Volume 4, Issue 3, 2026

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

ASSESSMENT OF QUALITY OF LIFE AMONG PATIENT UNDERGOING HEMODIALYSIS AT DISTRICT HEADQUARTER HOSPITAL, SANGHAR

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DOI: https://doi.org/10.5281/zenodo.21977658

Keywords
Quality of life kidney disease hemodialysis

Article History
Received: 25 January 2026
Accepted: 11 March 2026
Published: 25 March 2026

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Abstract

Background: *Chronic kidney disease (CKD) is a major public health concern worldwide, and many patients progress to end-stage renal disease (ESRD), requiring lifelong hemodialysis. Although hemodialysis is life-sustaining, it significantly affects patients' physical, psychological, social, and environmental well-being. Assessing quality of life among these patients is essential for identifying the impact of treatment and improving patient-centered care.*

Objective: *This study assessed the overall quality of life (QoL) among patients undergoing hemodialysis using the WHOQOL-BREF tool and to identify the most affected domains.*

Methodology: *A descriptive cross-sectional study was conducted at the Dialysis Unit (SMSHB) , DHQ Hospital Sanghar A total of 100 patients undergoing maintenance hemodialysis were selected using non-probability convenience sampling. Data were collected using the WHOQOL-BREF questionnaire and analyzed using SPSS version 28.0. Descriptive statistics including mean, standard deviation, frequencies, and percentages were applied.*

Results: *The findings revealed that 57.8% of participants reported poor quality of life, 26.5% reported average quality of life, 12.7% reported good quality of life, and only 1.0% reported very good quality of life. The mean Total Quality of Life (TQOL) score was 60.91 ± 10.41, indicating moderate variability among respondents. The physical domain appeared to be the most affected.*

Conclusion: *The study concludes that most patients undergoing maintenance hemodialysis experience poor quality of life, particularly in physical health. Regular quality-of-life assessment, patient education, psychological counseling, and supportive care are recommended to improve overall well-being and health outcomes.*

INTRODUCTION:

Chronic kidney disease (CKD) remains a significant global public health concern, with a growing number of individuals progressing to end-stage renal disease (ESRD) and requiring lifelong renal replacement therapy (RRT). Patients with ESRD often depend on hemodialysis (HD) as the primary modality of RRT, especially in regions where transplantation is limited (Heliyon et al., 2024). Hemodialysis is widely used worldwide as a life-sustaining renal replacement therapy for ESRD; however, despite technological and clinical

