



QUALITY OF LIFE IN THE HEMODIALYSIS PATIENTS: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Subjective parameters when evaluated shows different outcome in End stage renal disease patients on hemodialysis compared to objective parameters related to quality of life which shows good correlation with outcome. Regular assessment of quality of life helps to achieve better outcome.

Aim: To assess the subjective parameters of quality of life in dialysis patients.

Methods: It was a cross-sectional observational study involving 30 hemodialysis patients to assess quality of life using WHOQOL-BREF assessment questionnaire (short form of WHO-100) which has four composites like physical, mental health, environmental and social life.

Results: The most affected was physical composite in quality of life. Employment, economic status, presence of comorbidities, anaemia and patient hospitalization were found to affect one or more domains. Elderly Age, male gender, education/literacy status were significant independent variables with positive impact, whereas long travel distance for dialysis, irregular frequency of dialysis, dialysis access failures, presence of ischaemic heart disease had negative impact.

Conclusion: The Hemodialysis patients were not having adequate quality of life in physical composite but had satisfactory quality of life in environmental and social life composites including patient satisfaction about quality of dialysis offered in the hospital.

Keywords: End Stage Renal Disease, Quality of Life, Hemodialysis.

INTRODUCTION

Objective data such as serum urea, calcium, phosphorous, potassium and inter-dialytic weight gain have been given defined parameters of acceptability for End stage renal disease (ESRD) dialysis patient's well being and dialysis efficiency as they are easily measured and evaluated. Quality of care, however may not be synonymous with quality of life. Measurement of quality of life (QOL) is multidimensional and subjective. Studies have shown subjective parameters showed different outcome compared to objective parameters. Studies have shown that because of lack of awareness, patients often do not come for timely dialysis until severe comorbidities develop. Several studies have shown that regular pre-dialysis visits helps to provide the patient with proper education and thereby achieve better QOL.^[1] There is a need to examine these specific areas that may affect the quality of life of the hemodialysis patient. Therefore, the aim of this study was to evaluate the QOL of patients on haemodialysis in the dialysis unit of Vydehi Institute of Medical Sciences and Research Centre, Bengaluru which has automated continuous reverse osmosis (RO) water production system.

AIM AND OBJECTIVE

To assess the subjective parameters of quality of life in ESRD patients on maintenance hemodialysis.

MATERIALS & METHODS

Study design: This cross-sectional observational study involved 30 hemodialysis patients at the Vydehi Institute of Medical Sciences and Research Centre, Bengaluru.

Inclusion Criteria

The ESRD (CKD Stage 5) patients on maintenance hemodialysis in the Department of Nephrology, in Vydehi Institute of Medical Sciences and Research Centre.

Exclusion Criteria

1. Acute kidney Injury patients.
2. Patients who had dementia or other active mental disorders, neurological illness which may interfere with the day to day activities of daily living, as well as mental health and hemodynamically instability.
3. Patients with cancer.

Data Collection

Data were collected at one time using a data collection form. The samples were selected by convenient sampling technique who met the inclusion criteria. It included 30 patients with information on: socio-demographic characteristics, co-morbid conditions (diabetes mellitus, hypertension and other co-morbidities), type of vascular access [arterio-venous fistula (AV-fistula), duration of haemodialysis, and hepatitis serology status. Data were collected by interview during the dialysis session. It took about 30 minutes for each patient by the interviewer. The patients who consented in written form to participate were informed about the purpose of the study, rights to participate or withdraw from the study. Kt/V, URR was calculated for all patients at regular intervals and we aimed to maintain a Kt/V of 1.2. Target blood flow during hemodialysis was 250-300 mL/min, with a dialysate flow rate of 500 mL/min and all patients were dialyzed with Fresenius 4008 machines with Fresenius low flux polysulfone dialyzer (according to body surface area). We described noncompliance/irregular as skipping one or more hemodialysis sessions. All patients were vaccinated against Hepatitis B. The mean of the last 2 measurements of routine laboratory parameters including hemoglobin, calcium, phosphorous, parathormone, albumin and creatinine were recorded.

