

Assessment of Quality of Life Among Patients Receiving Dialysis in Selected Hospitals of Calicut

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Publication Date: 2026/05/05

How to Cite: Jiya Johny; Kavyasree R.; Anagha P.; Muhammad Rijas V. (2026) Assessment of Quality of Life Among Patients Receiving Dialysis in Selected Hospitals of Calicut. *International Journal of Innovative Science and Research Technology*, 11(3), 4113-4148. <https://doi.org/10.38124/ijisrt/26mar2038>

ABSTRACT**➤ Background**

Chronic kidney disease (CKD) is a progressive condition that significantly affects patients' physical, psychological, and social well-being. Dialysis, a life-sustaining treatment for end stage renal disease, places a heavy burden on patients and impacts their quality of life (QoL). Assessing QoL among dialysis patients is crucial for understanding their health challenges and identifying areas that require interventions. Previous research has shown that both physical and mental health domains are compromised in dialysis patients, yet findings vary depending on demographic and clinical characteristics.

➤ Research Question

What is the quality of life among dialysis patients in selected hospitals at Calicut, and how is it associated with selected demographic and clinical variables?

➤ Objectives

- To assess the overall quality of life of dialysis patients.
- To identify factors influencing the quality of life of dialysis patients.
- To analyze the association between selected demographic and clinical variables with quality of life of dialysis patients in selected hospitals, Calicut.

➤ Methodology**• Research Approach:**

Quantitative approach Design: Descriptive cross-sectional study Setting: Aster MIMS Hospital, Kozhikode Population: Patients undergoing dialysis

• Inclusion Criteria:

Adults >18 years, on dialysis \geq 3 months

• Exclusion Criteria:

Patients with cognitive impairment or unwilling to participate Sample size: 100 dialysis patients

• Sampling Technique:

Non-probability purposive sampling Tools used:

✓ Demographic and Clinical Proforma

Kidney Disease and Quality of Life questionnaire (KDQOL-36)

• Validity & Reliability:

Content validity index = 0.8; reliability coefficient = 0.89

• Data Collection:

Conducted between 25/7/25 to 30/7/25 after obtaining ethical approval and informed consent.

• Data Analysis:

Descriptive (mean, percentage, frequency) and inferential statistics (association tests).

➤ Results

Demographics: Majority were females (86%), aged 51–60 years (66%), and most belonged to Christian (47%) or Hindu (46%) faiths. About 40% were employed in government sectors, and 64% had monthly incomes above ₹100,000. **Clinical characteristics:** All patients were on hemodialysis thrice weekly; 59% had been on dialysis for 1–3 years, and 41% for more than 3 years. While 46% had comorbidities, all reported strict medication adherence. **Quality of Life Scores:** Physical Component: Mean = 11.12 ± 4.12 → low physical health. Mental Component: Mean = 13.53 ± 2.65 → poor mental health. Kidney Disease Component A: Mean = 33.36 ± 10.93 . Kidney Disease Component B: Mean = 22.19 ± 4.57 . **Associations:** No significant association between QoL and demographic (age, gender, education, income, etc.) or clinical variables (dialysis duration, frequency, comorbidities, etc.).

➤ *Discussion*

The study revealed that dialysis patients experience poor overall quality of life, with both physical and mental health domains markedly affected. These findings align with earlier studies in Kerala and Oman, which also reported low QoL scores among dialysis patients compared to the general population. Despite differences in demographic and clinical characteristics, no significant associations were found with QoL in this study, suggesting that the negative impact of dialysis may be pervasive across different groups. This highlights the need for holistic patient care that addresses not only medical management but also psychological and social support to improve the QoL of dialysis patients.

ACKNOWLEDGEMENT

The investigators raise their hearts in gratitude to the Heavenly Father for the wisdom and perseverance that He has bestowed upon them during the research work, and indeed, throughout their lives.

The investigators gratefully acknowledge the help given by many people without whom the study could never have been completed.

With great appreciation and respect, the investigators sincerely acknowledge Dr. Assuma Beevi T.M., Dean, MIMS College of Nursing, Puthukode, for her constructive and critical guidance, scholarly suggestions, constant encouragement, and inspiration for the successful completion of the research work.

We would like to thank Dr. Sheeja C.V., Principal, MIMS College of Nursing, Puthukode, for her keen interest, guidance, and constructive criticism in conceptualizing and completing the study. The investigators take immense pleasure in expressing their sincere and deep sense of gratitude to their supervising guide, Ms. Sinju AP senior lecturer, MIMS College of Nursing, Puthukode, for her exemplary guidance, scholarly suggestions, insightful criticism, and generous support for the successful completion of the study.

The investigators express their profound indebtedness to Dr. Sajith Narayanan (Senior Consultant, HOD Nephrology department), Ms. Rakhi Seban (Professor), Ms. Jipsa K (Associate Professor), Ms. Mary Elizabeth Tidiya Walarine (Associate Professor), Ms. Reshma K. (Assistant Professor), Ms. Athulya (Senior Lecturer), and other esteemed faculty members of MIMS College of Nursing especially for their valuable suggestions in validating the data collection tool.

We offer our sincere thanks to the Aster MIMS Calicut, Management and the HOD of Nephrology for sanctioning permission for this study.

The investigators recall Mr. Sreenish, Librarian, MIMS College of Nursing and Library staff of Aster MIMS Academy and Mr. Pradhap, computer engineer cum lecturer, MIMS College of Nursing for their support in completing the study. The investigators are indebted to their parents and relatives, who encouraged us to do higher studies and whose tenacious love, care and regular prayers, never ending patience and infinite encouragement without which, the study would have never been completed. Investigators are grateful to their classmates, for their support and motivation.

The researchers express sincere thanks to Digital Image, Calicut for their expert printing works. Finally, the investigators express their sincere thanks to all who directly or indirectly being helpful for accomplishing the study.

With heartfelt gratitude, Ms. Jiya Johny
Ms. Kavyasree R Ms. Anagha P
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Date:
Place: Puthukode

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ABBREVIATIONS

➤ *List of Abbreviations*

MIMS: Malabar Institute of Medical Science

BSc(N): Bachelor of Science in Nursing

MSc(N): Master of Science in Nursing

Ph. D(N): Doctor of Philosophy in Nursing

WHO: World Health Organization

NABH: National Accreditation Board for Hospitals

Df: Degree of freedom

KDQOL: kidney disease quality of life

CHAPTER ONE INTRODUCTON

Chronic disease has become a major public health problem and the leading cause of morbidity and mortality¹. Global status report on non-communicable disease (2010) stated that 80% of chronic disease deaths worldwide occur in low and middle income countries². End stage renal disease is one among the chronic disease which possess great threat globally and increased burden in the healthcare system and leads to increased morbidity and mortality and decreased the quality of life (QOL).³ According to the world health organisation, global burden of disease project, disease of the kidney and urinary tract contribute to global burden which approximately 8,50,000 deaths every year and 11,50,10,107 disability adjusted life years. Chronic kidney disease (CKD) is the 12th leading cause of death and 17th cause of disability. The global increase in CKD is being driven by the global increase in of Diabetes mellitus, Hypertension, Obesity and aging⁴.

Quality of life is an individual's perception of their position in life in the context of their culture, value system, and relationship to life goals, expectations, standards, and other related matters. Quality of life is an increasingly important factor in the assessment of the management of chronic kidney disease patients undergoing hemodialysis^{6,7}. Several studies have shown a decreased quality of life and increased depression in the haemodialysis patient population.⁸⁻¹⁰ Poor quality of life itself is also reported to increase complications such as depression and malnutrition and even increased mortality¹¹. Several factors such as anemia, age, duration of hemodialysis, number of comorbid diseases, and number of medications are known to be factors related to the quality of life of hemodialysis patients.^{12,13}

End stage renal failure is a chronic disease that exerts a great negative impact on patients' health-related quality of life mainly due to the accompanied impairment or to the imposed limitations in almost all domains of their daily lives. Hemodialysis consists a complex procedure for patients that requires frequent hospital or dialysis centers visits, mainly three times a week, thus implying substantial changes in the normal way of patients' living.⁽⁴⁻⁷⁾ Assessment of health-related quality of life is a predictive indicator in outcome of the disease as well as a valuable research tool in assessing the effectiveness of therapeutic intervention, patients' survive and hospitalizations.

➤ *Need and Significance of the Study*

Chronic kidney disease is an emerging disease caused by diabetes and hypertension, are responsible for nearly one third and one fifth of chronic kidney disease, respectively. Apart from diabetes and hypertension, obesity, smoking and aging are important precursor of CKD. CKD is associated with increased incidence of Cardiovascular mortality and loss of disability adjusted quality of life (QOL) years. End stage renal disease (ESRD) is chronic and life-threatening illness. It implies that the kidney are permanently damaged and the person can no longer survive without renal replacement therapy. Individual undergoing long term hemodialysis has been found to be subjected to multiple physiological and psychosocial stressors and experience personal losses and lifestyle changes.

