

PREVALANCE OF PSYCHIATRIC DISORDERS AND ITS IMPACT ON QUALITY OF LIFE IN NONDIALYSIS PATIENTS WITH CHRONIC KIDNEY DISEASE – A CROSS-SECTIONAL STUDY

V.Abirami¹, S.Sangeetha², S.Saraswathi³, V.Ahalya⁴

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Corresponding Author:

Dr. V.Ahalya,

Email: dr.ahalyavedachalam@gmail.com

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¹Assistant Professor, Department of Psychiatry, Govt. Mohan Kumaramangalam Medical College and Hospital, Salem, Tamil Nadu, India.

²Assistant Professor, Department of General Medicine, Govt. Mohan Kumaramangalam Medical College and Hospital, Salem, Tamil Nadu, India

³Government Psychiatrist, Pethanur, Kallakurichi, Tamil Nadu, India.

⁴Assistant Professor of Psychiatry, Govt. Mohan Kumaramangalam Medical College and Hospital, Salem, Tamil Nadu, India.

Abstract

Background: Worldwide, Chronic Kidney Disease (CKD) has been identified as a major public health issue. Patients with CKD suffer from a variety of losses that have a big influence on their lives, such as kidney function, family and social roles, employment opportunities, sexual function, time and mobility. Psychiatric disorders commonly co-exist with the diagnosis of chronic kidney disease. Aim and objectives of this study is to assess the Prevalence of Psychiatric disorders in non-dialysis patients with chronic kidney disease and to assess the quality of life and to correlate with psychiatric disorders in non-dialysis patients with chronic kidney disease. **Materials and Methods:** A semi-structured questionnaire was used to obtain the sociodemographic profile of 110 consenting patients attending the Nephrology OPD of a tertiary care hospital. Their Psychiatric disorders were assessed using appropriate standardised scales. **Result:** Among 110 Participants majority of them had CKD stages 3 and 4, and 45 (40.9%) had Psychiatric illness; Depression (n = 26) and anxiety disorders (n = 12) were the most common Psychiatric illnesses. Participants with psychiatric illness had lower overall quality of life (general, physical, psychological, social relations, and environment) than those without Psychiatric illness. **Conclusion:** Psychiatric disorders including anxiety disorder and Depression may worsen the prognosis of CKD patients and significantly affect Quality of Life among them. Our findings suggest that it is important to develop systematic approaches to screen these patients for Psychiatric illnesses like Depression and Anxiety Disorders and then planning appropriate treatment strategies for them.

INTRODUCTION

Worldwide, chronic kidney disease (CKD) has been identified as a major public health issue. The estimated global prevalence of CKD is 13.4% (11.7–15.1%), and there are between 4.902 and 7.083 million individuals with end-stage renal disease (ESRD) who require renal replacement therapy. CKD directly influences the global burden of morbidity and death through its impact on cardiovascular risk and ESRD. (LV,Zhang et al 2019).^[1] Patients with CKD suffer from a variety of losses that have a big influence on their lives, such as kidney function, family and social roles, employment opportunities, sexual function, time and mobility. The discovery of CKD causes patients and their family's mental distress to be extremely high. Many studies reveal

Psychiatric comorbidities in CKD patients undergoing hemo dialysis. However, there are only few studies, examined the relationship between Depression, Anxiety, and Quality of life (QOL) in patients with pre-dialysis chronic kidney disease. Therefore, we have evaluated the prevalence of Psychiatric comorbidities and their association with QOL in non-dialysis CKD patients. The Aim and objectives of this present study is to assess the Prevalence, Severity and nature of Psychiatric morbidity in non-dialysis patients with chronic kidney disease and to assess the quality of life and to correlate with Psychiatric morbidity in non-dialysis patients with chronic kidney disease.