Description of QOL Tools

To assess the quality of life, we adapted the WHOQOL-BREF assessment questionnaire (short form of WHO-100) which has been validated and is frequently used as a quality of life measure was employed in our investigation. It is based on four dimensions of quality of life—physical health, mental health, social life and environment. [2,3,4,5,6]

1. Physical Health: (a) Physical functioning, (b) work status, (c) role limitation due to physical function, (d) general health, (e) pain, (f) energy/fatigue.
2. Mental Health (MH): (a) Emotional well-being, (b) burden of kidney disease, (c) role limitation due to emotional function.
3. Environmental domain assessed the influence of factors such as environment, financial resources, transport facilities, and insurance schemes.
4. Social life: quality of social interaction.

The instruments were distributed on the day of the patient's dialysis appointment at the unit, but the patients answered the questions themselves, assisted by the nurses/doctors if required.

The participants were requested to answer by themselves after recall their experience of the past 4 weeks, and the researcher helped to fill the survey instruments. Each scale was scored as 0–100, with a higher score indicating better QOL.^[7] They were assured about their confidentiality and anonymity throughout the study.

Ethical considerations

This study had approval from the institutional ethical committee prior to commencement Vydehi Institute of Medical Sciences and Research Centre, Bangalore 560066 (VIEC/2025/APP/07; Dated: 28th January, 2025), and a written informed consent was taken from each participant enrolled in the study.

Statistics

The software SPSS version 20.0 was used to analyze and evaluate the data obtained in this study. Epidemiological data were presented as frequency, percent, mean and standard deviation ($\bar{x} \pm s$) [12]. Quantitative (numerical) variables were shown as means with standard deviations ($M \pm SD$), and significance of differences between more than two groups was verified using analysis of variance (ANOVA). Correlations between two parameters, measurable (WHOQOL, age etc.) or nominal (female sex, presence of symptoms, etc) were analysed with single-factor analysis. Multiple-factor analysis for QoL and the characteristics that correlated with it in the single-factor analysis was performed using multiple correlation analysis. A P-value less than 0.05 was considered statistically significant.^[8]

RESULTS

Study included 30 ESRD patients. Socio-demographic parameters (age, gender, marital status, education status, employment status, monthly income, travel distance), clinical history, including comorbidities and dialysis details were recorded (Table 1). 66.6% were in age group 46-60years, 73.3% were males, 86.6% were married, 86.6% were literates, 73.3% were unemployed, 33.3% earned income of Rs 25000 per month, majority travelled more than 5kms, 73.3% had comorbidities, 93.3% were regular on dialysis schedule, 66.6% were on weekly twice dialysis, 73.3% were on reuse dialyzer, 63.3% were on AVF as dialysis access, 13.3% had dialysis access failures. The mean total score of QOL was fairly maintained at 54.42 ± 4.26 (Table 2). The highest score was for Environmental composite (72.9 ± 2.01), Social Life composite (70.76 ± 2.23) followed by mental composite (42.74 ± 3.8) and lowest score was for physical composite (31.3 ± 9.02) (Table 2). Table 3 shows association of the studied variables on the QOL of the patients. There was no significant effect of type of dialysis, types of dialysis access, calcium, phosphorus, parathormone, albumin blood levels, KT/V, URR on the QOL. However, older age group had positive impact on mental composite ($P = 0.02$), male gender had positive impact on mental composite ($p=0.009$),

education status, literacy had positive impact on social life composite($p=0.01$), employed status had positive impact on mental and social life composites ($p=0.007$; $p=0.01$ respectively), richer economic status had positive impact on physical and social life composites ($p=0.02$; $p=0.01$), longer travel distance had negative impact on physical composite (p value= 0.009), presence of comorbidities had negative impact on physical and environmental composites ($p=0.01$; $p=0.02$), irregular and infrequent dialysis visits had negative impact on physical composite($p=0.02$), dialysis access failures had negative impact on physical composite($p=0.02$), anaemia had negative impact on physical and social life composites($p=0.03$; $p=0.01$), presence of ischaemic heart disease had negative impact on physical composite ($p=0.008$), frequent hospitalization had negative impact on physical and mental composites ($p=0.01$; $p=0.009$).