Quality of life is an important indicator of health and well-being, it determines the effectiveness of treatment, decides the priority for resources distribution, and help in policy developments. Since chronic disease is not curable, the aim is to improve the well-being of patients and prolongs life without symptoms, thus QOL is used to evaluate the out come of treatment given. In addition, QOL gives information about other that are equally or more important to patient's perspective and establishes information about the range of problem that affects the patients.

➤ *Statement of the Problem*

A study to assess the quality of life of dialysis patients in selected hospitals, Calicut

➤ *Research Questions*

- What is the quality of life of dialysis patients in selected hospitals Calicut?
- What are the factors affecting the quality of life of dialysis patients?
- Is there is any significant association between demographic/ clinical variables and quality of life score.

➤ *Aims*

- To assess the quality of life of dialysis patients in selected hospital.
- To assess the factors affecting the quality of life of dialysis patients in selected hospital.
- To find out association between quality-of-life score with demographic and clinical variable

➤ *Objectives*

- To assess the overall quality of life of dialysis patients

- To identify factors influencing the quality of life of dialysis patients
- To analysis the association between selected demographic and clinical variables with quality of life of dialysis patients in selected hospitals, Calicut

➤ *Operational Definitions*

- *Quality of life:*
The degree to which a patient is healthy, comfortable and able to participate or enjoy life events during dialysis
- *Dialysis:*
A treatment that removes waste and excess fluids from blood when the kidneys are unable to function properly

➤ *Assumptions*

- The patient undergoing dialysis have decreased quality of life
- The life of dialysis patients has significant association with selected demographic and clinical variables.

➤ *Hypothesis*

- *H1:* There will be significant association between selected demographic variables with quality of life of dialysis patients
- *H2:* There will be significant association between selected clinical variables with quality of life of dialysis patients
- *H3:* Dialysis significantly impacts the quality of life of dialysis patients leading to decreased physical, emotional and social wellbeing

➤ *Conceptual/Theoretical Framework*

Theories are formulated to explain, predict and understand phenomena and in many cases, to challenge and extend existing knowledge within the limits of the critical bounding assumptions. The theoretical framework is the structure that can hold or support a theory of a research study. The Theoretical framework introduces and describes the theory which explains why the research problem under study exists. A theoretical framework consists of concepts, together with their definitions, and existing theory / theories that are used for the particular study.

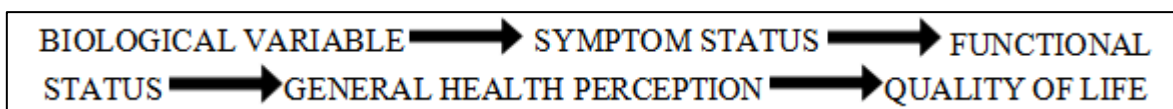


Fig 1 Conceptual/Theoretical Framework

The Wilson and Cleary model of health-related quality of life, proposed in 1995 by Ira R. Wilson and Paul D. Cleary, is a conceptual frame work that links clinical and biological factors with overall quality of life. It integrates biomedical and psychosocial aspects of health showing a casual pathway from disease to the patient’s perception of life quality. It includes five main levels are biological and physiological variables, symptom status, functional status, general health perception, overall quality of life, modifying factors such as individual characteristics and environmental characteristics. This model is mostly linear but can be bidirectional. Each stage influences the next:

The present study, involves assessing the quality of life of patients with dialysis. In this biological physiological variable include old age demography, symptom status includes energy/ fatigue, bodily pain perceived by the adults and skin problems. Functional status includes physical functioning, social function, psychological functioning and role functioning.

In this study assessing the quality of life by assessing the parameters such as perception of patients on general health, activities of daily living, physical health or emotional problem, bothering symptoms and is assessing by using the KDQOL scale. Also assessing the sociodemographic and clinical variables.

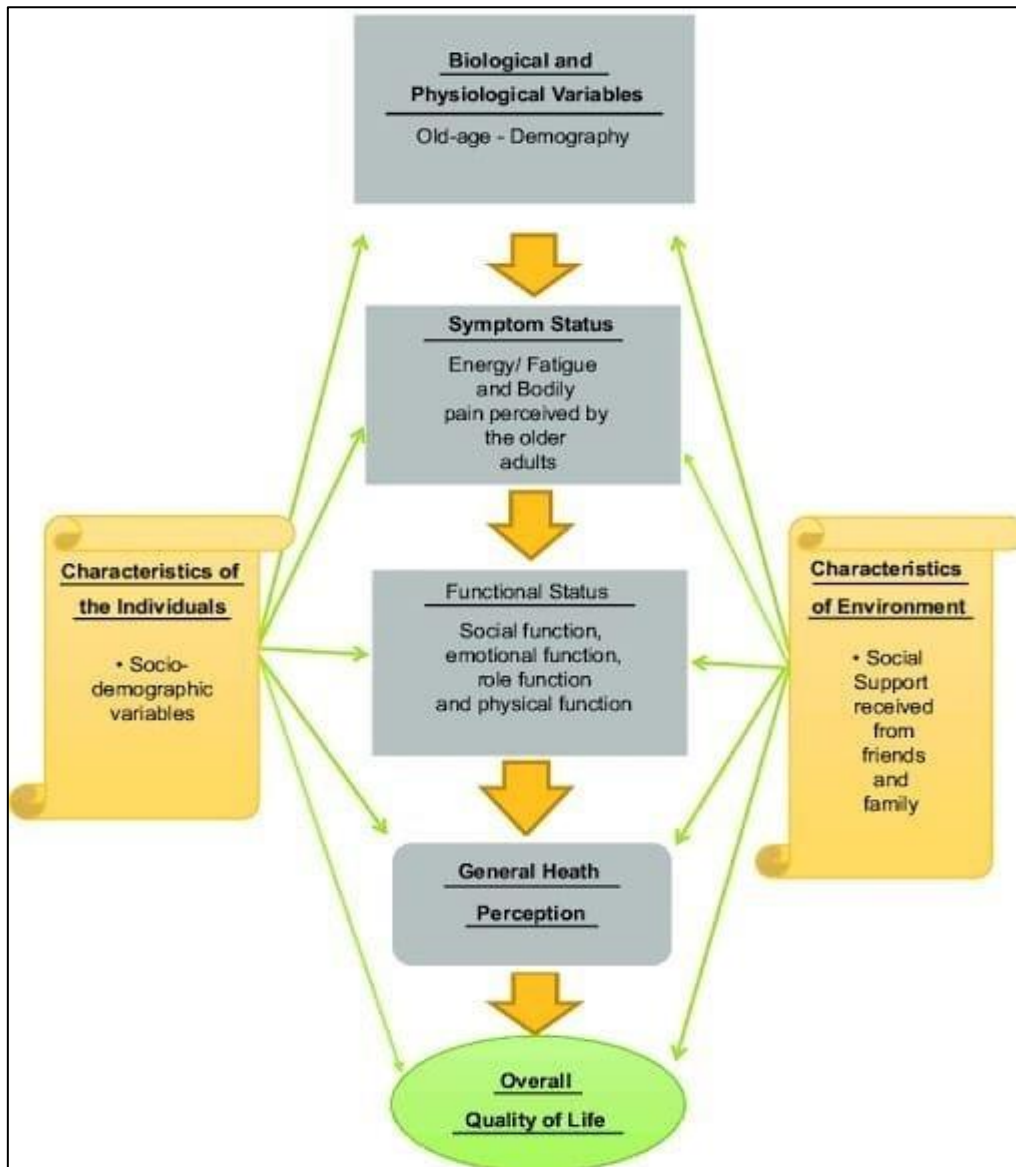


Fig 2 Wilson and Cleary Model of Health-Related Quality of Life (Biopsychosocial Model)

CHAPTER TWO REVIEW OF LITERATURE

A literature review give a theoretical base for the research and help to determine the nature of the research. The literature review acknowledges the work of previous researchers, and in so doing, assures the reader that researcher's work has been well conceived. It is assumed that by mentioning a previous work in the field of study, that the author has read, evaluated, and assimilated that work into the work at hand.

A literature review creates a "landscape" for the reader, giving researcher a full understanding of the developments in the field. This landscape informs the reader that the author has indeed assimilated all (or the A literature review is a comprehensive summary of previous research on a topic. The review should enumerate, describe, summarize, objectively evaluate and clarify this previous research. It should vast majority of) previous, significant works in the field into her or his research.

