal vasculitis, some drugs taken excessively over many years can destroy kidneys, as well as exposure to mercury and lead. Long-term obstruction of the renal tubules due to prostate enlargement can also lead to chronic renal failure. [7-10]

Changes in the chemical and fluid balance (electrolyte and aqueous) due to renal failure can cause complications in virtually all organs of the body, including the heart and nervous system. Similarly, if potassium levels increase in the blood (because the kidney cannot get rid of excess potassium), it can cause cardiac arrest. [11-16]

The aim of the present study was to predict the effect of hemodialysis on the psychological state of patients and the development of these patients according to response to the hemodialysis.

### Materials and Methods

A study was conducted at ESICMCH, Bihta, Patna, Bihar, India and 200 subjects were included in the study. Patients were selected who were available at the time of interview. A verbal permission was taken from these patients and/or their relatives. A questionnaire was prepared and included a general history, family diseases, drug regimen, and socioeconomic condition. A urea, creatinine, blood glucose level were measured and data were analyzed statistically using SPSS program version 20. . Duration of study from October 2022 to November 2023.

### Target Patients

Patient who are selected were diagnosed by the senior as they suffer from end stage renal failure and referred to the hospital for dialysis as they progressed in renal problem from mild, moderate in to ESRD at which the ends with hemodialysis at Al-Hakeem hemodialysis center. They induce hemodialysis from two to three times a week at average of 3-4 hours per session

### Inclusion Criteria

Those included in this study are patient age ranged between (10-60) years who are under the hemodialysis through the arterio-venous fistula (AVF) in hemodialysis units.

### Exclusion Criteria

Those excluded in this study are: Peritoneal dialysis patients as they were very few patients also, Patient with below 10 years and above 60.

The question forma was designed according to criteria of WHO scale [24]. It include the socio-demographic properties like (Age, sex, weight, height, Residence, Marital, Occupation promoters, year of education, Duration of hemodialysis and how many times for each of hemodialysis). The urinary infection is considered for 5 leukocytes per high power field in the urine culture. Part two included items that focused on four domains: physical, social, psychological and level of independence.

### Statistical Analysis

The data were analyzed by SPSS and the p value  $\leq 0.05$  was regarded to be significant in statistic session.

### Results

**Table 1: Socio-Demographic property of the patients**

Variable	No	Percent	
Age/year	10-19	9	4.5
	20-29	26	13
	30-39	14	7
	40-49	44	22
	50-59	45	22.5
	60-69	62	31
Gender	Male	130	65
	Female	70	35
Marital state	Married	106	53
	Divorced	24	12
	Widow	12	6
	Single	58	29
Level of education	Unable to read and write	83	41.5
	Read and write	43	21.5
	Primary school	27	13.5
	Intermediate school	19	9.5
	Secondary school	16	8
	Collage school	10	5
	Post-graduate	2	1
Occupation	Retired	25	12.5
	Privet work	44	22
	Functionless	46	23
	Housewife	38	19
	Employed	29	14.5
	More than two	18	9.0
Period of hemodialysis	< 1 year	115	57.5
	1-2 year	36	18
	2-3 year	29	14.5

	> 3 year	16	8
	Other (longer time > 5 year)	4	2
Hemodialysis frequency	1/WK	24	12
	2/WK	136	68
	3/WK	40	20

Above sixty years represent more than thirty percent, the male was more than sixty five percent. More than fifty percent was married and about forty percent was not educated, 5% had earned a university degree, and 1% was postgraduates, with

regard to occupation, more than twenty percent was without a job. More than half of the patient was make dialysis less than a year and most of the total sample was perform the dialysis two times a week.

