

Psychological Effect of Hemodialysis on Patients in Dialysis Unit

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Abstract

Objectives: The study aims to assess the level of depression , suicide and stress for patients in dialysis unit at Baqubah hospital teaching in Diyala city and to find out the relationship between psychological effect of depression, suicide and stress of hemodialysis on patients who undergoing with hemodialysis .

Methodology: A descriptive correlation design is used in the present study, it was established for a period from October , 2020 to May, 2021. The study was conducted on a non-probability (purposive) sample of (100) renal failure patients who had undergone hemodialysis which were selected from dialysis unit. The instruments of the study are adopted and modified for the purpose of this study, Hospital depression, stress and Suicidal Ideation Scale.

Results : the study found that 27% of patients are associated with mild depression related to their illness status and 9% are associated with moderate level of depression. and manifests that 36% of patients are associated with mild psychological distress related to their illness status and 12% are associated with moderate level of psychological distress. And elucidates that 10 % of patients showing low suicidal risk related to their illness and only 2% showing moderate suicidal risk. The psychological effect indicates that there is no significant psychological effects of hemodialysis have been reported among patients with regard to depression, psychological distress, and suicide.

Conclusions: 27% of patients are associated with mild level of depression and that 33% of patients are associated with mild level of psychological stress. And 10% of patients are showing low suicidal risk. there is no significant psychological effects of hemodialysis have been reported among patients with regard to depression, psychological distress, and suicide.

Recommendations increase renal failure patients' and their families' awareness of the nature and type of renal disease, as well as how to reduce their distress caused by the disease, through lectures and booklets..By listening to their problems and recommending relaxation techniques and spiritual therapy, provide psychological support to renal failure patients and their families in order to improve their mental health. Generalized.

Key Words : Psychological Effect, Patients , hemodialysis

Introduction

Patients with chronic kidney disease (CKD) have a reduced quality of life and a high mortality rate, especially those with end-stage renal disease (ESRD). The growing number of CKD patients needing dialysis or kidney transplantation . hemodialysis (HD) or peritoneal dialysis has become a global public health issue, resulting in a major burden on health care services CKD is also a debilitating illness that contributes to severe physical and psychological disorders(Kimmel P.L &Patel, 2006). Chronic renal failure (CRF) is the elderly population's most prevalent global public health epidemic. A damaged kidney is the key cause of CRF. Dependent on the glomerular filtration rate (GFR), there are five stages of CRF and stage 5 (GFR < 15 ml/min/1.73m²) is also referred to as an end-stage renal disease (ESRD). In CRF, due to compromised renal function, there is an accumulation of toxins and excess water. The preferred way of treating ESRD and eliminating accumulated contaminants from the body is dialysis, the preferred way of treating ESRD and in patients undergoing dialysis, the cardiovascular risk associated with dialysis is 10 to 20 times higher

than in normal people. Endothelial function is also impaired by the inflamed kidneys and the dialysis procedure, aggravating the risk of hypertension and cardiac problems. The implications of undergoing dialysis should also be understood to both doctors and patients. There is an urgent need for CRF to educate (Vadakedath ,2017) .

Chronic kidney disease (CKD) is currently a public health concern, with rising incidence and prevalence affecting millions of individuals worldwide. There are about 400 cases per million people in the USA. There has been a rise of more than 160 percent of dialysis patients in Brazil in the last 15 years, and it is estimated that more than 111,000 people in this country are now on dialysis. For affected individuals, CKD and its treatment pose a big burden and involve a massive social adaptation. In end stage renal disease, The incidence of depression is higher than in the general population and predicts a higher risk of mortality. In previous studies in our field, the incidence of depressive symptoms among hemodialysis patients was found to be between 19% and 6% With conservative therapy, there are still few studies examining depression in CKD patients (Novak,2010).

The most common procedure is hemodialysis, which is used to eliminate waste and hazardous substances from the body and is also used to treat patients with various forms of renal failure. In the 1960s, attempts were made to eliminate hemodialysis-related side/adverse effects and to make hemodialysis an efficient therapy. Many sophisticated and advanced dialysis machines have now been built to make dialysis therapy more comfortable and promising (Azar &Canaud,2013) .

