

## Research Article

# Assessment of Depression among End Stage Renal Disease Hemodialysis Patients at the National Ribat University Hospital and Ibn Sena Specialized Hospital (July-2017)

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## Abstract

**Introduction:** End-Stage Renal Disease (ESRD) disease is a public health problem worldwide that is highly associated with psychological disorders particularly in those treated with hemodialysis. The worldwide commonest psychological disorder encountered in them is depression.

**Objectives:** This study was aimed to assess the mood and depressive symptoms in hemodialysis patients admitted at the National Ribat University Hospital and Ibn Sina Specialized Hospital.

**Methodology:** It is a cross-sectional prospective study conducted at hemodialysis units of National Ribat University Hospital and Ibn Sina Specialized Hospital. One hundred twenty patients undergoing regular hemodialysis for more than six months were included in the study. The Beck's Depression inventory scale was used. It's a self-administered psychometric test for measuring the severity of depression and commonly used in general population and primary care. Statistical analysis was performed using SPSS version 25.0. A verbal consent from any patient after explaining the purpose of the study. Ethical approvals were taken from the National Ribat University Hospital and Ibn Sena Specialized hospital.

**Results:** One hundred-twenty patients were enrolled which included forty (66.7%) were male and twenty (33.3%) were females. The prevalence of depression among patients was 41%. The prevalence of severe, moderate and mild depression was 6.6%, 23.3% and 11.7% respectively.

**Conclusion:** The results of this study showed that depression is common among dialysis patients as in other countries. So Early diagnosis and effective treatment of depression can improve quality of life, prognosis, and survival of patients.

**Keywords:** ESRD; Depression; Renal dialysis; Hemodialysis

## Introduction

End-Stage Renal Disease (ESRD) is a chronic, deadly disease, with a glomerular filtration rate of 15 mL/min/1.73 m<sup>2</sup>. This disease affects most, if not all, body systems, where a study found that ESRD patients have different symptoms in the following order: fatigue was 71%, pruritis was 55%, constipation was 53%, anorexia was 49%, pain was 47%, sleep disturbance was 44%, where as anxiety, shortness of breath, nausea and depression were 38%, 35%, 33% and 27%, respectively [1].

They are a significant segment of chronic renal failure patients, with a 4-fold increase from 100,000 to 400,000 over the past 20 years [2]. The incidence of complications during renal dialysis was

estimated at about 41% [3]. One of these complications is depression. Depression is one of the most serious complications for ESRD patients, and it is that a large proportion of people with it resort to suicide to end their suffering [4]. It is also a problem that the ignoring may have serious consequences.

In addition, depression in ESRD patients is difficult to determine because its symptoms interfere with the uremia. Depression during hemodialysis may affect the patient's response to treatment that may reach the withdrawal stage. This makes matters worse, and makes the likelihood of death even higher. Indeed, one study reported that the prevalence of depression in ESRD patients was unidentifiable, but a study found that the percentage of depression features in renal dialysis patients was 44% [5,6].

We have noticed that statistics seem high, and the consequences are serious. Unfortunately, few papers have studied this problem in the world at large, and in Sudan in particular. In this study, we aim to assess the prevalence of depression, and to determine its severity in renal dialysis patients at both the National Ribat University Hospital and Ibn Sina Specialized Hospital. This will be done using the Beck Depression Inventory scale. With this study, we are seeking to reinforce and clarify the hidden image of this problem, if we know about as much as we can, we can deal with it correctly and reduce it. We are also working to see its effects positively on the high mortality rate.

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## Materials and Methods

A descriptive hospital-based study, a convenient sample of 120 ESRD patients undergoing regular hemodialysis was recruited from two dialysis centers of National ribat university hospital, and Ibn Sina Specialized Hospital. The two centers are located in Khartoum city, Republic of Sudan. Participants are included if they ages between 18 and 85 years old, had a diagnosis of ESRD on more than 6 months of regular hemodialysis. Patients with any previously diagnosed Major psychiatric disorders were excluded.

Depressive symptoms were assessed using Beck Depression Inventory (BDI) Scale. It's a self-administered psychometric test for measuring the severity of depression and commonly used in general population and primary care. However, many studies has validated the use of BDI in dialysis population [1], with a documented 91% sensitivity and 86% specificity with optimal cut- off score of 16 greater for major depression [2].

### Data analysis

Statistical analysis was performed using SPSS version 25.0. Proportions of the studied groups were expressed in percentages and means were used to describe the studied variables, P value  $\leq 0.05$  was considered significant.

### Ethical considerations

A verbal consent from any patient after explaining the purpose of the study. Ethical approvals were taken from the National Ribat University Hospital and Ibn Sena Specialized hospital.

