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Depressive Symptoms Among Patients Undergoing Maintenance Haemodialysis.

Psychiatry

KEYWORDS: Depression, Maintenance Heamodialysis, End stage renal failure.

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ABSTRACT

Aim : Estimate the prevalence of depressive symptoms and demographic correlate in patients on maintenance heamodialysis(MHD).

Materials and methods : A cross sectional study using Beck's Depression Inventory scale II, 54 patients aged 18 to 90 years admitted in tertiary care hospital for MHD were assessed.

Results : The samples mean age, BDI II score, duration of MHD was 48.94±14.76 years, 23.66±7.90, and 24.44±22.40 months respectively. Prevalence of depression was 83.33%. 27.77% had severe depressive symptoms, while 55.55% had moderate depressive symptoms. Statistically significant association was noted between depressive symptoms and old age (p<0.001), unemployment (p<0.0001), Diabetes mellitus (p<0.001), and Hepatitis B infection (p<0.020).

Conclusion : Depression was prevalent among the patients undergoing MHD and none of them were treated. Elderly patients, unemployment, diabetes mellitus and Hepatitis B infection were associated with Depression.

Introduction

Patients on maintenance hemodialysis (MHD)are thought to be highly susceptible to emotional problems because of the chronic stress-related to disease burden, dietary restrictions, functional limitations, associated chronic illnesses, adverse effects of medications, changes in self-perception and fear of death[1–4]. The most common psychiatric complication occurring as a result of renal failure is depression in the patient and anxiety in the associated partner [5,6]. Depressive disorder affects 20% of the patients on MHD and these patients are twice as likely to die, require hospitalization and higher withdrawal rate compared to patients without depression [7,8]. Identification and treatment of depression during the early stages of chronic kidney disease (CKD) is important since it can impair recovery, result in poor treatment adherence and worsen the quality of life (QOL) and mental health[9].

Renal failure patients have been noted as the biggest deniers of psychiatric illness[10]. More over in India, patients have limited access to mental healthcare and there is considerable social stigma associated with psychiatric disorders[9].

Materials and methods

In total number of 60 patients aged 18 to 90 years admitted in Department of Nephrology, Alluri Sitarama Raju Academy of Medical sciences, Eluru, West Godavari, Andhra Pradesh, India; 54 patients were included as subjects in our study after taking an informed consent from the patients. Institutional ethical clearance was taken prior to the study.

A cross sectional study, patients who had been on MHD sessions for end stage renal disease (ESRD) at least 3 times per week, lasting 4 hours each, for at least 3 consecutive months were included in the study, excluding the patients having prior history of psychiatry illness, dementia, delirium, seizure disorder, head trauma, and patient not willing to participate in the study. 54 patients were subjected to structured psychiatric interview using Beck Depression Inventory II (BDI II). The data so collected was analyzed in Statistical Package for Social Sciences (SPSS) version 11. Results were evaluated using percentage value and mean ± standard deviation. Comparisons between categorical variables and continuous variables were done using the chi squared test and the Student's *t*-test respectively. A p value < 0.05 was considered statistically significant.

Results

The mean age of the sample was 48.94±14.76 years and the mean serum creatinine level was 6.98±2.71 mg/dl. Patients were undergoing dialysis for a mean duration of 24.44±22.40 months. The mean BDI scores were 23.66±7.90. Among the 45(83.33%) depressed patients, 15(27.77%) had severe depressive symptoms, while 30(55.55%), 0(0%) had moderate and mild depressive symptoms respectively.

Table1: Socio demographic characteristics of the sample.

