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Depression among Patients with Renal Failure Undergoing Haemodialysis Treatment in Holy Kerbala City in Iraq

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Abstract

Renal dialysis patients face many challenges during the treatment period and are subjected to many psychological stresses, but depressive symptoms of dialysis patients are associated with higher mortality. This study aims to assess the level of depression in patients with chronic renal disease undergoing haemodialysis treatment; 60 patients with chronic renal failure receiving haemodialysis treatment were recruited from Al-Hussian hospital in one of the religious cities in Iraq. Depression was assessed using the Beck Depression Inventory.The results showed that most participants had severe and extreme levels of depression, and higher scores were representative of somatic depressive symptoms. There was no significant association between depression and patient demographic data. Depression should be assessed by nurses, and patients should be referred for treatment to decrease mortality and improve disease outcome.

Keywords: *Depression, Renal failure, Haemodialysis, Beck Depression Inventory*

Introduction

Haemodialysis is a long-term treatment provided to patients with end-stage chronic renal failure. Patients suffer from this treatment despite it being a life-saving and irreplaceable treatment [2] .Renal dialysis continues throughout the life of the patient, which changes the role of the patient in his or her family and increases his or her despair, feelings of hopelessness and fear of death, which affects quality of life [3]. Depression is one of the most serious psychological problems for a dialysis patient and has a serious impact on the quality of life of the patient and his or her family [17]. Depression has negative effects on all aspects of a patient's life, affecting social, economic, and physical aspects Kimmel, (2002) including increased incidence of illness and numbers of hospital admissions, reduced desire to take medication and, more importantly, increased desire to end life [(24, 18)]. Patients lose control because of the inability to perform their role in their family and work, which increases their despair and hopelessness [5] .Symptoms of severe depression, such as sadness, anxiety, loss of interest in any activity, lack of self-esteem, pessimism toward the future, sleep disorders and lack of appetite during the period of dialysis, are found in many dialysis patients[7]. Renal dialysis patients face many challenges during the treatment period and are subjected to many psychological stresses, but depressive symptoms represent the most common symptom of dialysis patients and are associated with higher mortality. Dialysis treatment changes the patient's role in their family and work and increases the patient's dependence on others; patients have feelings of fatigue and feel that the disease has overcome them [19] because symptoms of severe depression may be misdiagnosed. From this point of view, it becomes necessary to evaluate depression in dialysis patients to help them think logically and to relieve their psychological stresses [2]. Many studies have been conducted to assess the psychological condition and quality of life of a dialysis patient, and the results may vary because of differences in culture and differences in the social, economic and political status of the studied countries. Chronic renal failure tends to be an epidemic and a serious disease [3]. In Iraq the Ministry of Health announced in 2018 that there was an increase in patients with chronic renal disease needing haemodialysis treatment of approximately 20% each year in all of Iraq; however, there has been no precise study on the prevalence of depression in dialysis patients [6] .

Methodology

Design, setting and sample

A descriptive analytic study design was carried out to assess depression in patients with renal failure undergoing haemodialysis at Al- Hussain Medical City in Holy Karbala city. An official request was submitted to a health director (Training and Developing Center). Then, permission was obtained from Al Hussian Medical City in Holy Karbala city. The study was conducted in Karbala city. Karbala is a city in central Iraq located 100 km southwest of Baghdad and has an estimated population of 1,376,000 people. It is considered a Holy city for Shi'aha Muslims and is visited by many people, especially on religious occasions. The Chronic Renal Center is the only centre in Al Hussain Medical City, It is visited by 400-500 patients annually, some of whom were treated in the haemodialysis unit. A non-probability (purposive) sample of (100) renal failure patients was chosen; 40 patients refused to participate for different reasons, including family refusal of their participation and because of feeling too tired. Only the patients who agreed to participate and verbal consent were included in the study, and the rights of the participants were respected throughout the research process; confidentiality was ensured by not sharing any information with others. Only 60 patients gave their consent to participate.These patients were selected according to the following criteria after reviewing their medical records:

a. Iraqi patients diagnosed with chronic renal failure by a consultant.

b. Patients treated with haemodialysis at least twice weekly for more than 6 months.

c. Patients of both sexes

d. Patients at least 10 years old.

e. Patients with no history of known mental disorder.

