Original Article

Health-Related Quality of Life Among Haemodialysis Patients: A Cross-Sectional Study at University of Port Harcourt Teaching Hospital

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ABSTRACT

Health-related quality of life (HRQOL) estimation is both fundamental and vital for rating treatment efficacy beyond clinical outcomes. This study was therefore set up to evaluate the health-related quality of life among haemodialysis patients attending the University of Port Harcourt Teaching Hospital and identify associated factors. A quantitative descriptive cross-sectional study was conducted among 45 haemodialysis patients at the University of Port Harcourt Teaching Hospital. Data were collected using the Kidney Disease Quality of Life (KDQOL-36) Short Form questionnaire and analysed using SPSS version 20. The majority of participants were females (57.8%) and married (84.4%). 68.9% of them had gone to college or university, and 64.4% were unemployed. The overall HRQOL was average to above average. Regular outpatient visits ($p = 0.007$), having health insurance ($p = 0.003$), and annual income were all critical factors that affected HRQOL. Physical functioning was most significantly affected, with 78% of respondents reporting work limitations due to physical health problems. While patients perceived their HRQOL as average or above average, underlying issues related to physical functioning, disease-related discomforts, and daily life impacts were evident. Basic and social support, healthcare access, and financial stability substantially impacted the health-related quality of life (HRQOL) in patients undergoing haemodialysis.

Keywords: Chronic kidney disease, End-stage renal disease, Haemodialysis, Health-related quality of life, Nigeria

INTRODUCTION

When the kidneys can't filter blood well enough, haemodialysis is a medical procedure that removes extra fluid and harmful metabolic waste products from the blood. This process uses a machine to pump blood through a dialyzer, which lets fluid and waste pass through the dialyzer membrane by osmosis and diffusion[1].

Haemodialysis is the most frequently utilized procedure for individuals with chronic renal failure[2]. It is a difficult treatment for patients with situations such as end-stage renal disease (ESRD), which can unfavorably impact patients' quality of life and outcomes[3]. More than 90% of patients requiring long-term renal replacement therapy are on chronic haemodialysis[4].

Medical efficacy encompasses many different aspects. The impact of healthcare on patients' lives overall is just as important as survival rates and clinical results. The effectiveness of care is also influenced by the functional status, health satisfaction, and treatment expenses of patients. Haemodialysis programs significantly affect social and mental health since patients cannot perform

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everyday routines as usual. In addition to objective health measures, subjectively rated health-related quality of life (HRQOL) is crucial in evaluating treatment for chronic diseases[5].

For patients receiving haemodialysis, quality of life (QOL) is a critical indicator of health and wellbeing, which significantly plays an active part in checking the burden of chronic diseases[6]. Quality of life has a substantial influence on treatment efficacy, resource allocation decisions, and policy development[7]. Haemodialysis is administered to about 91% of dialysis patients[8].

The World Health Organization (WHO) posits that the quality of life directly implies an individual's perception of their position in life within the context of cultural peculiarities and value systems in their environment, especially considering their goals, expectations, standards, and concerns[9]. Quality of life must evolve from a multidimensional framework including physiological, psychological, and social wellbeing, with satisfaction as a central concept[10].

Finkelstein et al. define Health-Related Quality of Life (HRQOL) as the extent to which an individual's physical, emotional, and social domains are impacted by illness and treatment[11]. Disabilities associated with medical conditions and their management pose challenges to the QOL of patients receiving haemodialysis, making HRQOL assessment necessary in these patients.

At the Teaching Hospital of the University of Port Harcourt, nephrologists have not conducted studies on HRQOL of haemodialysis patients. Previous research on haemodialysis focused on "Income Distribution and Sources of Funding for Maintenance Haemodialysis of Patients in the Hospital"[12]. This research gap motivated the current study on patients attending the haemodialysis clinic at UPTH.