Hemodialysis, which should be considered early in extreme hyperphosphatemia, especially in tumor lysis syndrome, is the most successful approach, particularly if symptomatic hypocalcemia cannot be adequately handled for fear of causing widespread soft tissue calcification. Times for Dialysis, HD was administered conventionally in three therapy sessions a week, this was established as a realistic balance between the physiological advantages of HD replacing renal function ("the more the better") and the practicalities of HD delivery in terms of both tolerability of the patient and organization of the facility. There is clear evidence that even in occasional patients with significant residual renal function, twice weekly HD produces inferior results to three times weekly. Treatment times of 3 to 4 hours per day are now standard, although the longer hours (up to 8 hours per day) that were initially required due to the relative inefficiency of available HD techniques have been retained by a few centers. Whether the excellent long-term results of patients receiving prolonged HD are due to selection bias rather than actual advantages remains controversial. If longer hours of HD were of demonstrated benefit, this would present HD unit with substantial planning challenges Dialysis is a treatment which uses a machine to filter and purify the blood. When the kidneys do not do their job, this helps keep the fluids and electrolytes in check. By removing waste and excess fluid from your body, the kidneys filter your blood. If you urinate dialysis performs the function of the kidneys if they have collapsed, this waste is sent to the bladder to be disposed of. End stage kidney failure occurs when the kidneys exercise just 10 to 15 percent of their normal activity, according to the National Kidney Foundation. Properly working kidneys keep the body from accumulating excess water, waste, and other impurities. They also help monitor blood pressure and regulate the levels in the blood of chemical components. Sodium and potassium can be included in these elements. Your kidneys are also triggering a form of vitamin D that enhances calcium absorption. When, due to sickness or injury, the kidneys do not perform these functions, dialysis can help keep the body functioning as normally as possible. Without using dialysis, Dialysis has been used to treat people with kidney disorders since the 1940s (Tattersall & Martin , 2007). In chronic conditions such as chronic kidney disease, psychological disorders are an important concern. Knowing the prevalence of psychiatric disorders in patients with dialysis can help to improve the quality of life. Patients on dialysis are in a situation of abject dependency on a system, a procedure and a group of trained medical professionals.¹ No other medical condition has such a degree of dependence on the maintenance of a chronic disease treatment.² Dialysis is traumatic for the patient as a procedure in the event of insufficient knowledge and training with Consideration of renal disease pre-end-stage (ESRD). There is also a major limit on food selection.

Patients on dialysis are in a situation of stress as a procedure in the event and fluids is also considerably restricted. Compared to hemodialysis patients, patients on peritoneal dialysis have some latitude in this respect. Kidney failure patients also suffer from many other medical problems and are on many different drugs. Many of these medications can cause psychiatric symptoms at times, and the same should be noted in order to prevent confusion. As a consequence of non-psychiatric treatment, anxiety and confusion can often be noted. Indian Journal of Nephrology (De Sousa, 2008).

Hemodialysis is a kidney failure treatment that involves the use of a machine called a dialyzer to filter the patient's blood outside of the body. This procedure may take the place of a portion of kidney function. However, while it is not a cure for kidney failure, it can make patients feel better and live longer. Hemodialysis can only replace a small percentage of what normal kidneys can do (15%). (Muhealdeem & Aziz, 2020). Hemodialysis necessitates advanced nursing treatment, which includes developing a clinical and interpersonal relationship. Hemodialysis patients need mental support to adjust to their new situation, and nurses may assist them in adjusting to their difficulties and concerns by reducing anxiety, increasing adaptability, and providing emotional support. Hum provides warmth to the patients. (Adam, 2017; Nobahar, 2017; Holloway & Galvin, 2016).

