

# Prevalence of Psychiatric Morbidity in Renal Recipient Candidates: A Tertiary Care Hospital-based Study

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## ABSTRACT

**Objective:** To assess prevalence of psychiatric morbidity in patients suffering from end stage renal disease and undergoing evaluation for renal transplant

**Materials and methods:** A cross-sectional study was conducted on 45 patients with ESRD who were seeking renal transplant and undergoing pre-transplantation evaluation process. General health questionnaire (GHQ-12) was applied to detect any psychopathology in participants and final diagnosis was made on the basis of ICD-10 diagnostic criteria. The data thus generated was subjected to appropriate statistical analysis.

**Results:** Out of the 45 patients, 77.78 % had psychiatric morbidity. The most common diagnosis amongst the participants was depressive disorder (20%), followed by adjustment disorder (17.78%), generalized anxiety disorder (15.56%), dysthymia (13.33%), panic disorder (8.9%) and OCD (2.22%).

**Conclusion:** Early diagnosis and treatment of psychiatric comorbidity in these patients can have significant positive impact on outcome of renal transplantation.

**Keywords:** ESRD, Psychiatric morbidity, Psychopathology, Renal recipients

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## INTRODUCTION

Chronic renal disease is rapidly growing global health burden which affects 8-16% population globally with approx. 735,000 deaths per year.<sup>1</sup> In India, the prevalence of End stage renal disease (ESRD) is 4% to 17.2% with incidence between 151 to 232/million population.<sup>2</sup>

ESRD is being the terminal stage of chronic renal disease and among all treatment options of RRT available, renal transplant is most cost effective as treatment option.<sup>3</sup>

It is estimated that about 150,000 people in India require renal transplantation every year but only 1 in 30 people are able to receive it. 90% people on the waiting list die without getting it because of gross mismatch between both demand and supply.<sup>4</sup>

Decision about transplantation is itself accompanied with inner conflicts, fear of death, uncertainty about timely transplantation and triggered emotional instability in this phase of the illness<sup>5,6</sup> Also, various psychiatric disorders such as generalized anxiety, episodes of panic attack, social phobia, depression, personality disorder can occur in end stage renal diseases patients while they are under evaluation process for transplant.<sup>7</sup>

In this study, our aim was to assess the psychiatric morbidity among ESRD patients currently undergoing the dragging stressful evaluation period for renal transplant.

## MATERIALS AND METHODS

### Study Design

Present study is a descriptive, cross-sectional, tertiary care hospital based study done using nonrandomized convenient sampling method and was duly approved by the institutional research ethics committee.

A total of 45 participants who were suffering from ESRD and referred for a psychiatric evaluation at to psychiatry OPD for pre

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transplant evaluation were enrolled (41 men and 4 women; mean age 32.76 ±9.18 yrs) after obtaining written informed consent from each participant.

Participants with age <18 and >60 years, or with coexisting medical illnesses other than renal disease such as ischemic heart disease, diabetes, asthma, hepatitis, coexisting infections, head injuries or any past or family history of psychiatric disorders were excluded from the study. Data was collected using self-designed performa covering socio-demographic details, illness characteristic.

All the participants under the study were assessed using general health questionnaire. The general health questionnaire (GHQ) is a self-administered screening questionnaire, developed by David Goldberg in 1974, one of the first mental screening devices for medical and surgical settings aimed at detecting individuals with a diagnosable psychiatric disorder. All the subject who scored high on GHQ were interviewed in details and a psychiatric diagnosis were made according to ICD-10. The data thus generated was subjected to statistical evaluation using SPSS 25. Descriptive statistics, in terms of percentage were used to describe the categorical variable.

**Table 1:** Socio-demographic and mean clinical scores of study group

| Variables             | Renal Recipient (n-45, f%) |
|-----------------------|----------------------------|
| Sex                   |                            |
| Male                  | 41 (91.1)                  |
| Female                | 4 (8.9)                    |
| Religion              |                            |
| Hindu                 | 41 (91.1)                  |
| Muslim                | 4 (8.9)                    |
| Marital status        |                            |
| Married               | 36 (80)                    |
| Unmarried (Single)    | 9 (20)                     |
| Domicile              |                            |
| Rural                 | 38 (84.4)                  |
| Urban                 | 7 (15.6)                   |
| Education             |                            |
| Uneducated            | 1 (2.22)                   |
| Middle                | 13 (28.9)                  |
| Secondary             | 10 (22.2)                  |
| Graduate              | 21 (46.7)                  |
| Occupation            |                            |
| Unemployed            | 3 (6.7)                    |
| Labor work            | 1 (2.2)                    |
| Agriculture           | 11 (24.4)                  |
| Professional          | 8 (17.8)                   |
| Business              | 3 (6.7)                    |
| Student               | 8 (17.8)                   |
| Housewife             | 2 (4.4)                    |
| Others                | 9 (20)                     |
| Income per month (rs) |                            |
| <5000                 | 8 (17.8)                   |
| 5000-10000            | 15 (33.3)                  |
| 10000-20000           | 12 (26.7)                  |
| >20000                | 10 (22.2)                  |
| Duration of illness   |                            |
| <1 year               | 13 (28.9)                  |
| 1 to <2 years         | 11 (24.4)                  |
| 2 to <3 years         | 7 (15.6)                   |
| 3 to <4 years         | 9 (20)                     |
| >4 years              | 5 (11.1)                   |

## RESULTS

Study group consisted of 41 males and 4 female patients with a mean age of 32.76±9.18 years. About 80% of the participants were married, 84.4% were from rural background, 97.78% were literate, and 17.8% of patients were having income below 5000 rupees per month.

