Original Article

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Patients Journey to hemodialysis centers: Multi-center study

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ABSTRACT

Background: Hemodialysis is used to restore electrolyte balance (sodium levels, potassium in the body, bicarbonate, chloride, as well as magnesium, calcium, and phosphate) and filters the waste products and excess fluid. Unfortunately, developing nations continue to have a severe shortage of resources, which makes it difficult to provide highly technical and costly care like dialysis. **Aim**: The study's objective is to reveal and trace the journey of patients with end stage kidney disease who are on regular hemodialysis program and how they reach to dialysis centers. **Methods**: the study was to be conducted in many dialysis centers in different regions in Iraq to trace the patients journey to dialysis centers and how they reach the place. **Results**: The study population consisted of 400 participants, 60.2% of them were males and 39.8% were females. The majority were between 50-69 years old. Baghdad constituted the greater part of the participant's province 88.3%. 56.00% of the patients went to dialysis sessions three times per week, 42.25% of them went twice times. 24.75% of patient get to dialysis center by private car, 68.00% by Taxi and 6.25% by bus. 42.75% spent 30 mins-1hr to get to dialysis center, 41.75% spent 10 mins-30 mins .54.61% spend 10,000IQD to 20,000IQD to get to dialysis center. **Conclusion**: transportation-related issues seem to have an impact on the provision of in-center hemodialysis. This could have an impact on the dialysis provider as well as the particular patient.

Keywords: hemodialysis centers, quality of life, transportation

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INTRODUCTION

Kidneys can no longer filter blood and produce urine when their function falls below 10% to 15%. As a result, the body accumulates more fluid and poison.

Hemodialysis is a treatment that balances electrolytes (sodium, potassium, bicarbonate, chloride, calcium, magnesium, and phosphate) and filters the waste products and excess fluid.[1]

There has been a consistent increase in the number of people undergoing therapy for end-stage renal failure (ESRD). The number of ESRD patients has increased five times faster than global population growth, surpassing

all initial projections, and there is no indication that this trend will slow down in the next 20 years.[2,3]

The reasons behind this growth are commonly attributed to the worldwide aging population, the prevalence of multiple morbidities, the longer life expectancy of ESRD patients under treatment, and the greater treatment accessibility for the younger patient in countries where healthcare access has previously been limited.[4-6]

Furthermore, the fact that chronic kidney disease (CKD) is often asymptomatic in its early stages may contribute to the high prevalence of misdiagnosed CKD. It seems doubtful that advancements will be developed in the near future to either prevent renal sickness or provide a better, more cheap alternative treatment, since the symptoms typically manifest in stage 4.[7]

In chronic renal disease clinics, there is a lack of patient follow-up, which makes it difficult to prepare for understanding the effects of ESRD medication. The cost of care is frequently covered by the patient and their family. This load often comes at the expense of additional necessities for the family, like nutrition, education, and other forms of care for other family members. Understanding the effects of ESRD and its management must take into account the patient's quality of life being negatively impacted by these financial limitations.[8,9]

The high expense of water treatment systems and dialysis machines makes it challenging to set up new units or expand current ones.

Dialysis patients often receive treatment in two 4-hour sessions per week. Financial reasons and patient symptomatology are the main deciding factors in dialysis frequency. Patients frequently cut back on the frequency of their dialysis sessions as their financial means diminish, which eventually results in the cessation of dialysis or death.[10,11]

Reliable and consistent transportation is crucial for patients receiving in-centre hemolysis. Quantity and quality are equally involved.

Patients need a reliable way to get to and from the place of treatment, regardless of whether it's in a big metropolis or a small village. Numerous regulatory organizations, medical corporations, and medical personnel frequently express concerns over hemodialysis patients' compliance with approved treatment plans but unfortunately, still there is a significant lack of resources in developing countries, making the provision of highly technical and expensive care like dialysis a challenge.[12,13]

The study's objective is to evaluate how end-stage kidney disease patients who are enrolled in routine hemodialysis programs get to the centers and their journey in the centers.