Methodology

A descriptive correlation design is used in the present study, it was established for a period from (October , 2020 to May, 2021). In order to meet the previously mentioned goals ,an assessment approach is used . The ethical consideration of research is achieved by obtaining the agreement from the Ethical Committee for Research at College of Nursing, University of Baghdad Finally; the informed content was obtained from the patients to participate in this study before collecting the data and filling the questionnaire. For the purpose of administrative and arrangements issues for conducting the research, the permission was asked from the Council of Nursing College/ University of Baghdad for this study then obtained approval from the Ministry of Planning/ Central statistical organization, and also permission was obtained from the Ministry of Health including Baqubh Teaching Hospital and Ibn Sena dialysis unit. The Setting of the study focused on renal failure patients treated at Baqbah teaching Hospital 'in dialysis unit. The sample of the study was conducted on a non-probability (purposive) sample of (100) renal failure patients who had undergone hemodialysis which were selected from dialysis unit. The questionnaire of the study is designed by researcher which consist of three part; the first contain Beck Depression Scale (BDI). the second part contain The Perceived Stress Scale (PSS). And the third part contain Suicidal Ideation Scale(SIS) . (BDI) was adopted and used for current study.(BDI) contains 21-item that assess for different aspect; self-rated scale that evaluates key symptoms of depression including mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, indecisiveness, body image change, work difficulty, insomnia, fatigability, loss of appetite, weight loss, somatic preoccupation, and loss of libido. The BDI was developed in a manner similar to the MMPI: clinical observations of symptoms and attitudes among depressed patients were contrasted to those among non-depressed patients in order to obtain differentiation of the depressed group from the rest of the psychiatric patients. The 21 symptoms and attitudes contained in the BDI reflect the intensity of the depression; items receive a rating of zero to three to reflect their intensity and are summed linearly to create a score which ranges from 0 to 63. (Beck & Steer, 1993; Beck, Steer & Garbing, 1988) . The participants requested to answer the questionnaire within (20-25) minutes. The level of depression was determined through the use of cut-off scores. for the total score which divided into four level and scored as follow:

(0-15) indicates that there is no disorder;(16-31) indicates the Mild level of depression; (32-47) refers to a Moderate level of depression; and 48-63) indicates a severe level of depression . (PSS) that adopted and consist of 10-item Perceived Stress Scale (PSS; Cohen et al., 1983) to assess participants' perceptions of stress at T1. Participants were asked about their feelings and thoughts

during the past and to indicate how often they felt or thought a certain way in response to 10 questions (e.g., often have you felt nervous and stressed?," how often have you found that you could not cope with all the things that you had to do?," and how often have you felt difficulties were piling up so high that you could not overcome them?"). Each item was rated 0 (never), 1 (almost never), 2 (sometimes), 3 (fairly often), or 4 (very often), four items were reverse coded, and all items were summed to obtain scale scores. The level of stress was determined through the use of cut-off scores. for the total score which divided into four level and scored as follow: Normal= 0 – 10, Mild= 11 – 20, Moderate= 21 – 30, Severe= 31 – 40. (SIS) that adopted and consist of 12 items that reflects suicidal thoughts, and the items covers despair, vague thoughts of despair, frustration, alienation, a desire for death, and a sense of the worthlessness of life. The content of the clauses extends from hostile thoughts about alienation and not belonging to developing or attempting to carry out plans for suicide. Individuals who are afraid or ashamed to express their suicidal tendencies may stop expressing their suicidal tendencies. If it appears that the raw scores for suicide are weak and the degrees of depression, anxiety and nervousness are high, it is necessary to delve deeper into the research behind the significance of these low scores. As for the procedural definition of suicidal ideation in the current scale, it is an individual's response to the items included in the research tool, The level of suicide was determined through the use of cut-off scores. for the total score which divided into four level and scored as follow: No suicidal= 0 – 9, Low= 10 – 18, Moderate= 19 – 27, High= 28 – 36 . which number (12) items, and this is a response measured on a graduated scale with four levels: No, a little, a lot, always.

The suicidal ideation scale was used, branched from the Personality Assessment Inventory (PAI!) scale, which consists of (344) items arranged on (22) total scales, including (10) composite scales, including (31) sub-scales, and the list was designed by Leslie Murray. 1991, Morey) and was codified in the Egyptian and Kuwaiti societies (Masri Hanoura, 1998) and was published under the name Stkhbar Personal Description. The original validity for BDS ,PSS And SIS was estimated by content validity method through eleven experts in educational psychology which met the acceptance degree of (0.76%) for the BDS scale items ,acceptance degree (0.74%) for PSS scale items and acceptance degree (0.71%) for SIS scale items The data was gathered throughout utilization of self-report questionnaire as mean for data collection and through self-report with patient's abuser, after agreeing to answer the questionnaire and participate in the analysis, the questionnaire was circulated. The statistical studies were carried out using IBM SPSS Statistics version 24.0, a statistical kit for social science. To achieve the study's goals.