Parameters		n(%)
Demographic Parameters		
Age	18-30	2(6.6)
	31-45	6(20)
	46-60	20(66.6)
	>61	2(6.6)
Gender	Male	22(73.3)
	Female	8(26.6)
Marital status	Married	26(86.6)
	Unmarried	4(13.3)
Education status	Illiterate	4(13.3)
	Literate	26(86.6)
Employment status	Employed	8(26.6)
	Unemployed	22(73.3)
Monthly income in Rupees (Rs)	<10000	6(20)
	10000-25000	14(46.6)
	>25000	10(33.3)
Travel distance in Kilmetres (Km)	<5	6(20)
	5-10	16(53.3)
	>10	8(26.6)
Clinical and Dialysis Parameters		
Comorbidities (Diabetes Mellitus, Hypertension, Ischaemic Heart Disease, Musculoskeletal Disorders, Cerebrovascular Accidents)	Present	22(73.3)
	Absent	8(26.6)
Frequency of Hemodialysis	Regular	28(93.3)
	Irregular	2(6.6)
	Once/Week	1(3)
	Twice/Week	20(66.6)
	Thrice/Week	9(30)
Type of hemodialysis	Reuse Dialyzer	22(73.3)
	Single use Dialyzer	8(26.6)
Dialysis access types	Temporary Catheter	3(10)
	Permanent Catheter	6(20)
	AVF	19(63.3)
	AVG	2(6.6)
Dialysis access failures	Present	4(13.3)
	Absent	26(86.6)
Table 1: Baseline Characteristics of Total 30 Patients		

Parameters	Mean (\pm Standard Deviation)
Haemoglobin (g/dl)	9 \pm 1.05
Calcium (mg/dl)	8.7 \pm 1.15
Phosphorus (mg/dl)	4.3 \pm 0.25
Parathormone (pg/ml)	312 \pm 2.15
Albumin (g/dl)	3.7 \pm 1.02
Creatinine (mg/dl)	8.7 \pm 1.07
Dialysis Efficiency	
KT/V	1.18 \pm 0.15
URR	58 \pm 1.15
IHD features on Echocardiogram	8 \pm 1.15
Frequency of Hospitalization	2 \pm 1.15
Mean HRQOL Scores	54.42 \pm 4.26
Physical composite	31.3 \pm 9.02
Mental composite	42.74 \pm 3.8
Environmental composite	72.9 \pm 2.01
Social life composite	70.76 \pm 2.23
Table 2: Biochemical tests, Dialysis efficiency markers, Echocardiogram and HRQOL Scores	