MATERIALS AND METHODS

Study Design and Setting

Cross-sectional study was conducted at multi dialysis

Centers including:

1- Iraqi Dialysis Center - Medical City.
2- National Center for Hemodialysis - Medical City.
3- Alshefaa Dialysis Center - Al Kindi Teaching Hospital.
4- Alshefaa Dialysis Center - Al Yarmouk Teaching Hospital.
5- Alhayat Dialysis Center - Al Karamah Teaching Hospital.
6- Alnoor Dialysis Center - Alkaramah Teaching Hospital.
7- Dialysis Center - Al Kadhimiya Educational Hospital.
8- Habib Iben Madhahir Dialysis Center – Karbala.

Study population

Patients with end stage of kidney disease at mentioned centers above.

Sampling procedure

A convenient sample of patients with end-stage kidney disease who are accessible at the time of data collection and who consented to participate.

Data collection form

Questionnaire form was prepared after reviewing the literatures and was modified by the researchers and supervisor.

Data collection

Data were collected by interviewing the patients.

Analysis plan

Data were entered and processed using IBM SPSS Statistics.

Continuous variables were presented as mean, ± standard deviation.

Descriptive statistics in the form of frequency and relative frequency distribution tables were laid down.

Ethical approval

Verbal consent was taken from all participants and their identities were protected.

The administrative approval was taken from the director of the dialysis hospital and under the supervision of the research doctor.

RESULTS

There were 400 participants in the study; 60.2% of them were men and 39.8% were women. Most of them were in the 50–69 age range. The majority of the participating province (88.3%) was Baghdad. (Table 1)

Just 1.75% of the patients attended dialysis treatments once a week, 42.25% attended twice a week, and 56% attended three times a week. (Fig. 1)

Dialysis sessions were initiated by 49% of patients prior to 1–5 years ago, 25.25% within 1 month–1 year, 21.75% during 5–10 years, and 3.5% within 10 years or more. (Fig 2)

One quarter (24.75%) of patients get to the dialysis centre by private car, 68.00% by taxi and 6.25% by bus. (Fig. 3)

Forty two percent (42.75%) spent 30 mins-1hr to get to dialysis center, 41.75% spent 10 mins-30 mins and 15.50% spent 1hr-2hrs to get to dialysis center. (Fig. 4)

About one half (54.61%) spend 10,000IQD to 20,000IQD to get to dialysis center, 38.16% spend 5,000IQD-10,000IQD and only 7.24% spend 20,000IQD-30,000IQD. (Fig. 5)

Sixty-six percent (66.25%) did their dialysis sessions without any delay, 26.5% had 1hr-2hrs delay, 5.25% had 3hrs-6hrs delay and only 2.00% had 7hrs and more delay. (Fig. 6)

Table 1: Characteristics of the participants.

Variable	N=400	Percentage
Sex		
Male	241	60.2%
Female	159	39.8%
Age (year)		
10-19	6	1.5%
20-29	19	4.5%
30-39	44	11.0%
40-49	65	16.3%
50-59	109	27.3%
60-69	93	23.3%
70-79	59	14.8%
80-89	2	0.5%
90 and more	3	0.8%
Mean =55.3/SD=0.220		
Province		
Baghdad	353	88.3%
Other governorate	47	11.7%
Occupation		
Employee	48	12.1%
Free worker	65	16.3%
Student	2	0.5%
Retired	78	19.5%
Housewife	143	35.6%
Non worker	64	16.0%

