

Assessment of contributing factors of end stage renal failure for adult patients

تقييم العوامل المساهمة للمرحلة النهائية للفشل الكلوي لمرضى كبار السن

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الخلاصة

الاهداف: تهدف الدراسة الى تقييم العوامل المساهمة في الفشل الكلوي في المرحلة النهائية للمرضى البالغين وكذلك ايجاد العلاقة بين العوامل المساهمة والمعلومات الديموغرافية.

المنهجية: دراسة وصفية اجريت في مستشفى الشهيد غازي الحريري التعليمي ، ومستشفى اليرموك التعليمي، ومستشفى الكرامة التعليمي، ومستشفى بغداد التعليمي للفترة من 2012\2\22 الى 2012\6\25م. وقد شملت العينة البحث (60) مريضاً بالغاً وبطريقة غير احتمالية (غرضية) وصممت استمارة استبانة لغرض الدراسة وتضمنت جزأين هما:

1. الجزء الاول يشمل المعلومات الديموغرافية (العمر، الجنس، الحالة الزوجية، السكن والمستوى الثقافي).
 2. الجزء الثاني يتضمن العوامل المساهمة للمرحلة النهائية للفشل الكلوي.
- وتم جمع البيانات بهذه الاستمارة وبطريقة المقابلة، تم تحديد صدق الأداة من خلال عرضها على (10) خبراء من ذوي الاختصاص ومن ثم تم تطبيق (الاختبار- وإعادة الاختبار) لتحديد ثبات الاستمارة من خلال حساب معامل الارتباط بيرسن ($r=0.86$). وتم تحليل البيانات من خلال اسلوب الاحصاء الوصفي (التكرارات والنسبة المئوية) والاحصاء الاستنتاجي (الوسط الحسابي الموزون ومعامل الارتباط بيرسن).

النتائج: وقد اظهرت نتائج الدراسة ان معظم افراد عينة البحث من الفئة العمرية (46) سنة فما فوق وغالبيتهم من المتزوجين والذين لا يقرؤون ويكتبون من ناحية المستوى الثقافي ومن الساكنين الريف.

الاستنتاجات: واطهرت الدراسة كذلك ان من اكثر العوامل الشائعة والمساهمة في الفشل الكلوي هي (داء السكر، وضغط الدم غير المسيطر عليه، والتسمم الدوائي ، والتدخين وغالبية امراض الجهاز البولي) وقد اظهرت عينة البحث كذلك ان هناك علاقة موجبة قوية بين العمر والتهاب المفاصل وايضا بين التدخين وبيئة السكن وان هناك علاقة سالبة قوية بين المهنة وعملية الكلية.

التوصيات: وقد اوصت الدراسة بتوفير مراكز لمرضى المرحلة النهائية للفشل الكلوي للعلاج واعطاء مختلف الخدمات لمساعدة المرضى المصابين ليعيشوا حياة جيدة في البيت والمجتمع.

Abstract

Objectives: The study aimed to assess contributing factors of end stage renal failure for adult patients and to identify relationship between contributing factors with demographic characteristics.

Methodology: A descriptive study was carried out of Al-Shahid Ghazi Hariri Teaching Hospital, Al-Yarmook teaching hospital, Al-Karama teaching hospital, and Baghdad teaching hospital for the period from 22\2\2012 to 25\6\2012. Non –probability, purposive sample of (60) adult patients with end stage renal failure. Questionnaire form was constructed for the purpose of the study. It consisted of two parts:

1. Demographic data form (age, gender, marital status, educational level, resident, and occupation).
2. Contributing factors for end stage renal failure.

Data were collected through the application of the questionnaire and interview technique. Validity of questionnaire was response through panel of (10) experts. Test- Retest reliability was determined through a computation of Pearson Correlations for contributing factors of end stage renal failure ($r=0.86$). Data were analyzed through descriptive statistical approach (frequency and percentage) and inferential approach (mean of score and Pearson correlation coefficient).

Results: The finding of the study shows that the of age group were more than 46 years old and they are married with no read and write in level of education and they are living in urban resident.

Conclusions: The findings of the study sample indicated that the most common contributing factors were (diabetic nephropathy, uncontrolled hypertension, drug toxicity, smoking, and renal diseases) and there is strong positive relationship between age with poly arthritis and strong positive relationship between smokings with resident, and there is strong negative relationship between occupations with kidney surgery

Recommendations:

The study recommended that to providing centers for end stage renal failure under treatment for giving various services to help patients with good life in home and community.

Keyword: contributing factors end stage renal failure.

INTRODUCTION

End stage renal disease (ESRD), progressive, irreversible deterioration in renal function in which the body's ability to maintain metabolic and fluid and electrolyte balance falls resulting in uremia or azotemia. The incidence of ESRD has increase by almost 8% per year for the past 5 years⁽¹⁾.

