

# Study of Psychiatric Morbidity among Patients with End-Stage Renal Disease Receiving Haemodialysis in a Tertiary Health Care Institute

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## Abstract

**Background:** There has been an increase in the global burden of chronic kidney disease. India especially has to face the brunt of this problem due to factors such as increased life expectancy and a recent epidemic of type-2 diabetes mellitus. Patients with End Stage Renal Disease (ESRD), have to depend on renal replacement therapy for their survival. ESRD is a multifaceted problem having medical and psychological consequences. Psychiatric problems like depression and anxiety are especially common among ESRD patients being treated with haemodialysis. A presence of psychopathology among these patients is associated with poor outcome. **Aim:** The aim of this study was to find out the prevalence of psychiatric illness among ESRD patients who are being treated with haemodialysis. **Setting and Design:** A cross sectional study was conducted in a haemodialysis unit of a tertiary health care institute. **Material and Method:** Seventy four ESRD patients on maintenance haemodialysis were selected. They were interviewed using a special proforma and screened using the Mini -international Neuropsychiatry interview English Version 6.0.0. **Statistical Analysis Used:** The data was analysed using SPSS version 19 & EPI INFO software. **Result:** Psychopathology was found in 52.70% of the study population. Depression was the most common psychiatric illness found followed by generalized anxiety disorder. **Conclusion:** Patients on haemodialysis should be routinely screened for psychological disturbances and psychiatric morbidity to diagnose underlying mental illness.

**Keywords:** Psychiatric morbidity, End Stage Renal Disease (ESRD), Haemodialysis

## 1. Introduction

ESRD represents a clinical state or condition in which there has been irreversible loss of endogenous renal functions, of a degree sufficient to render the patient permanently dependent upon renal replacement therapy (dialysis or transplantation) in order to avoid life threatening uraemia<sup>1</sup>. Patient has to depend on machine and health care professionals for their life, no other medical illness is as debilitating as ESRD<sup>2</sup>.

Haemodialysis is a lifelong treatment that negatively affects patients physical and mental health<sup>3</sup>. Depression and anxiety disorders are common psychiatric problems in haemodialysis<sup>4-5</sup>. Patients on maintenance haemodialysis have also been found to have an increased suicidal risk as compared to general population<sup>6</sup>. The various psychiatric consequences associated with haemodialysis can vary from treatment non adherence to increased mortality<sup>7</sup>.

Considering the above mentioned finding it was deemed to examine the prevalence of psychiatric morbidity in a group of ESRD patients who were on haemodialysis.

## 2. Material and Methods

This study was undertaken in the Outpatient department of Psychiatry of Dr Vasant Rao Pawar Medical College Hospital and Research Centre, Nashik after approval from the institutional ethics committee. The study was conducted over a period of 18 months. ESRD patients on maintenance haemodialysis in the age group of 18-75 years were selected for the study. Patients who were not in clear sensorium and unable to give consent were excluded from the study.

The study population consisted of 74 ESRD patients on maintenance haemodialysis in a tertiary health care

centre. A patient proforma was prepared for collecting the demographic details, medical history and the mental status examination of these patients. The study subjects were then screened using the Mini-international Neuropsychiatry interview English Version 6.0.0 to identify psychopathology<sup>8</sup>.

The data obtained was pooled, tabulated and subjected to statistical analysis using the Statistical Package for Social Sciences, Version 19.0 and tests of significance using EPI INFO software were used.

### 3. Results

Seventy-four ESRD patients took part in the study. Table 1 shows socio-demographic profile and psychiatric morbidity of the study population. No significant relationship was found between socio-demographic factors and psychiatric morbidity among patients on maintenance haemodialysis.

**Table 1.** Demographic profile and psychopathology of study population

Variable	Total Psychiatric Morbidity	No psychiatric morbidity	Total	Statistical Analysis
AGE				
20-30	5	3	8	Because of small sample size statistical test is not applicable
30-40	14	9	23	
40-50	7	7	14	
50-60	5	8	13	
60-70	6	5	11	
70-80	2	3	5	
AGE				
Male	31	32	63	Chi Square value $X^2 = 0.14$ $p > 0.05$ (not significant)
Female	8	3	11	
MARITAL STATUS				
Married	37	34	71	Because of small sample size statistical test is not applicable
Unmarried	0	1	1	
Widowed	2	0	2	
EDUCATION				
Primary	5	4	9	Because of small sample size statistical test is not applicable
Secondary	19	17	36	
Higher secondary	3	5	8	
Graduate	5	2	7	
illiterate	7	7	14	
RELIGION				
Buddhist	1	0	1	Because of small sample size statistical test is not applicable
Hindu	32	33	65	
Muslim	6	2	8	
TYPE OF FAMILY				
Extended	13	10	23	Chi Square value $X^2 = 0.56$ $p > 0.05$ (not significant)
Joint	8	11	19	
Nuclear	18	14	32	
LIVING SITUATION				
Rural	27	24	51	Chi Square value $X^2 = 0.95$ $p > 0.05$ (not significant)
Urban	12	11	23	
ANNUAL INCOME				
10000-50000	35	28	63	Because of small sample size statistical test is not applicable
50000-100000	2	6	8	
100000-150000	0	0	1	
150000-200000	1	0	1	
250000-300000	1	0	1	

