

Anxiety and Depression Symptoms of Renal Failure Patients Undergoing Hemodialysis at Al Sadder Teaching Hospital in Al Amarah City

أعراض القلق والاكتئاب لمرضى الفشل الكلوي الذين يخضعون لغسل الكلى في مستشفى الصدر التعليمي في مدينة العمارة

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الخلاصة

أهداف الدراسة وذلك لتقييم مستوى القلق والكآبة لدى مرضى الفشل الكلوي الخاضعين للتنقية الدموية. **منهجية البحث** أجريت دراسة تحليلية وصفية في مستشفى الصدر التعليمي ، وحدة غسيل الكلى، للفترة من 7 فبراير 2014 ولغاية 14 مايو 2014. اختيرت عينة غير احتمالية (عينة غرضية) من (60) مريض من مرضى الفشل الكلوي الذين خضعوا للتنقية الدموية في وحدة غسيل الكلى في مدينة العمارة. وقد تم اعتماد استبانة لغرض الدراسة وجمع المعلومات مصممة ومكونة من ثلاثة أجزاء؛ الجزء الأول شمل الخصائص الديموغرافية الاجتماعية للمرضى ؛ الجزء الثاني يتناول الخصائص السريرية للمرضى؛ والجزء الثالث من الاستبيان هو مقياس القلق والكآبة للمرضى الراقدين في المستشفى والذي يتكون من 14 فقرة. حددت الاستبانة من خلال إجراء الدراسة المصغرة و حدد صدقها من خلال مجموعة مكونة من 15 خبير. تم وصف وتحليل البيانات باستخدام أساليب الإحصاء الوصفي والاستدلالي . **النتائج** أظهرت نتائج الدراسة أن هنالك ارتباط كبير بين مستوى القلق والكآبة والخصائص الديموغرافية للمرضى، كذلك أشارت الدراسة إلى أن المرضى لديهم مستوى متوسط من القلق ومستوى متوسط إلى شديد من الاكتئاب وفقا لمقياس القلق والكآبة للمرضى الراقدين في المستشفى . **الاستنتاج:** وتخلص الدراسة إلى أن القلق والاكتئاب هي من الاضطرابات النفسية المرضية الأكثر شيوعا لدى المرضى الذين لديهم فشل كلوي، و هناك علاقة بين مستوى القلق والاكتئاب لدى مرضى الفشل الكلوي والمعلومات الديموغرافية الاجتماعية الخاصة بهم. **التوصيات** أوصت الدراسة في زيادة مستوى الوعي الصحي لمرضى الفشل الكلوي وأفراد أسرهم بشأن طبيعة ونوع المرض وذلك للحد من معاناتهم، وكذلك إقامة البرامج التثقيفية النفسية للمرضى من أجل تحسين وضعهم نفسيا وعاطفيا، وكذلك إقامة دورات تدريبية للكادر التمريضي على كيفية التعامل مع المرضى وذلك لمساعدتهم على تجاوز معاناتهم النفسية .

Abstract:

Objectives to assess Anxiety and Depression level of renal failure patients undergoing hemodialysis and to find out the relationship between anxiety and depression of renal failure patients undergoing hemodialysis and their socio demographic characteristics.

Methodology A descriptive analytical study was carried out at Al Sadder Teaching Hospital, Hemodialysis Unit , from February, 9th , 2014 to May, 15th , 2014, in order to assess anxiety and depression level of renal failure patients undergoing hemodialysis, , and to identify the significant variance in the level of psychological distress with regard to socio demographic characteristics . A non-probability (Purposive sample) of (60) renal failure patients were selected from hemodialysis unit at Al Amarah City. A questionnaire was adopted and developed for the purpose of the study which consists of three parts; the first part concerning the socio demographic characteristics of patients; the second part deals with the clinical characteristics for patients; and the third part of the questionnaire was (HADS) scale which consists of 14 items. Reliability of the questionnaire is determined through a pilot study and the validity is achieved through a panel of (15) experts. The data was described statistically and analyzed through using of the descriptive and inferential statistical analysis procedures.