In the united states, more than 280.000 patients with chronic renal failure (CRF) (65%) are receiving hemodialysis, more than 120.000 (28%) have functioning renal transplant; and more than 24.000 (7%) are receiving peritoneal dialysis⁽²⁾.

Conditions that cause ESRD include systemic disease such as diabetes mellitus (leading cause; hypertension; chronic glomerulonephritis; pyelonephritis; obstruction of urinary tract; heredity lesion as in poly cystic kidney disease; vascular disorders; and infection⁽³⁾.

Diabetes mellitus and hypertension account for the largest of cases (76.2%) followed by glomerular disease (8.9%). In patient younger than age 40 years, chronic kidney disease is most commonly caused by focal segmental glomerulosclerosis, systemic lupus erythematosus. The national kidney foundation has been active in recent years in preventive and managing chronic kidney disease at all stage. Currently, the foundation kidney disease quality initiative has a site goal the development of clinical practice guideline to manage patient in earlier stages of kidney disease by showing disease progression, detecting, treating complication, and managing cardiovascular. chronic kidney disease has also been a focus of healthy people 2010 initiative since 2000^(4,5).

Incidence 200 cases per 1 million person in U.S prevalence of ESRD estimated 2010: 650.000 in U.S. (2002⁽⁶⁾.

Diabetes, hypertension, and primary glomerulonephritis are three most common attributed cases of ESRD, cause of ESRD in Word Wide registries⁽⁷⁾..

The incidence and prevalence of ESRD increase with age, peaking in the eight decade, with mean age around 60 to 64 years⁽⁸⁾.

For all these reasons and because of the importency of these problems the researcher study contributing factors of end stage renal failure for adult patient.

The objectives of the study are to assess demographic characteristics for adult patient with end stage renal failure, and to assess contributing factors for adult patient with end stage renal failure, and then to find out of the relationship between contributing factors with demographic characteristic.

METHODOLOGY:

Descriptive study was carried out to assessment of contributing factors of end stage renal failure for adult patients. The study was initiated from 22\2\2012 to 25\6\2012. The present study carried out in Al-Shahid Ghazi Hariri Teaching Hospital, Al-Yarmook Teaching Hospital, Al-Karama Teaching Hospital, and Baghdad Teaching Hospital.

A purposive "non probability" sample of (60) adult patients end stage renal failure who admitted to the hospital. A questionnaire was designed & constructed by the researcher to measure the variables underlying the study. Such a construction was employed through review of literature and related studies. Questionnaire consisting of (2) parts, whereas the first part was demographic data of subjects which contains (6) items (Age, gender, marital status, educational level, resident and occupation).The second part was contributing factors which consisted of (18) items, these items rated and scored as, (2

for yes) and (1 for no). Validity of questionnaire was response through panel of (10) experts. Test- Retest reliability was determined through a computation of Pearson Correlations for the contributing factors of end stage renal failure ($r=0.86$).

The data were collected through the utilization of developed questionnaire and interview technique for adult patients with end stage renal failure. The Interview with each patient took approximately (20) minutes. The data collection carried out during 1\3\2012 to 1\5\2012. The researcher used the appropriate statistical means in the data analysis which include Descriptive data analysis (frequency and percentage) and inferential data analysis (Mean of scores and Pearson correlation coefficient). Whereas mean of score less than (1.25) was considered low (L), from (12.5- 1.75) was considered moderate (M) and greater than (1.75) was considered high (H). The data were analyzed through the use of statistical package of social Sciences (SPSS) version 16.0

RESULTS

Table (1) Distribution of age for (60) adult patients with end stage renal failure.

Variables	Frequency	percent	Cumulative
Age (years)			percent
18-25	9	15.0	15.0
26-35	6	10.0	25.0
36-45	18	30.0	55.0
46 & above	27	45.0	100.0
Total	60	100.0	

This table shows that the majority (45%) of the age group were more than 46 years old.

Table (2) Distribution of gender for (60) adult patients with end stage renal failure.

Variables	Frequency	percent	Cumulative
gender			percent
Male	18	30.0	30.0
female	42	70.0	100.0
Total	60	100.0	

This table shows that the majority (70%) of the gender were female.

Table (3) Distribution of marital status for (60) adult patients with end stage renal failure.

Variables	Frequency	percent	Cumulative
Marital status			percent
Married	51	85.0	85.0
Single	9	15.0	100.0
Total	60	100.0	

This table shows that the majority (85%) of the marital status were married.

Table (4) Distribution of educational level for (60) adult patients with end stage renal failure.