MATERIALS AND METHODS

This study employed a quantitative descriptive cross-sectional survey design to assess the health-related quality of life of haemodialysis patients. University of Port Harcourt Teaching Hospital is a tertiary healthcare institution serving as a referral centre for exceptional medical cases, including those requiring haemodialysis for chronic diseases, in the Niger Delta Region. The study population consisted of all 45 haemodialysis patients attending the outpatient clinic at UPTH who had undergone dialysis within the previous year. Purposeful sampling method was used to select responders and participants who fit the inclusion requirements. The adapted KDQOL-36 questionnaire was validated by a research supervisor and nephrology experts for content validity and by a measurement and evaluation expert for construct validity. Reliability was ascertained using a test-retest method with ten renal patients not included in the study, yielding a Pearson Product Moment Correlation Coefficient of 0.8, indicating excellent reliability. The author obtained an official approval for the study from the Research Ethics Committee of the University of Port Harcourt Teaching Hospital, along with administrative permits from the Consultant Physician/Nephrologist and Chief Nursing Officer. Respondents were assured of confidentiality and their right to withdraw without affecting their care.

Study Procedure

The Haemodialysis unit, part of the Nephrology Unit within the Department of Medicine, operates clinics on Thursdays from 8:00 a.m. to 4:00 p.m. On their clinic days, two nurses—one nurse educator and one clinic nurse—were enlisted and trained to give the questionnaire to qualified participants at the haemodialysis unit. Data collection instruments was The Health-Related Quality of Life which is measured using the Kidney Disease Quality of Life (KDQOL-36) Short Form questionnaire. The questionnaire took about 20 minutes to complete for each respondent. Every week for two months, data was gathered to make sure every respondent was contacted. The instrument measured comprehensive quality of life for end-stage renal disease patients and including the short-form 12 health survey, three dimensions of kidney disease questionnaires (Symptom/Problem List, Effects of Kidney Disease on Daily Life, and Burden of Kidney Disease), and background socio-demographic information.

Data Analysis

Descriptive and inferential statistics with SPSS Version 20 were used for the data analysis.

Descriptive analysis was performed using charts, means, standard deviations, percentages, and frequency distribution tables. Relationships between variables were examined using Chi Square for hypothesis testing; a p-value of less than 0.05 was deemed significant.

RESULTS

Socio-demographic Characteristics is shown in Table 1, and Figure 1 and the clinical variables in Table 2. The study included 45 haemodialysis patients. The majority were females, 26 participants representing 57.8% and most participants were over 26 years old representing 93%. Regarding marital status, 38 representing 84.4% of respondents were married, with 29 Igbos being the largest tribal group representing 64.4%. All participants had some level of education, with 31 participants representing 68.9% having post-secondary education, including 15 participants with postgraduate degrees representing 33.3%. 23 participants representing 64.4% were unemployed, and 23 respondents representing 51.1% had annual incomes below ₦500,000.

Health-Related Quality of Life Assessment

Physical Functioning and Health Perceptions

The overall mean score for physical functioning was 2.11 (SD = 0.89), indicating limitations in physical activities. Most respondents (77.8%) reported that their health was somewhat worse now than one year ago. Physical health significantly affected work or other activities for 78% of respondents, leading to reduced time spent or less accomplishment.

Mental Health and Emotional Wellbeing

Emotional problems (depression/anxiety) affected 55.6% of participants in accomplishing less work than desired. The overall mean score for general wellbeing was 3.90, suggesting respondents generally felt well. They reported not being nervous (mean 4.00), not feeling down (mean 4.56), feeling calm and peaceful (mean 3.76), having energy (mean 3.58), and being happy (mean 4.38). However, they often felt tired (mean 3.60) and worn out (mean 3.69).

Pain and Discomfort

Regarding bodily pain, 8.9% reported no pain, while others experienced varying levels from very mild (26.7%) to severe (20%). Pain interfered with normal work for many, with 35.6% reporting a little interference and 26.7% moderate interference.