Results The results of the present study indicated that the patients have moderate level of anxiety and severe level of depression according to HADS scale, also the study indicated that the socio demographic characteristics have a significant impact on psychological distress level (Anxiety and Depression level) .

Conclusion The present study concludes that anxiety and depression are the most common co morbid psychiatric disorders in patients who have renal failure, and there is a relationship between anxiety and depression level of renal failure patients and their socio demographic characteristic.

Recommendations The study recommends Increasing the level of awareness for renal failure patients and their families about the nature and type of disease to minimize their distress, Psycho educational programs to improve their psychological and emotional status, the training of nursing staff on how to deal with patients to help them overcome the psychological problems.

Key words: Anxiety, Depression, Psychological Distress, Renal failure, Patients, Hemodialysis.

INTRODUCTION

Renal disease is a common throughout the world. In the United States alone, almost 100,000 people began renal replacement therapy (RRT) for end-stage renal disease (ESRD) in 2001 (Kimmel, and Peterson, 2005); by 2008, this number had increased to 485,000 patients (Collins, et al., 2009). More than 90% of these patients were started on hemodialysis (HD), while only 8.5% began renal replacement therapy (RRT) with peritoneal dialysis (PD) (Kimmel, and Peterson, 2005).

The causes of chronic kidney disease are multiple and can be primary (initial disease is in the kidney) or secondary to a systemic disease such as diabetes mellitus. The commonest cause of ESRF in the developed world is diabetes mellitus (20-40%) followed by high blood pressure (5-25%) and a chronic inflammation of the kidney called glomerulonephritis (10-20%) (Goddard, et al., 2006). More than 60 thousand people around the world die due to renal diseases annually (Zamanzade, et al., 2007).

Dialysis is a stressful process and follows various psychological and social problems which can lead to patients' mental disturbances (Ginieri-Coccossis, 2008). More study of results shows the high prevalence of psychological and social disturbances in dialysis patients (Theofilou, 2011). Base on the results of Fatemeh et al. study on the relationship between depression rate and stress of dialysis patients, 64.5% of patients suffer from depression, 51.4% from explicit stress and 49.7% from hidden stress (Fatemeh, 2008). Salehi considers that 50% of the dialysis patients suffer from depression from which 33.3% have mild depression, 15% moderate depression and 1.7% severe depression (Salehi; and Noormohammadi Sarab, 2003). Anxiety is commonly seen in HD patients (Kring, and Crane, 2009). Cukor et al. demonstrated a 27% incidence of anxiety among 70 urban HD patients, which was somewhat higher than the 18% incidence reported in a national survey (Kessler, et al., 2005). During a 16-month follow-up study, 9% of patients had both anxiety and depression at baseline; the incidence of both conditions rose to 13% by the end of the study. At the end of the study, two-thirds of individuals with comorbid depression and anxiety at baseline had both diagnoses (Cukor, et al., 2007). Chen et al., 2010, concluded that 21% of dialysis patients had symptoms of anxiety. Whereas, 15.5% of these patients had co morbid depression and anxiety, and 44.3% of depressed patients had co morbid anxiety; then, suicide risk was not only attributed to depression, but also to anxiety.

Patients who are in the end stage of their disease process are more susceptible to the development of anxiety and depression as well as other psychological disorders (Payne, et al., 2007). These risk factors, if present, should raise concerns about the possibility of psychological distress. These symptoms may include changes in functional abilities (such as vision or hearing) (McQuaid, et al., 1999); physical activity limitations (such as shopping, performing hobbies) (Block, 2000).

