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Assessment of Anxiety and Life Satisfaction in Patients with Chronic Kidney Disease

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Abstract

Background: Anxiety is one among the common mental health disorder that significantly impacts an individual's quality of life. Despite its prevalence, anxiety often goes undiagnosed and untreated, particularly in clinical settings.

Methodology: This cross-sectional study recruited 65 participants from a clinical setting. Participants were assessed using standardized instruments: the Hamilton Anxiety Scale (HAM-A) and the Life Satisfaction Questionnaire (LiSat-11). Descriptive and inferential statistics (Pearson correlation and Chi-square test) were used to analyze the data collected.

Results: The results showed that 81.5% (n=53) of participants experienced anxiety, with 47.17% (n=25) having mild anxiety, 37.73% (n=20) having moderate anxiety, and 15.09% (n=8) having severe anxiety. Significant negative correlations were found between anxiety symptoms (HAM-A scores) and life satisfaction (LiSat-11 scores) ($r = -0.46$, $p < 0.001$).

Conclusion: The findings of this study highlight the high prevalence of anxiety in this clinical sample and emphasized the need for comprehensive mental health assessments and interventions.

Key Words: Anxiety, HAM-A scores, LiSat-11 scores, Clinical sample, Chronic kidney disease, Life satisfaction

Introduction:

Kidney failure poses a substantial health threat due to its devastating consequences, high mortality and morbidity rates, and the ongoing requirement for rigorous and frequent medical care, which can be emotionally and physically exhausting for patients and their families (1).Chronic kidney disease (CKD) is characterized by persistent and irreversible kidney damage or decreased kidney function, as evidenced by imaging abnormalities, declining renal function, or an estimated glomerular filtration rate (eGFR) of less than 60 mL/min/1.73 m^2 for a minimum of three months(2 - 4).As CKD advances, it leads to severe physical symptoms, diminished health-related quality of life (HrQOL), and restricted daily activities. Consequently, patients with CKD often endure substantial psychological distress, including anxiety and depression, which further exacerbates their overall well-being (5-7).

Anxiety is characterized by feelings of fear, uncertainty, helplessness, and apprehension in anticipation of a perceived threat. In contrast, anxiety disorders, such as generalized anxiety disorder (GAD), panic disorder, and social anxiety disorder, are more severe and pervasive, with a tendency to worsen if left untreated, distinguishing them from temporary anxiety symptoms.Anxiety has a profound impact on the clinical and psychological well-being of CKD patients, affecting their health-related quality of life (HrQOL) across all stages of the disease, from pre-dialysis to end-stage renal disease (ESRD), with elevated anxiety symptoms consistently linked to significant declines in HrQOL.

According to a study by Loosmanet al.(8), pre-dialysis CKD patients experiencing elevated anxiety symptoms faced a significantly increased risk - 60% higher - of adverse outcomes, including mortality, hospitalization, or necessitating dialysis initiation, compared to their anxiety-free counterparts.

Anxiety and depressive disorders are the most common psychiatric comorbidities among End-Stage Renal Disease (ESRD) patients, significantly increasing the risk of adverse outcomes, including frequent hospitalizations, poor quality of life, and heightened mortality risk. Furthermore, depression and anxiety exacerbate the diminished quality of life (QOL) and life satisfaction in hemodialysis patients. This study aims to investigate the relationship between anxiety disorders, and life satisfaction among chronic kidney disease (CKD) patients undergoing maintenance hemodialysis (MHD). Notably, there is a significant knowledge gap regarding the mental health of CKD patients within the Indian population, highlighting the need for this research.

Materials And Methods:

The study was conducted at the Nephrology Department of Sri Siddhartha Medical College Hospital and Research Centre, involving both outpatients and inpatients. This cross-sectional study was carried out over a period of 18 months, from September 2022 to February 2024.Purposive sampling was employed to select participants from the Nephrology Department's outpatient and inpatient populations. Patients diagnosed with Chronic Kidney Disease Stage 5 on Maintenance Hemodialysis at Sri Siddhartha Medical College Hospital with aged between 18 and 70 years were included for this study. Patients with a pre-existing diagnosis of any mental illness, including Alcohol dependence, Schizophrenia, Bipolar disorder, Depression or anxiety spectrum disorder, Dementia and Delirium were excluded for this study.

The study employed four instruments to collect data. Anxiety symptoms were assessed using the Hamilton Anxiety Scale (HAM-A), a 14-item scale. Additionally, the Life Satisfaction Questionnaire (LiSat-11), an 11-item scale, was used to evaluate life satisfaction, including a global question and 10 domain-specific questions.

