

Assessment of socioeconomic burden of hemodialysis on ESRD patients in suez canal cities & ELArish

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Background

End-stage kidney disease(ESRD) is the complete or almost complete failure of the kidneys to work. The kidneys remove waste and excess water from the body. the most common causes are when the kidneys are no longer able to work at a level needed for day-to-day life , diabetes and high blood pressure.

In the past decade, kidney disease diagnosed with objective measures of kidney damage and function has been recognised as a major public health burden. The population prevalence of chronic kidney disease exceeds 10%, and is more than 50% in high-risk subpopulations. Independent of age, sex, ethnic group, and co-morbidity, strong, graded, and consistent associations exist between clinical prognosis and two hallmarks of chronic kidney disease: reduced glomerular filtration rate and increased urinary albumin excretion.

End-stage kidney disease leads to death if you do not have dialysis or a kidney transplant. However, both of these treatments can have risks. The outcome is different for each person.⁽¹⁾

The possible complications Anemia, Bleeding from the stomach or intestines , confusion, and Changes in electrolyte levels ,Changes in blood sugar (glucose),Damage to nerves of the legs and arms, blood vessel complications , Congestive heart failure, Coronary artery disease , Pericarditis , Stroke, hepatitis B& C, liver failure, Potassium levels become too high, Seizures, Skin dryness, itching/scratching, Weakening of the bones, fractures, joint disorders⁽²⁾

There is psychiatric issues in renal failures and dialysis as depression which is most common psychiatric complication occurring as a result of renal failure is depression in the patient and anxiety in the associated partner. Also Delirium is a common phenomenon observed in dialysis patients due to electrolyte imbalances that may occur after a dialysis run termed as the dialysis disequilibrium syndrome or as a consequence of medical or surgical complications.⁽³⁾

Therefore, our rationale is to assess exactly the bad socioeconomic effects of ESRD & hemodialysis on the patient and to support the patients and learn them to continue this treatment as it is the most accessible treatment in our country and to save their lives from the severe complications of ESRD.

Aim

To assess the effect of ESRD management (dialysis, medications, diet and life style) on the socioeconomic state of the patients and their families (their income, the money and time spent for management of ESRD). To determine the compliance of patients with dialysis treatment and medications taken with it. Also , our study determines if medical staff (doctors , nurses or others) can provide all the necessary information and knowledge to patients about their health condition and dialysis . finally, our study determines if plan of management of dialysis patients in Egypt is sufficient and protective.

Primary objectives

- 1- predict the cost that patients of ESRD spend for medication.
- 2- Evaluate the effect of hemodialysis on the income of the families that have an ESRD patients
- 3- To know The effect of the hemodialysis on the social relationship of the families with ESRD patients.

Secondary objectives

- 1- To communicate with ESRD patients and detect their problems

Research question

What is the socioeconomic burden of end stage renal disease (ESRD) & hemodialysis on patients??

Hypothesis

We suppose that ESRD has negative effect on the socioeconomic state of patients and their families .

Subjects & methods

We use descriptive cross-sectional study to determine socioeconomic burden of dialysis for a collected sample at this time . simple random convenient sampling is used and all patients have the chance of being included and we collect (121) patients from governmental & non-governmental dialysis units in Suez , Portsaid , Ismailia , ELQantra & ELarsih from 25 january – 20 february 2014 .

We use an interviewer- administered questionnaire [The End-Stage Renal Disease-Adherence Questionnaire (ESRD-AQ)] and it's composed of (29) questions . The data will be collected,

cleaned, filtered, coded and entered into the Microsoft Office Excel program (2007).IBM SPSS Statistics (18) Program will be used for data analysis. Data will be analyzed and presented using tables, and graphs.

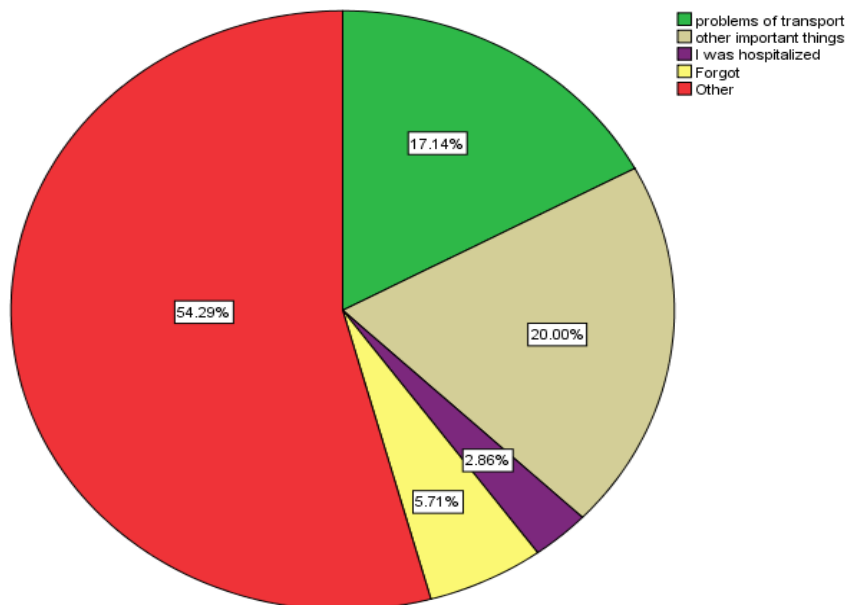
Results

Mean of age is 47.4 years and standard deviation is 15.22.

