



## “MENTAL HEALTH ASSESSMENT OF CHRONIC KIDNEY DISEASE PATIENTS ON HEMODIALYSIS”

### Medicine

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### KEYWORDS

#### INTRODUCTION:

Approximately 7.85 million Indians are estimated to be suffering from chronic or end stage kidney disease (CKD).<sup>1</sup> Among these, patients on dialysis are generally found to experience a feeling of dependence and apathy, not just because of the severity of the illness but also due to the debility associated with it. With worsening of the disease process and onset of dialysis, major disruptions are brought about in a person's daily routine and lifestyle. Associated with this is the fear of disability and reduced lifespan. Hence, anxiety and depression are seen to affect the patients' mental health.

Depression is a broad term and a proper distinction is rarely made between levels of depressive affect and the diagnosis of a psychiatric disorder per se.<sup>2,3</sup> Studies show that prevalence of depression and anxiety in patients with chronic kidney disease varies between 0 and 100%, depending on various factors such as age, degree of illness, race and even the screening tool chosen for the study.<sup>4,5</sup>

In the past decade many studies have been conducted to elicit depression in patients on long term hemodialysis.<sup>6,7</sup> These studies have found that depression is a significant risk factor for mortality and morbidity among chronic kidney disease patients receiving frequent hemodialysis.<sup>8,9</sup> Drayer et al have estimated that patients with chronic kidney disease with depression have 4.1 times the mortality rate than those without depression.<sup>10</sup> Einwohner et al showed a similar finding of elevated risk of morbidity and mortality in patients on dialysis who were diagnosed with depression.<sup>11</sup> Other studies in the past have linked higher rates of suicide among depressed individuals. In some countries a death rate of 0.2% is prevalent per 1000 dialysis patients-years at risk.<sup>12</sup> Cukor et al have reported that depression is an independent risk factor for nonadherence and non compliance with medications in CKD patients undergoing frequent dialysis.<sup>13</sup>

#### OBJECTIVES:

- 1) To describe mental health of patients with CKD undergoing hemodialysis.
- 2) To correlate mental health of the patient with socioeconomic status.

#### METHODOLOGY:

- **Study design** -Prospective study
- **Study population** – 120 patients with CKD and undergoing hemodialysis at Father Muller Medical College Hospital.
- Inclusion criteria:
- CKD (stages 4 and 5) patients on hemodialysis
- Exclusion criteria:
- CKD stages I/II/ III
- Patients unwilling to participate in the study

#### Study tools:

- A preformed questionnaire regarding demographic details and details regarding onset and duration of CKD and hemodialysis.
- The 14 item Hospital Anxiety and Depression Scale (HADS) for screening for mental health disorders.
- Higher scores will suggest higher levels of anxiety or depression.

Data collected will be tabulated and analyzed using SPSS software Version 15.0. Chi Square, Fisher's Exact test and unpaired t-test will be used as tests of significance.

#### IMPLICATIONS:

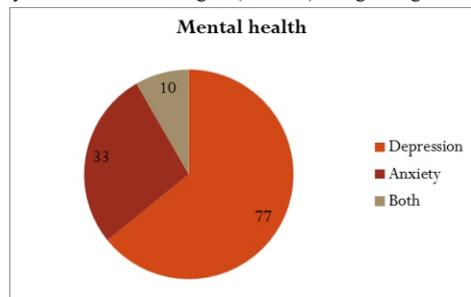
Depression is known to be prevalent in patients with chronic diseases requiring frequent hospital visits and multiple medicines. Severe forms of depression may be linked with excess morbidity and mortality. It is likely that early screening and diagnosing, with initiation of treatment and counseling to manage depression early in these patients can help improve their quality of life. Several studies have been performed in the past to determine the same using various other screening tools to diagnose depression in patients with chronic kidney disease. This study is aimed at eliciting mental health of patients on hemodialysis in a tertiary care centre in Mangalore by screening for anxiety and depression using the HADS questionnaire.

**RESULTS:** 72(60%) of the study subjects were males and the remaining 48(40%) were females. Mean age of the dialysis patients was 59.3 years. At the time of interview, 52 (43.33%) had been newly started on dialysis with the remaining 68 (56.66%) being on regular dialysis. Our study found that 87 (72.5%) of these patients suffered from depression and 43(27.5%) from anxiety in varying forms of severity (mild/moderate/severe). 10 (8.33%) of these patients suffered from both. There was no statistically significant difference in mental health in terms of gender or age. However, lower socioeconomic status was found to be significantly associated with anxiety and depressive disorders among CKD patients in our study