Procedure

The study protocol was thoroughly explained to the participants, and informed consent was obtained. Participants were assured of confidentiality. Following consent, the principal investigator administered the semi-structured proforma, and Hamilton Anxiety Scale (HAM-A). The Life Satisfaction Questionnaire (LiSat-11) was distributed to the participants for self-completion, with the principal investigator available to provide clarification and assistance as needed.

Statistical Analysis

Data analysis was performed using SPSS version 25.0. Descriptive statistics (mean, SD, frequency, and percentage) were used to summarize socio-demographic and study variables. Inferential statistics included Pearson correlation for continuous variables (HAM-A, and LiSat-11 scores) and Chi-square test for categorical variables. The significance level was set at $p < 0.05$.

Results:

Table1: Distribution of sample based on age group

Age	Frequency	Percent
40-49years	29	44.6
50-59years	24	36.9
60-69years	9	13.8
70-79years	3	4.6
Total	65	100.0

Table 1 presents the distribution of the sample based on age group. The majority of the participants (44.6%, n=29) fell within the 40-49 years age range, followed by 36.9% (n=24) in the 50-59 years age range. A smaller proportion of participants were in the 60-69 years (13.8%, n=9) and 70-79 years (4.6%, n=3) age ranges. The total sample size was 65 participants.

Table 2: Distribution of sample based on gender

Gender	Frequency	Percent
Male	50	76.9
Female	15	23.1
Total	65	100.0

Table 2 presents the distribution of the sample based on gender. The majority of the participants (76.9%, n=50) were male, while a smaller proportion (23.1%, n=15) were female. The total sample size was 65 participants.

Table 3: Distribution of sample based on the domicile

Domicile	Frequency	Percent
Rural	41	63.1
Urban	24	36.9
Total	65	100.0

Table 3 presents the distribution of the sample based on domicile. The majority of the participants (63.1%, n=41) resided in rural areas, while 36.9% (n=24) resided in urban areas. The total sample size was 65 participants.

Table 4: Distribution of sample based on duration of hemodialysis

Duration of hemodialysis	**Frequency**	**Percent**
<6 months	29	44.6
6months-1 year	29	44.6
2-5years	7	10.8
Total	65	100.0

Table 4 presents the distribution of the sample based on the duration of hemodialysis. The majority of the participants (44.6%, n=29) had been undergoing hemodialysis for less than 6 months, while an equal proportion (44.6%, n=29) had been undergoing hemodialysis for 6 months to 1 year. A smaller proportion (10.8%, n=7) had been undergoing hemodialysis for 2-5 years. The total sample size was 65 participants.

Table 5: Distribution of sample based on presence of anxiety

Anxiety	**Frequency**	**Percent**
Absent	12	18.5
Present	53	81.5
Total	65	100.0

Table 5 showed the distribution of the sample based on the presence of anxiety. The results indicate that the majority of the participants (81.5%, n=53) experienced anxiety, while only 18.5% (n=12) did not have anxiety. This suggests that anxiety is a prevalent issue among this population.

Table 6: Distribution of sample based on severity of anxiety according to HAM-A scores

HAM-A Scores	**Frequency**	**Percent**
mild anxiety	25	47.17
moderate anxiety	20	37.73
severe anxiety	8	15.09
Total	53	100.0

Table 6 presents the distribution of the sample based on the severity of anxiety, as measured by the Hamilton Anxiety Scale (HAM-A) scores. The results show that among the participants who experienced anxiety (n=53), nearly half (47.17%, n=25) had mild anxiety, while 37.73% (n=20) had moderate anxiety, and 15.09% (n=8) had severe anxiety. This suggests that anxiety symptoms varied in severity among this population, with a significant proportion experiencing mild to moderate anxiety.

Table 7: Pearson product moment correlation between HAM-A scores and LISAT-11scores

Study variables		**r**	**p-value**
HAM-A score	**LISAT-11score**	-0.46	<0.001

A significant negative correlation was found between the Hamilton Anxiety Scale (HAM-A) scores and the Life Satisfaction Questionnaire (LiSat-11) scores ($r = -0.46$, $p < 0.001$). This indicates that as the severity of anxiety symptoms (HAM-A scores) increased, life satisfaction (LiSat-11 scores) decreased. This correlation suggests a strong relationship between anxiety and life satisfaction, highlighting the negative impact of anxiety on overall life satisfaction.

Discussion:

The present study's findings underscore the significant impact of chronic kidney disease (CKD) on patient's psychological well-being, particularly in terms of life anxiety and life satisfaction.

The present study's findings on the age distribution of participants with end-stage renal disease (ESRD) are consistent with previous research. The majority of participants (44.6%) fell within the 40-49 years age range, followed by 36.9% in the 50-59 years age range. This age distribution is similar to that reported in other studies, which have shown that the prevalence of ESRD increases with age, with the majority of patients being between 45-64 years old (9, 10).