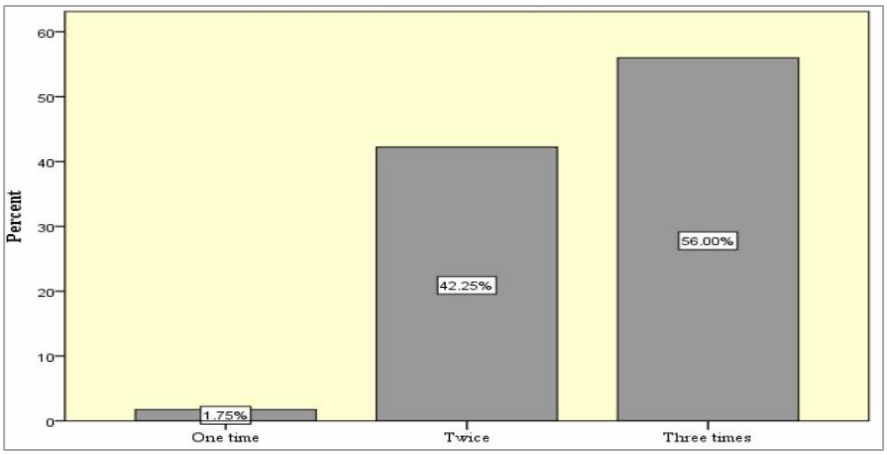

Figure 1: Number of dialysis sessions per week

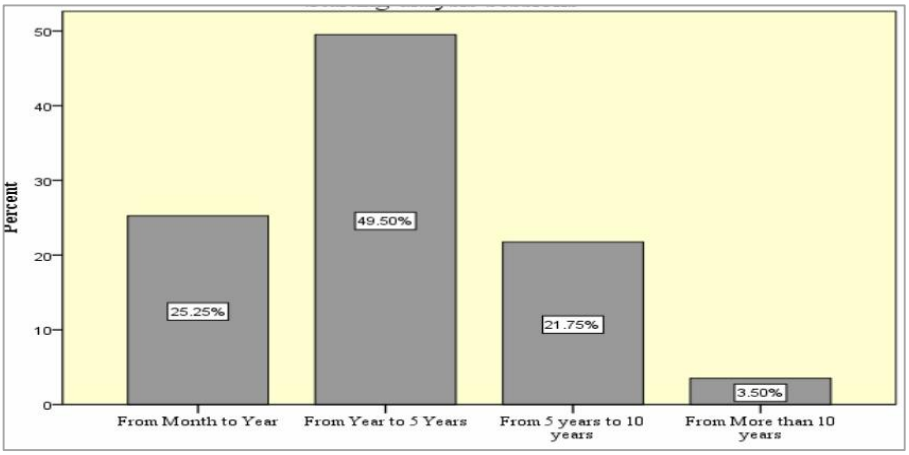

Figure 2: Starting dialysis sessions

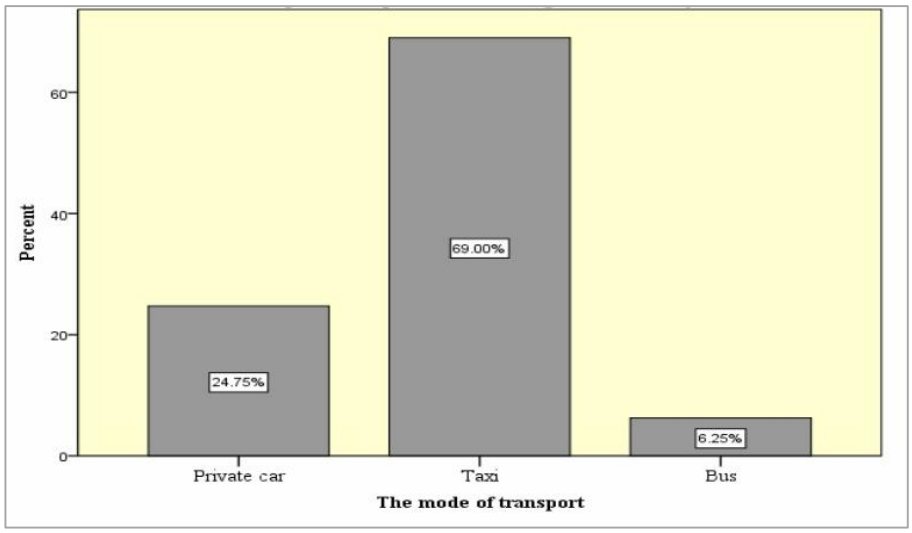

Figure 3: The mode of transport that patients use to get to the dialysis centers

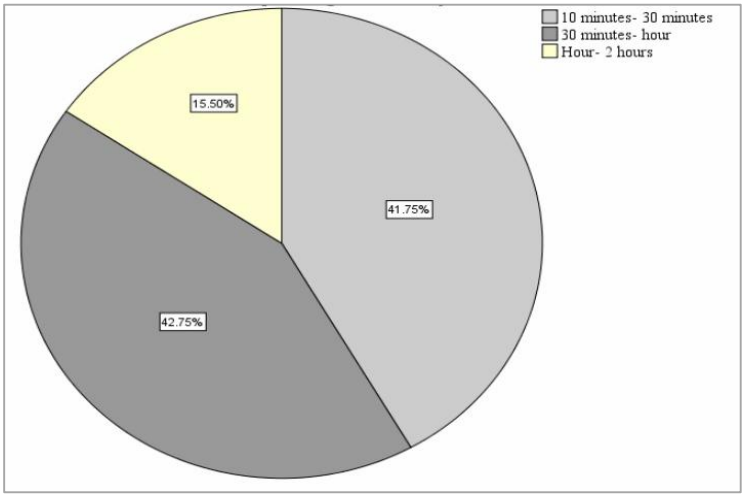

Figure 4: Time spent to get to the dialysis center

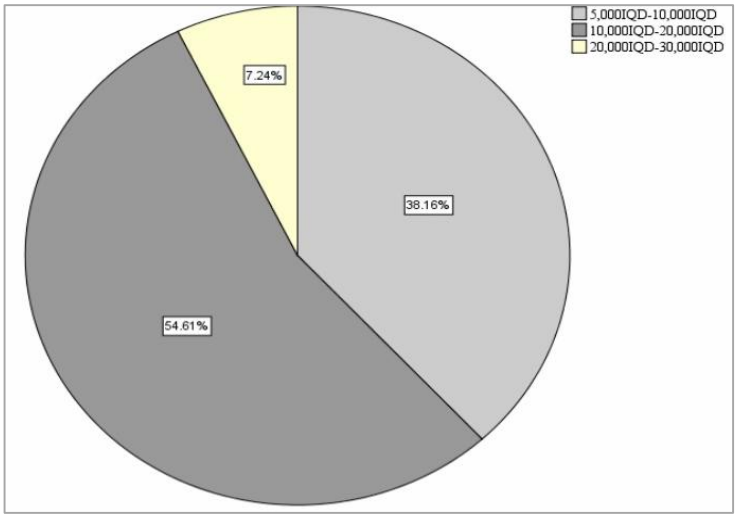