MATERIALS AND METHODS

In this cross-sectional study, 110 consenting, consecutive non-dialysis patients from the Nephrology Department of the Govt. Mohan Kumaramangalam Medical College and hospital Salem, who met the inclusion and exclusion criteria were chosen after getting approval from institutional ethical committee. Our Inclusion criteria were patients with Non dialysis CKD with stage1-5 based on KDIGO (Kidney Disease Improving Global Outcome), Aged between 18 to 60 years, those who are willing to participate.

Exclusion criteria were patients with CKD started on dialysis, Past history of psychiatric illness/neurological illness and substance use, CKD patients who are very sick to undergo assessment, patients who are not willing to participate, CKD patients with dementia or cognitive impairment.

Duration of the study was 12 months from February 2021 to February 2022. A semi structured proforma was used to collect sociodemographic details and brief history. Modified Kuppaswamy Socioeconomic scale was applied to the participants. Psychiatric disorders were assessed using MINI International Neuro Psychiatric Interview, Hospital anxiety and depression scale used to assess severity of illness. Quality of life (QOL) was assessed by using WHOQOL (BREF) scale. Appropriate statistical methods were used to analyse the results.

RESULTS

A total of 116 patients were approached for this study. Of these, 4 patients refused to give consent to participate in the study, and 2 were dyspnoeic, hence not included in the study. Remaining 110 patients were included. Out of them 51.8% (n= 57) were males and 48.2% (n=53) patients were females. The mean age of the patients was 48.9 years. It ranges between 19 years and 60 years. Among them around 34.5% (n=38) had studied up to higher secondary while 33.6% (n=37) had studied up to primary school. Around 21.8% (n=24) had no formal

education. Majority of them 90% (n=99) were married, 10% (n=11) were unmarried. Majority of them 56.4% (n=62) were in nuclear family. Around 34.5% (n=38) were skilled workers by occupation, 22.7% (n=25) were semi-skilled workers by occupation and 21.8% (n=24) were unemployed. Around 36.4% (n=40) were from lower middle socio-economic status and around 27.3% (n=30) were from upper lower socio-economic status, only 4.5% (n=5) patients were from upper socio-economic status. Most of them 69.1% (n=76) were coming from rural areas. Around 90.1 % patients had no family history of psychiatric illness. Most of the participants were CKD stage 3 42.7% (n=47) and stage 4 40% (n=44) and mean creatinine value was 2.9 (S. D=1.2). There is no significant correlation between the socio demographic profile and psychiatric illnesses in CKD patients. Majority of the patients had moderate (57.8%) n= 26 and mild (35.5%) n= 16 severity. Most of the patients had low adherence 50% (n=55) to medications. There is highly significant negative correlation present between psychiatric illness in CKD patients and Quality Of Life (P<0.001). The mean creatinine levels of the 110 participants is 2.9 (S.D=1.2) ranging between 1.3 and 6.7. Diabetes mellitus was found to be the most common cause 35.5% (n=39) among participants, hypertension was found in 22.7% (n=25) of the cases, 22.7% (n=25) participants was found to have both Diabetes and Hypertension, Glomerulonephritis present 10% (n=11), 9.1% had other causes. Among 110 participants Psychiatric illness was present in 40.9 subjects (n=45). Depression was present in 23.6% (n=26) of the cases, anxiety in 10.9% (n=12) of the cases, psychosis in 3.6% (n=4) and others in 2.7% (n=3) of the cases. Out of 45 subjects who had psychiatric illness, around 57.8% (n=26) had moderate severity, 35.5% (n=16) had mild severity and 6.7% (n=3) had severe psychiatric illness. Morisky Medication Adherence Scale shows that there was low adherence in 50% (n=55) of the cases, medium adherence in 35.5% (n=39) of the cases and high adherence in 14.5% (n=16) of the cases.

Table 1: prevalence of psychiatric illness in the participants.

