Original Article

Psychological Disorders and Quality of Life among Sudanese Dialysis Patients and Renal Transplant Recipients

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Abstract.

Introduction: Psychiatric illness is common among patients with chronic disorders, particularly in those with end-stage renal disease on renal replacement therapy (RRT). Patients with a functioning renal allograft have an improved quality of life (QOL) compared to patients on dialysis.

Objective: to evaluate the psychological disorders and QOL among dialysis patients and renal transplant recipients.

Patients and Methods: This is a prospective cross-sectional study that included 168 patients on RRT. Their psychological health status was assessed through clinical examination and relevant designed questionnaires .The data obtained were fed to the SPSS for analysis. Significance was assumed at $P< 0.05$.

Results: Out of 168 ESRD Sudanese patients, 43 (25.6%) received renal allograft. The frequency of depression was 90 (72%) and nine (25.6%) of patients on dialysis; and kidney transplant recipients respectively. Anxiety was reported with significant difference ($p < 0.001$) in the dialyzed patients compared to kidney transplant recipients. Sleep disorders were experienced by 81 (64.8%) of dialyzed, and nine (20.9%) of kidney transplant recipients ($P<0.001$).

Conclusion: Psychological disorders in dialyzed ESRD patients have significant effect on the quality of life and may have a tremendous impact on mortality and morbidity. For this reason, supportive management by psychologist and or psychiatrist is recommended for early detection and alleviation of symptoms of mood and mind disturbances. For most patients with ESRD kidney transplantation offers the greatest potential for restoring healthy productive life.

Keywords: ESRD, allograft, depression, anxiety.

There are four modalities of renal replacement therapy, namely dialysis (Intermittent Peritoneal Dialysis (IPD) Continuous Ambulatory Peritoneal Dialysis (CAPD), and kidney transplantation. Although these options are effective in relieving the patients of the uraemic symptoms however, they have complications which adversely affect the quality of life (QOL) of ESRD patients[1]. Health- Related Quality of Life (HRQOL) refers to well-being. It is accepted that the best tool to measure QOL should include measures of psychological and social functions, in addition to patient's physical function[2, 3]. Psychiatric illness is common among patients with chronic disorders, particularly in those with end-stage renal disease.

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Affective disorders, particularly depression account for 1.5 to 3.0 times higher rate of hospitalization among dialyzed patients compared to those with other chronic illnesses[4]. No difference in the treatment recommended for depression in dialysis patients from that recommended in non-ESRD patients[5, 6]. All antidepressants are highly protein bound, hepatically metabolized, and not removed significantly by dialysis. It has been accepted that those patients with a functioning renal allograft have an improved HRQOL compared to patients on dialysis[7, 8].

Objectives: This study is conducted to evaluate the psychological disorders and QOL among Sudanese dialysis patients and renal transplant recipients.

Methods and Patients

This is a prospective cross-sectional study among Sudanese patients with ESRD who are

on renal replacement therapy. All the four modalities of replacement therapy haemo-dialysis (HD), Intermittent Peritoneal Dialysis (IPD) Continuous Ambulatory Peritoneal Dialysis (CAPD) and Renal Transplantation are available.

Study Population

Data of 168 patients who attended the dialysis units or the out- patient's clinics in the Nephrology Units of three major hospitals in Omdurman Military Hospital, Omdurman Teaching Hospital and the National Ribat University Hospital were collected during the period from September 2007 to June 2008.

Fifty- one patients, 52 and 22 patients were on HD, IPD, and CAPD respectively. Forty-three patients received renal allografts. Sudanese patients with ESRD on RRT for more than three months were included in this study. Patients presented with acute renal failure and children younger than 15 years were excluded as well as patients who have psychiatric disease before their initial renal disease. Verbal consents were obtained from the participants or their guardians. Structured questionnaires were filled by the participants. The data obtained were fed to the SPSS for analysis. Significance was assumed at P< 0.05.

Results

Out of 168 Sudanese patients with ESRD on renal replacement therapy; 43 (25.6%) received allografts.

Males constituted 130 (77.4%), The mean age was 52 years, with a range of 16 to 88 years. 78.6% of our study population were married, and singles constituted 17.9%, whereas six (3.5%) were divorced or widows. Working with the government as military forces or police and civil service was found in 51 (30.3 %) of our patients, while workers in the private sector comprised 47(28 %). 33 (86.8%) of the ladies were housewives. Students constituted 3.6 % of the study population, while 31 (18.5%) were unemployed. Menstrual disturbances, abortion and/ or still birth were reported in 13 (34.3%), six (15.7%) of the females respectively. Sexual dysfunction was complained of by 33 (19.6%)) patients. Psychological complaints like depression were the least symptoms (2.9%) in this study.

