

ANXIETY, DEPRESSION AND COGNITIVE CHANGES IN PATIENTS ON HEMODIALYSIS

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ABSTRACT

Objective: To assess Anxiety, Depression and Cognitive changes in patients of chronic renal failure on hemodialysis.

Study design: Cross-sectional descriptive study.

Place and duration of study: Department of nephrology, Combined Military Hospital (CMH) Lahore from March to July 2010.

Patients and Methods: Forty one patients at end stage renal disease on hemodialysis were selected from Nephrology department CMH Lahore. Written informed consent was obtained. Diagnostic instruments like Hospital Depression and Anxiety Scale (HAD Scale) Urdu version and Mini-Mental State Examination (MMSE) were used for data collection.

Results: The number of enrolled patients was 41 with age ranging between 50-70 years with 63.4% males. Results showed that out of 41 patients 7(17.1%) had mild anxiety, 7(17.1%) had severe anxiety while 27(65.9%) were normal. However, out of 41, 5(12.2%) had mild depression, 15(36.6%) had severe depression whereas 21 (51.2%) had no depression. MMSE scoring showed that, 5(12.2%) had mild, 4(9.8%) had moderate and 3 (7.3%) had severe cognitive changes, whereas 29(70.7%) patients had no cognitive changes.

Conclusion: More than one third of the patients (37%) in this study were suffering from anxiety, depression and cognitive changes. Recognition of these problems in patients of chronic renal failure on hemodialysis is of fundamental importance in the management of patients. The quality of life can be improved in such patients with psychiatrist treatment.

Keywords: Beck's Depression Inventory (BDI), End stage renal disease (ESRD), Hemodialysis, Hospital Anxiety Depression Scale (HAD Scale), Mini-Mental State Examination (MMSE).

INTRODUCTION

Renal replacement treatments for chronic renal failure, which occur as a result of irreversible loss of renal functions, include hemodialysis, peritoneal dialysis and renal transplantation¹. Despite significant advances in treatment that have occurred recently, poor patient compliance and psychological problems like depression, anxiety and cognitive dysfunction are common among patients of end stage renal disease. They still have a high mortality rate and a poor quality of life due to physical and psychological problems^{2,3}. All these psychological problems may worsen disabilities, increase pain, reduce patient compliance, and affect prognosis. Patients with chronic renal failure are at risk of developing psychiatric disorders. Long-term management of chronic renal failure include hemodialysis

and renal transplantation⁴⁻⁶. Patients with end stage renal disease have tried to adapt to a chronic physical illness and dependence on the dialysis machine to stay alive.

In 1960s, researchers described the psychological reactions associated with hemodialysis. They demonstrated that depression and denial are the two common responses observed among patients on chronic haemodialysis⁷.

Other studies reported high prevalence of anxiety, suicide, and discontinuation of hemodialysis among these patients that happened in part due to the high mortality and severe complications of the techniques used for hemodialysis then. Patient's quality of life is adversely affected by physical disability and its psychological consequences²².

In modern world, psychiatric disorders in patients undergoing hemodialysis is a global problem and is quite stressful throughout its course. Several studies with ESRD patients

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have shown an association between depression and mortality^{5,6}. Therefore the present study was carried out to find out the frequency and the extent of various psychological problems of clinical importance during the course of hemodialysis.

PATIENTS AND METHODS

This cross-sectional descriptive study was carried out at the department of nephrology CMH Lahore Cantt from March to July 2010 to investigate anxiety, depression and cognitive changes in ESRD patients on hemodialysis. Patients from all age groups and social class were included in study sample. Only those cases were included who were undergoing hemodialysis and had no other underlying physical illness.

Cases that were excluded from the study were patients with past history of psychiatric illness, intracranial tumors and those with febrile illness having effects of drugs that could impair their ability to participate in the study.

Using history proforma, age, gender, marital status, education level, work status, occupation, income level, present or past history of psychiatric illness and family history of psychiatric illness of all participants were recorded. Other variables like recent life events, vulnerable personality traits, socioeconomic status and family system, were also recorded in the history proforma.

Forty one cases, males (63.4%) and females (36.6%), were selected through non probability convenience sampling from both indoor/outdoor patients. Subjects were explained the nature, purpose and procedure of the present study and informed consent was obtained. Demographic, clinical features and other relevant data were obtained from the patients, their medical history sheets and relatives. Consent form was duly signed by all the participants in the study. Diagnostic instruments like HAD scale Urdu version, MMSE were used by the author and 4th year MBBS medical students who were specifically trained to use them.

Hospital Anxiety and Depression Scale (HAD Scale) is a self assessment scale used to

determine anxiety and depression risk, level and severity. It aims to determine risk groups by rapidly screening anxiety and depression in patients with physical illness. The Mini- Mental State Examination is a test of global cognitive functions that includes an assessment of orientation, attention, calculation, language and short-term memory. Diagnosis of psychiatric morbidity was obtained by manual methods i.e. from the scores achieved by the patients in HAD scale. All the data obtained was categorized and calculations were done through computer by using SPSS-16.

RESULTS

Forty one patients were included in the study. Average age was 54.92 years, with age ranging between 50-70years, male were 63.4% and females were 36.6%. Urban population was 85.3%, education was less than Matriculation in 36.6%. Our result of anxiety and depression are shown in the tables 1,2 and 3.