The review of literature for the present study is organised under the following headings:

- Study related to quality of life
- The quality of life in hemodialysis patients
- The components of quality of life of hemodialysis patients

➤ *Related Study to Quality of Life*

A cross-sectional study was adopted with 130 samples who met the inclusive criteria to conduct the study in the dialysis unit, India. The instrument used for the study was to collect the data are demographic variable and kidney disease QOL short form version1.3. The result shows that QOL was 48.73 ± 22.65 , highest score was for dialysis staff encouragement scale (84.04 ± 14.89) followed by social support scales (80.0 ± 18.3) and role limitation caused by physical health problems, role limitation caused by emotional health, and burden of kidney disease scales yielded the lowest scores (22.12 ± 18.05 , 26.92 ± 24.15 , and 38.03 ± 12.81 , respectively)^[6].

➤ *The Quality of Life of Dialysis Patients*

To explore the quality of life in hemodialysis patients. Material and Methods: The sample studied consisted of 320 patients undergoing hemodialysis in one-day dialysis center. Data were collected by the completion of a specially designed questionnaire which apart from sociodemographic and clinical variables, it also included the scale Missoula-VITAS Quality of Life Index (MVQOLI) for assessing quality of life. The result shows of the 320 hemodialysis patients, 57,2% were men while 28,1% of the participants were 71-80 years old. The average total score of quality of life was found to be 17.43 (in a range 0-30). The total score of quality of life was found to be higher in participants <60 years ($p = 0,009$), of higher educational level ($p = 0,001$), being very informed about the health problem ($p = 0,013$), complied with therapeutic recommendations and the proposed diet ($p = 0,025$ & $p = 0,012$, respectively), having very good relations with the medical and nursing staff or other patients ($p < 0,001$), not experiencing difficulties with social or family environment ($p = 0,001$), had help at home ($p < 0,001$) and in those who did not conceal their health problem from the social environment ($p < 0,001$). Furthermore, it was found that the increasing duration of hemodialysis session entailed poorer quality of life ($p < 0,001$). These results were largely confirmed by multiple linear regression.^[7]

➤ *The Components of Quality of Life of Hemodialysis Patients*

In this qualitative inductive content analysis, 16 family caregivers of hemodialysis patients, presenting to the teaching hospitals of Tehran, Iran, were enrolled via maximum variation purposive sampling; sampling continued until reaching data saturation. The data collection method included in-depth semi-structured interviews. Also, an inductive content analysis was carried out based on Elo and Kyngas' method. Results show, A total of 311 codes, 19 subcategories, eight generic categories, and three main categories were extracted in this study. The main (and the generic categories) included mental and psychological problems (depressive mood, incompatibility and reduced tolerance, mental exhaustion, and deprivation of basic needs), social disruption (social isolation and social threats), and physical problems (general complications and disabilities and defects in the normal functioning of organs)

➤ *Summary of Review of Literature*

The reviewed studies collectively highlight that the quality of life (QOL) among hemodialysis patients is influenced by a range of physical, psychological, and social factors. Quantitative studies from India and a one-day dialysis center showed that patients generally experience moderate to low QOL, with better scores linked to positive social support, strong healthcare provider relationships, younger age, higher education, and adherence to treatment. Conversely, longer dialysis sessions and limitations due to physical and emotional health were associated with poorer outcomes. A qualitative study from Iran further emphasized the burden of mental health issues, social isolation, and physical COMPLICATIONS as reported by caregivers. Together, these studies underscore the multifaceted nature of QOL in hemodialysis patients and the need for holistic care approaches.

CHAPTER THREE METHODOLOGY, RESULTS AND DISCUSSION

This chapter deals with the research methodology adopted in the study, results of the study and discussions. It includes research approach, research design, variables, schematic representation of the study, setting of the study, population, inclusion and exclusion criteria, sample and sampling techniques, tools used, development or selection of the tool, description of the tool, content validity, reliability of the tool, pilot study, data collection process, plan for data analysis, section wise presentation of data, results and discussions.

➤ *Research Approach:*

The present study is aimed to evaluate the quality of life of dialysis patients.

The research approach used in this study was Quantitative research approach.

➤ *Research Design:*

The research design used for this study was descriptive cross-sectional study.

➤ *Variables:*

Variables are anything that has quantity and quality that varies. In other words, variables are concepts at different levels of abstraction that are concisely defined to promote their measurement or manipulation within study.

The present study includes:

• *Research Variable:*

Quality of life

• *Normal Variable:*

Demographic variables Clinical variables

➤ *Schematic Representation of Study:*

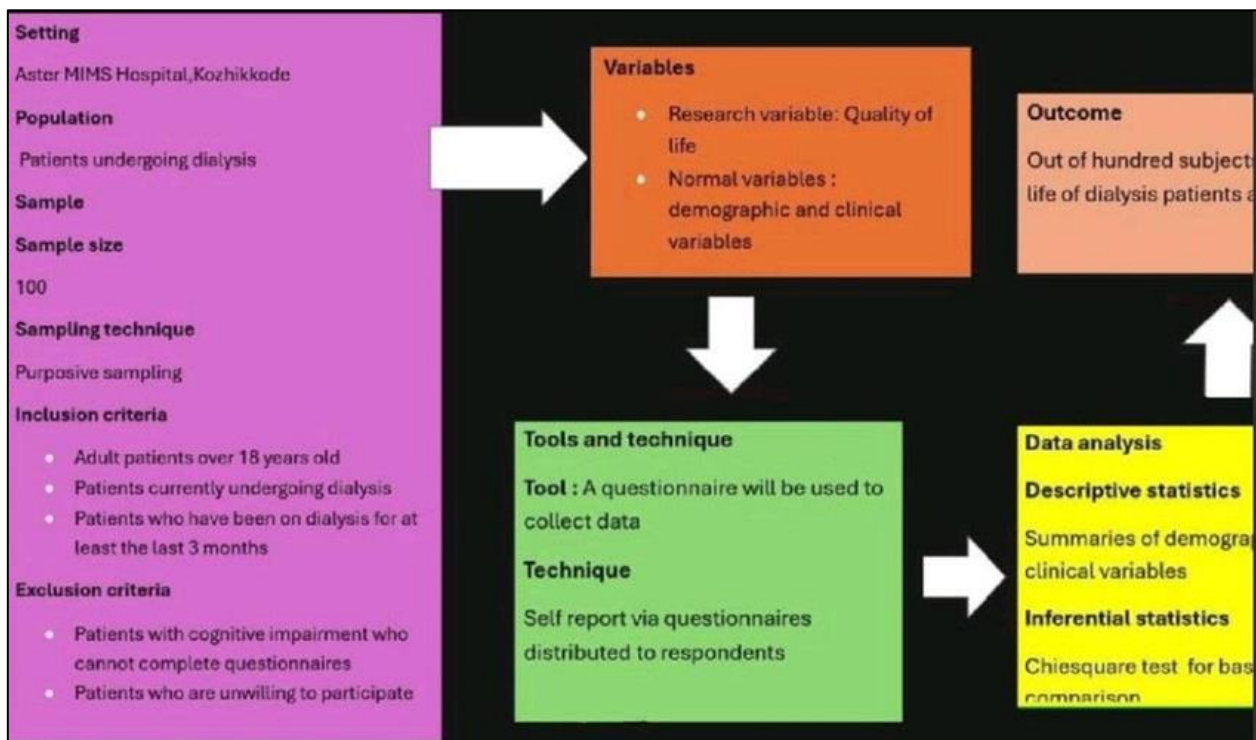


Fig 3 Schematic Representation of Design of the Study

➤ *Setting of Study:*

Setting is the physical, social, or experimental context within which research is conducted. The setting of the present study was at Aster MIMS Hospital, Kozhikkode.

- *Aster Mims Hospital, Kozhikode*

Malabar Institute of Medical Sciences Ltd (MIMS), is a well acclaimed health enterprise and one of the leading healthcare systems in Malabar, assures comprehensive health care services with a global standard. The Aster MIMS Hospital Kozhikode is 600 bedded hospital

- *Population*

Population is a well-defined collection of individuals or objects known to have similar characteristics. Target population refers to the entire group of individuals or objects to which researchers are interested in generalizing the conclusions.

The population for the present study was Patients who underwent dialysis

- *Inclusion Criteria*

- ✓ Adult patients above 18years old
- ✓ patients currently undergoing dialysis
- ✓ patients how have been on dialysis for at least 3 months

- *Exclusion Criteria*

- ✓ patients with cognitive impairment who cannot complete questionnaires
- ✓ patients with unwilling to participate

- *Sample and Sampling Technique:*

- *Sample:*

In this study, samples were patients Undergoing dialysis in selected hospitals, Calicut.