Variables	Frequency	percent	Cumulative percent
Educational level			
No read & write	24	40.0	40.0
Read & write	12	20.0	60.0
Primary graduate	12	20.0	80.0
Intermediate graduate	6	10.0	90.0
Secondary & institute	3	5.0	95.0
College & above	3	5.0	100.0
Total	60	100.0	

This table shows that the majority (40%) of the educational level were no read and write.

Table (5) Distribution of occupation for (60) adult patients with end stage renal failure.

Variables	Frequency	percent	Cumulative percent
Occupation			
Government officer	3	5.0	5.0
Free job	18	30.0	35.0
Retired	9	15.0	50.0
Housewife	24	40.0	90.0
Unemployed	6	10.0	100.0
Total	60	100.0	

This table shows that the majority (40%) of the occupation were housewife.

Table (6) Distribution of resident for (60) adult patients with end stage renal failure.

Variables	Frequency	percent	Cumulative percent
Resident			
Rural	24	40.0	40.0
urban	36	60.0	100.0
Total	60	100.0	

This table shows that the majority (60%) of the resident were urban.

Table (7) the mean of score for the items of contributing factors for adult's patient with end stage renal failure.

No	Items	Yes	No	MS	Severity
1	Diabetic nephropathy	39	21	1.65	M
2	Poly cystic disease	30	30	1.5	M
3	Chronic pyelonephritis	33	27	1.55	M
4	Nephrolithiasis	15	45	1.25	M
5	Nephritic syndrome	15	45	1.25	M
6	Interstitial Nephritic	3	57	1.05	L
7	Systemic lupus	0	60	1.0	L
8	Poly arthritis	30	30	1.50	M
9	Un control hypertension	33	27	1.55	M
10	Nephrosclerosis	9	51	1.15	L
11	Atherosclerosis	6	54	1.10	L
12	Drug toxicity	33	27	1.55	M
13	Trauma to the kidney	27	33	1.45	M
14	Kidney surgery	6	54	1.10	L
15	Heart surgery	0	60	1.0	L
16	Smoking	33	27	1.55	M
17	Alcohol	0	60	1.0	L
18	Unknown	0	60	1.0	L
	Total				

H=High= 1.75-2.0 M=Moderate= 1.25-1.75 L=Low =1.0-1.25

This table shows that the mean of score are high on items (1, 2, 3, 4, 5, 8, 9, 12, 13, and 16) and low on the remaining items.

Table (8) Pearson correlation between (age, gender, marital status, educational level, occupation, and resident) with some of contributing factors.

Correlation	age	gender	marital status	educational level	occupation	resident
Diabetic nephropathy	0.132	0.206	0.308	-0.111	0.224	0.257
Poly cystic disease	-0.233	-0.218	0.140	0.034	0.00	0.204
Chronic pyelonephritis	-0.333	0.066	-0.183	0.286	0.161	0.082
Nephrolithiasis	-0.458	0.126	-0.243	0.099	0.103	-0.236
Nephritic syndrome	-0.243	-0.126	-0.243	0.099	-0.411	0.00
Interstitial Nephritic	0.203	-0.350	-0.096	0.417	-0.041	0.187
Poly arthritis	0.513	0.00	0.140	-0.309	-0.089	0.204
Un control hypertension	0.136	-0.154	-0.183	-0.196	-0.197	-0.123
Nephrosclerosis	0.373	-0.031	-0.176	-0.005	0.175	0.057
Atherosclerosis	0.140	-0.145	-0.140	-0.194	-0.059	-0.408
Drug toxicity	-0.333	0.066	0.099	0.217	-0.018	-0.328
Trauma to the kidney	0.052	-0.066	-0.380	-0.079	-0.072	-0.287
Kidney surgery	0.140	-0.140	0.327	-0.194	-0.505	0.272
Smoking	0.324	-0.154	-0.183	0.079	-0.018	0.492

Correlation is significant at the (0.01) level.

This table shows that there is strong positive relationship between age with poly arthritis and between resident with smoking and there is strong negatives relationship between kidney surgery with occupation.

DISCUSSION

The findings of the study show that the majority (45%) of the age group were more than 46 years old.

The results of present study agreed with Weatheral who stated that in western countries, the incidence of chronic of renal failure is highest in the elderly in Caucasians (30-60) years old. In United Kingdom the incidence increases six fold to tenfold from age (30-50) year⁽⁹⁾.

The findings of the study show that the majority (70%) of the gender were females.

The results of the study disagreed with the study of Al-Saadie who indicated that the sample were males (62%)⁽⁹⁾.

The findings of the study show that the majority (85%) of the marital status were married.

The results of the study was in agreement with the study of Al-Ani who indicated that the majority of the recipients of transplant 103(68.7%) were married and also Al-Saadie shows that they are married (73.2%)^(9, 10).