Disease-Specific Quality of Life

Respondents generally did not agree they got sick easier than others (mean 2.91) or that they were a burden to their family (mean 2.76). However, they agreed their health was expected to worsen (mean 4.16), their kidney disease interfered significantly with their life (mean 3.00), and they felt frustrated dealing with it (mean 3.09).

Coping Abilities

The overall mean for coping abilities was 4.42, suggesting good coping. Respondents rarely isolated themselves (mean 4.71), reacted slowly (mean 4.62), or acted irritable (mean 4.67). They also generally got along well with others (mean 3.76).

Symptoms and Restrictions

Most respondents were rarely bothered by muscle soreness (mean 3.44), cramps (mean 3.36), itchy skin (mean 3.78), dry skin (mean 4.07), shortness of breath (mean 3.16), lack of appetite (mean 3.62), and nausea (mean 3.47). However, chest pain (mean 2.93), numbness in hands/feet (mean 2.93), fluid restrictions (mean 2.71), ability to travel (mean 2.91), dependence on medical staff (mean 2.38), and stress caused by kidney disease (mean 2.16) were more bothersome.

Sexual Function and Sleep Quality

Among participants, 53.3% had sexual activity in the past 4 weeks, but only 25% enjoyed it without problems. Regarding sleep, 45.8% reported a little problem enjoying sex, and 33.4% had problems with sexual arousal. Respondents generally did not have trouble falling asleep or staying awake during the day (means 4.40 and 4.67, respectively), but they did not get enough sleep (mean 2.89).

Factors Affecting HRQOL

Frequent hospital outpatient visits were one of the significant factors affecting HRQOL (p = 0.007).

- Health insurance ownership (p = 0.003)

- Annual income (strong correlation with HRQOL)

Age group ($p = 0.307$), gender ($p = 0.064$), qualification ($p = 0.572$), tribe ($p = 0.261$), marital status ($p = 0.355$), and employment status ($p = 0.485$) were all considered non-significant factors.

Taking drugs regularly and hospital admissions negatively affected HRQOL.

Ways to Improve HRQOL

Respondents identified several ways to improve HRQOL:

- Having reasonable time to spend with family and friends
- Receiving support from family and friends
- Gaining encouragement from dialysis and hospital staff

Table 1: Demographic and Personal Data Distribution of the Respondents

Variable		Frequency	Percent (%)
Gender	Male	19	42.2
	Female	26	57.8
	Total	45	100.0
Age Group	25 yrs and below	3	6.7
	26 – 35 yrs	3	6.7
	36 – 45 yrs	20	44.4
	46 – 55yrs	16	35.6
	Above 55yrs	3	6.7
	Total	45	100.0
Marital Status	Not Married	7	15.6
	Married	38	84.4
	Total	45	100.0
Tribe	Other Tribes	6	13.3
	Igbo	29	64.4
	Yoruba	6	13.3
	Hausa	4	8.9
	Total	45	100.0
	FSLC	4	8.9
	Secondary Certificate	10	22.2
	Diploma	5	11.1
Attainment	Vocational/Technical	1	2.2
	BSc/HND	10	22.2
	Postgraduate	15	33.3
	Total	45	100.0
Work Status	Working fulltime	14	31.1
	Working part-time	8	17.8
	Unemployed, laid off, or looking for work	7	15.6
	Retired	1	2.2
	In school	8	17.8
	Traders/Apprentices	7	15.6
	Total	45	100.0

Table 1 Contd: Demographic and Personal Data Distribution of Respondents contd.