Identifying and treating anxiety and depression is a very important issue for patients who have advanced diseases, yet these issues are often unrecognized due to a variety of factors. These factors include lack of adequate physician training, limited access to mental health providers, the challenge of sorting psychological distress from symptoms caused by the medical disease (fatigue, weight loss and sleep disturbances) and patients who do not identify themselves as being anxious or depressed (Lawrie, 2005).

Cognitive behavioral therapy (CBT) may be effective in relieving depression in the dialysis population (Cukor and Friedman, 2005). This therapy aims to identify any harmful, unhelpful, and 'false' ideas or thoughts which trigger client health problems, or make it worse. It seeks to modify client's the way of thinking, to help their thought patterns to be more realistic and helpful, to relieve psychological stress requires the renal team to encourage and support the family (Bennett, et al., 2008) .

METHODS

Study Design:

A descriptive analytic study design was carried out to assess anxiety and depression level of renal failure patients undergoing hemodialysis at Al Sadder teaching hospital in Al Amarah city. The study was started from November 17th, 2013 to July 20th, 2014. Non – probability (purposive) sample of (60) renal failure patients on hemodialysis who were coming to the hospital / hemodialysis unit. These patients were selected according to the following criteria:

- a. Both sexes of renal failure patients (male and female).
- b. Patients who diagnosed as kidney failure.
- c. Patients who treated with hemodialysis.
- d. Patients who were at the age **18** years and older.

Instruments:

For the purpose of the present study a developed questionnaire was designed and constructed by the researcher through a review of relevant literature and consultation from a panel of experts. This developed questionnaire consists of **3** parts which are distributed as follows: The first part of the questionnaire concerned with determination of the socio demographic characteristics of renal failure patients undergoing hemodialysis which including: gender, age, marital status, educational level, residence, and monthly income, the second part of the questionnaire concerned with the clinical characteristics for patients with renal failure who undergoing hemodialysis which consists of (8) items, and the third part of the questionnaire was Hospital Anxiety and Depression scale (HADS) designed by experts to determine psychological distress (Anxiety and Depression) for patients .

Data collection

The data was collected from February 7th to the May14th 2014. Data was collected through the use of designed questionnaire format and interview techniques as means of data collection process. The questionnaire was distributed to renal failure patients who were attended hemodialysis unit at Al Sadder Teaching Hospital after obtained agreement from the patients by using Arabic version of questionnaire for all subjects who were include in study sample .

Data Analyses

Data was analyzed through the application of appropriate statistical methods by using statistical package of social sciences (**SPSS**) version **19**, through descriptive and inferential statistical analysis

Pilot Study

A pilot study was carried out by the researcher from 9th – 24th February 2014, on **10** renal failure patients who attended in hemodialysis unit at Al Sadder Teaching Hospital.

Validity of the instruments

The validity of the questionnaire was determined through a panel of (15) experts, the experts were asked to review the content and structure of the questionnaire to be appropriate in the measurement of the concept underlying the study as well as achieving the main objectives of the study. Experts had means of years of experience (19.73).

Reliability of the Study

Determination of the reliability of the questionnaire is based on Alpha (Cronbach) approach. The results of reliability coefficients for the patients was ($r=0.831$), the result of the reliability indicated that the scale were adequately reliable and valid measures for the

variables underlying the present study, and the items of the questionnaire are clear , relevant, and understandable .

RESULTS:

Table 1 : Distribution of patients according to their socio demographic characteristics

Socio-demographic characteristics		Groups	F	%
1.	Residence	Urban	35	58.3
		Urban Parties	15	25.0
		City Parties	10	16.7
2.	Gender	Male	34	56.7
		Female	26	43.3
3.	Age years	18-27	8	13.3
		28-37	3	5.0
		38-47	11	18.3
		48-57	18	30.0
		58-67	13	21.7
		> 68	7	11.7
4.	Marital status	Single	10	16.7
		Married	36	60.0
		Widowed	11	18.3
		Divorced	3	5.0
5.	Level of Education	Illiterate	15	25
		Reads and Writes	19	31.7
		Primary School	5	8.3
		Secondary School	16	26.6
		Higher Education	5	8.3
6.	Monthly Income	sufficient	21	35.0
		Barely sufficient	18	30.0
		Insufficient	21	35.0