Sample size: 100 patients

- *Sampling technique:*

Non probability purposive sampling technique.

- *Tool or Instruments:*

Tool for study includes:

- *Tool-1:* Questionnaire for assessing demographic information of dialysis patients
- *Tool-2:* Questionnaire for assessing clinical information of the following steps were taken for the selection of items and preparation dialysis patients
- *Tool-3:* kidney disease and quality of life (KDQOL-36)

- *Development/Selection of tool*

- Review of research and non-research literature was made in related areas.
- Formal discussion held with the medical and nursing experts and their valuable suggestions were utilised for developing the tool.
- Professional experience of the investigate or helped in determining the important areas to be included in the tool.

- *Description of Tool*

- *Tool-1: demographic performa*

Demographic Performa is intended to collect the demographic data of the sample, which consisted of 7 items, such as age of the participant, gender, marital status, educational status, monthly income in rupees, and occupation of the participant. Content validity of the tool in order to establish content validity, the tool was submitted to 5 experts. After the discussion with the guide, the suggestions from the experts were incorporated in to the tool and it was finalized. The content validity index was found as 0.8

- *Tool 2: Clinical Performa*

Clinical Performa intended to collect the clinical data of the sample, which consisted 7 items, such as Type of dialysis, duration, frequency of dialysis, Co morbidities, Medication adherence, Family history of CKD, duration of CKD since diagnosis side regimen and comorbid illness. Content validity of the tool in order to establish content validity, the tool was submitted to 5 experts. After the discussion with the guide, the suggestions from the experts were in incorporated in to the tool and it was finalized.

The content validity index was found as

- **Tool 3: Kidney disease is and quality of life(KDQOL-36)**

Kidney disease and quality of life is a 36-item scale that assesses Quality of life of kidney disease patients.

- **Content Validity**

To ensure the content validity, the tools were given to 1 medical expert and 5 nursing experts. As per expert suggestions, modifications were incorporated, few questions were deleted and few questions were included in the questionnaire. Finalize the tool by consultation with the guide. The content validity index was 0.8

- **Reliability**

Split half method is used to ensure the reliability of the tool 65796 obtained was '0.89'. Hence the tool was considered reliable for proceeding with the study.

- **Pilot Study**

After obtaining permission a pilot study was conducted among 10 selected dialysis patients from Aster MIMS Hospital, Calicut on 23.06.25 to 24.06.25. Data were collected by using the proposed tools. The main objectives were to assess the feasibility of this study. Pilot study revealed that the tools used in the study were simple, clear and unambiguous. The data collected were amenable for statistical analysis.

- **Data Collection Process**

After getting the approval of the institutional review board, permission to conduct the study was obtained Head of the department of Nephrology at Aster MIMS hospital, Calicut, and gained the approval from IEC. The main study was conducted for two weeks period from 25/06/2025 to 05/07/2025 among dialysis patients seeking dialysis from Aster MIMS hospital, Calicut, who met the inclusion and exclusion criteria. After explain the purpose of the study, informed consent was taken from the subjects and selected 100 samples by purposive sampling technique. The demographic data was obtained by using socio- demographic and knowledge was assessed by using self-structured knowledge questionnaire. The data were collected, organized and subjected to analysis.

- **Plan for Data Analysis**

The plan was formulated with expert help. Data were analyzed by: Sample characteristics: frequency and percentage Factors influencing quality of dialysis patients by descriptive statistics Association between selected demographic variables with quality of life of dialysis patients and association between selected clinical variables with quality of life of dialysis patients by inferential statistics

- **Section Wise Presentation Of Data**

- **Section 1: Description of Sociodemographic Characteristics of Subject**

Percentage and frequency distribution of sociodemographic characteristics (age, gender, religion, education, employment, socioeconomic status)

Table 1 Frequency and Percentage Distribution of Age, Gender, Religion

Sl. No	Sociodemographic Characteristics	Frequency	Percentage
1	Age		
	a. 18-30yr	0	0%
	b. 31-50yr	34	34%
	c. 51-60yr	66	66%
2	Gender		
	a. Female	86	86%
	b. Male	14	14%
	c. Other	0	0%
3	Religion		
	a. Christian	47	47%
	b. Hindu	46	46%
	c. Muslim	7	7%
	d. Other	0	0%

It is clear from the table major subjects (66%) are including in age group 51yr to 60yr and 34% including in age group 31yr to 50yr. Most of study participants are female 86% and male including 14%. Majority belongs Christian 47%, 46% belongs to Hindu and 7% participants belongs to Muslim religion.

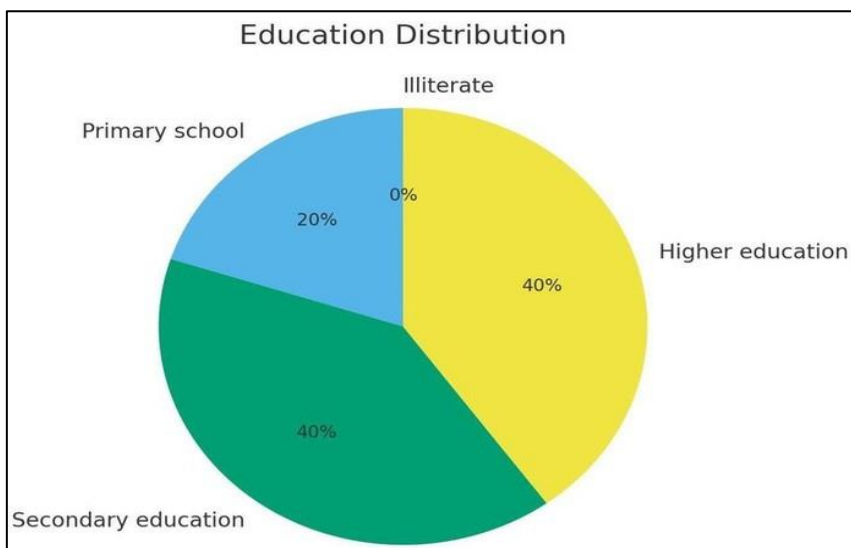


Fig 4 Frequency and Percentage Distribution of Education

The above figure 4 ; shows 0% of illiterate,20% of primary school,40% of higher education and 40% of secondary education

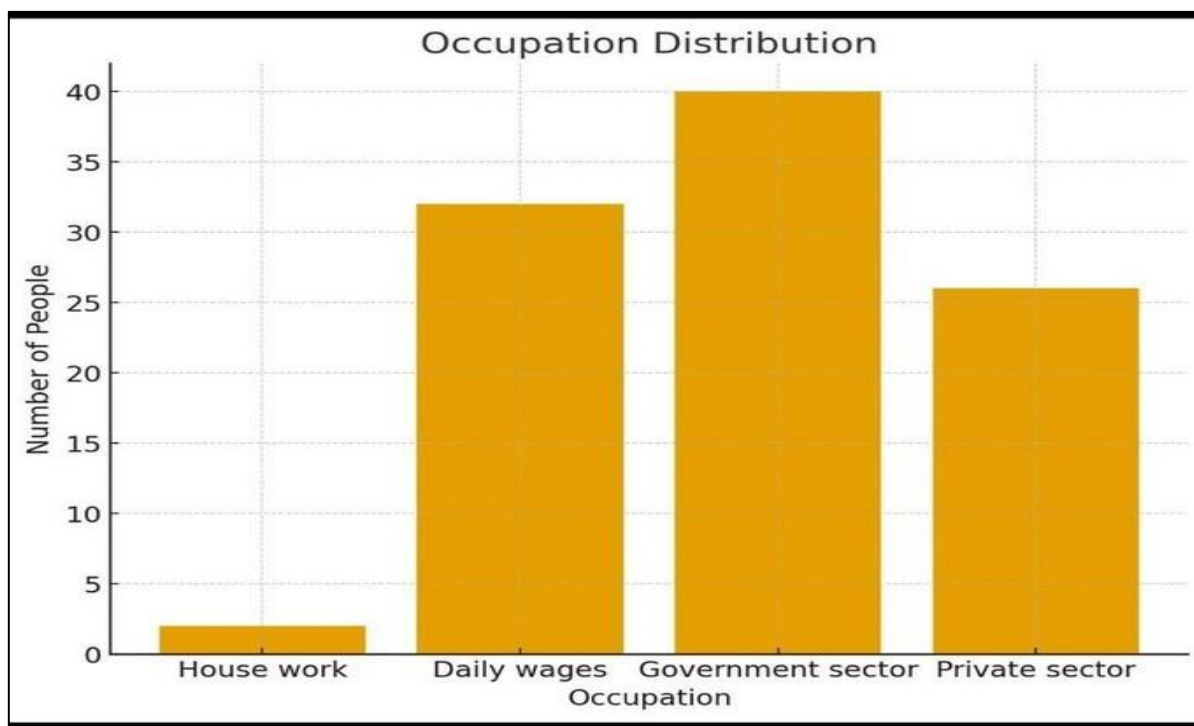


Fig 5 Frequency and Percentage Distribution of Occupation

The above figure shows 2% of house workers,32%of daily wages,40% of government sector and 26% of private sector.