## Results

One hundred twenty patients were included in the study, majority of them from Ibn Sena Specialized hospital 60% and 40% from National Ribat University Hospital. The gender distribution figures showed male's dominance by 66.7% and females only measuring 33.3% of sample population (Figure 1). Regarding the occupations of the participants, 46.6% of them are Jobless, while 41.6% works in different jobs. Educational level among respondents were school level (primary or secondary) 63.3%, while 23.3% are university graduates or above and the rest was illiterate (Figure 2).

Using BDI scale, of 120 patients's fulfilling inclusion criteria 58.3% off sample population are classified as not depressed, 41.7% are depressed. While the severity of depression in those who were depressed was as following: out of 50 patients (41% of total population), 28 patients (56%) exhibited Moderate depressive symptoms, 14 patients (28%) were classified as mild depressive symptoms, only 8 patients (16%) of depressed population were suffering from severe depression.

Figure 3 shows that 46.6% of the participants are not working, while 41.6%working in different jobs such as officers, free workers... etc. Figure 4 explain the social status and results show that the majority {76.6%} are married. Prevalence of depression is 41.7% of participant's, while 58.3% have are not depressed (Figure 5) (Table 1).

## Discussion

In our sample of 120 hemodialysis patients, we found that 41% were experiencing depression of varying degrees of severity,11.6% of all sample moderate symptoms and 6.6% suffer from sever depressive symptoms assessed by Beck's Depression Inventory Scale (BDI). Also we noted that depressed patients experienced a relative decrease in health-related quality of life. The prevalence of depressive symptoms

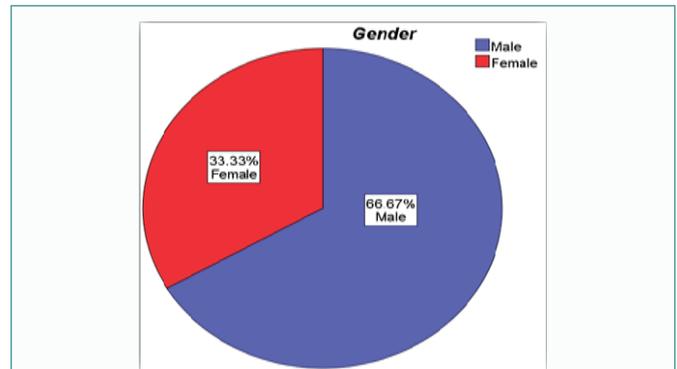


Figure 1: Gender distribution among hemodialysis patients in National Ribat University Hospital and Ibn sena specialized hospital in June, 2017. N=120.

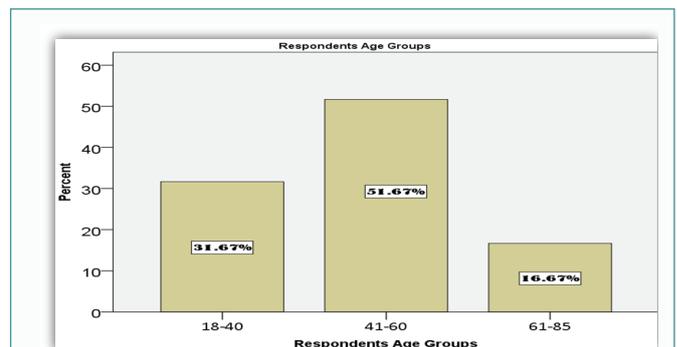


Figure 2: Age groups distribution among hemodialysis patients in National Ribat University hospital and Ibn sena specialized hospital in June, 2017. N=120.

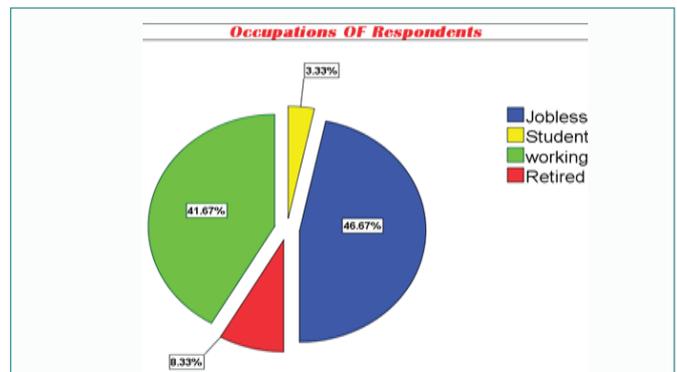


Figure 3: Occupations of the participants of hemodialysis patients in National Ribat University hospital and Ibn sena specialized hospital in July, 2017.

