Depression in Hemodialysis Patients at Al-Diwaniya Province

Original Research Article

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ABSTRACT

Background: End Stage Renal Disease affects patients' physical and psychological health. Depression has been identified as the most common psychiatric illness among patients with hemodialysis; it negatively affects the quality of life in hemodialysis patients and their treatment response.

Aims of the study: To estimate the prevalence of depression and measuring the severity of depression in hemodialysis patient at Al- Diwaniya Province and to determine the rate of depression in hemodialysis patients with some socio-demographic variables.

Methods: A sample of 86 patients with End Stage Renal Disease compared with equal number from the general population as control group were enrolled in a case-control study at hemodialysis unit of Al-Diwaniya Teaching Hospital. Depression was diagnosed by using a semi-structured interview schedule based on ICD-10 diagnostic criteria. The severity of depression was rated by using Beck Depression Inventory.

Results: The results showed that the prevalence of depression among hemodialysis patients was (62.8%) in comparison with (19.8%) among the control group which was statistically significant. Depression is more in married, unemployed, those with primary school achievement, living in the urban area which is statistically significant.

Conclusion: This study revealed that depression is more common in hem dialysis patients than in normal individuals which demand the screening for such condition.

Keywords:

Hemodialysis,
Depression.

I. INTRODUCTION

Depression among dialysis patients may adversely affect mortality, possibly independent of dialysis adequacy (1). It is the most common psychiatric disorder requiring hospitalization in this patient population, and can usually be successfully treated via the judicious use of medications, with or without counseling (2).

The exact prevalence of depression in dialysis patients is unclear, reportedly ranging from 10 to 66 percent (3-4). This wide variation is based in part upon the different criteria utilized for assessing mood disturbances. Some patients may overemphasize their somatic symptoms, and may deny any mood disturbance or other symptoms directly attributable to depression (5). Depression may be also present at the start of dialysis. This was suggested by the finding that 44 percent of 123 incident dialysis patients scored above the validated cutoff on the Beck Depression Inventory (6). In addition, depression was most likely among Caucasians, patients without previous acquaintances on dialysis, and those with lower self-rated quality of life. Conflicting information exists concerning the association of depression with survival (7-8). Although variations in depression scores were not associated with survival, lower levels of social support, decreased compliance with the dialysis prescription, and increased negative perception of the effects of illness independently correlated with enhanced mortality. In contrast, other studies suggest poorer survival among depressed dialysis patients (9-10). Suicide is significantly more common among End Stage Renal Disease(ESRD patients than the general population. Independent predictors include male gender, white or Asian race, recent hospitalization, and alcohol or drug-dependence (11). Depression is also associated with an increased risk of hospitalization. This appears to be independent of other comorbidities and demographic variables (12). The treatment of depression in dialysis patients is similar to that recommended in the general patient population. Although studies among ESRD patients are few, combined treatment with antidepressants and counseling in the non-ESRD population results in greater success than treatment with medication alone (3).Because psychosocial support and compliance are associated with reduced mortality in chronic hemodialysis patients, psychological counselling may be an important component to the treatment regimen. An older, uncontrolled study suggested that participation in group therapy positively affected outcomes in dialysis patients (13). The urgency of treatment is primarily guided by the clinical circumstances and presentation. When there is no need for emergent psychiatric referral or hospitalization, treatment is dictated by the patient's needs and acceptance for medication and psychiatric referral (3). Antidepressants appear to be effective in approximately 75 percent of patients. The choice of antidepressant is principally guided by cost and side effect profile. Since many antidepressants (regardless of class) are hepatically metabolized, dosage adjustment is sometimes not required for renal failure. However, there are exceptions, such as paroxetine and venlafaxine (14). Inadequate dosing of antidepressants is the most common cause of therapeutic failure. Regardless of the class of antidepressant prescribed, full therapeutic doses should be anticipated for at least six months to one year in all patients to reduce the likelihood of relapse (3). Although selective serotonin reuptake inhibitors (SSRIs) are significantly more expensive than tricyclic antidepressants, they are well-tolerated and effective in the doses initially prescribed; unlike tricyclic antidepressants, no dose titration is required with SSRIs (3, 14). There is an increasing amount of literature about the efficacy of SSRIs in dialysis patients (15).

II. AIMS OF STUDY

1- To find out the prevalence of depression among the hemodialysis patients and measuring the severity of depression in hemodialysis patients. 2- To estimate the rate of depression in hemodialysis patients with some socio-demographic variables.

III. MATERIALS AND METHODS

A case-control study was conducted on eighty six patients at hemodialysis units diagnosed by a nephrologist at Al-Diwaniya Teaching Hospital from the period of 2nd April 2016 to 2nd January 2017. Depression was diagnosed by using semi-structured interview schedule based on ICD-10 diagnostic criteria for depression, and its severity was rated by Beck Depression Inventory (BDI).