**Table 1: Distribution of subjects based on age and gender**

| Age group    | Males     | Females   | Total      |
|--------------|-----------|-----------|------------|
| 31-40 yrs    | 5         | 4         | 9          |
| 41-50 yrs    | 18        | 9         | 27         |
| >51 yrs      | 49        | 35        | 84         |
| <b>Total</b> | <b>72</b> | <b>48</b> | <b>120</b> |

- The patients were on regular hemodialysis sessions ranging from 2-3 times per week
- Duration of each sessions being 4 to 6 hours respectively. As shown in Table 1,
- Majority 84 (70%) of the study subjects were >51 years of age
- Mean age of the patients was 59.3 years.
- 72(60%) of the study subjects were males and the remaining 48(40%) were females.
- At the time of interview, 52 (43.33%) had been newly started on dialysis with the remaining 68 (56.66%) being on regular dialysis

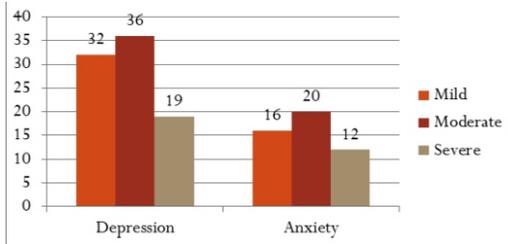


**Fig 1: Mental health of CKD patients on hemodialysis**

- Our study found that 87 (72.5%) of these patients suffered from

depression and 43(27.5%) from anxiety in varying forms of severity (mild/moderate/severe)(Table 2).

- 10(8.33%) of these patients suffered from both.
- Similar to the findings of a study by Rana R et al<sup>14</sup> and Cukor D et al<sup>3</sup>



**Fig 2: Severity of anxiety and depression among the patients on hemodialysis**

Our study found that 87 (72.5%) of these patients suffered from depression and 43(27.5%) from anxiety in varying forms of severity (mild/moderate/severe) (Table 2).

|                     |           | HADS score |     |     | Total | p value |
|---------------------|-----------|------------|-----|-----|-------|---------|
|                     |           | <15        | >15 |     |       |         |
| Age of the patients | <50 years | 16         | 20  | 36  | 0.515 |         |
|                     | >50 years | 32         | 52  | 84  |       |         |
| Total               |           | 48         | 72  | 120 |       |         |

**f. =1, X<sup>2</sup>=0.423, p=0.515; not significant**

- Mental health and age of the patient were negatively correlated. All patients irrespective of their age group suffered from psychiatric morbidity
- Similar to a study conducted by Jadhav BS et al<sup>15</sup>

|                     |        | HADS score |     |     | Total | p value |
|---------------------|--------|------------|-----|-----|-------|---------|
|                     |        | <15        | >15 |     |       |         |
| Sex of the patients | Male   | 30         | 42  | 72  | 0.648 |         |
|                     | Female | 18         | 30  | 48  |       |         |
| Total               |        | 48         | 72  | 120 |       |         |

**d.f.=1, X<sup>2</sup>=0.208, p=0.648; not significant**

- Both male and female patients who were on dialysis had psychiatric morbidity due to their illness.
- Hence gender was found to have a negative correlation with mental health

|                      |        | HADS score |     |     | Total | p value |
|----------------------|--------|------------|-----|-----|-------|---------|
|                      |        | <15        | >15 |     |       |         |
| Socioeconomic status | Upper  | 12         | 10  | 22  | 0.156 |         |
|                      | Middle | 11         | 35  | 46  |       |         |
|                      | Lower  | 25         | 27  | 52  |       |         |
| Total                |        | 48         | 72  | 120 |       |         |

**d.f.=2, X<sup>2</sup>=8.313, p=0.156; significant**

- Socioeconomic status was assessed by B.G. Prasad SES scale.
- Lower SES was found to be positively correlated with depression and anxiety.
- Similar to the findings of a study by Jadhav BS et al<sup>15</sup>
- All (100%) of the patients on hemodialysis were found to have some form of psychiatric morbidity in the form of anxiety or depression.
- There was no statistically significant difference in mental health in

terms of gender or age.

- However, lower socioeconomic status was found to be positively correlated with anxiety and depressive disorders among CKD patients in our study.

**Conclusion**

- Chronic kidney disease is a major cause of morbidity and mortality.
- Prevalence of psychiatric co morbidities such as anxiety and depression in addition is seen to be higher among this group of affected individuals.
- This association of anxiety/depression with CKD is mainly due to emotional factors, and increased level of dependency on caregivers
- Financial difficulties are also contributory.
- Psychological intervention and counseling could serve as a guide in early diagnosis and initiation of treatment of anxiety and depression in these patients which could lead to a better outcome and prognosis.

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