The findings of the study show that the majority (40%) of the educational level from study sample were not read and write.

The results agreement with Al-Ani who stated that the level of education for patients with transplant were low⁽¹⁰⁾.

The findings of the study show that the majority (40%) of the occupation were housewives.

This results was agreed with Al-Saadie who indicated that (36.6%) of women were housewives (do not work)⁽⁹⁾.

The findings of the study show that the majority (60%) of the resident were urban.

The results of the study are disagreement with Al- rubaiee who indicated that the populations of kidney stone were living in Baghdad city more than living in governorates⁽¹¹⁾.

The findings of the study show that the mean of score are high on items (Diabetic nephropathy, Poly cystic disease, Chronic pyelonephritis, Nephrolithiasis, Nephritic syndrome, Poly arthritis, Un control hypertension, Drug toxicity, Trauma to the kidney, and Smoking) and low on the remaining items.

The results of the study are in agreement with Burrower-Hudson who stated that cause of ESRD indicated systemic disease such as diabetes mellitus, hypertension, glomerulo nephritis, pyelonephritis, arthritis of the urinary tract, heredity, lesions, polycystic kidney disease, vascular disorders, infection, and medications or toxic agents^(12, 13).

The findings of the study show that there is strong positive relationship between age with poly arthritis that mean increase in age increase in poly arthritis and strong positive relationship between resident with smoking that mean increase smokers in urban more than rural and there is strong negatives relationship between kidney surgery with occupation that mean the patients employee less have kidney surgery.

RECOMMENDATION:

Based on the conclusions, the study recommended the following:-

- 1- Heath education should be given to patient and his family about detecting from anther diseases

- 1- Establish strategies for identifying and treating patients within a context of comprehensive follow- up care, for the presence of environmental support and the offer of planned counseling.
- 2- Providing centers for end stage renal failure under treatment for giving various services to help patients with good life in home and community
- 3- Carrying out nursing care programmed on patients with end stage renal failure.
- 4- Carrying out quality of life studies to evaluate the patients with end stage renal failure.

REFERENCES

- 1- Smeltzer,S.; Bare, B.; Hinkle, J. and Cheever, K.: **Textbook of Medical-Surgical Nursing**, 11th ed., Philadelphia; Lippincott- Williams and Wilkins, USA, 2010, PP.1325-1327.
- 2- Smeltzer, S.; Bare, B.; Hinkle, J.; and Cheever, K. : **Texrbook of Medical – Surgical Nursing**, 7th ed., Lippincott Williams & Wilkins, Philadelphia, USA, 2008, PP. 1578-1582.
- 3- Finkelstein, F., West, W., Gobin S., and Wuerth, D.: Spirituality, quality of life and the dialysis patient, **Nephrology Dialysis Transplantation Journal**, 2007, 22(9), PP. 2432-2434
- 4- Bruner, S.: **Medical Surgical Nursing**, 7th ed., ., Lippincott Williams & Wilkins, Philadelphia, USA, 2004, P.1228
- 5- Chilcot, D., Wellsted, D., and Farrington, K.: Screening for depression while patients dialyse: an evaluation, **Nephrology Dialysis Transplantation Journal**, 2008, 23(8), PP. 2653-2659.
- 6- Kimmel, P., and Peterson, R.: Depression in patients with End-Stage Renal Disease Treated with Dialysis: Has the Time to Treat Arrived?, **Clinical Journal of the American Society of Nephrology**, 2006, 1(3), PP. 349-352
- 7- Fuhrmann, I., and Krause, R.: Principles of exercising in patients with chronic kidney disease, on dialysis and for kidney transplant recipients, **Clin-Nephrol. Journal**, 2004, 61(1), PP. 14-25
- 8- Kutner, N.: Quality of life and daily hemodialysis, **Semin-Dial. Journal**, 2004, 17(2), PP. 92-98.
- 9- Al-Saadie, W.: **Quality of life for patients with end stage renal failure who were treated by hemodialysis**, 2003, PP.83-84.
- 10- Al-Ani, B.: **Problems which confront renal transplant recipient**, 2007, P. 126.
- 11- Al-Rubaiee, H.; **Assessment of postoperative follow-up for patients with reccrrrent kidney stone**, 2004, PP.93-94.
- 12- Johnson, D.: **Handbook of Chronic Kidney Disease Management**, 1st ed, Lippincott Williams and Wilkins, USA, 2011, PP. 32-43.
- 13- Burrows- Hudson, S.: Chronic kidney disease; an overview; early and aggressive treatment is vital, **American Journal of Advanced Nursing**, 2005, 105(2), PP. 40-50.