Procedure and Questionnaire

After receiving approval from the hospital where the patients were treated, the purpose of the study was explained to the potential study participants, and the questionnaire was distributed after the patients agreed to participate in this study. Patients were interviewed for 10-15 min before they started their haemodialysis. Some patients needed help from the researcher to explain the Beck depressive items. The questionnaire consists of two parts, as follows: The second part of the questionnaire includes the 21 items of the Beck Depression Inventory BDI-II [12], which was revised in 1996 to be more consistent with the DSM-IV criteria for depression [9] and was translated to the Arabic version [1]. The questionnaire, which is believed to have the most sensitivity and specificity in making psychiatric diagnoses of depression in end-stage renal disease patients, was used to assess the level of depression. Each item consists of 4 choices to explain the patient's feelings and measures the level of depression. The evaluation of depression levels performed according to the table below.

Total Score	Levels of Depression
1-10	These ups and downs are considered normal
11-16	Mild mood disturbance
17-20	Borderline clinical depression
21-30	Moderate depression
31-40	Severe depression
over 40	Extreme depression

A cut-off score of 14 to 16 on the Beck Depression Scale is believed to be with a psychiatric diagnosis of depression [39]. The reliability of the present study instrument was determined using the Alpha Cronbach approach [20].The result reliability coefficient for the patients was r=0.73, and the patient's agreement to participate was assigned; a private interview technique was used to ensure confidentiality during data collection.

Data Analysis

Data were analysed through the application of appropriate statistical methods by using the statistical package of social science (SPSS) version 22to analyse and evaluate the results of the present study. Descriptive statistics were used (means, standard deviations, frequencies and percentages) to determine the patients' characteristics and levels of depression. One-way ANOVA was used to determine any significant association between the level of depression and the patients' demographic characteristics.

Results

Analysis of the results showed that 61.7% of the participating patients were female; 40% were 41-60 years old with a mean age of 47.96 SD(13.4),primary level of education(43.3%) and were often married and housewives , and more than twothirds suffered from hypertension(83.3%), while almost half of them reported

having diabetes(46.7%). Most of the haemodialysis patients had started their treatment within the last 6 years (1-3 years duration, 55%; 4-6 years duration, 31.7%) (Table 1).

Table (1): Sociodemographic characteristics of the sample

No			Frequency	Percent
1	Age	10 to 20 years	5	8.3
		21 to 40years	16	26.7
		41 to 60years	24	40.0
		61 to 80years	15	25.0
		Total Age mean	60 47.96	100.0 SD= 13.4
2	Sex	Male	23	37.14
		Female	37	61.7
		Total	60	100.0
3	Education	No reading or writing	11	18.3
		Primary school	26	43.3
		Secondary school	19	31.7
		College	4	6.7
		Total	60	100.0
4	Income	Sufficient	24	40.0
		Insufficient	14	23.3
		Barely sufficient	22	36.7
		Total	60	100.0
5	HaemodialysisDuration	1 to 3 years	33	55.0
		4 to 6 years	19	31.7
		7 to 9 years	5	8.3
		10 to 12 years	3	5.0
		Total	60	100.0
6	Diabetes	Yes	28	46.7
		No	32	53.3
		Total	60	100.0
7	Hypertension	Yes	50	83.3
		No	10	16.7
		Total	60	100.0

Cont... **Table (1): Sociodemographic characteristics of the sample**

8	Occupation	Employee	7	11.7
		Housewives	30	50.0
		Unemployed	9	15.0
		Student	4	6.7
		Retired	10	16.7
		Total	60	100.0
9	Marital status	Married	50	83.3
		Single	8	13.3
		Divorced	1	1.7
		Widowed	1	1.7
		Total	60	100.0

