



Assessment of mental health and impact of patient counselling on quality of life of dialysis patients

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Abstract

Chronic renal disease patients undergoing hemodialysis may face several problems that increase their chance of developing psychological suffering as hemodialysis is a time-consuming process. This study was conducted to assess the prevalence of psychiatric illness and to evaluate the impact of patient counselling on the quality of life. A total of 135 patients undergoing hemodialysis for more than 3 months were enrolled in the study. Patients who were exposed to hospitalization, recent trauma, or major surgeries, and who were on antipsychotic drugs before onset of renal disease were excluded. The Depression, Anxiety, and Stress Scale was used to assess the prevalence and level of depression, anxiety, and stress in hemodialysis patients. From the study population, 62.9% of patients had depression, 39.2% had stress, and 22.2% had anxiety. The patients with depression, anxiety, and stress had worse scores on all domains of the QoL questionnaire. Depression, anxiety, and stress were negatively correlated with quality of life.

Keywords: Depression; Anxiety; Stress; Chronic Kidney Disease; Hemodialysis; Quality of Life

1. Introduction

The functional ability of the kidneys deteriorates to variable degrees in chronic renal disease (CRD). End-stage renal disease (ESRD) is the final stage of this condition, at which point hemodialysis (HD) therapy is required for the patient's survival. Patients and their families must bear a heavy burden as a result of this therapy option, which can be made worse by many consequences. Additionally, dietary limitations and the illness itself can have an impact on a patient's mental health and lower quality of life (QOL) [1]. Increased morbidity and mortality among these patients are correlated with these issues [2].

ESRD patients' emotional well-being has been demonstrated to suffer as a result of hemodialysis. Depression, anxiety, exhaustion, a decrease in quality of life, and an increased risk of suicide are typical psychological issues [3]. One of the most common health conditions affecting survival in individuals receiving maintenance hemodialysis is the incidence of psychological disorders. Identifying the relative causes of psychological problems in this population and then implementing remedies may help improve treatment outcomes for those patients, lowering their medical expenses [2]. Psychological issues represent one of the most common health problems affecting the QOL in patients with ESRD undergoing maintenance hemodialysis. Therefore, improving the mental health status of those populations may help to improve the QOL among them [2,4]. The main objective of this study was to assess the prevalence of psychiatric illness and to assess the impact of patient counselling in QOL of patients undergoing dialysis [5].

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2. Materials and methods

The investigation consisted of a prospective cross-sectional study conducted for six months. The study included a total of 140 patients from both IP and OP with End Stage Renal Disease who were undergoing dialysis. Adult Patients aged between 20-85 years, both sexes receiving dialysis treatment for more than three months who consciously and voluntarily agreed to participate and gave informed consent were included in the study. Patients with any psychiatric illness before renal affection, ESRD patients who were treated by other than hemodialysis, Patients who were exposed to hospitalization, major surgeries, and recent trauma less than 6 months, Patients who were on antidepressant and antiepileptic drugs before the onset of renal disease and who were not willing to participate in the study were excluded. The study was approved by the Institutional Ethics Committee. The baseline data, including socio-demographic information and disease-related information such as date of diagnosis, duration of hemodialysis, number of hemodialysis sessions per week, and duration of each session were collected. The study samples were chosen using a systematic random sampling method.

The Depression Anxiety Stress Scale - 21 (DASS 21) questionnaire ^[8,10] was used to assess the incidence and level of mental health in patients undergoing hemodialysis. The patients were followed up for 6 months, Depression, Anxiety, and stress were ruled out. The Mental Health Quality of Life Questionnaire (MHQOL) was used to measure the mental health of patients. Disease-related patient counselling was provided based on the current mental health ^[9,11]. The quality of life was assessed once in 2 months with the same questionnaire. The collected data was entered into a Microsoft Excel 2010 spreadsheet and further analyzed using statistical software SPSS version 21.0. The student t-test and Pearson correlation were used to analyze the variables at the confidence interval of 95% ($p < 0.05$). The categorical variables were presented as frequency and percentage and continuous variables were reported using mean and standard deviation.

3. Results

During the study period, a total of 140 patients who fulfilled inclusion criteria were included in our study. Finally, 135 patients completed the follow-up and 5 were dropped out due to poor follow-up.

The patients were distributed to four age groups, in which most of the population belonged to the age group above 51-70 years. Out of 135 patients, 77 patients were male (57%) 58 were females (43%), majority of the patients were taking dialysis for 4-5 years (40.74%).

Table 1 Patient Demographics (n=135)

S. No	Demographics	Frequency	Percentage
	Sex		
1	Male	77	57.04
2	Female	58	42.96
	Age (Years)		
3	18-30	13	09.63
4	31-50	36	26.67
5	51-70	64	47.41
6	71-90	22	16.30
	Duration of Dialysis		
7	<12 Months	09	6.67
8	1-2 Years	21	15.56
9	2-4 Years	22	16.30
10	4-5 Years	55	40.74
11	>5 Years	28	20.74

In this study, out of 135 patients, the prevalence of depression was found to be 62.9% (85 patients), anxiety 22.2% (30 patients), and stress 39.2% (53 patients).