		Frequency	Percent
Psychiatric illness	Absent	65	59.1
	Present	45	40.9
	Total	110	100.0
Depression	Absent	84	76.4
	Present	26	23.6
	Total	110	100.0
Anxiety	Absent	98	89.1
	Present	12	10.9
	Total	110	100.0
Psychosis	Absent	106	96.4
	Present	4	3.6
	Total	110	100.0
Others	Absent	107	97.3

	Present	3	2.7
	Total	110	100.0

Table 2: Quality of Life

		Overall	Physical	Psychological	Social Relations	Environmental
N	Valid	110	110	110	110	110
	Missing	0	0	0	0	0
Mean		67.7	69.7	69.7	67.6	67.9
Median		71.4	73.0	71.4	70.0	70.3
Std. Deviation		8.3	7.4	6.5	7.8	8.9
Minimum		50.0	50.00	50.0	40.0	13.3
Maximum		77.7	78.50	78.5	81.2	78.8

Table 3: Relationship Between CKD Staging and Psychiatric Illness

		Psychiatric illness		Total	0.027
		Absent	Present		
CKD stage	2.0	7	0	7	
	3.0	31	16	47	
	4.0	20	24	44	
	5.0	7	5	12	
Total		65	45	110	

Table 4: Relationship Between CKD Staging and Medication Adherence

		CKD stage				Total	0.005
		2.0	3.0	4.0	5.0		
MMAS	Low	1	20	26	8	55	
	Medium	2	17	16	4	39	
	High	4	10	2	0	16	
Total		7	47	44	12	110	

Table 5: Comparison of QOL Scores with Psychiatric Illness

Psychiatric illness	Absent			Present			Total		
	Mean	Std. Deviation	N	Mean	Std. Deviation	N	Mean	Std. Deviation	p-value
Overall	71.692	5.2804	65	62.080	8.7258	45	67.760	8.3455	.000
Physical	73.3085	5.71620	65	64.5389	6.50569	45	69.7209	7.41832	.000
Psychological	72.894	4.8399	65	64.989	5.8842	45	69.660	6.5555	.000
Social relations	71.003	6.0503	65	62.722	7.7358	45	67.615	7.8980	.000
Environment al	69.918	9.4973	65	65.100	7.4096	45	67.947	8.9882	.005

DISCUSSION

CKD is becoming recognised as a significant chronic illness and is linked to a variety of psychiatric illnesses. Patient's age ranged from 18 to 60 years in our study, with a mean age of 48.9 years (SD = 9.4). This finding is similar to Cukor D et al,^[2] study 2007, whose study population mean age was 53.2 ± 15.0 yrs. Farjamfar M et al,^[3] also had similar finding to our study about 66.3 % of patients were older than 40 years. When gender was taken into account, there were marginal variations in the percentage of females (48.2%) and males (51.2%) with CKD in our study. Male preponderance among patients was 48% according to Aggarwal et al,^[4] community-based study, whereas other hospital-based research revealed that males made up 60%–78% of the CKD population.

In this study, the majority of the participants had studied up to higher secondary (34.5%), most of them were married (90%) and the majority (34.5%) of them had skilled profession. Most of the participants (69.1%) were from rural backgrounds. Similar findings were presented in the Farjamfar M,^[3] study

77.7 percent of the participants were married and 34.7% (N = 34.4) had a higher education level.

The majority of the patients in this study had CKD stages 3 (47%) and 4 (44%), with diabetes accounting for 39% and hypertension for 25% of the causes of CKD, respectively. These findings are similar to those of the LEE YJ et al. study.^[5] The prevalence of psychiatric illness in CKD patients has been reported to ranging from 29% to 45%, according to many studies (4,7,15). In this study, of the 40.9% of patients with psychiatric illnesses, the majority had depression (23.6%), followed by anxiety disorders (10.9%). Only a small number of patients had psychotic disorders (3.6%) and alcohol dependence (2.7%).

In contrast to our study, Bossola et al,^[6] (2010) study found that 48.7% of patients experienced moderate or severe anxiety symptoms, as compared to 47.5% of patients who experienced mild symptoms.