		n	Physical composite Mean(SD)	Mental composite Mean(SD)	Environmental composite Mean(SD)	Social life composite Mean(SD)
Demographic Parameters						
Age	18-30	2	38 \pm 11.5	39 \pm 8.1	69 \pm 1.9	69 \pm 1.9
	31-45	6	36 \pm 12.7	43 \pm 12.7	75 \pm 2.7	75 \pm 2.7
	46-60	20	32 \pm 13.2	47 \pm 10.7	76 \pm 1.9	76 \pm 1.9
	>61	2	31 \pm 12.3	43 \pm 11.7	75 \pm 2.7	79 \pm 2.7
P value			0.49	0.02	0.34	0.22
Gender	Male	22	36 \pm 12.7	49 \pm 11.1	79 \pm 1.9	79 \pm 1.9
	Female	8	31 \pm 11.4	44 \pm 2.7	75 \pm 2.7	72 \pm 2.7
P value			0.31	0.009	0.34	0.55
Education Status	Illiterate	26	37 \pm 11.7	41 \pm 8.1	71 \pm 1.9	72 \pm 1.9
	Literate	4	39 \pm 10.7	47 \pm 12.7	75 \pm 2.7	75 \pm 2.7
P value			0.78	0.63	0.54	0.01
Employment status	Employed	8	37 \pm 9.7	48 \pm 1.1	78 \pm 1.9	77 \pm 1.9
	Unemployed	22	32 \pm 10.2	42 \pm 2.9	72 \pm 2.7	72 \pm 2.7
P value			0.97	0.007	0.25	0.01
Monthly income in Rupees (Rs)	<10000	6	30 \pm 12.7	42 \pm 1	69 \pm 1.9	69 \pm 1.9
	10000-25000	14	32 \pm 10.1	44 \pm 1.3	75 \pm 2.7	75 \pm 2.7
	>25000	10	36 \pm 8.7	49 \pm 2.5	76 \pm 1.9	76 \pm 1.9
P value			0.02	0.33	0.36	0.01
Travel distance in Kilmetres (Km)	<5	6	36 \pm 11.7	40 \pm 1.5	79 \pm 1.9	79 \pm 1.9
	5-10	16	33 \pm 10.4	41 \pm 1.7	75 \pm 2.7	75 \pm 2.7
	>10	8	31 \pm 9.7	47 \pm 9.5	73 \pm 1.9	72 \pm 1.9
P value			0.009	0.39	0.76	0.62
Clinical Parameters						
Comorbidities (Diabetes)	Present	22	31 \pm 7.7	43 \pm 1.2	72 \pm 1.9	70 \pm 1.9

Mellitus, Hypertension, Ischaemic Heart Disease, Musculoskeletal Disorders, Cerebrovascular Accidents)						
	Absent	8	36±1.7	49±6.9	77±2.7	76±2.7
P value			0.01	0.41	0.02	0.38
Frequency of Hemodialysis	Regular	28	33±8.7	44±1.1	78±1.9	77±1.9
	Irregular	2	29±11.1	42±5.5	72±2.7	72±2.7
	Weekly once	1	30±7.4	42±1.6	69±1.9	69±1.9
	Weekly twice	20	33±10.7	45±2.2	75±2.7	75±2.7
	Weekly thrice	9	34±12.2	48±7.5	76±1.9	76±1.9
P value			0.02	0.41	0.47	0.51
Type of hemodialysis	Reuse Dialyzer	22	31±12.1	40±1.6	69±1.9	69±1.9
	Single use Dialyzer	8	33±12.7	42±2.2	75±2.7	75±2.7
P value			0.5	0.2	0.19	0.18
Dialysis access types	Temporary Catheter	3	32±1.5	39±1.4	69±1.9	69±1.9
	Permanent Catheter	6	34±4.3	42±5	73±2.7	72±2.7
	AVF	19	35±15.2	42±1.9	76±1.9	75±1.9
	AVG	2	35±9.9	45±2.7	75±2.7	75±2.7
P value			0.09	0.07	0.12	0.26
Dialysis access failures	Present	4	30±4.1	40±1.3	69±1.9	69±1.9
	Absent	26	32±3.2	43±4.9	73±2.7	72±2.7
P value			0.02	0.16	0.27	0.23
Haemoglobin (g/dl)	<11		31±9.9	38±2.7	69±1.9	69±1.9
	>11		35±1.5	42±1.4	73±2.7	72±2.7
P value			0.03	0.34	0.21	0.01
Calcium (mg/dl)	<8.5		34±4.3	42±5	69±1.9	69±1.9
	>8.5		35±1.5	42±1.4	73±2.7	72±2.7
P value			0.27	0.21	0.19	0.76
Phosphorus (mg/dl)	>5		32±1.5	39±1.4	69±1.9	69±1.9
	<5		35±15.2	42±1.9	73±2.7	72±2.7
P value			0.32	0.2	0.17	0.16
Parathormone (pg/ml)	>350		31±9.9	42±2.7	69±1.9	69±1.9
	<350		35±9.9	45±2.7	73±2.7	72±2.7
P value			0.23	0.35	0.28	0.38
Albumin (g/dl)	<3.5		32±1.5	37±1.4	69±1.9	69±1.9
	>3.5		35±9.9	45±2.7	73±2.7	72±2.7
P value			0.21	0.19	0.16	0.09
Creatinine (mg/dl)	<5		30±4.3	38±5	78±1.9	77±1.9
	<5		33±9.9	39±2.7	72±2.7	72±2.7
P value			0.21	0.17	0.29	0.31
Dialysis Efficiency						
KT/V	<1.2		31±9.9	40±2.7	69±1.9	69±1.9
	>1.2		35±9.9	45±2.7	73±2.7	72±2.7