Table (1) : Assessment the Level of Depression Symptoms among Patients with Hemodialysis

Levels of depression	f	%	M	SD
Normal	64	64	14.37	9.927
Mild	27	27		
Moderate	9	9		
Severe	0	0		
Total	100	100		

f: Frequency, %: Percentage, M: Mean for total score, SD: Standard Deviation Normal= 0 – 15, Mild= 16 – 31, Moderate= 32 – 47, Severe= 48 – 63

Table (2): Assessment the Level of Psychological Distress among Patients with Hemodialysis

Levels of distress	f	%	M	SD
Normal	51	51	11.31	8.413
Mild	36	36		
Moderate	12	12		
Severe	1	1		
Total	100	100		

f: Frequency, %: Percentage, M: Mean for total score, SD: Standard Deviation Normal= 0 – 10, Mild= 11 – 20, Moderate= 21 – 30, Severe= 31 – 40

Table (3) : Assessment the Level of Suicide Risk among Patients with Hemodialysis

Levels of suicide	f	%	M	SD
No suicidal	88	88	4.20	4.958
Low suicidal	10	10		
Moderate suicidal	2	2		
High suicidal	0	0		
Total	100	100		

f: Frequency, %: Percentage, M: Mean for total score, SD: Standard Deviation
No suicidal= 0 – 9, Low= 10 – 18, Moderate= 19 – 27, High= 28 - 36

Table (4) : Simple Linear Regression for Assessment the Effect of hemodialysis on Psychological Aspects among Patients (N=100)

Hemodialysis Psychological	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Depression	1.334	2.133	.063	.625	.533
Distress	-1.955	1.801	-.109	-1.085	.280
Suicide	-1.000	1.063	-.095	-.941	.349

Dependent variable: Psychological

This table indicates that there is no significant psychological effect of hemodialysis have been reported among patients with regard to depression, psychological distress, and suicide.

Discussion

The analysis of the study in table (1) showed that 27% of patients are associated with mild

depression related to their illness status and 9% are associated with moderate level of depression. These results are consistent with the study of (Da Silva,2017) in Brazil this study result According to Table (4-5) elucidates that 10 % of patients showing low suicidal risk related to their illness and only 2% showing moderate suicidal risk. the result of present study agrees with the study of (Loureiro , Coutino, Borges, &Lucchetti ,2018) . the result of those study show that 11.4% of patient with low suicidal risk and only 1.1% with moderate suicidal risk. The aim of this research is to see if faith and religiousness (S/R) are linked to a higher risk of suicide and if those beliefs are linked to mental health issues in hemodialysis patients.

Beck inventory score, 47 (31.9%) patients presented depressive symptoms, being 22 (14.9%) mild, 14 (9.5%) moderate and 7 (4.7%) severe symptoms. Among patients in hemodialysis, 30 (31.2%) had depressive symptoms, The aim of this study is to investigate the occurrence of depressive symptoms among individuals with CKD in conservative treatment and renal replacement therapy (hemodialysis). The analysis of study in Table (2) manifests that 36% of patients are associated with mild psychological stress related to their illness status and 12% are associated with moderate level of psychological stress These studies agree with the study of (Juliana &Arjunan, 2015) . in India this study show that 39%have mild stress and 12% with moderate stress. Those have studied **“Stress and Coping among Indian Hemodialysis Patients”** The analysis in Table (3) elucidates that 10 % of patients showing low suicidal risk related to their illness and only 2% showing moderate suicidal risk. the result of present study agrees with the study of (Loureiro , Coutino, Borges, &Lucchetti ,2018) . the result of those study show that 11.4% of patient with low suicidal risk and only 1.1% with moderate suicidal risk. The aim of this research is to see if faith and religiousness (S/R) are linked to a higher risk of suicide and if those beliefs are linked to mental health issues in hemodialysis patients.

The analysis in Table (4) indicates that there are no significant psychological effects of hemodialysis have been reported among patients with regard to depression, psychological distress, and suicide. In general, this statistical result not represents the actual effects of hemodialysis on some psychological disorders, due to many factors affect this relationship like duration of hemodialysis, frequency, intensity, quality of life for patient, nursing care, etc.

Conclusions

the study concluded that 27% of patients are associated with mild level of depression and that 33% of patients are associated with mild level of psychological stress. And 10% of patients are showing low suicidal risk. there is no significant psychological effects of hemodialysis have been reported among patients with regard to depression, psychological distress, and suicide.

Recommendation

increase renal failure patients' and their families' awareness of the nature and type of renal disease, as well as how to reduce their distress caused by the disease, through lectures and booklets..By listening to their problems and recommending relaxation techniques and spiritual therapy, provide psychological support to renal failure patients and their families in order to improve their mental health. Generalized.

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