Table 2 Frequency and Percentage Distribution of Socioeconomic Status

Sl.no	Sociodemographic Characteristics	Frequency	Percentage
4	a.<1000rs	0	0%
	b.10001rs-50000rs	0	0%
	c.50001rs-100000rs	56	56%
	d.>100000rs	64	64%

Table shows the frequency and percentage distribution of socioeconomic status majority subjects 64% has greater than 100000 Rs income and 56% including 50001Rs to 100000Rs income

• *Section 2: Description of Clinical Characteristics of the Subject.*

Percentage and frequency distribution of clinical characteristics (Type of dialysis, Duration, Frequency of dialysis-morbidities, medication adherence, family history, duration of CKD since diagnosis) is given in following table

Table 3 Frequency and Percentage Distribution of Type of Dialysis, Duration, Frequency

Sl.no	Clinical Characteristics	Frequency	Percentage
1	Type of dialysis a		
	a. Hemodialysis	100	100%
	b.Peritoneal dialysis	0	0%
2	Duration		
	a.6 month to 1yr	0	
	b.1 year to 3year	59	59%
	c.More than 3year	41	41%
3	Frequency of dialysis		
	a.Weekly thrice times	100	100%
	b.Weekly 4 times	0	0%
	c.More than 5 times	0	0%

It is clear from the table 100% subjects are following hemodialysis. In duration of dialysis majority subjects (59%) are include in 1 year to 3 year and 41% subject including inmore than 3year and the frequency of dialysis of 100% subjects is weekly thrice times.

Table 4 Frequency and Percentage Distribution of Comorbidities and Medication Adherence

Sl.No	Clinical Characteristics	Frequency	Percentage
4	Co morbidities		
	a.Yes	46	46%
	b.No	54	54%
5	Medication adherence		
	a.Yes	100	100%
	b.No	0	0%

Table 4 shows the frequency and percentage distribution of comorbidities and medication adherence. Majority (54%) Subject have no comorbidities and (46%) subjects have comorbidities .100%subjects following medication adherence properly.

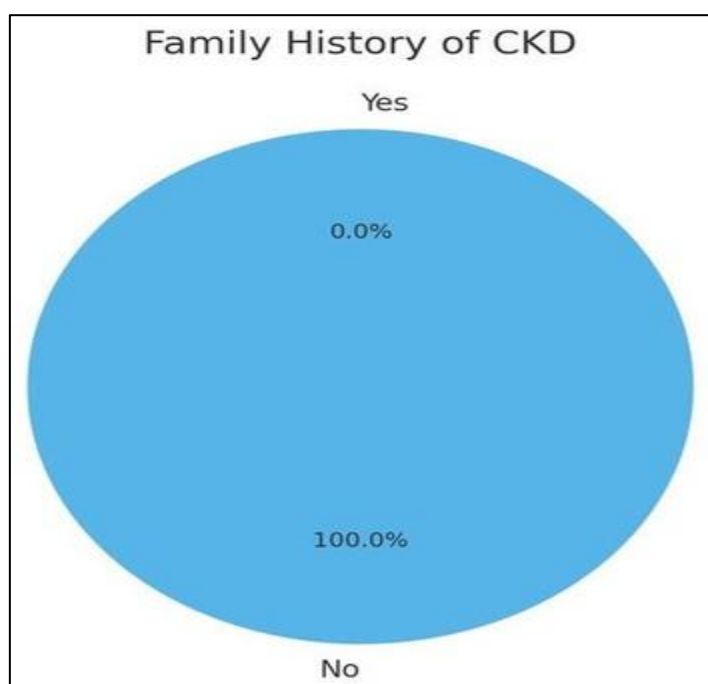


Fig 6 Frequency and Percentage Distribution of Family History

Above figure shows there is no family history of CKD in selected subjects.

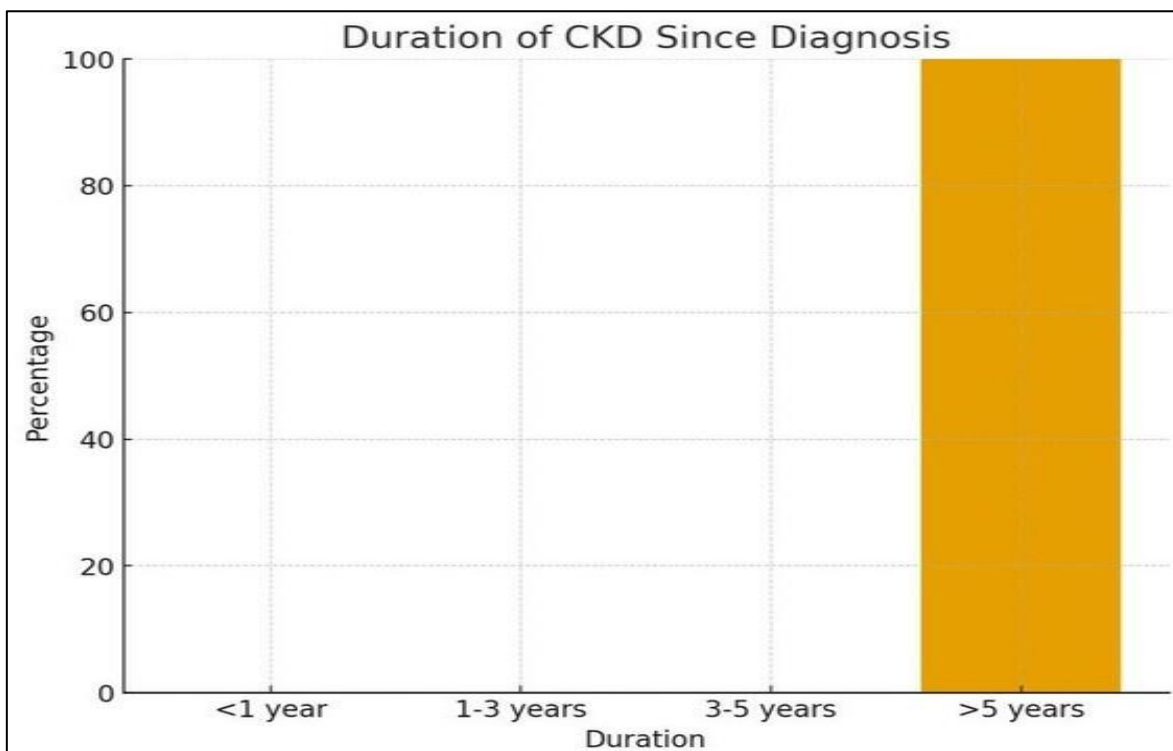


Fig 7 Frequency and Percentage Distribution of Duration of CKD Since Diagnosis.

The above figure shows that all the selected subjects have duration of CKD above 5 years since diagnosis.

• *Description of KDQOL tool*

Kidney disease quality of life tool is used to assess the quality of life of dialysis patients. The tool consisting 3 component physical component summaries (pcs), mental component summaries (mcs), kidney disease component summaries (kdc). It contains 36 questionnaires. The score range is 100. This section describes mean and standard deviation of each component of tool.

Table 5 Mean and Standard Deviation of KDQOL (Physical Component Summaries)

Sl No	Item with Total Score	Mean	Standard Deviations
1	pcs1	3.13	0.706
2	pcs2	2.44	0.499
3	pcs3	2.43	0.498
4	pcs4	0.38	0.488
5	pcs5	0.46	0.501
6	pcs6	0.44	0.499
7	pcs7	0.26	0.441
8	pcs8	1.58	0.496
	Total score	11.12	4.12

It is evident from table mean and standard deviations of physical component summaries of KDQOL scale were pcs 1:3.13±0.706, pcs 2:2.44±0.499, pcs 3:2.43±0.498, pcs4:0.38±0.488, pcs5:0.46±0.501, pcs6:0.44±0.499, pcs7:0.26±0.44, pcs8:1.58±0.496. The mean of total physical component summaries was 11.12 with standard deviation of 4.12, hence physical related health of dialysis patients is low Description of KDQOL score (kidney disease quality of life). Mental component summaries (mcs).