Our study found that the gender distribution of participants with end-stage renal disease (ESRD) reveal a significant predominance of males (76.9%) over females (23.1%). The finding of a male predominance (76.9%) in our study is consistent with the demographic profile of the Indian population and echoes the results of Marthoenis et al, who reported a similar male preponderance of 65.3% in their study (11).

The present study's findings on the domicile distribution of participants reveal a significant predominance of rural residents (63.1%) over urban residents (36.9%). This finding suggests that individuals with end-stage renal disease (ESRD) in this population are more likely to reside in rural areas.

Our study showed that anxiety severity was nearly half of the participants (47.17%) experienced mild anxiety, while 37.73% had moderate anxiety, and 15.09% had severe anxiety according to HAM-A scores. These findings suggest that anxiety is a significant concern among this population, with the majority of participants experiencing some level of anxiety.

The present study's findings on the duration of hemodialysis reveal that nearly half of the participants (44.6%) had been undergoing hemodialysis for less than 6 months, while an equal

proportion (44.6%) had been undergoing hemodialysis for 6 months to 1 year. A smaller proportion of participants (10.8%) had been undergoing hemodialysis for 2-5 years.

Our findings on the duration of hemodialysis are comparable to those reported in previous Indian studies. Gadia et al. found that 56% of patients had been on hemodialysis for 1 year, while 38% had been on hemodialysis for 1-3 years (12). Similarly, Goyal et al. reported that 46.9% of patients had been on hemodialysis for more than 3 months (13). These studies suggest that a significant proportion of Indian patients with end-stage renal disease undergo hemodialysis for an extended period.

A study conducted by Hou et al. (14) explored the prevalence of anxiety and depression among Chinese patients undergoing maintenance hemodialysis for end-stage renal disease (ESRD). The findings revealed that approximately 69% of the patients suffered from depressive disorders, while around 37% exhibited anxiety symptoms.

Our study revealed a significant negative correlation between HAM-A scores and LISAT-11 scores ($r = -0.46$, $p < 0.001$), indicating that higher levels of anxiety symptoms (as measured by the HAM-A) were associated with lower levels of life satisfaction (as measured by the LISAT-11). This finding suggests that anxiety has a detrimental impact on an individual's overall satisfaction with life.

The prevalence rates of anxiety and depression observed are similar to those reported by Kamel et al. (15) in a study of 524 Egyptian hemodialysis (HD) patients and Turkistani et al. (16), who assessed 286 Saudi HD patients and found that 21.1% and 23.3% of patients had elevated anxiety and depression scores, respectively. Fatima Al- Nashri also reported that 50% of the hemodialysis patients had anxiety and 44.7 % had depression. (17). According to Nagy et al the anxiety was documented as 49.6% and 26.6 % as normal and broad line and depression was identified as 55 and 28.2 % in hemodialysis patients. (18). Gerogianni G et al stated that 17.1% and 12.3% of patients experienced high levels of anxiety and depression, respectively (19). The burden of depression among hemodialysis patients is comparable to that of cancer patients, as chronic kidney disease significantly disrupts daily life and impairs quality of life for both patients and their loved ones (20).

Conclusion:

In conclusion, this study highlights the significant psychological burden of chronic kidney disease (CKD) on patients' quality of life. Anxiety symptoms are prevalent among patients undergoing hemodialysis, and are negatively correlated with life satisfaction. These findings emphasize the need for a holistic approach to care that addresses both physical and psychological needs.

Limitations:

This study had several limitations, including a small sample size, cross-sectional design, lack of diversity, reliance on self-report measures, and limited generalizability.

References:

1) Bello AK, Okpechi IG, Osman MA, Cho Y, Htay H, Jha V, Wainstein M, Johnson DW. Epidemiology of haemodialysis outcomes. Nat Rev Nephrol. 2022;18:378–95.
2) Virginia Wang et al.The Economic Burden of Chronic Kidney Disease and End-Stage Renal Disease.Seminars in Nephrology: 2016; Volume 36, Issue 4, Pages 319-330.
3) Stevens PE, Levin A; Kidney Disease: Improving Global Outcomes Chronic Kidney Disease Guideline Development Work Group Members . Evaluation and management of chronic kidney disease: synopsis of the kidney disease: improving global outcomes 2012 clinical practice guideline. Ann Intern Med. 2013;158(11):825-830. doi: 10.7326/0003-4819-158-11-20130604
4) Kirsztajn GM, Salgado Fo N, Draibe SA, Pádua No MV, Thomé FS, Souza E, et al. Fast reading of the KDIGO 2012: guidelines for evaluation and management of chronic kidney disease in clinical practice. J Bras Nefrol. 2014;36(1):63-73. doi: http://dx.doi.org/10.5935/0101-2800.20140012 PubMed PMID:24676617.
5) Wang, L.; Chen, C. The Psychological Impact of Hemodialysis on Patients with Chronic Renal Failure; Polenakovic, M., Ed.; InTech: Vienna, Austria, 2012; Available online: http://www.intechopen.com/books/renal-failurethe-facts/the-psychological-impact-ofhemodialysis-on-patients-with-chronic-renal-failure (accessed on 5 February 2019)ISBN 978-953-51-0630-2. 2.
6) Hmwe, N.; Pathmawathi, S.; Tan, L.; Chong, W. The effects of accupressure on depression anxiety and stress in patients with hemodialysis. A randomized control trial. Int. J. Nurs. Stud. 2015, 52, 509–518. [CrossRef] [PubMed]
7) Tagay, Sefik et al.Posttraumatic Stress Disorder in Hemodialysis Patients. American Journal of Kidney Diseases, 2007; Volume 50, Issue 4, 594 – 601.
8) Loosman WL, Rottier MA, Honig A, Siegert CE. Association of depressive and anxiety symptoms with adverse events in Dutch chronic kidney disease patients: a prospective cohort study. BMC Nephrol. 2015;16:123.
9) Levey AS, Coresh J. Chronic kidney disease. Lancet 2012;379(9811):165-80.
10) Jha V, Garcia-Garcia G, Iseki K, Li Z, Naicker S, Plattner B, et al. Chronic kidney disease: global dimension and perspectives. Lancet 2013;382(9888):260-72.
11) Marthoenis M, Syukri M, Abdullah A, Tandi TM, Putra N, Laura H, Setiawan A et al. Quality of life, depression, and anxiety of patients undergoing hemodialysis: Significant role of acceptance of the illness. The International Journal of Psychiatry in Medicine. 2021 Jan;56(1):40-50.
12) Gadia P, Awasthi A, Jain S, Koolwal GD. Depression and anxiety in patients of chronic kidney disease undergoing haemodialysis: A study from western Rajasthan. Journal of Family Medicine and Primary Care. 2020 Aug 1;9(8):4282-6.
13) Goyal E, Chaudhury S, Saldanha D. Psychiatric comorbidity in patients undergoing hemodialysis. Industrial psychiatry journal. 2018 Jul 1;27(2):206-12.
14) Hou Y, Li X, Yang L, Liu C, Wu H, Xu Y, et al Factors associated with depression and anxiety in patients with end-stage renal disease receiving maintenance hemodialysis Int Urol Nephrol. 2014;46:1645–9.
15) Reda A, Kamel MF, Goda TM. Anxiety and depression among hemodialysis patients in Egypt. Zagazig Univer Med J. 2022;28(3):594–604.

16) Turkistani I, Nuqali A, Badawi M, Taibah O, Alserihy O, Morad M, et al. The prevalence of anxiety and depression among end-stage renal disease patients on hemodialysis in Saudi Arabia. Ren Fail. 2014;36(10):1510–1515.
17) Al-Nashri F, Almutary H. Impact of anxiety and depression on the quality of life of haemodialysis patients. J Clin Nurs. 2022 Jan;31(1-2):220-230. doi: 10.1111/jocn.15900. Epub 2021 Jun 10. PMID: 34114273.
18) Nagy E, Tharwat S, Elsayed AM, Shabaka SAE, Nassar MK. Anxiety and depression in maintenance hemodialysis patients: prevalence and their effects on health-related quality of life. Int Urol Nephrol. 2023 Nov;55(11):2905-2914. doi: 10.1007/s11255-023-03556-7. Epub 2023 Apr 2. PMID: 37009953; PMCID: PMC10560136.
19) Gerogianni G, Polikandrioti M, Babatsikou F, Zyga S, Alikari V, Vasilopoulos G, Gerogianni S, Grapsa E. Anxiety-Depression of Dialysis Patients and Their Caregivers. Medicina (Kaunas). 2019 May 20;55(5):168. doi: 10.3390/medicina55050168. PMID: 31137563; PMCID: PMC6572629.
20) Nipp R.D., El-Jawahri A., Fishbein J.N., Gallagher E.R., Stagl J.M., Park E.R., Jackson V.A., Pirl W.F., Greer J.A., Temel J.S. Factors associated with depression and anxiety symptoms in family caregivers of patients with incurable cancer. Ann. Oncol. 2016;27:1607–1612. doi: 10.1093/annonc/mdw205. [DOI] [PMC free article] [PubMed] [Google Scholar]