(%) : percentage , F : frequency

The table shows that the highest percentage (56.7%) of renal failure patients undergoing hemodialysis were males; the highest percentage (30%) of age group were at age group (48-57) years while only (5%) of them at age group (28-37) years; 58.3% of patients were living in urban areas; 60% of patients are married whereas 5% of them are divorced ; 31.7% of patients have read and write while 8.3% of them have higher education; 35% of them have sufficient monthly income and 35% have insufficient monthly income .

Table 2: Distribution of patients according to their Clinical Characteristics

Clinical characteristics		Groups	F	%
1.	Type of renal failure	Acute	8	13.3
		Chronic	52	86.7
2.	Duration of hemodialysis (month)	(1 – 12)	26	43.3
		(13 – 24)	16	26.7
		(25 – 36)	7	11.7
		>37	11	18.3
		Non	14	23.3
3.	Chronic diseases	Hypertension	21	35.0
		Diabetes mellitus	14	23.3
		cardiovascular diseases	11	18.3
4.	Anemia	yes	40	66.7
		no	20	33.3
5.	Dyspnea	yes	30	50.0
		no	30	50.0
6.	Pain	yes	34	56.7
		no	26	43.3
7.	Fatigue	yes	20	33.3
		no	40	66.7
8.	Nausea and Vomiting	yes	23	38.8
		no	37	61.7
9.	Loss of appetite	yes	50	83.3
		no	10	16.7
10.	Loss of weight	yes	32	53.3
		no	28	46.7

(%) : percentage , F : frequency

The table shows that the majority of patients (86.7%) have chronic renal failure while 13.3% of them have acute renal failure ; 43.3% of patients have time on hemodialysis (1-12) months; 76.7% of patients have chronic diseases; 66.7% of patients have anemia; 50% of patients have dyspnea; 56.7% of patients have pain; 33.3% of patients have fatigue; 38.3% of patients have nausea and vomiting; 83.3% of patients have loss of appetite; and 53.3% of patients have loss of weight

Table 3 : Frequency, Percentage, Mean and Standard deviation of (HADS) scale :

#	Items of (HADS) scale	Yes definitel y		Yes sometim es		No, not much		No, not at all		M.S	SD	Level
		F	%	F	%	F	%	F	%			
1	I wake early and then sleep badly for the rest of the night	18	30.0	25	41.7	12	20.0	5	8.3	1.93	.918	Sever
2	I get very frightened or have panic feelings for apparently no reason at all.	6	10.0	24	40.0	25	41.7	5	8.3	1.51	.791	Moderat e
3	I feel miserable and sad.	24	40.0	17	28.3	12	20.0	7	11.7	1.96	1.04	Sever
4	I feel anxious when I go out of the house on my own.	32	53.3	15	25.0	8	13.3	5	8.3	2.23	.980	Sever
5	I have lost interest in things.	3	5.0	24	40.0	27	45.0	6	10.0	1.40	.741	Moderat e
6	I get palpitations, or sensations of 'butterflies' in my stomach or chest.	6	10.0	27	45.0	18	30.0	9	15.0	1.50	.873	Moderat e
7	I have a good appetite.	4	6.7	9	15.0	19	31.7	28	46.7	2.18	.929	Sever
8	I feel scared or frightened.	1	1.7	17	28.3	38	63.3	4	6.7	1.25	.600	Moderat e
9	I feel life is not worth living.	4	6.7	19	31.7	32	53.3	5	8.3	1.36	.735	Moderat e
10	I still enjoy the things I used to.	2	3.3	14	23.3	37	61.7	7	11.7	1.81	.676	Sever
11	I am restless and can't keep still.	3	5.0	16	26.7	38	63.3	3	5.0	1.31	.650	Moderat e
12	I am more irritable than usual.	6	10.0	24	40.0	24	40.0	6	10.0	1.50	.813	Moderat e
13	I feel as if I have slowed down.	10	16.7	37	61.7	12	20.0	1	1.7	1.93	.660	Sever
14	Worrying thoughts constantly go through my mind.	10	16.7	33	55.0	15	25.0	2	3.3	1.85	.732	Sever
	Average mean for anxiety domains									1.59		Moderat e
	Average mean for depression domains									1.79		Sever
	Average mean									1.69		Sever