Depression was found in all of our patients; 1.67% of patients were moderately depressed, 41.67% were severely depressed, and 56.66% were extremely depressed.These rates were higher than those in other studies, with a cut-off score of 14 [39] .The mean BDI was 41.2167(SD=5.45270), and the cut-off point was 1.963 (Table 2). When classifying BDI into somatic and psychological symptoms, it was observed that the mean somatic symptoms of depression score was 2.224, while the mean psychological symptoms score was 1.858.The somatic symptoms of depression were changes in sleep patterns(2.483), irritability (2.300), fatigue(2.233), changes in appetite (2.167), loss of energy (2.150), and loss of interest in sex(2.017).With regard to psychological depression symptoms, the results revealed that haemodialysis patients reported agitation, worthlessness, concentration difficulty, loss of interest, crying, self-dislike, sadness, self-criticism, pessimism, feelings of past failure, indecisiveness, loss of pleasure, feelings of guilt, feelings of punishment, and suicidal thoughts/wishes; the mean scores for these symptoms were 2.400,2.217, 2.167,2.083, 2.017, 1.883,1.883, 1.850, 1.833, 1.767, 1.750, 1.717, 1.567, 1.433, and 1.300, respectively.However, there were no significant differences found between depression levels and the patients' demographic data.

Table(2): The level of depression among the sample

Items	Mean	Std. Deviation
Sadness	1.8833	.90370
Pessimism	1.8333	.76284
Feelings of past failure	1.7667	.85105
Loss of pleasure	1.7167	.76117
Feelings of guilt	1.5667	.74485
Feelings of punishment	1.4333	.74485
Self-dislike	1.8833	1.35411
Self-criticism	1.8500	.77733
Suicidal thoughts/wishes	1.3000	.74333
Crying	2.0167	.89237
Agitation	2.4000	.78546
Loss of interest	2.0833	.76561
Indecisiveness	1.7500	.85618
Worthlessness	2.2167	.66617
Loss of energy	2.1500	.79883
Change in sleep pattern(Insomnia)	2.4833	.77002
Irritability	2.3000	.72017
Loss of appetite	2.1667	.84706
Concentration difficulty	2.1667	.90510
Tiredness and fatigue	2.2333	.76727
Loss of interest in sex	2.0167	.96536
Total	41.2167	5.45270

Total mean score = 41.2167 (SD=5.45270). The cut-off point (1.963)

Discussion

This study aimed to assess the level of depression in patients with chronic kidney failure treated with haemodialysis and to determine whether depression has any association with sociodemographic factors. Depression was found in almost all of the dialysis patients. Due to our result, depression was higher in our sample than in other studies that also used the BDI, such as those conducted by [29] (45%), [57] (42.7%), [26] (30%), [31](39.3%), [27] (42%),and [3](44%). These differences may be because most of our sample was female (61.7%); the majority were married and were responsible for a family, but because of the long-term haemodialysis treatment, which leads to a disturbance in family dynamics, they failed to play their role [21].Our result corresponds to a study by [3], which found that 80% of haemodialysis patients in Baghdad had depression associated significantly with female sex and unemployment.In addition to the poor delivery of services in hospitals, there is an especially poor proportion of haemodialysis machines in the population, which causes a great burden on women and their families, [6]. Additionally, there is no other treatment choice, such as transplantation, due to a shortage of kidney donors, and transplantation requires more social and governmental support in Iraq [7, 4]. Therefore, patients need to remain on haemodialysis treatment for a long time; these two causes may be the only explanation for the increased level of depression in haemodialysis patients in Karbala. In the present study, somatic Beck depression symptoms had a higher mean score (2.224) than psychological symptoms(1.858)such as insomnia(2.48), irritability (2.30), fatigue (2.233), loss of appetite (2.167), loss of energy(2.150) and loss of libido(2.017). The higher psychological depression symptom scores were agitation (2.40), worthlessness (2.216), concentration difficulty (2.167), anhedonia (2.083) and crying (2.017). Haemodialysis patients in Karbala expressed depression with physical symptoms more than with psychological symptoms.

Conclusion

The study found that depression is at a high level in kidney failure patients treated with dialysis, is especially prevalent in females and is expressed by somatic symptoms more than psychological symptoms in a religious city; those of medium to old age, those with low education, and unemployed females were found to be more depressed, although there was no significant association among these patient demographic factors. Depression should be treated to decrease morality and improve disease outcome.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the College of Nursing, University of Kerbala and all experiments were carried out in accordance with approved guidelines.

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