**Table 2.** Psychiatric morbidity according duration of treatment

DURATION SINCE HD	PSYCHIATRIC MORBIDITY			Total	
	MDD	MDD, GAD	Total Psychiatric morbidity		No psychiatric morbidity
upto 1 year	7 (41.17%)	0	7 (41.17%)	10	17
1-2 years	13 (65.00%)	1 (5.00%)	14 (70.00%)	6	20
2-3 years	6 (40%)	1 (6.66%)	7 (46.66%)	8	15
3-4 years	3 (42.85%)	0	3 (42.85%)	4	7
>= 4 years	8 (53.33%)	0	8 (53.33%)	7	15
<b>Total</b>	<b>37</b>	<b>2</b>	<b>39</b>	<b>35</b>	<b>74</b>

No statistically significant association between psychiatric morbidity and duration of haemodialysis was found. ( $P>0.05$ ) (Table 2).

## 4. Discussion

The present study consisted of 74 patients with End Stage Renal Disease being treated by haemodialysis. Majority of patients belonged to 30 to 40 years age group (31.08%), mean age (SD) of patients being 45.54 (14.21) male patients (85.14%), married (95.95%), educated up to secondary school (48.65%), belonged to Hindu community (87.84%), came from nuclear families (43.24%), living in rural area (68.92%), had annual income between 10,000 to 50,000 rupees.

A study by Al Dukhayel et al<sup>9</sup> of depression in haemodialysis patient noted mean age (SD) of the patient to be 46.55 (12.09).

A study by Muhammad et al. in haemodialysis patient also found the mean age of the patient to be 49 years, and majority of patients in study were males.

Similarly, Chandrashekhar et al found male preponderance among haemodialysis patients.

In this study, it was found that the trend of psychiatric morbidity was more in young patients belonging to age group 20-30 years (62.50%). A study by Diale NNN et al., of depression in haemodialysis patients found that depression was more common in patients who were younger than 30 years<sup>10</sup>.

In this study, trend of psychiatric morbidity was found to be higher among female patients (72.72%). Depression as well as the severity of depression was more common in females. Similarly, a study of depression in haemodialysis patients by Diale NNN et al., also found that depression was more common among females<sup>10</sup>.

In this study, psychiatric morbidity was also found to be higher among graduate patients (71.42%). A study by Pramiladevi R et al., of depression in haemodialysis in their study noted that depression was more common in patients who were educated more than 12<sup>th</sup> std. Authors

attributed this trend to the fact that higher education can lead to increased thinking about illness which increases the risk of depression among these patients<sup>11</sup>.

In the present study, trend of psychiatric morbidity was found to be higher in Muslim patients (75%). No useful studies were found regarding religion wise psychiatric morbidity.

In this study, psychiatric morbidity was also found to be higher in widowed patients (100%). A study of depression in chronic renal disease by Savitha et al., found that trend of depression was higher in widowed patients<sup>12</sup>.

In the present study, trend of psychiatric morbidity was lower in patients who were living in joint families (42.10%) A study by Khaira A et al., similarly found that social support as seen in joint families was associated with less depression in patients who were being treated by haemodialysis<sup>13</sup>.

In present study trend of psychiatric morbidity was found to be more in patients living in rural area (52.94%). Diale NNN et al., in their study noted that depression was higher in patients living in rural area<sup>10</sup>.

In the present study, trend of psychiatric morbidity was found to be higher in patients who had annual income less than 50,000 rupees (55.55%). A study in kidney disease patients by Savitha R Sanathan et al., noted that depression was more common in patients who were from a lower socio-economic group<sup>12</sup>.

A study by M. L. Patel et al., in their study noted that there was no significant association between psychiatric morbidity and duration of illness<sup>14</sup>.

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