**Table 2: Types of the renal diseases**

	Primary disease	No.	Percent %
1	Glomerulonephritis (GN)	79	39.5
2	Diabetic Nephropathy (DN)	62	31
3	Polycystic Kidney disease (PKD)	10	5
4	Renal Stone	8	4
5	Hypertension (HTN)	37	18.5
6	Obstructive uropathy (OU)	4	2
	Total	200	100

In regard to kidney disease, the glomerular renal disease were found to be a main cause of end stage of the disease (39.5%), followed by Diabetic Nephropathy (DN) 31% which contributed to about third of the cases, hypertension 18.5% and rest other. Obstructive neuropathy were about 2%, renal stones about 4% of the sample.

**Table 3: The psychological state of patient of hemodialysis**

	Psychological state	No.	Percent%
1	Good psychological state (sleep, rest, talk and others)	30	15
2	Mild depression (not talking)	32	16
3	Moderate depression (not talk, not respond to relative and doctor instruction)	128	64
4	Severe depression (aggressive behavior)	10	5
	Total	200	100

The psychological state of the quality of life for these patients had greatly affected. The prevalence of depression (mild, moderate and sever) while in this group was 85%. 64% of the total patients had a

moderate depression (128 patients) were not talk to their relatives or medical staff and not obey the doctor instructions and not take medications), while 5% had severe depression.

**Table 4: Distribution of hepatitis state among patient of hemodialysis**

	Hepatitis infection	No.	Percent%
1	Positive hepatitis	46	23
2	Negative hepatitis	154	77
	Total	200	100

Patient were classified according to the awards in to those resident in the clear award from the hepatitis (77%) at which the room, instruments, hemodialysis devises and other were clear from hepatitis and those of room contain an infected instrument and devises (23%).

**Dsicussion**

Haemodialysis (HD) is the most frequently used renal replacement therapy for kidney failure (previously known as end-stage kidney disease<sup>17</sup> with approximately 37.4% of people in the United

Kingdom receiving hospital HD treatment.<sup>18</sup> Patients receiving hospital HD experience a high burden of disease, arising from its chronic nature and protracted medical treatment. [19]

Above sixty years represent more than thirty percent, the male was more than sixty five percent. More than fifty percent was married and about forty percent was not educated, five % had earned a university degree, and 1% was postgraduates, with regard to occupation, more than twenty percent was without a job. More than half of the patient was make dialysis less than a year and most of the total

sample was perform the dialysis two times a week. More than fifty percent (53%) were engaged, this was proved the same of Diepenbrock et al [20] he found that out of 140 dialysis patients in Kelantan, more than three quarter were married, also, Rima revealed that more than sixty percent were have a partners. [21] 41 percent of dialysis patients were not educated. Around nineteen of the total sample were housewives, Rima et al. showed the same of our finding [21], while AL-Jumaih et al. (2011) showed that forty three percent were retired and Chen et al [23] found that more than three quarters didn't work. Many countries showed that glomerulonephritis, elevated glucose and cardiac output as causes of ESRD. [24,25]

In regard to kidney disease, the glomerular renal disease were found to be a main cause of end stage of the disease (39.5%), followed by Diabetic Nephropathy (DN) 31% which contributed to about third of the cases, hypertension 18.5% and rest other. Obstructive neuropathy were about 2%, renal stones about 4% of the sample. The psychological state of the quality of life for these patients had greatly affected. The prevalence of depression (mild, moderate and sever) while in this group was 85%. 64% of the total patients had a moderate depression (128 patients) were not talk to their relatives or medical staff and not obey the doctor instructions and not take medications), while 5% had severe depression. Patient were classified according to the awards in to those resident in the clear award from the hepatitis (77%) at which the room, instruments, hemodialysis devises and other were clear from hepatitis and those of room contain an infected instrument and devises (23%). Depression is the a major problem in patients with renal problems in Iraq and most of them showed non cooperatively with treatment and committing to the routine medical visiting. [26] In this study, eighty five percent of the total patients showed a severe depression. This is agreed with a Pakistani study. [27]

### Conclusion

The most regarded reason of (ESRD) was the glomerulonephritis and diabetic nephropathy was the second one. Most of patients are uneducated which may play a role in incidence of ESRD.

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