Compliance with HD:

Thirty three (89.2%) of the depressed patients were on regular dialysis compared to 14 (100%) of the non-depressed ones. Table1.

Compliance with HD sessions in relation to depression in this study group was not statistically significant (P > 0.05).

Table 1: Compliance with HD

	Regular	Skipping session	Cutting short time of HD	Total
Depressed	33(89.2%)	3(8.1%)	1(2.7%)	37
Non-depressed	14(100%)	00	00	14
Total	47(92.2%)	3(5.8%)	1(2%)	51

Effects of RRT on the patients' QOL:

Psychological:

Depression was diagnosed in 90 (72%) of patients on dialysis; and nine (25.6%) of kidney transplant recipients.

The frequency of depression in IPD and HD was 40 (76.9%) and 34 ((66.6%) respectively, with no statistically significant difference (P >0.1). There was also no significant difference between HD; 34 (66.6%) and CAPD; 16 (72.7%); (P>0.10). However, kidney transplantation had significantly improved depression compared to dialysis option in our study (P < 0.05). Elderly patients in our study group were few, and there was no statistically significant difference between dialyzed patients and kidney recipients (2/11, 1/2; P >0.10) regarding the incidence of depression. Kidney transplantation and steroids had improved anxiety significantly (p < 0.001) in this study. Sleep disorders were experienced by81 (64.8%) of dialyzed and nine (20.9%) of kidney transplant recipients (P < 0.001). [Tables2, 3,]

Table2: Psychological Effects of Dialysis on the Patient.

		HD (%)	IPD	CAPD	Total
Depression	None	17 (33.3)	12(23)	6(27.3)	35(28)
	Mild	5 (9.8)	19 (36.5)	7(31.8)	31(24.8)
	Moderate	21 (41.2)	16 (30.8)	6(27.3)	43 (34.4)
	Severe	8(15.7)	5(9.6)	3(13.6)	16 (12.8)
Anxiety	None	20 (21.6)	10 (19.2)	20(91)	50 (40)
	Mild	11 (21.6)	16 (30.8)	1 (4.5)	28 (22.4)
	Moderate	8(15.7)	14 (26.9)	0 (0)	22(17.6)
	Severe	5(9.8)	4(7, 7)	1(4.5)	10(8)
	Very Severe	7(13.7)	8(15, 4)	0 (0)	15(12)
Sleep Disorders	Yes	30(58, 8)	41(78, 8)	10(45.5)	81(64.8)
	No	21 (41.2)	11 (21.2)	12(54.5)	44(35.2)
School/Work	Improved	11 (21.7)	1(1.9)	1(4.5)	13(10.4)
	Loss of Job	21 (41,2)	37 (71.2)	15(68.2)	39(30.4)
	No effect	19 (37.3)	14 (26.9)	6 (27.3)	39 (31.5)
Marital/Sexual Status	Improved	13 (21.7)	0 (0)	1(4.5)	14(11.2)
	Divorced	3(5.9)	1(1.9)	1(4.5)	5(4)
	Loss of Libido/ Impotence	8(15.7)	16 (30.8)	5(22.8)	29(23.2)
	No effect	27 (52.9)	35 (67.3)	15(78.2)	77(71.6)
Self Satisfaction	Good	30 (58.8)	29 (55.8)	19(86.2)	78 (62.4)

Table3: Psychological Effects of Renal Transplantation on the Patient

Disorder	Effect	No (%)
Depression	None	32 (74.4)
	Mild	7 (16.2)
	Moderate	2 (4.7)
	Severe	2 (4.7)
Anxiety	None	42 (97.7)
	Mild	0 (0)
	Moderate	1 (2.3)
	Severe	0 (0)
	Very Severe	0 (0)
Sleep Disorders	Yes	9 (20.9)
	No	34 (79.1)
Work/ School	Improved	1 (2.3)
	Loss of Job	3 (7)
	No Effect	39 (90.7)
Marital / Sexual Status	Improved	2 (4.7)
	Divorced	0 (0)
	Loss of Libido/ Impotence	0 (0)
	No Effect	41 (83.7)
Self Satisfaction	Good	36 (83.7)
	Poor	7 (16.3)

Loss of job was reported in 73 (58.4%) of the dialyzed patients while only 13 (10.4%) had Improved performance. The dialysis did not affect the jobs in 39 (30.2%) of the patients. This is in comparison to 39 (90.7%) of renal transplant recipients whose' jobs were not affected, and 3 (7%) who lost their jobs. This concludes that kidney transplantation resulted in a significant improvement in the work performance (P < 0.001). (Tables 2, 3).