Variable	Frequency	Percent (%)	
Income	less than N1.8m	23	51.1
	between N1.8m and N3.6m	6	13.3
	between N3.6m and N7.2m	1	2.2
	between N7.2m and N14.4m	2	4.4
	More than N27m	1	2.2
	Don't know	12	26.7
	Total	45	100.0

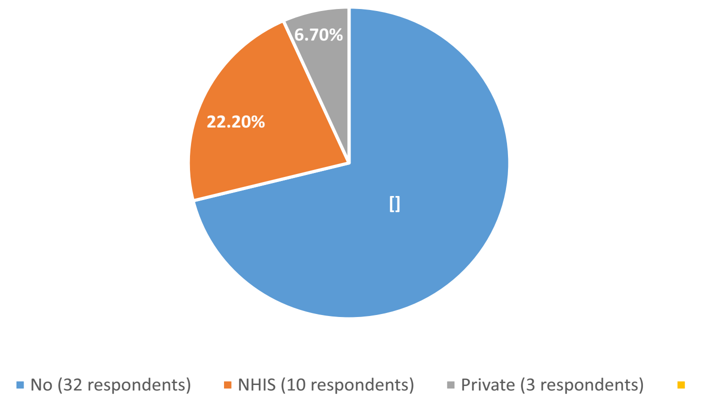

Figure 1: Respondents' Participation in Health Insurance

Table 2: Medication History of the Respondents

Statement	Response	Frequency	Percent (%)
Currently taking prescription medication	No	19	42.2
	Yes	26	57.8
	Total	45	100.0
Number of different medications currently tal	2.00	11	42.3
	3.00	3	11.5
	4.00	1	3.8
	5.00	5	19.2
	6.00	2	7.7
	7.00	3	11.5
	10.00	1	3.8
	Total	26	100.0

Table 3: Activities Limited By Current Health Status

Activity	Limited a lot (%)	Limited a little (%)	Not limited at all (%)	Mean (Std. Dev.)
Vigorous activities such as running, lifting heavy objects, participating in strenuous sports	15 (33.3)	20 (44.4)	10 (22.2)	1.89 (0.75)
Moderate activities such as moving a table, pushing a vacuum cleaner, or playing golf	6 (13.3)	20 (44.4)	19 (42.2)	2.29 (0.69)
Lifting or carrying groceries	4 (8.9)	26 (57.8)	15 (33.3)	2.24 (0.61)
Climbing several flights of stairs	23 (51.1)	14 (31.1)	8 (17.8)	1.67 (0.77)
Climbing one flight of stairs	3 (6.7)	23 (51.1)	19 (42.2)	2.36 (0.61)
Bending, kneeling or stooping	13 (28.9)	18 (40.0)	14 (31.1)	2.02 (0.78)
Walking more than a mile	14 (31.1)	17 (37.8)	14 (31.1)	2.00 (0.80)
Walking several blocks	9 (20.0)	20 (44.4)	16 (35.6)	2.16 (0.74)
Walking one block	4 (8.9)	18 (40.0)	23 (51.1)	2.42 (0.66)
Bathing or dressing oneself	6 (13.3)	13 (28.9)	26 (57.8)	2.44 (0.72)

Table 4: Factors affecting HRQOL of the Haemodialysis Patients

			HRQOL		Total (%)	Chi-Square	p-value
		Below Average (%)	Average (%)	Above Average (%)			
Take prescribed medication regularly	No	1 (5.3)	16 (84.2)	2 (10.5)	19 (100.0)	0.364	0.833
	Yes	2 (7.7)	20 (76.9)	4 (15.4)	26 (100.0)		
	Total	3 (6.7)	36 (80.0)	6 (13.3)	45 (100.0)		
Duration (days) of hospital admission within last 6 months	0	1 (4.5)	17 (77.3)	4 (18.2)	22 (100.0)	13.057	0.669
	2	0 (0.0)	4 (100.0)	0 (0.0)	4 (100.0)		
	3	0 (0.0)	4 (80.0)	1 (20.0)	5 (100.0)		
	4	1 (25.0)	2 (50.0)	1 (25.0)	4 (100.0)		
	5	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)		
	7	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)		
	15	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)		

DISCUSSION

According to this study, haemodialysis patients at UPTH thought their HRQOL was average to above average, but their everyday functioning was impacted by serious underlying problems. Although it contrasts with other studies that show male predominance[13, 14], the majority of participants (57.8%) were female, which is consistent with some international studies. The high proportion of married participants (84.4%) suggests the importance of family support in managing chronic illness.