This study found a correlation between the CKD staging and Psychiatric illnesses, demonstrating that a higher CKD staging is associated with a higher frequency of psychiatric illness. (p<0.05). Similar to this study, the Mosleh et al,^[7] 2020 study found a substantial relationship between depression and renal disease stage: people with advanced CKD, or stage

III and above, are more likely to experience depression. This finding shows that Psychiatric disorders should be evaluated for in people with early-stage CKD. The somatic symptoms of CKD patients are impacted by depression and anxiety, which are significant risk factors for complications of CKD. In a cohort of patients with moderate to severe CKD, the Modification of Diet in Renal Disease Study discovered that reduced renal function was linked to psychological distress and a lower quality of life (QOL) in terms of health.^[8]

Similar to this study, Lee et al,^[5] discovered that anxiety and depression each have separate detrimental effects on quality of life in non-dialysis CKD patients. While anxiety and depression were most closely associated with the physical health domain of the WHOQOL-BREF, depression was most closely related to the psychological domain. In patients with pre dialysis CKD, a study found no correlation between the depression score and the physical functioning scale measured by the Short Form Health Survey.^[9] In patients with CKD, decreased QOL is strongly linked to unfavourable outcomes, such as increased chances of ESRD and all-cause mortality. Adejumo OA et al,^[10] found that, compared to CKD patients who were on pre-dialysis, the HD patient's QOL score was considerably lower (p = 0.001). The HD group's self-perceived burden score was considerably greater than that of the pre-dialysis CKD group (p 0.001). The self-reported burden, hospital anxiety, and hospital depression ratings did not correlate well with the quality-of-life score (p 0.001). Similar to this study, Hussien et al,^[11] study shows in every domain, patients with CKD have lower Health related QOL than the general population. The HRQOL of kidney transplant and pre-dialysis patients is superior to that of the dialysis population.

According to the previous studies, patients who experience psychological symptoms such as depression and anxiety, frequently experience more severe pain symptoms. The QOL of patients with CKD are harmed by the interplay between psychiatric disorders and pain.^[12] As a result, psychological conditions including anxiety and depression may worsen the prognosis of CKD patients. These findings raise the question of formal screening of psychiatric disorders in chronic renal disease patients who are not on hemo dialysis. Patients with CKD had reduced QOL and a higher prevalence of depression and anxiety. The mainstays for treating depression and anxiety in the general population have been medication, psychotherapy, and cognitive-behavioural therapy. The treatment choices for psychiatric issues in CKD patients are comparable. However, it could be necessary to give these people the recommended medication doses with an important caveat. Patients with end-stage renal disease who experience depression and anxiety frequently fail to receive the recommended dosage of psychiatric medications or take them insufficiently.

CONCLUSION

This study concluded that in non-dialysis patients, the majority of them have stage 3 or stage 4 chronic kidney disease. CKD stages were significantly associated with psychiatric illness. Nearly 40% of the non-dialysis CKD patients had mild to moderate psychiatric illnesses. Among this group, depression and anxiety disorders are more common compared to others. This significantly affects medication adherence among CKD patients. Also, this significantly affects the quality of life of patients with chronic kidney disease. As a result, Psychiatric disorders including anxiety and depression may worsen the prognosis of CKD patients and significantly affect Quality of Life among them. These findings raise the question of formal screening for psychological disorders in chronic renal disease patients who are not on dialysis. Our findings suggest that it is important to develop systematic approaches to screen these patients for Psychiatric illnesses like depression and anxiety, diagnosing clinical depression and anxiety, and then planning appropriate treatment strategies for them. The quality of life of people with chronic kidney disease can be enhanced by go liaison services between the medical professionals treating the condition and psychiatric services.

Limitations of the study: Cross-sectional analysis was used in this study. It is impossible to establish the causal relationships between depression, anxiety, and quality of life.

Future directions: Therefore, more research is needed to ascertain if screening and therapy interventions can help patients with non-dialysis CKD to achieve better clinical outcomes by preventing and controlling psychiatric illness as well as by enhancing quality of life (QOL).

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