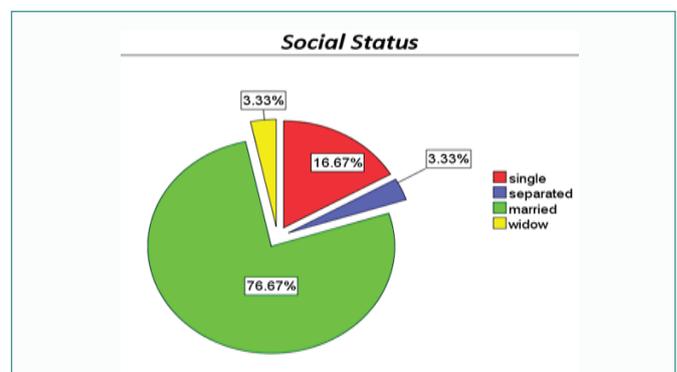
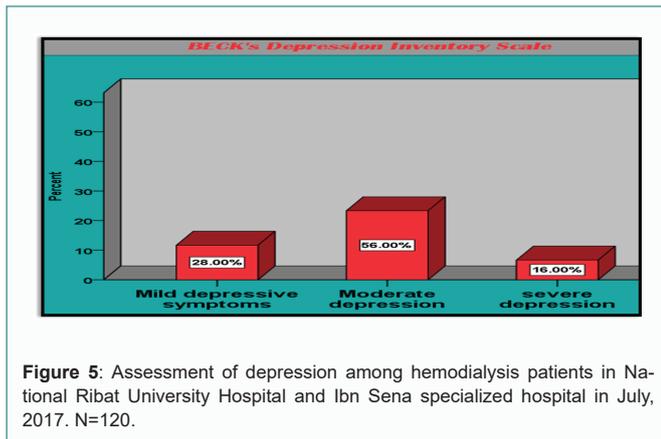


Figure 4: Marital staus of the participants of hemodialysis patients in National Ribat University hospital and Ibn sena specialized hospital in July, 2017.



**Figure 5:** Assessment of depression among hemodialysis patients in National Ribat University Hospital and Ibn Sena specialized hospital in July, 2017. N=120.

**Table 1:** Prevalence of depression in studied sample.

Depressed Patients	41.70%
Not Depressed Patients	58.30%

in our study among Sudanese patients was substantially extremely higher than reported in other countries around the world, particularly Taiwan (23.5% by MINI Neuropsychiatric Interview) [9], Turkey (33.8% by SCID), and the USA (25.5% to 28.0% by SCID) [9,10]. But it is important to know that the prevalence of depression varies with the diagnostic tool employed the population studied, the modality of ESRD therapy provided.

When looking for prevalence of depression in neighboring countries for example there are 4 studies performed in Saudi Arabia that has examined depression in dialysis patients. One of those studies done in 2001 involved 54 patients at a dialysis center in Abha. A psychiatrist screened patients for depressive symptoms using a clinician-rated symptom scale [11]. The Researchers reported that sadness was present in 59.5% of patients and 40.7% were "observed to be clinically depressed (although no criteria for being "clinically depressed" were mentioned). Depressed patients were those who had been on dialysis longer and engaged in less socialization. Also there is many important similar studies conducted in Iran [12] and Iraq [13] noting prevalence of depression that is higher than in our sample, so said above globally depression is documented among dialysis and ESRD patients but its prevalence rate was widely variable due to factors such as population studied, the screening tool, and other socioeconomic factors.

## Conclusion and Recommendations

- Depression in patients with ESRD is common and potentially devastating. However, despite its high rate and its clear association with negative health outcomes, it is often under recognized. There are patient, provider- and system level barriers to effective depression recognition and treatment in non-mental health settings.
- Compared to studies in other countries, the prevalence of Depression and depressive symptoms among hemodialysis patients in SUDAN is relatively higher. We think that this may be due to the economic and cultural factors that characterize our community and lack of good mental health care system for early diagnosis and treatment.

- In addition Giving that none of the patients in our study were being treated with antidepressant medication and no one of them were being treated with counseling or psychotherapy, also no one of them had thought of having mental trouble and seek mental health care for advice or counseling.
- The mediators that may underlie the deleterious effects of depression in ESRD patients, and their relationship with stage of renal dysfunction have not been delineated. More emphasis must be placed on well-designed survival analyses, in incident populations, using longitudinal study techniques.
- We recommend improving mental health care system and as general and expansion of mental health facilities capability and well training of its staff.
- Developing a more supported and good quality physical mental services provided to renal dialysis population. Developing special protocols for regular 6 monthly screening of depressive disorders among dialysis patients to prevent, early diagnose, and treat psychiatric and psychosocial consequences of ESRD and prolong stress.

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