Figure 5: The cost to get to the dialysis center

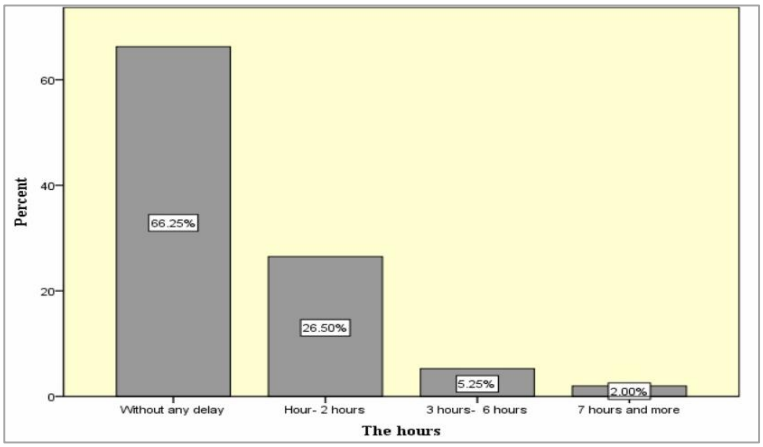

Figure 6: The hours spent waiting to start dialysis

Table 2: The relation between the patient and the companion.		
	Frequency	Percentage
Father	5	1.3%
Mother	13	3.3%
Son	111	27.5%
Daughter	48	12.1%
Husband / Wife	97	24.3%
Sister	35	8.8%
Brother	19	4.9%
Grandson / Granddaughter	2	0.5%
Friend	1	0.3%
N0 companion	69	17.0%
Total	400	100.0%