Table 2 Prevalence of Depression, Stress, and Anxiety (n=135)

S. No	Stage	Depression		Stress		Anxiety	
		Frequency	%	Frequency	%	Frequency	%
1	Normal	50	37.03	82	60.7	105	77.78
2	Mild	1	0.74	5	3.70	17	12.59
3	Moderate	18	13.33	8	5.92	5	3.70
4	Severe	43	31.85	18	13.33	6	4.44
5	Extreme	23	17.03	22	16.29	2	1.48

Table 3 Assessment of Reduction of Severity of Symptoms of Mental Health (n=135)

S. No	Mental Health	Baseline	1 st Follow-up	2 nd Follow-up
1	Depression	18.6 ± 8.86	15.35 ± 6.58*	11.2 ± 3.39**
2	Anxiety	12.62 ± 5.34	11.52 ± 3.51*	10.83 ± 2.54**
3	Stress	10.02 ± 7.67	7.41 ± 5.58**	5.36 ± 4.35**

*p<0.05, **p<0.01

There was a statistically significant reduction in the severity of anxiety, depression, and stress in dialysis patients from baseline to second follow-up. There exists a significant positive correlation between a reduction of depression and stress and a negative correlation with anxiety. A strong positive correlation between a reduction in depression and an improvement in Quality of Life was observed. The reduction of stress and anxiety positively correlated with Quality of Life.

Table 4 Correlation between depression, anxiety, stress, and improvement in QOL

	Reduction in depression	Reduction in stress	Reduction in anxiety	Improvement in QoL
Reduction in depression	1	0.188*	-0.179*	0.73*
Reduction in stress		1	0.295	0.47*
Reduction in anxiety			1	0.238*
Improvement in QOL				1

QOL- Quality of life

In this study, baseline data according to MHQOL 71.8% of the patients had poor quality of life. The scores of QOL based on mental health-related quality of life significantly improved in 2nd follow-up after pharmacist intervention

Table 5 Assessment of Quality of Life

S. No	Category	Baseline	1 st Follow-up	2 nd Follow-up
1	Poor QOL	97 (78.8)	48(35.5)	5 (3.7)
2	High QOL	38 (28.1)	87 (64.4)	130 (96.2)
3	Total QOL	11.42 ± 2.89	13.90 ± 2.72*	16.53 ± 1.96*

*p<0.05, **p<0.01, QOL- Quality of Life

4. Discussion

The impact of patient counselling for six months was remarkable, while comparing the QOL of these patients on the baseline to second follow-up; patients under counselling have shown a trend of improving the QOL [12]. This study shows that patient counselling can improve mental health-related QOL by improving awareness and removing misconceptions about the disease process and its management from the patient [19]. This study suggested that patients undergoing hemodialysis with poorer psychological states were more significantly associated with decreased QOL, which was consistent with previous studies therefore to improve the QOL of such patients it is necessary to adapt a standard assessment of symptoms into the care that comprehensively reflects the possible psychological problems of patients and to select reasonable and appropriate measures for interventions [13]. In this study, we found the prevalence of depression, anxiety, and stress to be 62.9% (85 patients), 22.2% (30 patients), and 39.2% (53 patients) respectively. Although the prevalence of depression is almost similar in our study anxiety was less and the prevalence of stress was more in our study [14]. The prevalence rate is varied due to different instruments and methodologies used and to the varied population characteristics [15]. A study was conducted by Victoria Semaan et al. to find out the prevalence of Depression and Anxiety in end-stage renal disease patients undergoing hemodialysis [7,16]. It was found that Depression was prevalent in 40.8% and Anxiety in 39.6% with 24.1% having both conditions [7]. Depression and Anxiety were significantly correlated with each other $p < 0.001$. Evidence on the effect of time on dialysis is mixed. However, some data suggested that depression may be more severe during the first month of dialysis [17,18]. Another study reported a tendency for higher depression in patients with more than one year on dialysis, which was similar to our study [14]. Nevertheless, the study findings have several important implications. First, the result suggests that for a proportion of hemodialysis patients, symptoms of anxiety, stress, and depression experienced during their illness tend to remain elevated and are likely to require intervention for a resolution [19]. Secondly, predicting patterns of symptoms did not seem possible as no clear social demographic or clinical variables differentiated between trajectories. This implies that monitoring and screening of mood will be important for early indication and intervention.

5. Conclusion

Depression, Anxiety, and stress are common in chronic renal disease patients undergoing hemodialysis and these ailments deteriorate the quality of life of the patients. This study found a correlation between changes in the mental health status and changes in the quality of life of dialysis patients. These responses were also mediated by the patient's psychosocial parameters. The study results urge the necessity of psychotherapeutic interventions for these patients. Patient counselling, cognitive behavioral therapy, and other psychosocial intervention reduce the psychiatric symptoms in these patients. The study findings highlight the importance of early psychiatric evaluation and intervention in dialysis patients.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors have no conflict of interest regarding this investigation.

Statement of ethical approval

The present work was approved by the Institutional Ethics Committee of PK Das Institute of Medical Sciences, Vaniyankulam, Kerala.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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