(%) : percentage, F : frequency , M.S : Mean of Score , SD : Standard deviation
Anxiety domains (2 , 4 , 6 , 8 , 11 , 12 , 14) , Depression domains (1 , 3 , 5 , 7 , 9 , 10 , 13)

The table (3) reveals that the total mean of score for anxiety domain are 1.595 which indicated that the patients have moderate level of anxiety, whereas the total mean of score for depression domain are (1.799) which indicated that the patients have severe level of depression according to HADS scale.

Table 4 : One Way Analysis of Variance for Anxiety and Depression for patients with regard to their gender

Items of HADS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.822	1	7.822	5.266	.025
Within Groups	86.154	58	1.485		
Total	93.976	59			

df : degree of freedom Sig : Significant

The results reveal that there is a significant differences were found in Anxiety and Depression level of renal failure patients undergoing hemodialysis with regard to their gender according to HADS scale at ($p \leq 0.05$).

Table 5 : One Way Analysis of Variance for Anxiety and Depression for patients with regard to their age

Items of HADS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	20.998	5	4.200	3.107	.015
Within Groups	72.978	54	1.351		
Total	93.976	59			

df : degree of freedom Sig : Significant

The results reveal that there is a significant differences were found in Anxiety and Depression level of renal failure patients undergoing hemodialysis with regard to their age according to HADS scale at ($p \leq 0.05$).

Table 6 : One Way Analysis of Variance for Anxiety and Depression for patients with regard to their level of education

Items of HADS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	25.132	5	5.026	3.943	.004
Within Groups	68.845	54	1.275		
Total	93.976	59			

df : degree of freedom Sig : Significant

The results reveal that there is a significant differences were found in Anxiety and Depression level of renal failure patients undergoing hemodialysis with regard to their level of education according to HADS scale at ($p \leq 0.05$).

Table 7: One Way Analysis of Variance for Anxiety and Depression for patients with regard to their Occupation

Items of HADS	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	20.265	4	5.066	3.780	.009
Within Groups	73.712	55	1.340		
Total	93.976	59			

df : degree of freedom Sig : Significant

The results reveal that there is a significant differences were found in Anxiety and Depression level of renal failure patients undergoing hemodialysis with regard to their Occupation according to HADS scale at ($p \leq 0.05$).

DISCUSSION:

Regarding to the residence, the present study indicated that the majority of the study sample (58.3%) were living in urban area, whereas 16.7 % of them were living in city parties (Table 1). This result is supported by the study of Al-Garni, (2006); who found that the majority of patients were living in urban areas. The study results show that the majority of the study sample (56.7%) is males and the remaining 43.3 % are females. This result agrees with the study of Theofilou, (2012); who found that the highest percentage (59.7%) of patients is males. Regarding to the patients age, the finding of the study indicates that the majority (30.0 %) of the study sample are between 48 – 57 years old. This result agrees with the study of Chilcot, (2011); their findings indicated that the mean age of the study sample was 55 years old , and also agrees with the study of Mollahadi, (2010); who concluded that mean age of hemodialysis patients was 53.13 years old. More than half of current study sample (60.0%) is married while only 5% of them are divorced. This result of the study are similar with the study of Theofilou, (2012); his finding indicated that the highest percentage (69%) of patients were married while 1.2% of sample were divorced , and also similar to the study of Al-Garni, (2006); his finding shows that the majority (61.2%) of the sample were married. Concerning with educational levels , the findings of the study indicate that 31.7% of the study sample have reads and writes while 8.3% of them have higher education (Institute or College), as well as this result supported by the study of Theofilou, (2012); who found that the most (50.0%) of the study subject were elementary whereas 19% of them had university education , also supported by the study of Al-Garni, (2006); who shows that 44.8% of the study sample can read and write . Concerning with the family income; the study concluded that 35% of the study sample have sufficient income, 35% have insufficient income, and 30% of them have barely sufficient income. This result agrees with the study of Li-Chin, (2009); his finding indicated that most of the patients do not have enough budget to get healthy food or for transport to go for clinic appointments.