Table 6 Mean and Standard Deviation of Mental Component of KDQOL

Sl. No	Item with Total Score	Mean	Standard Deviation
1	mcs9	3.08	0.677
2	mcs10	3.13	0.646
3	mcs11	5.12	0.640
4	mcs12	2.20	0.682
	Total	13.53	2.645

The table shows mean and standard deviation of mental component of KDQOL score. mcs9:3.08±0.67, mcs10:3.13±0.646, mcs11:5.12±0.640, mcs12:2.20±0.682. The mean of total mental component was 13.53 with standard deviation 2.645, hence the mental related health of dialysis patients is quiet low.

Table 7 Description of KDQOL Score. Kidney Disease Component Summaries (kdcsA)

Sl. No.	Item with Total Score	Mean	Standard Deviation
1	kdcsA13	2.88	.640
2	kdcsA14	3.11	.680
3	kdcsA15	2.84	.677
4	kdcsA16	3.13	.774
5	kdcsA17	1.52	.627
6	kdcsA18	2.08	.884
7	kdcsA19	2.19	.961
8	kdcsA20	1.83	.620
9	kdcsA21	1.79	.537
10	kdcsA22	2.06	.839
11	kdcsA23	2.05	.770
12	kdcsA24	2.53	.745
13	kdcsA25	2.92	.912
14	kdcsA26	2.52	.759
15	kdcsA27	2.48	.835
16	kdcsA28	1.43	.573
	Total	33.36	10.93

The table shows mean and standard deviation of kidney disease component summaries(A) was kdcsA13 :2.88±0.644, kdcsA14:3.11±0.680, kdcsA15:2.84±0.677, kdcsA16:3.13±0.774, kdcsA17:1.52±0.627, kdcsA18:2.08±0.884, kdcsA19:2.19±0.961, kdcsA20:1.83±0.620, kdcsA21:1.79±0.537, kdcsA22: 2.06±0.839, kdcsA23:2.05±0.770, kdcsA24:2.53±0.745, kdcsA25:2.92±0.912, kdcsA26:0.75, kdcsA27:2.48±0.83, kdcsA28:1.43±0.573. The mean of total score was 33.36 with standard deviation 10.93.

Table 8 Description of KDQOL Score Kidney Disease Component Summaries (kdcsB)

Sl No	Item with Total Score	Mean	Standard Deviation
1	kdcsB29	4.52	0.522
2	kdcsB30	4.26	0.691
3	kdcsB31	3.16	0.721
4	kdcsB32	1.53	0.674
5	kdcsB33	3.29	0.456
6	kdcsB34	2.45	0.500
7	kdcsB35	1.48	0.502
8	kdcsB36	1.50	0.503
	TOTAL	22.19	4.569

The table shows mean and standard deviation of kidney disease component summarize(B) was kdcsB29:4.52 ±0.522, kdcsB30:4.26±0.691, kdcsB31:3.16±0.721, kdcsB32:1.53±0.674, kdcsB33:3.29±0.456, kdcs B34:2.45±0.500, kdcsB35:1.48±0.502, kdcsB36:1.50±0.569. The mean of total score was 22.19 with standard deviation 4.569.

• Section :3

Table 9 Association between Socio Demographic Characteristics and Quality of Life of Dialysis Patients

Sl No	Sociodemographic Characteristic	Chi square	P value	df
1	Age	40.137	.183	33
2	Gender	81.98	.089	66
3	Education	69.6	.104	66
4	Occupation	122.7	.053	99
5	Socioeconomic status	40.95	.161	33

Level of significance:0.05 The above table represents the association between sociodemographic characteristics and quality of life and it shows the p value of gender (.089) is greater than 0.05 it indicates there is significant association between gender and quality of life dialysis patients. There is no significant association between other sociodemographic characteristics

(age, education, occupation, socioeconomic status) with quality of life as their p value is greater than 0.05.

• *Section: 3.1*

Table 10 Association between Selected Clinical Variables with Quality of Life of Dialysis Patients

Sl No	Sociodemographic Characteristics	Chi square	P value	df
1	Duration	34.270	.407	33
2	Co morbidities	27.402	.742	33

Level of significance is 0.05 The above table represents the association between clinical characteristics and quality of life and it shows the p value of duration (.407) and co morbidities (.742) is greater than 0.05 it indicates there is no significant association between the components and quality of life. Here type of dialysis, frequency of dialysis, medication adherence, family history and duration of ckd since diagnosis are constant, hence they cannot be statistically computed.

➤ *Result Of The Study*

Result of the study have been organized under following heading

- Section 1: description of sample characteristics
- Section 1.1: description of sociodemographic characteristics Section 1.2: description of clinical characteristics
- Section 2: description of outcome variable
- Section 2.1: description of factors influencing quality of life of dialysis patient's
- Section 3: association between kdqol tool and selected demographic variable
- Section 4: association between kdqol tool and selected clinical variable

• *Major Findings of the Study Based on Socio-Demographic Variables are as Follows:*

- ✓ Major subjects (66%) are including in age group 51yr to 60yr and 34% including in age group 31yr to 50yr. Most of study participants are female 86% and male including 14%. Majority belongs Christian 47%, 46% belongs to Hindu and 7% participants belongs to Muslim religion.
- ✓ The study includes 2% of house workers, 32% of daily wages, 40% of government sector and 26% of private sectors.
- ✓ The education status of the subject is 20% of primary school, 40% of higher education and 40% of secondary education
- ✓ The socioeconomic status majority subjects (64%) have greater than 100000Rs income and 56% including 50001Rs to 100000Rs income.

• *Major Findings of the Study Based on Clinical Variables are as Follows:*

- ✓ 100% subjects including in the study are following hemodialysis. In duration of dialysis majority subjects (59%) are include in 1 year to 3 year and 41% subject including in more than 3year and the frequency of dialysis of 100% subjects is weekly thrice times.
- ✓ Majority (54%) Subject have no comorbidities and (46%) subjects have comorbidities .100% subjects following medication adherence properly.
- ✓ There is no family history of CKD in selected subject.
- ✓ All selected subject have more than 5 years of duration of CKD since diagnosis

• *Section 2: Description of Outcome Variable*

Description of factors influencing quality of life of dialysis patient

✓ *Physical Components Summaries*

Mean and standard deviation of physical component summaries pcs1:3.13±.706, pcs2:2.44±.499, pcs3:2.43±.498, pcs4:1.38±.488, pcs5:0.46±.501, pcs6:0.44±0.496, pcs7:0.26±0.44, pcs8:1.58±0.496. The mean of total physical component summaries was 11.12 with standard deviation of 4.12, hence physical summaries are quiet low

✓ *Mental Components Summaries*

Mean and standard deviation of mental component mcs9:3.08±0.67, mcs10:3.13±0.646, mcs11:5.12±0.640, mcs12:2.20±0.682. The mean of total mental component was 13.53 with standard deviation 2.645

✓ *Kidney Disease Component Summaries*

Mean and standard deviation of kidney disease component summaries

kdcA13:2.88±0.644,kdcA14:3.11±0.680,kdcA15:2.84±0.677,kdcA16:3.13±0.774,
 kdcA17:1.52±0.627,kdcA18:2.08±0.884,kdcA19:2.19±0.961,kdcA20:1.83±0.620,
 kdcA21:1.79±0.537,kdcA22:2.06±0.839,kdcA23:2.05±0.770,kdcA24:2.53±0.745,
 kdcA25:2.92±0.912,kdcA26:0.75,kdcA27:2.48±0.83,kdcA28:1.43±0.573.

The mean of total score was 33.36 with standard deviation 10.93. kdcB29:4.52 ±0.522, kdcB30:4.26±0.691, kdcB31:3.16±0.721, kdcB32:1.53±0.674, kdcB33:3.29±0.456, kdcB34:2.45±0.500, kdcB35:1.48±0.502, kdcB36:1.50±0.569. The mean of total score was 22.19 with standard deviation 4.569

- *Section3: Association between KDQOL Tool and Selected Sociodemographic Variable*

There is no significant association between quality of life of dialysis patient and selected demographic variables such as Age, Gender, Religion, Education, Occupation and Socioeconomic status So the null hypothesis is accepted

- *Section4: Association between KDQOL Tool and Selected Clinical Variable*

There was no significant association between quality of life of dialysis patients and clinical variables such Type of dialysis, Duration of dialysis, Frequency, Medication adherence, Family history of kidney disease, Duration of CKD since diagnosis So the null hypothesis is accepted

- *Discussion*

This shows the findings of the study and discussion in relation to similar studies conducted by other researchers

- *Objectives*

- ✓ To assess the overall quality of life of dialysis patients
- ✓ To identify factors influencing the quality of life of dialysis
- ✓ To analyse the association between selected demographic and clinical variables with quality of life of dialysis patients in selected hospitals, Calicut

- *Discussion on Findings of the Study*

The findings of the study are discussed in relation to findings of the other similar studies reviewed by investigators.