	N	Mean	Std. Deviation
	Statistic	Statistic	Statistic
Age	121	47.44	15.221
Valid N (listwise)	121		

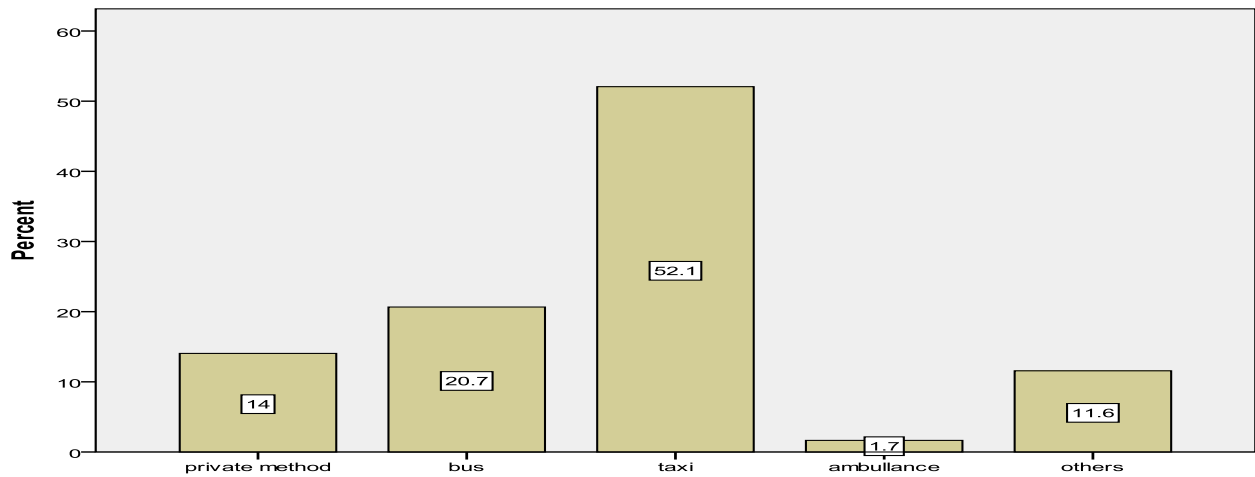
Age

About 52.9% of patients started dialysis from more than 3 years. About 21.5% of patients were absent from dialysis with varying times in January. Problems of transport are one of the most common reasons for absence (17.1%) .



Reason of absence from dialysis

52.1% use taxi to go to dialysis unit while 20.7% use bus.



Methods of transport

48.8% of patients go to dialysis unit alone while 19% go with his or her son /daughter.

	Frequency	Percent
alone	59	48.8
father or mother	6	5.0
husband or wife	22	18.2
son or daughter	23	19.0
friend	1	.8
others	10	8.3
Total	121	100.0

Attendant with patient

82.6% of patients go to dialysis unit in 3 days per week. 56.2% of patients stay for 4 hours per day and this period is the most acceptable for most ESRD patients . 59.5% of patients have difficulty in being stayed in dialysis treatment with variable degrees.

	Frequency	Percent
no difficulty	49	40.5
a little difficulty	25	20.7
Moderate difficulty	31	25.6
A lot of difficulty	15	12.4
Extreme difficulty	1	.8
Total	121	100.0

Difficulty in staying on dialysis machine

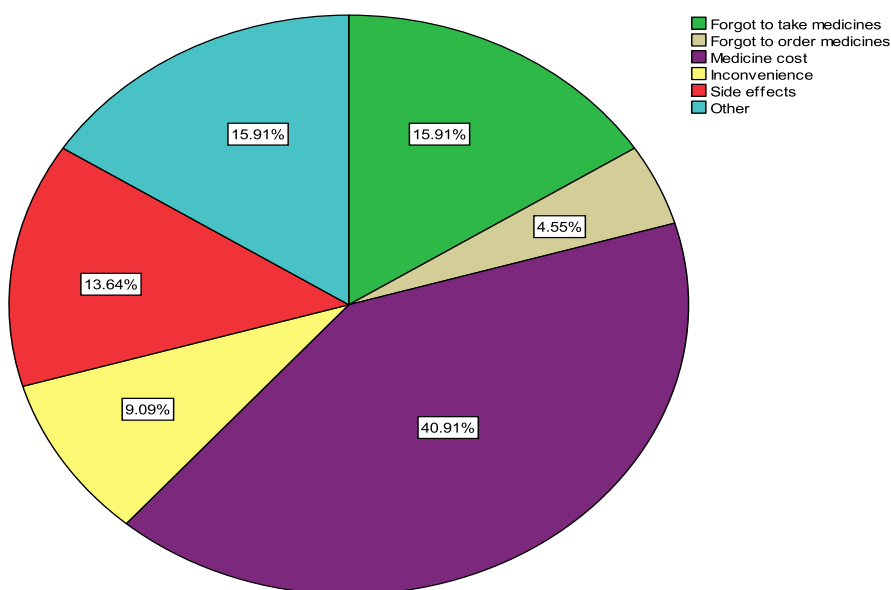
41.3% of cases shortened time of dialysis with variable times. Low blood pressure is the most common cause of shortening dialysis time (14%), restlessness comes in te 2nd stage by (10.7%).