DISCUSSION

This study sought to explore the range and the extent of anxiety, depression and cognitive changes among patients of ESRD, undergoing hemodialysis. In several studies, anxiety and depression rates reported in different proportions range from 10 to 60% in dialysis patients^{2,3,10,11}. In our study, similar to previous studies, the depression and anxiety were found to be high in patients of dialysis. Results of our study showed (table1) that 65.9% were normal, 17.1% had mild anxiety and 17.1% were suffering from severe anxiety. High percentage of anxiety was found in patients of hemodialysis as compared to that found in general population which is about 3% according to the different studies. The distribution of severe anxiety in male population was (60%) and mild anxiety was (40%). Whereas in female (25%) had severe anxiety and (75%) had mild anxiety. This result indicates that severe anxiety is more prevalent in male population as compared to the female, contrary to the previous studies. Overall the dialysis population had higher rate of depression (48.8%) as compared to the general population which is maximum up to (17.9%). Depression is the most frequent psychological

Table1: Frequency of HAD scoring of anxiety among patients (n=41)

Anxiety grades and scores	Frequency	Percentage
normal not anxious (0-7)	27	65.9
Mild anxiety (8-10)	7	17.1
Severe anxiety (11 and above)	7	17.1

Table 2: Frequency of HAD scoring of depression among patients (n=41)

Depression Grades And Scores	Frequency	Percentage
normal not depressed (0-7)	21	51.2
Mildly depressed (8-10)	5	12.2
Severely depressed (11 or above)	15	36.6

Table3: Distribution of MMSE Scoring among patients (n=41)

Cognitive Changes Grades And Scores	Frequency	Percentage
Normal (25 and above)	29	70.7
Mild cognitive changes (21-24)	5	12.2
Moderate cognitive changes (10-20)	4	9.8
Severe cognitive changes (up to 9)	3	7.3

disorder in dialysis patients. It showed that 51.2% were not depressed, 12.2% were mildly depressed, whereas 36.6% were severely depressed (table-2). This finding shows considerably higher ratio of depression in dialysis patients as compared to the general population (10.4% to 17.9%). In our study depression was more prevalent in male (76.9%) population as compared to the female (71.4%) population.

In a Turkish study conducted by Soykan, the prevalence of depression was found to be (32%) in the patients group and (17%) in the general population¹². Kimmel et al¹³ reported depression at (25%) using a stringent cutoff of the BDI. The rate of anxiety disorders (27%) was somewhat higher than the expected rate (18%) on the basis of the National Co-morbidity survey¹⁴. In previous studies both depression and anxiety were reported to be more frequent in females than males^{10,11,15,16} In our study male population was more depressed contrary to the previous studies. The slightly increased ratio of

male population suffering from depression is due to the cultural variation. As in our society male has prominent role to play in the family's financial matters, providing security, decision making and overcoming the daily hassles of life.

It has been similarly reported in the literature that depression is frequently neglected in these patients and remains undiagnosed unless it is specifically addressed^{10,11}. This may be due to the predominance of physical symptoms in these patients. Symptoms such as fatigue, anorexia, sleep disorder and reduced libido in patients with depression are nonspecific and co-morbid conditions that may cause diagnostic difficulties by masking or simulating depression symptoms^{8,15}. Psychiatric problems of patients can be detected earlier by dialysis nurse who have a more intimate relationship with ESRD patients¹⁷.

In our study the cognitive changes were found in up to 29.3% of patients which varied in

intensity from mild, moderate and severe impairment in all such cases. The prevalence of cognitive impairment in the frequent hemodialysis network (FHN) was comparable to previous community-based studies of patients on dialysis after accounting for age differences. For example, in a study of 338 patients on hemodialysis over the age of 55, Murray et al¹⁸ estimated severe cognitive impairment was present in 37% of the study sample. Using a screening test for cognitive impairment in 336 patients on hemodialysis with a mean age 59 years, Sehgal et al¹⁹, reported cognitive impairment was present in 22% of patients.

In male population mild cognitive changes were in (57.1%), moderate cognitive changes in (14.3%) and (28.6%) had severe cognitive changes. Whereas in female population, (20%) had mild cognitive changes, (60%) had moderate and (20%) had severe cognitive changes. The result showed that severe cognitive changes have affected the male gender more as compared to female. The diagnosis of cognitive changes is important because this is associated with an increased risk of death in dialysis patients and with a decreased quality of life in this population²⁰. Cognitive changes are often not detected by the clinician and cognitive assessment should be included in routine evaluation of elderly patients with renal failure, with potential implications for the treatment and quality of treatment for these patients²¹.

CONCLUSION

Our result shows that Anxiety, Depression and Cognitive changes were highly prevalent in hemodialysis patients. More than one third of the patients (37%) in this study were suffering from anxiety, depression and cognitive changes. The gender difference showed male population more severely affected by these changes. Anxiety, depression and cognitive changes which are often omitted by patients and their family, are overlooked and neglected by the physicians as well.

Psychiatric assessment of patients undergoing hemodialysis treatment in order to

detect symptoms of mental disorders and to initiate appropriate treatment programs will both facilitate psychosocial adaptation of the patients and reduce treatment-related costs by increasing treatment success and decreasing hospitalizations.

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