- *Findings Regarding the Overall Quality of Life of Dialysis Patients*

The findings of present study shows that the mean of total physical component summaries was 11.12 with standard deviation of 4.12. The mean of total mental component was 13.53 with standard deviation 2.645. The mean of total score was 33.36 with standard deviation 10.93. The mean of total score was 22.19 with standard deviation 4.569. Hence the both physical and mental quality of life are poor among dialysis patients

A quantitative study was conducted to assess the quality of life of End stage Renal Disease Patients Undergoing Dialysis in southern part of Kerala. This study measured QoL using the WHOQOL-BREF among 95 ESRD patients. The result of the study shows that overall QoL was poor-mean converted overall QoL 42.37±21.3; health-related QoL 43.3±18.3. The male patients had higher physical domain scores.

CHAPTER FOUR

LIMITATIONS AND SCOPE OF STUDIES

➤ *Limitations*

This study on the quality of life of dialysis patients has certain limitations, including restricted generalizability beyond the selected dialysis centers. The small sample size may affect the statistical significance and the broader applicability of the findings.

The data were based on participants' self-reported responses, which may not fully reflect their true physical, psychological, and social experiences. Local cultural beliefs and stigma related to chronic kidney disease and dialysis treatment might have influenced participants' responses. The results may not be representative of all dialysis patients, as individuals undergoing different types of dialysis (hemodialysis vs. Peritoneal dialysis) or those with varied comorbidities may report different outcomes. There is also the possibility of selection bias, as patients receiving care at the selected centers may differ from those in other healthcare facilities. Socioeconomic differences may have impacted participants' access to treatment, coping strategies, and overall well-being. Additionally, the availability of psychological, social, and family support systems in the study setting could have influenced the reported quality of life. Lastly, the reliance on self-reporting may not capture the complete clinical picture of patients' health status.

➤ *Scope for future studies*

- The study can help identify the extent of quality-of-life impairments among dialysis patients and highlight the importance of holistic care beyond medical treatment.
- The findings can guide nurses, nephrologists, and other healthcare professionals in planning appropriate interventions such as counselling, patient education, and family support programs.
- Future research can focus on comparing quality of life between hemodialysis and peritoneal dialysis patients, and across different sociodemographic groups.
- The study can contribute to creating awareness among healthcare providers about the psychological and social dimensions of living with dialysis, in addition to physical health.
- The research may serve as a baseline for larger, multi-center studies to enhance the generalizability of results.
- The findings can also help policy makers and hospital administrators design strategies that promote comprehensive dialysis care, addressing physical, psychological, and social needs of patients.

Socioeconomic factors had significant influence. Also, patients who maintained lower inter-dialysis weight gain (≤ 1600) had significantly better QoL. (Visweswaran K, Shaffi M, Mathew P, Abraham M, et al.,2020)

A cross-sectional study was conducted on "kidney disease –Specific Quality of Life among patients on Hemodialysis". This study was carried out with 205 patients to measure the QoL across various demographic and clinical variables in Oman. The results shows that the physical –QoL was 45.7(95%cl,44.3,47.0), which is less than half that of a healthy human. The emotional – QoL is 53.33(95%Cl,51.1,55.5), slightly more than half in a healthy human. The overall general QoL score was 49.5, half the QoL score of a healthy human. (Issa Al Salmi et al.)

➤ *Findings Regarding Selected Demographic Variables and Quality of Life of Dialysis Patients*

The findings of the present study shows that there is no significant association between the selected demographic and quality of life of dialysis patients.

➤ *Findings Regarding Selected Clinical Variables and Quality of Life of Dialysis Patients*

The findings of present study shows that there is no significant association between the selected clinical variables and quality of life of dialysis patients.

CHAPTER FIVE CONCLUSION

Dialysis patients often face multiple physical, psychological, social, and economic challenges that significantly affect their quality of life (QoL). Fatigue, dietary restrictions, dependence on machines, and frequent hospital visits can lead to stress, anxiety, depression, and reduced social interaction. The findings of the study reveal that improving the quality of life of dialysis patients requires a holistic approach, addressing not only physical health but also emotional, social, and spiritual well-being. Nursing interventions, patient education, counseling, and family involvement play a vital role in enhancing their coping abilities and overall QoL. Therefore, structured support systems and patient-centered care strategies should be integrated into dialysis management to promote a better quality of life for these patients.

➤ *Nursing Implication*

The findings of the study have implications in nursing practice, nursing education, nursing administration, and nursing research.

➤ *Nursing Practice*

Patients undergoing dialysis often suffer from reduced quality of life due to physical symptoms such as fatigue, sleep disturbances, pain, dietary restrictions, and comorbidities. In addition, they face emotional issues like depression, anxiety, and social withdrawal. Nurses play a key role in providing holistic care to dialysis patients by:

Assessing their physical, psychological, and social needs regularly. Offering supportive counseling to reduce anxiety and depression. Providing education on dietary and fluid restrictions in a patient-friendly way. Encouraging family participation and peer support groups to improve social well-being.

The study findings clearly show that nursing interventions and continuous support help in enhancing QoL among dialysis patients. Thus, individualized care plans focusing on both physical and psychosocial health should be integrated into daily nursing practice.

➤ *Nursing Education*

The study highlights the importance of educating nursing students about the multidimensional challenges faced by dialysis patients. Nurse educators can: Incorporate topics on quality-of-life assessment and enhancement strategies into the nursing curriculum.

Provide case studies, simulations, and role plays to prepare students for real-life clinical challenges. Emphasize patient-centered care and communication skills to address psychosocial issues. Conduct workshops and seminars on holistic nursing care and chronic illness management.

By including QoL-focused content in nursing education, students will be better equipped to handle the complex needs of dialysis patients and contribute to improved patient outcomes.

➤ *Nursing Administration*

Nurse administrators hold the responsibility of developing policies and institutional strategies to improve the quality of life of dialysis patients. They can Establish multidisciplinary care teams involving nurses, dietitians, psychologists, and social workers.

Ensure adequate staffing in dialysis units to provide individualized care and psychological support Implement in-service training programs on chronic illness management and patient-centered care. Formulate policies and protocols for regular QoL assessment tools to monitor patient well-being.

Facilitate support groups and community-based care programs for dialysis patients and their families. By doing so, administrators can create a supportive environment that strengthens coping skills and enhances overall patient satisfaction.

➤ *Nursing Research*

The present study demonstrates that dialysis has a profound impact on patients' quality of life. Nurse researchers should:

Explore innovative nursing interventions (e.g., relaxation therapy, counselling, support groups) to improve QoL in dialysis patients. Compare the quality of life between different modalities of dialysis (hemodialysis vs. peritoneal dialysis).

Conduct longitudinal studies to evaluate the long-term effect of nursing interventions on QoL.

Share research findings through conferences, journals, and academic forums to strengthen evidence-based practice.

Collaborate with interdisciplinary teams to develop comprehensive models of care that can be implemented globally. Research in this area will provide evidence to design effective, patient-centered, and holistic nursing strategies for dialysis care.

CHAPTER SIX SUMMARY

The study aims to assess the quality of life of dialysis patients, factors influencing quality of life dialysis patients.

➤ *The Objective of Study Are:*

- To assess the overall quality of life of dialysis patients
- To identify the factors influencing quality of life of dialysis patients
- To analyses the association between selected demographic and clinical variables with quality of life of dialysis patients in selected hospital Calicut

➤ *The Study Attempt to Examine the Following Hypothesis:*

- *H1:* There will be significant association between selected demographic variables with quality of life of dialysis patients
- *H2:* There will be significant association between selected clinical variables with quality of life of dialysis patients
- *H3:* Dialysis significantly impacts the quality of life of dialysis patients leading to decreased physical, emotional and social well-being.