About 53.7% of patients haven't side effects from the drugs while 18.2% have stomach pain and 14.9% of patients have GIT upset (nausea , vomiting , diarrhea) .

About 41% of patients couldn't get medications due to their high cost while 9.1% didn't take drugs due to inconvenience.

	Frequency	Percent
Bathroom use	2	1.7
Restlessness	13	10.7
Low blood pressure	17	14.0
Access (graft, fistula, or catheter) clotted	3	2.5
Work schedule	4	3.3
Transportation problems	2	1.7
Did not feel like staying	4	3.3
Other	10	8.3

Reason of shortening time of dialysis session



Reason of not getting the drugs last week

Discussion

Haemodialysis is a treatment for those patients whose kidneys cannot function anymore. It is a way of cleansing the blood of toxins, extra salts and fluids through a dialysis machine called "artificial kidney". It helps maintain proper chemical balance such as potassium, sodium and chloride and keeps blood pressure under control.⁽⁴⁾

Our results shows a negative effect of hemodialysis which can be demonstrated by two main factors , appointment and medical regiment compliance keeping on mind that these factors have physical ,psychological and socioeconomical aspects .

Firstly, the appointment non-adherence: our results revealed (6.6%) of patients missed one dialysis session per month , while another (6.6%) has missed 2 sessions per month , other reports⁽⁵⁾ detected (5.1-7.2%) of patients -which have been monitored for 3months - also have missed 2 session per months , which supports our findings , and while another research⁽⁵⁾ found that (19%) of patient have missed one session per month, and this difference may be due to the difference in regiments between the 2 samples.

Furthermore, concerning appointment non-adherence, our data reveals about (41.3%)have shortened one or more dialysis session per month while a research⁽⁵⁾ showed to be (26.8-32.3 %)which is a double or one and half of our findings .We can explain this difference by many reasons, it may be the difference in quality of HC which makes the patients of our sample to be more susceptible for more complications; which is evidenced by the finding that about (54%) of the causes of being shortened is either (hypotension -about two thirds -)or (restlessness -about one third -).

Secondly medical regiment non-adherence food, fluid and medication -:

concerning fluid regiment we found that about(49.5%) said to have difficulty in reducing it while other researches' results showing wide scale of variety ,one of them⁽⁵⁾ shows that about (37.2%) of the patients of their sample having poor adherence with fluid restrictions while another one⁽⁶⁾ claims that about(74.6%) of patients having difficulty in following fluid regiment. we can explain this huge range of difference between these data by the following:

- difference of definition and method of assessment of fluid incompliance as we and that research⁽⁶⁾ using multicenter cross-sectional study and a questionnaire while this one⁽⁵⁾ also used a cross sectional study, depending on measuring of weight gain between 2 sessions.
- other possibility of this wide range is difference of fluid restrictions schema according to centers or patients

Our data shows about (36.4%) of patients said to have a difficulty in following dietary restrictions, and another researches revealed also a wide scale of dietary non adherence , one⁽⁵⁾ of them showed (24%) , another⁽⁵⁾ showed about (50%) furthermore, a research⁽⁵⁾ found about (81.4%),which can be explained by the above mentioned reasons with adding of socioeconomic status which have a great influence in this point, and so our results reflect a moderate effect on the socioeconomic status .

Conclusion

About half of patients come to the haemodialysis centre to receive dialysis therapy 3 days per week, and this prevents them from going to jobs, and they will not be able to get money to spend on their drugs or on their families. There are also many difficulties facing the patients on going to the centre such as transport, where a lot of them are using private machines, taxi and this forms a serious obstacle for them. Also, we found that there is a little to moderate effects on socioeconomic Burden as about half of them going alone to the dialysis centre which may be an indication of social problems. About half of patients understand that their kidney condition requires dialysis. Third of patients know that it is important to follow an ideal dietary system for their health, and for their renal condition. Also, majority of the patients were not absent from their haemodialysis any time, and they did not miss any medications. Although patients know that it is important to decrease the amount of fluids and water, they find difficulties to decrease the amount they drink every day.

Recommendation

The number of dialysis units should be increased to cover ESRD patients especially as Egypt has a great number of patients. Water supplement should be improved and more sterile to decrease the number of patients. The medical education in schools, PHCCs and media about ESRDs should be increased to improve the prevention. The government should provide patients with transportations to the dialysis units. The medications should be provided with low costs and involved in the patients' Health insurance. The medical education of dietary systems for that patients should be provided and increased. The government should improve the economic state of the patients and their families by providing them with jobs. The dialysis machines should be checked up regularly. The machines of the hepatitis patients should be isolated and marked from the other machines to prevent infection. Increase the care of kidney transplantation as a medication for the patients.

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