The study primarily based on patients with end stage renal disease aged from 15 to 74 years old who were on regular hemodialysis for a period ranged from 6 months to 13 years. All patients who have the willingness to participate in the study,able to communicate or understand their interviewer are included. Those patients who had depression and other psychiatric disorders before their illness have been excluded from the study.

Results: The results are expressed in the following tables:

Table (1) shows the prevalence of depression in hemodialysis patients and control group which was (62.8 %, 19.8 %) respectively, it was statistically significant.

Table (1): Prevalence of depression in hemodialysis patients and control group

Rate of depression	HD patients		Control group	
	No.	%	No.	%
Depressed	54	62.8	17	19.8
Not depressed	32	37.2	69	80.2
Total	86	100	86	100

X2=25.747
P value=<0.000

Table (2) shows that among (86)patients with end stage renal disease on hemodialysis (24) were females with depression (44.4%),while (30) males with depression (55.6%) compared to depression among control group were female (9), (52.9%) and male (8), (47.1%) which is statistically not significant.

Table (2):Prevalence of depression among hemodialysis patients according to gender compared to control group

Gender	HD Patients						Control Group					
	Depressed		Not Depressed		Total		Depressed		Not Depressed		Total	
	No.		%		No.		%		No.		%	
Male	30	55.6	13	40.6	43	50	8	47.1	35	50.7	43	50
Female	24	44.4	19	59.4	43	50	9	52.9	34	49.3	43	50
Total	54	100	32	100	86	100	17	100	69	100	86	100

X2=1.59
P value=0.66

Age groups	HD with depression		Control with depression	
	No.	%	No.	%
15-24	3	5.6	3	17.6
25-34	16	29.6	6	35.3
35-44	8	14.8	4	23.6
45-54	10	18.5	3	17.6
55-64	12	22.2	0	0
65-74	5	9.3	1	5.9
Total	54	100	17	100

P value =0.227
X2=6.909

Table (3) shows that depression was more common in the age group25-34, 55-64 (29.6% 22.2% respectively) compared to the control group in which depression was more common in the age group25-34 (35.3%) and this is statistically not significant.

Table (3):Prevalence of depression among age groups of HD patients compared

Age group	Depression	Control with depression
25-34	29.6	35.3 (Common in age group 25-34) Satistically not significant
55-64	22.2	

Table (4) shows that the high percentage of depression was in married patients (39, 72.2%), which is statistically significant.

Table (4): Numbers and percentage of depressed patients and control group according to marital status.

Marital status	Depressed Patients groups						Depressed control group					
	Female		Male		Total		Female		Male		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Single	3	12.5	4	13.3	7	13	3	33.3	1	12.5	4	23.5
Married	13	54.2	26	86.7	39	72.2	6	66.7	7	87.5	13	76.5
Divorced	2	8.3	0	0	2	3.7	0	0	0	0	0	0
Widow	6	25	0	0	6	11.1	0	0	0	0	0	0
Total	24	100	30	100	54	100	9	100	8	100	17	100

P value=<0.003
X2=13.482

Table (5) shows that prevalence of depression was more among primary school(37%) which is statistically significant.

Education	Depressed patients group						Depressed control group					
	Female		Male		Total		Male		Female		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Illiterate	6	25	6	20	12	22.2	0	0	0	0	0	0
Primary	9	37.5	11	36.7	20	37	0	0	0	0	0	0
Secondary	5	20.8	12	40	17	31.5	5	55.6	4	50	9	52.9
University	4	16.7	1	3.3	5	9.3	4	44.4	4	50	8	47.1
Total	24	100	30	100	54	100	9	100	100	100	17	100

P value =<0.0001

Table (6) shows that depression was more in unemployed patients(40, 74.1%), which is statistically significant.

Table (6): Number and percentage of depressed patient and control according to occupation.

Occupation	Depressed patients group						Depressed control group					
	Female		Male		Total		Female		Male		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Unemployed	20	83.3	20	66.7	40	74.1	0	0	0	0	0	0
Private	0	0	1	3.3	1	1.8	0	0	1	12.5	1	5.9
Employee	4	16.7	3	10	7	13	9	100	6	75	15	88.2
Retired	0	0	6	20	6	11.1	0	0	1	12.5	1	5.9
Students	0	0	0	0	0	0	0	0	0	0	0	0
Total	24	100	30	100	54	100	9	100	8	100	17	100

Table (7) shows that depression was more among patients of urban area(30,56.6) which is statistically significant.

Table (7): Number and percentage of depressed patient and control according to residential state.

Residential state	Depressed patients group						Depressed control group					
	Female		Male		Total		Female		Male		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Urban	13	54.2	17	56.7	30	56.6	9	100	8	100	17	100
Suburban	11	45.8	13	43.3	24	44.4	0	0	0	0	0	0
Rural	0	0	0	0	0	0	0	0	0	0	0	0
Total	24	100	30	100	54	100	9	100	8	100	17	100

X2 = 11.414
P value =0.01

Table (8) shows that the majority of hemodialysis patients were of severe type of depression by using BDI (42.6).

Table (8): Severity of depression among HD patients and control group according to (BDI).