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

advances, patients on maintenance hemodialysis continue to experience substantial declines in health-related quality of life (HRQoL), making QoL assessment a critical component of comprehensive nephrology care (Alshogran et al., 2021). Despite being life-sustaining, maintenance hemodialysis (MHD) does not restore full renal function. Instead, it imposes a complex burden on patients physically, psychologically, socially, and economically. Many patients undergoing HD report chronic fatigue, muscle cramps, sleep disturbances, persistent symptoms, and frequent comorbidities, all of which significantly reduce their health-related quality of life (Mohamed, El-Sayed, & Hassan, 2024). Furthermore, the duration and frequency of dialysis sessions, along with lifestyle restrictions such as dietary limitations, fluid restrictions, and frequent hospital visits, disrupt daily routines, reduce patients' ability to work and participate in social activities, and increase psychological stress (Pakistan Journal of Health Sciences, 2023). In Pakistan and other low- and middle-income countries, the burden of hemodialysis is further increased by socioeconomic challenges, limited access to quality dialysis services, and inadequate healthcare support. A cross-sectional study conducted in Lahore reported that patients undergoing hemodialysis experienced reduced quality of life across physical, psychological, social, and demographic dimensions, highlighting the importance of holistic and patient-centered care (G. Islam et al., 2025). Several demographic and socioeconomic factors have been shown to influence HRQoL among hemodialysis patients. Variables such as age, education, employment, and income significantly affect patients' overall well-being. Younger patients, those with stable employment and higher income, and individuals with better educational status generally report higher quality-of-life scores because of improved health literacy, greater access to healthcare resources, and better coping abilities (Shumbusho et al., 2022).Social support is another important determinant of quality of life in patients receiving maintenance hemodialysis. Research has demonstrated a strong positive relationship between support from family members, friends, and healthcare professionals and improved quality of life across physical, psychological, and social domains (Alshraifeen et al., 2020). Adequate emotional and social support helps patients cope with the long-term challenges of dialysis treatment and improves adherence to treatment recommendations. Multiple large cross-sectional and cohort studies conducted in South Asia, the Middle East, Europe, and East Asia consistently report lower HRQoL scores among hemodialysis patients compared with the general population. Physical and mental health are often the most affected domains. Factors associated with poor quality of life include older age, female gender, lower educational level, unemployment, low socioeconomic status, longer duration of dialysis, multiple comorbidities such as diabetes and cardiovascular disease, inadequate social support, and suboptimal treatment factors, including poor dialysis adequacy and vascular access complications (L. Manju et al., 2024). These findings suggest that quality of life is influenced by multiple interconnected factors that require comprehensive management. In addition to demographic and clinical characteristics, psychosocial factors such as depression, anxiety, resilience, perceived treatment burden, and health-system factors including access to pre-dialysis education, transportation costs, and healthcare coverage also contribute significantly to HRQoL outcomes. Interventions focusing on symptom management, patient education, psychosocial support, and rehabilitation have shown promising results in improving patients' quality of life, although long-term evidence remains limited (Elsherbiny, Abdelrahman, & Hassan, 2024; M. Kang et al., 2025). Therefore, this study aims to assess the quality of life among patients undergoing maintenance hemodialysis and identify the factors affecting their quality of life to contribute to improved nursing care and better patient outcomes.

Rational Of Study

Hemodialysis is a life-sustaining treatment, comprehensive information about the Quality of life of these patients in local settings remains limited. It is still unclear which specific physical,

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

psychological, social, and environmental domains are most affected and how these challenges influence their daily functioning. Furthermore, existing evidence does not clearly explain how a decline in Quality of life contributes to increased hospital visits, treatment complications, and the growing burden on healthcare services. In this context, the present study is important because it systematically assesses the Quality of life of patients undergoing hemodialysis .and identifies the domains that are most impacted. The findings will contribute to body of knowledge and support healthcare professionals in planning more effective, need-based, and patient-centered care.

Problem Statement

Unrecognized decline in Quality of life not only affects patients' daily functioning but also increases the burden on healthcare services through frequent hospital visits, complications, and higher care requirements. Therefore, assessing the Quality of life of patients undergoing hemodialysis is essential to identify the most affected domains and to support improved and more efficient patient care.

Objectives

This study assessed the overall quality of life of patient undergoing hemodialysis using the WHOQOL-BREF tool and identify the most affected domains.

Hypothesis

Alternative Hypothesis (H1): There is a significant association between the frequency of hemodialysis sessions and the overall Quality of life among patients undergoing hemodialysis.

Null hypothesis (H0): There is no significant association exists between the frequency of hemodialysis sessions and the overall quality of life among patients undergoing hemodialysis.

2.Methodology

A descriptive cross-sectional study was conducted in the Dialysis Unit (SMSHB) at District Headquarter Hospital, Sanghar. The study was carried out over a period of 8 months, from (October to November 2025). The study population consisted of patients undergoing maintenance hemodialysis at the Dialysis Unit of (SMSHB), District Headquarter Hospital, Sanghar. The sample size was calculated using a standard formula based on prevalence and margin of error. A non-probability convenience sampling technique was used to recruit participants for the study. The **inclusion criteria** comprised adult patients aged 18 years and above who were receiving maintenance hemodialysis, were willing to participate in the study, and were able to understand the questionnaire. Patients who were unwilling to participate, unable to understand the questionnaire, or younger than 18 years of age were excluded from the study.

