

Research Paper

Depression, Anxiety and Suicidal Ideation Among Patients With Chronic Kidney Disease Undergoing Hemodialysis in Qazvin, Iran



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ABSTRACT

Background Patients undergoing hemodialysis are prone to psychiatric symptoms due to considerable changes in their individual, social and occupational life which can influence the course and prognosis of renal diseases.

Objective The aim of the present study is to evaluate the prevalence of depression, anxiety, and suicidal ideation among patients with chronic kidney disease undergoing hemodialysis in Qazvin, Iran.

Methods This descriptive cross-sectional study was performed on 120 patients with chronic kidney disease undergoing hemodialysis in Qazvin, Iran. Prior to study, their demographic and laboratory data were recorded. Dialysis adequacy was assessed using urea reduction ratio (URR) and KT/V formula. Data collection tools were Beck's Depression Inventory, Beck's Anxiety Inventory and Beck Scale for Suicidal Ideation. Collected data were analyzed using Pearson correlation test and t-test.

Findings The mean level of depression in patients was 13.72 where 79 (65.8%) had depressive symptoms. The severity of symptoms was mild in 47 (39.2%), moderate in 21 (17.5%), and severe in 11 (9.2%). Moreover, the mean level of anxiety was 9.73 where 16 (13.3%) had anxiety symptoms. Of 120 patients, only 8 (6.7%) had suicidal ideation. There was a significant negative association between dialysis adequacy and the severity of depression, anxiety and suicidal ideation. Anxiety symptoms were more frequent among unemployed patients, and the increase in age was associated with the increase in suicidal ideations ($P < 0.05$).

Conclusion Regarding the high prevalence of depressive symptoms and existence of anxiety symptoms in patients undergoing hemodialysis in Qazvin, assessment of these psychiatric disorders along with effective therapeutic interventions should be considered.

Extended Abstract

1. Introduction

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hronic kidney disease is one of the major public health problems worldwide and is

usually diagnosed as a silent disease in advanced stages; when hemodialysis and kidney transplantation are the only options [1, 2]. Chronic physical diseases can affect the patients' mental health. In this regard, the prevalence of psychiatric symptoms in various chronic physical diseases has been considered in recent years [4, 6]. Patients undergoing

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hemodialysis are prone to psychiatric disorders due to mobility limitations, stress of coping with disease, side effects of medications and comorbid diseases [7-10].

So far, a number of studies have investigated the prevalence of depression, anxiety, and suicidal ideation in patients undergoing hemodialysis. According to a meta-analysis, the overall prevalence of depression in hemodialysis patients in Iran is 63% [15]. The prevalence of depression is different in various parts of Iran. Najafi et al. in a study on 127 patients undergoing hemodialysis in Tehran found out that the prevalence of depression and anxiety among them were 31.5% and 41.7%, respectively [16]. Due to the significant differences in the results of previously conducted studies and the limited number of studies conducted in this area in Qazvin province, the present study aimed to investigate the prevalence of depression, anxiety, and suicidal ideation in hemodialysis patients in Qazvin, Iran.

2. Materials and Methods

This study is a descriptive cross-sectional study conducted on 120 patients with chronic kidney disease undergoing hemodialysis in Boali Sina Hospital in Qazvin. The inclusion criteria were: Having age >16 years, minimum basic literacy, history of hemodialysis for at least 6 months, three times a week, each for four hours. Demographic information of all participants was recorded as well as their laboratory data including hemoglobin and creatinine levels which were collected from their medical records. Dialysis adequacy was calculated using urea reduction ratio (URR) and KT/V formula. In the next step, all patients were asked to complete Beck's depression inventory (BDI), Beck's anxiety inventory (BAI) and Beck scale for suicidal ideation (BSSI). Collected data were analyzed using Pearson correlation test and T-test.

3. Results

Of 120 patients, 66 were males (55%), 88.3% married, and 11.6% single. The mean age of participants was 54.35 ± 17.99 years. The patients' mean BDI score was 13.72, where 65.8% had depressive symptoms. The severity of symptoms was mild in 39.2%, moderate in 17.5%, and severe in 9.2%. The mean BAI score of patients was reported 9.73, where 13.3% of them had anxiety symptoms of which 12.5% had moderate anxiety, and only 1 had severe anxiety. The mean BSSI score of patients was 1.31, where only 6.7% were at high risk for suicide; no patients had very high risk for suicidal attempt. Dialysis adequacy was significantly correlated with severity of depression, anxiety, and suicidal ideation ($P < 0.05$).

4. Discussion

The aim of this study was to determine the prevalence of depression, anxiety, and suicidal ideation in hemodialysis patients in Qazvin, Iran. The prevalence of depression was reported 65.8%, which was mild to moderate in the most patients. There are different rates of the prevalence of depression reported in various studies in Iran. For example, a meta-analysis conducted by Mirzaei et al. on the prevalence of depression in patients undergoing hemodialysis from 1998 to 2013, showed that the overall prevalence of depression was between 50% and 70%. In their study, the highest prevalence of depression was 93% in Sanandaj and the lowest prevalence rate was 28% in Tehran [15]. The difference in results observed in various studies can be due to differences in scales, sample size, study location, and socioeconomic status of patients. The overall results of all related studies, however, show a high prevalence of depressive symptoms in these patients [6].

The prevalence of anxiety in our study was 13.3%, which was mild to moderate in most patients. Few studies have investigated the prevalence of anxiety in patients undergoing hemodialysis [9, 15, 21]. In one study using the Cattell Anxiety Inventory, Hajseyed Javadi et al. reported the prevalence of anxiety in Qazvin as 52% [9].

In our study, only 6.7% of patients had suicidal thoughts. The relatively low prevalence of suicidal ideation in current study is consistent with the severity of mild-to-moderate depression in patients. Few studies have investigated suicidal ideation individually in patients undergoing hemodialysis. In a study on 180 patients, its prevalence in Sari City was reported 10.5% [23].

In our study, higher dialysis adequacy was associated with lower scores of depression, anxiety, and suicidal ideation. Most studies have examined the relationship between dialysis adequacy and quality of life and mortality rate; however, few studies have evaluated the association of dialysis adequacy with depression and anxiety [16, 27].

Najafi et al. showed no significant relationship among the dialysis adequacy, depression and anxiety, but Hashemi et al. in a study on 46 hemodialysis patients in Shirvan City, found a significant negative relationship between dialysis adequacy and depression scores [27].

The significant negative relationship of dialysis adequacy with depression, anxiety, and suicidal ideation in our study may indicate a link between dialysis adequacy and mental health; it is likely that patients with adequate dialysis may have decreased disease symptoms. They can perform better

and are therefore less likely to experience depression and anxiety [27].

The results of this study revealed the high prevalence of depressive symptoms and the existence of anxiety symptoms in hemodialysis patients in Qazvin. Evaluation of psychiatric symptoms, especially depression and anxiety should be considered in these patients along with therapeutic interventions if necessary.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Research Ethics Committee of Qazvin University of Medical Sciences (Code: IR.QUMS.REC.1396.95). Informed consents were obtained from all the participants.

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Authors' contributions

Methodology: Seyyed Hossein Ghafelehbash and Mohammad Ebrahim Sarichloo; Data analysis: Faezah Zahedian; Resources and initial draft preparation: Parisa Rahimi; Editing & Review, and Project administration: Faezah Zahedian.

Conflicts of interest

The authors declared no conflict of interest.

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