Demographic variables	Categories	Total patients (n=54) n (%)	Depression (n=45) n (%)	p value
Age	<50 years	27(50)	18(40)	<0.001*
	>50 years	27(50)	27(60)	
Sex	Male	42(77.77)	36(80)	0.380
	Female	12(22.22)	9(20)	
Marital status	Married	51(94.44)	42(93.33)	0.425
	Unmarried	3(5.55)	3(6.66)	
	Widowed	0(0)	0(0)	
Education	Educated	21(38.88)	18(40)	0.708
	Uneducated	33(61.11)	27(60)	
Employment	Employed	6(11.11)	0(0)	0.0001*
	Unemployed	48(88.88)	45(100)	
Mode of expense	Self	9(16.66)	9(20)	0.142
	Government scheme(AS)	45(83.33)	36(80)	

* Indicates significant p value at 95% level of confidence interval (p≤0.05). AS: Arogya Shree

Table 2: Association between depression and duration of dialysis, co-morbidities.

Variables	Category	Total patients (n=54) n (%)	Depression (n=45) n (%)	p value
Duration of dialysis	<24 months	30(55.55)	24(53.33)	0.462
	>24 months	24(44.44)	21(46.66)	
Diabetes mellitus	Present	27(50)	27(60)	0.001*
	Absent	27(50)	18(40)	
Hypertension	Present	33(61.11)	30(66.66)	0.061
	Absent	21(38.88)	15(33.33)	

Hepatitis B virus	Positive	6(11.11)	3(6.66)	0.020*
	Negative	48(88.88)	42(93.33)	
Hepatitis C virus	Positive	3(5.55)	3(6.66)	0.425
	Negative	51(94.44)	42(93.33)	
Human Immuno deficiency Virus	Positive	0(0)	0(0)	
	Negative	45(100)	45(100)	

* Indicates significant p value at 95% level of confidence interval (p≤0.05).

Discussion

The prevalence of depressive symptoms in the current study was 83.33%, its higher than previously reported Dialysis Outcomes and Practice Patterns Study (DOPPS) 20%[11]. These rates are substantially higher than those found in the general population, for which rates of depression are 3%-6%[12],and those found in older adults, for whom rates are 6%-10%[13].Studies done in India by Rai et al[9], khaira et al[14] showed the prevalence of depression was 47.8% and 57.1% respectively. Craven et al[15] showed that a BDI score ≥15 had a 92% diagnostic sensitivity and 80% specificity in making the diagnosis of depressive disorder in patients with ESRD treated with Heamodialysis (HD) or peritoneal dialysis.

Study showed statistical significance, with older patients (>50 years) having more depressive symptoms. Older patients have higher scores of depression as they are more tired and have decreased feelings of usefulness and satisfaction from general QOL[16]. Depression was high in the unemployed patients (p<0.0001), which was in line with study done by Ibrahim and salmony[17]. The socioeconomic status of most of study patients was poor due to unemployment. As the socioeconomic status deteriorates, patients tend to face poorer general health and mental health resulting in lower social well-being[18].

The study demonstrates that depressive symptoms are significantly linked with co-morbid illness like diabetes mellitus (p<0.001) and hepatitis B infection (p<0.020), which was similar to the other studies[16,19].

Despite the high incidence of depression, none of these cases were treated. A study by Watnick et al reported that only 16% of ESRD patients on MHD with Depression were treated[20].There is significant under diagnosis and treatment of Depression in these MHD patients.

Evaluating depression in its early stages is important since it is a significant predictor of adverse outcomes in the progression of CKD, initiation of HD treatment, death and hospitalization[21]. Thus early assessment and treatment of depressive disorder will facilitate psychological adaptation of patients, hence reducing the morbidity and treatment related costs by decreasing the hospitalizations.

Limitation of the study

The cross sectional design of the study helped only to determine the association between the variables and not any causal relationship. Sample size was very small. Use of diagnostic screening scale that include somatic symptoms of depression like weight loss, sleep disturbances, fatigue etc. can contribute to over diagnosis of depressive symptoms.

Conclusion

Depression is highly prevalent among MHD patients but it is under diagnosed and undertreated. Elderly patients, unemployment, diabetes mellitus and Hepatitis B infection were associated with Depression. A systematic mental health screening should be carried out in MHD patients by qualified professionals. Awareness programmes and health care professional training exercise would help in early diagnosis and management of depression. Further research is needed to identify effective interventions to improve the QOL in these patients.

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Conflict of interest – none

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