Data were collected from the Dialysis Unit of District Headquater Hospital, Sanghar after obtaining formal permission from the hospital administration. Eligible participants were informed about the purpose and objectives of the study, and written informed consent was obtained before data collection. The World Health Organization Quality of Life–BREF (WHOQOL-BREF) questionnaire was used to assess the quality of life among patients undergoing maintenance hemodialysis. The questionnaires were administered during dialysis sessions, and assistance was provided to participants whenever required. After completion, all questionnaires were checked for completeness and accuracy before data entry.

The **independent variables** included age, gender, marital status, educational level, duration of hemodialysis, comorbidities, and employment status (active or not active). The **dependent variable** was quality of life, which was assessed across the physical, psychological, social, and environmental domains. Quality of life categories were assigned ordinal values to represent increasing levels of quality of life.

The collected data were entered, coded, and analyzed using the Statistical Package for the Social Sciences (SPSS) version 28.0. Descriptive statistical methods, including frequencies, percentages, mean, and standard deviation (SD), were used to summarize and present the study findings.

Volume 4, Issue 3, 2026

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

RESULTS

Table 1. Sociodemographic Characteristics of Patients (n = 100)

Variable	Category	Frequency (n)	Percentage (%)
Age	18–34 years	35	35.0
	35–60 years	52	52.0
	≥61 years	13	13.0
Gender	Male	60	60.0
	Female	39	39.0
	Others	1	1.0
Education	Illiterate	50	50.0
	Primary	33	33.0
	Secondary	13	13.0
	Higher/University	4	4.0
Marital Status	**Married**	91	91.0
	Unmarried	6	6.0
	Divorced	2	2.0
	Widow	1	1.0

Table 1 shows that the majority of patients were aged 35–60 years (52.0%), male (60.0%), and illiterate (50.0%). Most participants were married (91.0%), indicating that these were the predominant sociodemographic characteristics of the study population.

Table No. 01 Quality of life :

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	2.0	2.0	2.0
	1 (Poor)	59	57.8	57.8	59.8
	2 (Avera)	27	26.5	26.5	86.3
	3 (Good)	13	12.7	12.7	99.0
	4 (Very good)	1	1.0	1.0	100.0
	Total	102	100.0	100.0	

The findings indicate that more than half of the respondents (57.8%) reported poor Quality of life, whereas comparatively fewer participants fell into the average, good, and very good categories, reflecting an overall low level of quality of life among hemodialysis patients

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

Table No.02. Total Quality of Life:

Statistics

	Total quality of life?	TQOL
Mean		60.91
Std. Deviation		10.413
Variance		108.426

Descriptive statistics were computed for both the categorical assessment of total quality of life and the Total Quality of Life (TQOL) score.

TQOL score, 100 valid responses were analyzed, with 2 missing cases. The mean TQOL score was **60.91** (SD = 10.41), with a variance of **108.43**, indicating a moderate level of dispersion around the mean.

Table No.03. Description of Quality of Life:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	2.0	2.0	2.0
	1 (Poor)	59	57.8	57.8	59.8
	2 (Average)	26	26.5	26.5	86.3
	3 (Good)	12	12.7	12.7	99.0
	4 (Very Good)	1	1.0	1.0	100.0
	Total	100	100.0	100.0	

The majority rated their quality of life as Poor (57.8%). This was followed by Average (26.5%) and Good (12.7%). Only 1.0% reported Very Good quality of life, while 2.0% fell into a separate category. Overall, most participants perceived their quality of life as poor.