In 53.33% participants duration of illness was <2 years (Table 1).

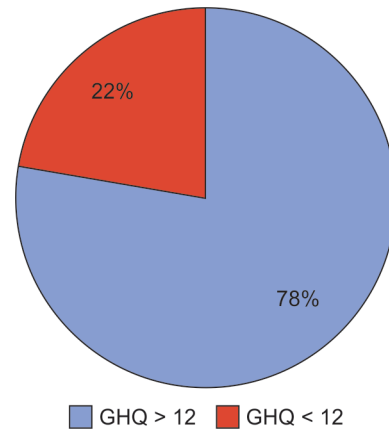
In our study, out of 45 renal recipient, 35 (78%) participants had GHQ score >12 while only 10(22%) participants had GHQ score >12 (Fig. 1).

The most common comorbid psychiatric diagnosis observed amongst the renal recipient participants was depressive disorder in 9 (20%) patients. Adjustment disorder was the second most commonly observed diagnosis in 8 (17.78%) patients.

Generalized anxiety disorder was observed in 7 patients (15.55%, Dysthymia in 6 (13.33%), Panic Disorder in 6 (8.9%) and OCD in 1 (2.2%) patient (Table 2).

## DISCUSSION

According to literature, renal transplant is more common option in younger age group while dialysis is a preferred option in elderly



**Fig. 1:** Distribution of GHQ score

**Table 2:** ICD -10 diagnosis in renal recipient having psychiatric morbidity

| ICD-10 Diagnosis                      | Renal recipient n (%) |
|---------------------------------------|-----------------------|
| Depressive disorder                   | 9 (20%)               |
| Adjustment disorder                   | 8 (17.78%)            |
| Generalized anxiety disorder (GAD)    | 7 (15.55%)            |
| Persistent mood disorder ( Dysthymia) | 6 (13.33%)            |
| Panic disorder                        | 4 (8.9%)              |
| Obsessive compulsive disorder         | 1 (2.22%)             |
| Total                                 | 35 (77.78%)           |

patients.<sup>8</sup> In our study also, majority of the patients opting for renal transplant belong to a comparatively younger age group.

Although, prevalence of leading indications to renal transplant is equal in both sexes.<sup>9</sup> There appears to be skewed gender distribution among patient with ESRD seeking renal transplant as female patients are less likely to receive a renal donor worldwide.<sup>10-12</sup> Similar trend was observed in our study also where majority of participants were male (91.1%).

The high prevalence of rural participants (84.4%) may be because this institute is located in outskirts of city which is more approachable for rural population.

Approx. 98 percent participants were educated at least up to middle school. Among these 46.7 % graduated and only one pt. was illiterate. So, it may indicate that high education level found to be in favour of renal transplant than lower education level.<sup>11</sup>

Psychiatric disorders commonly co-exist with the diagnosis of chronic kidney disease (CKD) and ESRD.<sup>13-15</sup> In this study also 77.78% ESRD of participants had psychiatric morbidity and our results of high psychiatric morbidity in renal transplant candidates are in line with previous research.

About 20% of participants were suffering from depressive disorder and around 13.33% had dysthymia. Anxiety disorder was observed in 24% patients out of which 15% had generalized anxiety disorder (15.55%) and 9% panic disorder. Similar results were also reported by other study in which depression and anxiety exhibited in 23% patients and 22% respectively.<sup>16</sup>

Adjustment disorder in these patient groups constitutes an important part of psychiatric morbidity. As end stage renal disease is a debilitating condition which is associated with impairment in coping skills, it may further lead to adjustment issue with ongoing hemodialysis, fear about not being included in waiting list and

uncertainty about timely transplantation and risk of threatened rejections.<sup>8,17</sup>

Presence of OCD in one participant was an interesting finding. According to one study, obsessive-compulsive symptoms may constitute an important aspect of the psychiatric profile of ESRD patients undergoing hemodialysis and need further evaluation.<sup>18</sup>

Looking at the findings of our study, significant proportion of psychiatric morbidity was observed among these patients. From this we can also state importance and need to consider for psychiatric assessment for early detection of psychiatric disorders in these patients.

There is also a need to conduct longitudinal study with a larger sample size in these patients to see the nature and extent of prevailing morbidity to trace its developmental course and study its psychosocial determinants which are known to contribute to psychiatric disorders.

The major limitation of our study was its cross-sectional design. A longer period of observation would have given us a better picture of the role of psychiatric morbidity in post-RT renal function and overall outcome. This also limits the study as a hypothesis on the possible causes of psychiatric comorbidities could not be proposed. Furthermore, small sample size limits its use in larger scale. Addressing these limitations might come out with more interesting findings.

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