Table 3: The dialysis centers involved in the study.		
	Frequency	Percentage
Iraqi Dialysis Center – Medical City	91	22.8%
National Center for Hemodialysis - Medical City	75	18.8%
Alhayat Dialysis Center -Al karamah Teaching Hospital	38	9.5%
Dialysis Center – Al Kadhimiya Education Hospital	16	4.0%
Alshefaa Dialysis Center – Al Kindi Teaching Hospital	38	9.5%
Alshefaa Dialysis Center – Al Yarmouk Teaching Hospital	59	14.8%
Alnoor Dialysis Center -Al karamah Teaching Hospital	36	9.0%
Habib Iben Madhahir Dialysis Center - Karbala	47	11.8%
Total	400	100.0%

DISCUSSION

Patients with ESKD on regular HD need to attend HD Center twice or thrice a week.

The study population consisted of 400 participants, 60.2% of them were males and 39.8% were females. The majority were between 50-69 years old. Baghdad constituted the greater part of the participants province (88.3%).

The majority of the patients (35.6%) were housewife, 19.5% were retired, 16.3% were free workers, 16.5% were non workers, 10.3% were employees, 1.5% were soldiers and only 0.5% were students. Fifty six percent of the patients went to dialysis sessions three times per week, 42.25% of them went twice times and only 1.75% went one time per week. Forty nine percent of patients started dialysis sessions before 1-5 years ago, 25.25% started from 1 month-1 year, 21.75% started from 5 years-10 years and 3.5% started from 10 years and more. One quarter (24.75%) of patient get to dialysis center by private car, 68.00% by Taxi and 6.25% by bus as Steven A.in his research show that about two-thirds of patients reach their center by private, taxi or friends.[12]

Forty two percent (42.75%) spent 30 mins-1hr to get to dialysis center, 41.75% spent 10 mins-30 mins and 15.50% spent 1hr-2hrs to get to dialysis center. About one half (54.61%) spend 10,000IQD to 20,000IQD to get to dialysis center, 38.16% spend 5,000IQD-10,000IQD and only 7.24% spend 20,000IQD-30,000IQD.

The majority of patients in this study 83.00% had companion with them during dialysis sessions and 17.00% had not. The study's findings demonstrated that patients with this condition are dependent on haemolysis equipment to varying degrees, as well as on social, medical, and financial support. Research from Nigeria, Iran, New York, and India supports this conclusion.

Studies from Australia and India also touch on the idea of machine dependency.[14]

The patients had facing problems such as putting another patient's session ahead of their session in about 0.76% cases. Also, this study shows that 16.79% of the patients had facing problems with lacking equipment or staff during their dialysis sessions.

Sixty six percent (66.25%) did their dialysis sessions without any delay, 26.5% had 1hr-2hrs delay, 5.25% had 3hrs-6hrs delay and only 2.00% had 7hrs and more delay. This may be due to the presence of well-trained medical staff who can deal with large number of patients as mentioned above in the present results of this thesis. Only 18.50% of them included in the monthly income service from social assistance.

There is a lack of sufficient information about patients' social conditions, which unfortunately leads to their not being included in the social care and health insurance programs.

CONCLUSIONS

Transportation-related issues seem to have an impact on the provision of in-center hemodialysis. This could have an impact on the dialysis provider as well as the particular patient. Treatments that are skipped or cut short can have an impact on physical health and cause psychological and emotional strain. Businesses lose money when treatments are skipped because they are unable to provide the treatment, staff, and supplies. Transportation issues might also affect other patients, as missed appointments can result in scheduling gaps and unanticipated adjustments to the shift plan that many clinics follow.

Recommendations:

- Including patients on HD who should attend sessions of HD with the social security support is perfectly fine.
- Reactivation of using shuttles or buses once again and under the control and audit of MOH is a practical necessity.
- Good dialysis prescription and dose is mandatory to improve patient QOL and decrease number of frequent visits to the HD Center.
- Encourage Charity for support of patients who need urgent continuing care.

. Encourage the CAPD program especially for patients who live in areas where there are no hemodialysis centers close to their residence.

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