Severity of depression	Depressed patients group						Depressed control group					
	Female		Male		Total		Female		Male		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Mild depression	4	16.7	10	33.3	14	25.9	2	22.2	2	25	4	23.5
Moderate depression	7	29.2	10	33.3	17	31.5	2	22.2	3	37.5	5	29.4
Severe depression	13	54.1	10	33.3	23	42.6	5	55.6	3	37.5	8	47.1
Total	24	100	30	100	54	100	9	100	8	100	17	100

X2=0.106
P value =0.948

IV. DISCUSSION

In this study the prevalence of depression among hemodialysis patients was (62.8%) compared with (19.8%) among their matched control and this result was statistically significant .The reason for this high rate could be related to the fact that ESRD is chronic illness with long term physical and psychological effects, patients with end-stage renal disease (ESRD) are reported to feel a loss of autonomy and the lack of understanding by families, physicians, and society and such attitude can increase their feelings of despair (16) ,this result is consistent with other study which revealed that the frequency of depression in dialysis patients is 72%(17), which is much higher in comparison to depression in the general population of Pakistan (6% to 30%)(18,19), patients of cancer (17.8%)(17), coronary artery disease (37%) (20), and dialysis patients of developed country (27%)(21).This difference may be attributed to various instruments used to evaluate depression and different statistical population.

The study revealed that majority of hemodialysis patients(42.6%) were of severe type of depression by using BDI II scale of 14 to 21 which is statistically not significant in relation to mild and moderate type of depression. Depression is the most common psychological problem in patients with ESRD (22). Depression is characterized by both cognitive and somatic features. The somatic characteristic of depression is similar to symptoms of uremia like anorexia, sleep disturbance, fatigue, gastrointestinal disorders and pain (23). Due to this overlap of symptoms of uremia with depression it is usually missed, under diagnosed and remain untreated and this explains the substantial variation in the percentage of depression in dialysis patients(25%- 60%) in different geographical areas (24).

The study revealed that high prevalence of depression was noted in young patients aged from 20 to 40 years which is compatible with other study (25), but it is in consistent with another study done on a large sample of hemodialysis patients from twelve countries that showed high prevalence of depression in older patients (26) and the possible explanation is that young patients in our society endures the responsibility of their family.

The study revealed that male patients had more prevalence of depression (55.6%) as compared to female patients (44.4%) which is statistically not significant and this result is not consistent with the study that had been done in Pakistan in which the prevalence of depression was higher in female patients as compared to male patients (27). The main reason could be related to the fact that males are dominant and usually earning hand, so when they suffer from this chronic disease they get more depressed than adult female. Male patients feel loss of independence and authority and hence, scored higher on BDI-II (28). The second reason shows that patients with renal failure have increased uremic toxins in their body which inhibits testosterone secretion. Testosterone has an inverse relation with depression, so low testosterone level is directly related with depression (29).

This study revealed that prevalence of depression was more in married patients (72.2%) which is statistically significant, the marital status had strong association with the occurrence of depression in hemodialysis patients, and this may be due to loss of bodily function including a decreased sex drive, changes in family responsibilities with uncertainty about the future regarding male.Concerning the females, the causes of depression may be due to, changes in self-concept, body image, worry and anxiety about general appearance as a female which change and deteriorate due to decreased body fat, periodic puffiness of tissue, a change in skin color to a sallow, jaundiced look, and slowing of body movement,also the treatment of hemodialysis causes bruises and punctures in arm or leg and disfiguring plastic shunt. All these changes are considered big psychosocial stressors to a female who shares the fear from the uncertainty about the future for the effect on the marital relationship.

Other studies showed that social support and marital satisfaction have been associated with improved mood ,Symister and Friend (30) recently showed social support and marital satisfaction was related to decreased depressive affect in ESRD patients.

The study revealed that the prevalence of depression was more in primary school patients (37%),and this is statistically significant which is consistent with other studies done in Pakistan (31).Education has very strong association with a psychological parameters of depression like insomnia, fatigue, diminished interests, this may be due to lack of education and misperceptions about the disease, they reached the dialysis centers in more miserable conditions (32).

The study revealed that the prevalence of depression was more among unemployed patients which is statistically significant. Patients who were getting any financial support from Non-Governmental Organizations, hospital were less depressed as compared to those who were not, and this goes in line with what was observed by Kojma et al(33).

V. CONCLUSIONS

The result of the study shows that depression is highly prevalent in hemodialysis patients than in normal individuals but is likely underdiagnosed and undertreated, so this demands the need for attention and screening for such condition ,which plays a role in the patient`s state physically and mentally. Male patients, younger age groups (20-40) years have more prevalence of depression than female patients.There is significant statistical correlation between depression and marital status, employment status, residential status, and the level of education of hemodialysis patients.

VII. RECOMMENDATIONS

i. More attention should be directed for screening of depression among patients with ESRD.

ii. Treatment of depression should be considered in the management of ESRD.

iii. Education for the hemodialysis department staff about depression.

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