DISCUSSION:

The present study assessed the total quality of life (TQOL) among patients undergoing maintenance hemodialysis. The findings demonstrated that poor quality of life was predominant among the study participants, with 57.8% reporting poor quality of life, followed by **26.5**% reporting average quality of life. Only 12.7% and 1.0% of participants reported good and very good quality of life, respectively. The mean TQOL score was 60.91 (SD = 10.41), indicating variability in the experiences and perceptions of quality of life among the participants. Overall, the findings reflect a considerable burden of long-term hemodialysis on patients' well-being. The predominance of poor quality of life may be associated with the continuous physical and lifestyle demands of maintenance hemodialysis. Patients receiving regular dialysis may experience fatigue, dietary and fluid restrictions, dependence on scheduled treatment, frequent healthcare visits, and limitations in daily activities. These treatment-related demands can affect not only physical functioning but also psychological well-being, social participation, and daily independence. The presence of comorbid conditions, including diabetes and hypertension, may further increase the burden of illness and contribute to poorer perceived quality of life. Sociodemographic characteristics may also play a role in how patients experience and manage chronic illness. Age, gender, educational level, marital status, and duration of dialysis may influence patients' coping abilities, understanding of disease management, social participation, and ability to maintain daily activities. In particular, limited educational opportunities may affect access to health-related information and self-management practices. However, these factors should be interpreted cautiously because the present study focused on descriptive assessment and did not examine statistical associations or causal relationships. The findings have important implications for nursing and dialysis care. Quality of life should be

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ISSN: (e) 3007-1607 (p) 3007-1593

considered an important component of routine patient assessment rather than focusing exclusively on the physiological aspects of dialysis. Healthcare professionals, particularly nurses, can contribute to improved patient outcomes through individualized education, dietary and fluid-management guidance, psychological support, encouragement of treatment adherence, and involvement of family and social support systems. Regular identification of patients experiencing poor quality of life may also facilitate timely referral and appropriate supportive interventions. Overall, the findings demonstrate that quality of life remains an important concern among patients receiving maintenance hemodialysis. A multidisciplinary approach addressing physical, psychological, educational, and social needs may help patients cope more effectively with the demands of long-term treatment and support better overall well-being.

Conclusion:

The study concludes that the majority of patients undergoing maintenance hemodialysis experience poor quality of life. The findings indicate that most participants perceived their overall quality of life as **poor (57.8%),** while 26.5% reported an average quality of life and only a small proportion reported good (12.7%) or very good (1.0%) quality of life. These results suggest that long-term hemodialysis has a considerable negative impact on patients' overall well-being, particularly their physical health. The findings emphasize the need for comprehensive patient-centered interventions, including routine quality-of-life assessment, patient education, psychological counseling, individualized nursing care, and supportive healthcare services, to improve the overall well-being and health outcomes of patients receiving long-term hemodialysis.

Recommendations: Future studies should include important biochemical and hematological parameters such as serum creatinine, blood urea/BUN, calcium, phosphate, parathyroid hormone (PTH), hemoglobin, serum albumin, sodium, potassium, and blood glucose/HbA1c to examine their relationship with patients' quality of life.

Additionally, the study was limited to the assessment of overall quality of life and did not explore changes in patients' quality of life over different stages of dialysis treatment. Therefore, the findings may not fully reflect how patients' experiences and perceptions change with prolonged treatment duration.

ACKNOWLEDGEMENT:

I would like to express my sincere gratitude and profound appreciation to my respected supervisor, **Mr. Ashoke Kumar**, Dr Saira , for his continuous guidance, valuable suggestions, constructive criticism, and unwavering encouragement throughout the research process. I am highly thankful to **Mr. Utsav Joshi** for generously sharing his research tool and for his kind cooperation and expert guidance.

Authors	Contributions
Hina Batool	Data Collection, Organized the data, analysis and interpretation, Prepared the manuscript, and coordinated the overall research process
Ashoke Kumar	Methodology, data collection procedures, interpretation of results
Dr Saira	access to the dialysis ward and supported the researcher in obtaining the required data from patients with hemodialysis

Frontier in Medical & Health Research

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