➤ *The Study Assumed That:*

- The patient undergoing dialysis have decreased quality of life
- Tbheetw eelnoif e dialysis patients have significant association sociodemographic and clinical variables who are present at the time and willing to participate in the study

A descriptive cross-sectional design was used in this study. Study population comprised 100 dialysis patients

➤ *The Study Tool Were:*

- sociodemographic Performa
- clinical Performa of patient
- KDQOL tool (kidney disease quality of life)

The data collection period was about one month. The analysis of the data was done based on the objectives of the study and hypotheses. Both descriptive (frequency, Percentage, mean and standard deviation) and inferential statistics (Chi-squares test) were used for data analysis and all the hypotheses were tested at a 0.05 level of significance .major subjects (66%) are including in age group 51yr to 60yr and 34% including in age group 31yr to 50yr. Most of study participants are female 86% and male including 14%. Majority belongs Christian 47%, 46% belongs to Hindu and 7% participants belongs to Muslim religion. The study includes 2% of house workers, 32% of daily wages, 40% of government sector and 26% of private sectors. The education status of the subjects is 20% of primary school, 40% of higher education and 40% of secondary education The socioeconomic status majority subjects (64%) have greater than 100000Rs income and 56% including 50001Rs to 100000Rs income. Major findings of the study based on clinical variables are. 100% subjects including in the study are following hemodialysis. In duration of dialysis majority subjects (59%) are include in 1 year to 3 year and 41% subject including in more than 3year and the frequency of dialysis of 100% subjects is weekly thrice times. majority (54%) Subject have no comorbidities and (46%) subjects have comorbidities .100% subjects following medication adherence properly. There is no family history of CKD in selected subject. All selected subject has more than 5years of duration of CKD since diagnosis

➤ *Major findings of KDQOL score:*

Physical components summaries. Mean and standard deviation of physical component summarise, pcs1:3.13±.706, pcs2:2.44±.499, pcs3:2.43±.498, pcs4: .38±.488, pcs5:0.46±.501, pcs6:0.44±0.496, pcs7:0.26±0.44, pcs8:1.58±0.496.

The mean of total physical component summarise was 11.12 with standard deviation of 4.12 Mental components summarise . Mean and standard deviation of mental component summarise, mcs9:3.08±0.67, mcs10:3.13±0.646, mcs11:5.12±0.640, mcs12:2.20±0.682. The mean of total mental component was 13.53 with standard deviation 2.645 Kidney disease component summaries. 1 Mean and standard deviation of kidney disease component summaries

kdcA13:2.88±0.644, kdcA14:3.11±0.680, kdcA15:2.84±0.677, kdcA16:3.13±0.774, kdcA17:1.52±0.627, kdcA18:2.08±0.884, kdcA19:2.19±0.961, kdcA20:1.83±0.620, kdcA21:1.79±0.537, kdcA22:2.06±0.839, kdcA23:2.05±0.770, kdcA24:2.53±0.745, kdcA25:2.92±0.912, kdcA26:0.75, kdcA27:2.48±0.83, kdcA28:1.43±0.573.

The mean of total score was 33.36 with standard deviation 10.932. kdcB29:4.52±0.522, kdcB30:4.26±0.691, kdcB31:3.16±0.721, kdcB32:1.53±0.674, kdcB33:3.29±0.456, kdcB34:2.45±0.500, kdcB35:1.48±0.502, kdcB36:1.50±0.569. The mean of total score was 22.19 with standard deviation 4.5.

There is no significant association between quality of life of dialysis patient and selected demographic variables such Age, Gender, Religion, Education, Occupation and Socioeconomic status.

There was no significant association between quality of life of dialysis patients and clinical variables such Type of dialysis, Duration of dialysis, Frequency, Medication adherence, Family history of kidney disease, Duration of CKD since diagnosis.

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APPENDIX**➤ TOOL 1: DEMOGRAPHIC PROFORMA**

Demographic proforma of dialysis patients

- | | | |
|----|----------------------|-----|
| 1. | Age. | |
| a. | 18-30yrs | [] |
| b. | 31-50 yrs | [] |
| c. | 51-60yrs. | [] |
| 2. | Gender | |
| a. | Male. | [] |
| b. | Female. | [] |
| c. | Others. | [] |
| 3. | Religion | |
| a. | Christian. | [] |
| b. | Hindu. | [] |
| c. | Muslim. | [] |
| d. | Other. | [] |
| 4. | Education. | |
| a. | Illiterate. | [] |
| b. | Primary school. | [] |
| c. | Secondary education | [] |
| d. | Higher education. | [] |
| 5. | Employment | |
| a. | House work. | [] |
| b. | Daily wages. | [] |
| c. | Government. | [] |
| d. | Private sector | [] |
| 6. | Socioeconomic status | |
| a. | < 10000 Rs. | [] |
| b. | 10001-50000Rs. | [] |
| c. | 50001-100000Rs. | [] |
| d. | More than 1lakhs. | [] |
| 7. | Marital status | |
| a. | Married | [] |
| b. | Unmarried | [] |
| c. | Divorced. | [] |
| d. | Separated. | [] |
| e. | Widow. | [] |

➤ *TOOL 2: CLINICAL PROFORMA*

- 1. Type of dialysis
 - a. Hemodialysis.
 - b. Peritoneal dialysis.
- 2. Duration of Dialysis
 - a. 6 month- 1 year
 - b. 1 year - 3 years
 - c. More than 3 years.
- 3. Frequency of dialysis.
 - a. Weekly once.
 - b. Weekly twice.
 - c. Weekly trice.
- 4. Co morbidities
 - a. Yes, specify
 - b. No
- 5. Medication adherence
 - a. Yes.
 - b. No
- 6. Family History of chronic kidney disease
 - a. Yes.
 - b. No.
- 7. Duration of CKD since diagnosis
 - a. < 1 yr
 - b. 1 - 3 yrs
 - c. 3- 5 yrs
 - d. > 5 yrs

Your Health *– and –* **Well-Being**

Kidney Disease and Quality of Life (KDQOL™-36)

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.



Thank you for completing these questions!

Kidney Disease and Quality of Life™ (KDQOL™-36)
English Version 1.
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Study of Quality of Life For Patients on Dialysis

What is the purpose of the study?

This study is being carried out in cooperation with physicians and their patients. The purpose is to assess the quality of life of patients with kidney disease.

What will I be asked to do?

For this study, we want you to complete a survey today about your health, how you feel and your background.

Confidentiality of information?

We do not ask for your name. Your answers will be combined with those of other participants in reporting the findings of the study. Any information that would permit identification of you will be regarded as strictly confidential. In addition, all information collected will be used only for purposes of the study, and will not be disclosed or released for any other purpose without your prior consent.

How will participation benefit me?

The information you provide will tell us how you feel about your care and further understanding about the effects of medical care on the health of patients. This information will help to evaluate the care delivered.

Do I have to take part?

You do not have to fill out the survey and you can refuse to answer any question. Your decision to participate will not affect your opportunity to receive care.

Your Health

This survey includes a wide variety of questions about your health and your life. We are interested in how you feel about each of these issues.

1. In general, would you say your health is: [Mark an in the one box that best describes your answer.]

Excellent	Very good	Good	Fair	Poor
▼	▼	▼	▼	▼
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much? [Mark an in a box on each line.]

Yes, limited a lot	Yes, limited a little	No, not limited at all
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2. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf 1..... 2..... 3

3. Climbing several flights of stairs 1..... 2..... 3

These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the past 4 weeks...

All of the time ▼	Most of the time ▼	A good bit of the time ▼	Some of the time ▼	A little of the time ▼	None of the time ▼
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9. Have you felt calm and peaceful? 1..... 2..... 3..... 4..... 5..... 6

10. Did you have a lot of energy? 1..... 2..... 3..... 4..... 5..... 6

11. Have you felt downhearted and blue? . 1..... 2..... 3..... 4..... 5..... 6

12. **During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?**

All of the time ▼	Most of the time ▼	Some of the time ▼	A little of the time ▼	None of the time ▼
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Your Kidney Disease

How true or false is each of the following statements for you?

	Definitely true ▼	Mostly true ▼	Don't know ▼	Mostly false ▼	Definitely false ▼
13. My kidney disease interferes too much with my life	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
14. Too much of my time is spent dealing with my kidney disease	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
15. I feel frustrated dealing with my kidney disease	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
16. I feel like a burden on my family	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5

During the past 4 weeks, to what extent were you bothered by each of the following?

	Not at all bothered ▼	Somewhat bothered ▼	Moderately bothered ▼	Very much bothered ▼	Extremely bothered ▼
17. Soreness in your muscles?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
18. Chest pain?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
19. Cramps?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
20. Itchy skin?.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
21. Dry skin?.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
22. Shortness of breath?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
23. Faintness or dizziness?.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
24. Lack of appetite?...	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
25. Washed out or drained?.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
26. Numbness in hands or feet?.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
27. Nausea or upset stomach?.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
28^a. (Hemodialysis patient only) Problems with your access site? ...	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
28^b. (Peritoneal dialysis patient only) Problems with your catheter site?..	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Effects of Kidney Disease on Your Daily Life

Some people are bothered by the effects of kidney disease on their daily life, while others are not. How much does kidney disease bother you in each of the following areas?

	Not at all bothered	Somewhat bothered	Moderately bothered	Very much bothered	Extremely bothered
29. Fluid restriction?....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
30. Dietary restriction?.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
31. Your ability to work around the house?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
32. Your ability to travel?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
33. Being dependent on doctors and other medical staff?.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
34. Stress or worries caused by kidney disease?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
35. Your sex life?.....	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
36. Your personal appearance?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Thank you for completing these questions!