The finding that 68.9% of participants had post-secondary education is noteworthy, as higher education levels are typically associated with better health outcomes and treatment adherence[15]. However, the high unemployment rate (64.4%) reflects the significant impact of chronic illness on work capacity, consistent with findings from other studies [16,17].

Physical Functioning and Daily Activities

Taking into cognizance, the immedicable nature of kidney disease and the tough dialysis regimen, it is not surprising that the mean physical functioning score of 2.11 indicates significant limitations in physical activities. The substantial functional impairment that these patients endure is highlighted by the finding that 78% of respondents reported limitations in their ability to work as a result of physical health issues [18,19].

Psychosocial Aspects

Despite physical limitations, participants demonstrated relatively good mental health and coping abilities (mean 4.42). This resilience may reflect adaptation to chronic illness over time or the effectiveness of existing support systems. The finding that emotional problems affected 55.6% of participants in work accomplishment underscores the need for integrated psychosocial support in dialysis care [20,21].

Disease-Specific Quality of Life

The participants' acknowledgment that their health was expected to worsen (mean 4.16) reflects realistic understanding of their prognosis, which may facilitate better treatment planning and advance care discussions. The moderate level of frustration with kidney disease (mean 3.09) suggests a need for enhanced patient education and support programs [22].

Factors Influencing HRQOL

The strong connection ($p = 0.007$) between better HRQOL and regular outpatient visits shows how important it is to get regular medical care and checkups. Health insurance also had a big effect on HRQOL ($p = 0.003$), possibly by lowering the cost of care and making necessary treatments easier to get [23, 24].

Given that most healthcare in Nigeria is still paid for out of pocket, the correlation between yearly income and HRQOL is especially pertinent. Better access to prescription drugs, dietary supplements, and transportation to dialysis sessions is made possible by higher income [25].

Clinical Implications

The findings suggest several areas for clinical intervention:

1. Physical Rehabilitation Programs: Organised exercise and rehabilitation programs may help preserve functional capacity in light of the notable physical limitations [26].

2. Psychosocial Support: Although coping skills were generally strong, overall results could be enhanced by focused interventions for the 55.6% who were having emotional difficulties [27].

3. Financial Counseling and Support: The significant impact of income and insurance on HRQOL suggests the need for financial counseling services and advocacy for improved healthcare financing [28].

4. Family and Social Support Programs: The importance of family and friend support identified by participants suggests the value of family-centered care approaches [29].

Limitations

Several limitations should be acknowledged: Sample Size: The findings may not be as broadly applicable due to the comparatively small sample size (n=45). Also, single centre study: Results might not apply to haemodialysis patients in other medical facilities in Nigeria. Furthermore, environmental adaptation: Although the KDQOL-36 was validated, it is possible that certain cultural quirks unique to Nigeria weren't adequately represented.

CONCLUSION

This work provides various valuable insights into the HRQOL of haemodialysis patients at the University teaching hospital. Significant difficulties with physical functioning, financial limitations, and limitations related to the disease were apparent, despite the patients' resilience and perception of their quality of life as average to above average. Importantly, the findings emphasize comprehensive care models to cover both medical and psychosocial needs, financial, and family support aspects. Regular healthcare access and financial security emerge as critical factors for optimising HRQOL in this vulnerable population.

When creating patient care plans, healthcare professionals should take these findings into account. They ought to support legislative changes that will improve haemodialysis patients' access to care and financial security. It is therefore sacrosanct that subsequent research should pay close attention to intervention studies and longitudinal assessments to enhance and elucidate HRQOL outcomes within this demographic.

Recommendations

Health care insurance should cover dialysis patients. Healthcare System: Create comprehensive and more robust models that prioritizes the medical and psychological requirements of patients receiving haemodialysis.

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