Sexual performance were not affected in 77 (61.5%) and 41 (83%) of dialyzed patients and kidney transplant recipients respectively. Lost libido and/ or impotence were reported by 29 (23.2%) of dialyzed patients, while none of kidney transplant recipients did so. In our study there is a statistically significant improvement in sexual performance among kidney transplant recipients compared to dialyzed patients (P <0.001).

However, no statistical difference was found regarding divorce between dialyzed patients and kidney transplant recipients (p >0.10).

Self-satisfaction was found good in 78 (62.4%) of the dialyzed patients, compared to 36 (83.7 %) of kidney transplant recipients. We found that kidney recipients had statistically significant improvement in QOL compared to dialyzed patients (P < 0.05). There was no statistically significant difference between IPD (29/52) and HD patients (30/51) (p >0.50) (Tables 2, 3).

Discussion

To the best of our knowledge this is the first study on the effects of renal replacement therapy on the recipient's QOL among Sudanese patients with ESRD. Our study population was primarily comprised of Afro-Arab males. This is likely to be due to the increased incidence of ESRD among males[9].

Most of the patients (77.4%) were in the age-group 35 -- 75 years with a mean of 52 years. This compares well with studies from Serbia (54.5 years) and China (55 years)[10,11].

The majority (78.6%) of patients was married; this has an effect on patients' compliance with HD and is comparable to other studies[12].

Patients on dialysis were found to have psychological symptoms especially depression and anxiety that affected many aspects of their lives and needed optimal treatment and support. Our observations are comparable to a study from Canada[13].

Loss of libido in both sexes or impotence in males occurred in around one fifth in our study population, an observation similar to previous reports[14]. Depression was more common among patients on peritoneal dialyzed (PD) than on HD, but that was not statistically significant difference (P >0.25). This is comparable to other studies[15-18]. IPD which is used in our patients might have also contributed to that.

Because of lack of facilities in developing countries like Sudan this method of treatment is still valuable. We could not demonstrate significant psychological difference between patients on HD and CAPD. This is similar to regional studies[16]. The frequency of depression is significantly different in Kidney transplant recipient compared to dialysis patients in our study.

Compliance in relation to depression in this study was not significantly affected compared to other studies[19].

Anxiety was reported in most of our dialysis patients. This is consistent with what had been reported by Sara Davison and others[13]. However, kidney transplantation improved anxiety significantly as has been reported.

Sleep disorders were significantly more common among patients maintained on HD, and IPD in our study. Similar findings had been reported by M Kalousova et al from Prague[20]. However, kidney transplantation significantly improved these disorders compared to both options in accordance with previous reports[21].

Three quarters of our dialyzed patients lost their jobs, whereas only few of renal transplant recipients did so, indicating a significant improvement in the work performance (P < 0.001). This is comparable to a study from Austria[22].

Sexual dysfunction (loss of libido, impotence) was found in about a quarter of dialyzed patients.

In our study we demonstrated a statistically significant improvement in sexual

performance among kidney transplant recipients compared to dialyzed patients ($P < 0.001$).

In reality none of our renal transplant patients reported sexual dysfunction. Relatively young age of most of the recipients in our study was a possible contributory factor.

The QOL was not satisfactory in more than half of the patients on HD, however, in our study no statistically significant difference had been observed between HD and CAPD. Erika Juergensen et al from USA reported more satisfaction among CAPD than HD patients[23].

The majority of kidney transplant recipients in our study had satisfactory QOL.

We found that kidney recipients had statistically significant improvement in QOL compared to dialyzed patients ($P < 0.05$). This corresponds to other studies[7, 8], indicating that renal transplantation is optimal management compared to dialysis for ESRD.

This study has several limitations. First, psychiatric disorders among persons with ESRD could not be separated from the national prevalence in general population which is not known because of underreporting and poor hospital registry in Sudan. Second, psychiatric disorders may also be underreported as a result of uncertainty and social stigma. Therefore, these data may underestimate the risk among persons with ESRD. Third, depression as diagnosed by physicians is different from diagnosis with patients' self-reports, as there is higher prevalence of depression, particularly by the single assessment of depression by simple questions.

Conclusion:

Psychological disorders in dialyzed ESRD patients have significant effect on the quality of life and may have a tremendous impact on mortality and morbidity. For most patients with ESRD, dialysis option has many adverse effects on the patients either, medically or psychologically, although it relieves the patients from the uraemic symptoms and complications. Kidney transplantation offers the greatest potential for restoring healthy productive life. Close follow-up of patients with ESRD not only medically, but also with regards to their psychological state would decrease the psychiatric morbidity, and improve their QOL.

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