The table (3) shows that the total mean of score of HADS Scale are between moderate to severe level (1.697), HADS scale consists of two domains; anxiety domain which consists of (7) items (2 , 4 , 6 , 8 , 11 , 12 , 14) and depression domain which consists of (7) items (1 , 3 , 5 , 7 , 9 , 10 , 13) . The total mean of score for anxiety domain are 1.595 which indicated that the patients have moderate level of anxiety, whereas the total mean of score for depression domain are 1.799 which indicated that the patients have severe level of depression (Table 3). These finding are supported by the study of Feroze, et al., (2010); their findings reported that Depression and anxiety are among the most common co morbid illnesses in people with end-stage renal disease (ESRD), the prevalence rate for depression in patients with ESRD is around 3 times that of the general population, the prevalence rate of anxiety disorders is 38% of patients with ESRD (12% to 52%) have substantial anxiety. Also the present study supported by the study of Makara; and Kořlak, (2011) their study comprised of 323 patients with end stage renal disease (ESRD) and 200 patients without renal failure – the Primary Health Care patients, the study applied Beck Depression Inventory. The BDI results indicate the depression symptoms severity in the group of patients with mild or medium renal insufficiency, but in the PHC patients with mild symptoms. Also the present study agrees with the study of Mollahadi; et al., (2010) who indicated that 63.9% of hemodialysis patients had anxiety, 60.5% had depression and 51.7% had stress.

The results of the present study shows that the variance of anxiety and depression level for patients with regard their gender were significant according to HADS scale (Table 4). This result are similar to the study of Chilcot, et al., (2011) who indicated that there is significant relationship between the gender and distress level, and reported that 44.4 % of males and 56.6 % of female have depressed mood. Regarding to the variance difference in the level of

anxiety and depression for patients with respect to their age, the result of the present study indicated that there is significant difference in the level of distress with respect to their age according to HADS scale (Table 5). This result comes along with the study of Cukor, et al., (2006); their findings showed that there is significant relationship between the patients' age and distress level. Concerning with the variance difference in the level of patients' psychological distress with their level of education, the result of the present study indicates that there is significant difference in the level of distress (anxiety and depression) with respect to their level of education according to HADS scale (Table 6); this result supported by the study of Theofilou, (2012) who indicated that there was a significant relationship between the level of anxiety and depression and level of education (less educated patients reported significantly higher scores in the anxiety, insomnia and severe depression). The results of the present study revealed that the variance of psychological distress level in regarding to the occupation were significant according to HADS scale (Table 7). this result do not come along with the study of Al-Garni, (2006) who concluded that there were no difference between patients who are working and patients who are not .

CONCLUSION

The present study concludes that anxiety and depression are the most common co morbid psychiatric disorders in patients who have renal failure, and there is a relationship between anxiety and depression level of renal failure patients and their socio demographic characteristic.

RECOMMENDATIONS:

The study recommends Increasing the level of awareness for renal failure patients and their families about the nature and type of disease to minimize their distress, Psycho educational programs to improve their psychological and emotional status, the training of nursing staff on how to deal with patients to help them overcome the psychological problems.

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