P value		0.35	0.29	0.19	0.29
URR (%)	<65	32±4.3	39±5	69±1.9	69±1.9
	>65	35±9.9	45±2.7	73±2.7	72±2.7
P value		0.31	0.2	0.5	0.21
IHD features on Echocardiogram	Present	31±15.2	40±1.9	69±1.9	69±1.9
	Absent	35±9.9	45±2.7	73±2.7	72±2.7
P value		0.008	0.1	0.2	0.39
Frequent Hospitalization	Present	32±9.9	38±2.7	69±1.9	69±1.9
	Absent	35±9.9	45±2.7	73±2.7	72±2.7
P value		0.01	0.009	0.6	0.5
Table 3: Association between Kidney Disease outcome, HRQOL with Baseline characteristics, Biochemical tests, Dialysis efficiency markers, Echocardiogram					

DISCUSSION

The Kidney Disease Outcomes Quality Initiative (KDOQI) guidelines stresses on the significance of WHO-QOL in monitoring the quality of care given to maintenance hemodialysis patients. Compared to general population, there is poor health-related quality of life (HR-QOL) in hemodialysis patients.^[1,4] Measurement of HR-QOL is significant as it recognises potentially vulnerable patients who are at increased risk of morbidity and mortality.^[4] According to the WHO, QOL is “an individual’s perception of life status in relation to their quality of life, individual’s physical and mental well-being.”^[2] All composites of QOL (physical health, mental health, social life and environmental composites) are affected; especially the physical composite being the most affected.^[2] Healthcare providers should be aware of low HRQOL among these patients especially with illiteracy, multiple co-morbidities and elderly age and hence, strive to improve their QOL.^[9,10,11] In this study, majority of patients were in mid age, males which had positive impact on mental composite of QOL unlike in other studies.^[12,4,1,8] In contrary, as time pass, they appreciate their quality of life because patients of advanced age usually would have bad experiences related to physicals, cognitive impairment, may have lower expectations, better emotional coping with CKD compared to the younger patients^[3,7,13,14] Younger patients with chronic illnesses are more often among healthier peers and hence their perception of their own health could be worse than that of older patients.^[15] The reason for better QOL in males is that they have a better social relationships (strong relations and sexual activation) and support than females.^[3,7,16] Though few studies showed no significant difference in HRQOL between males or females.^[6,16] The probable reasons for the poorer HRQoL in female patients appear to be more linked to the women’s multiple domestic tasks, responsibilities and higher prevalence of depression.^[14] In this study, literacy, higher socioeconomic status had positive impact on QOL concordant to other studies.^[1,2] This may be even due to various poor support from the family and society, lack of solid personal relationships, dissatisfied sexual life and financial burden which in turn drives them up in a state of anxiety and depression.^[13,16] Low QoL associated with lower education status may be due to requirement of a sufficient amount of understanding the management of their health for dialysis patients.^[14] Holding down a job certainly has a positive influence on the perception that an individual has a role in society and it contributes to improved self-esteem, which is an important aspect of QOL.^[1,6,8] Noncompliant patients, unmarried status, illiteracy, unemployment had worse QOL concordant to other studies.^[6,7,16] This is because higher the literacy, greater the chances of being employed and hence a good income and higher socioeconomic conditions. Literate patients have a better understanding, awareness of the CKD disease, regarding its treatment and lifestyle modifications.^[16] In this study, only 26.7% of the patients were employed and the remaining were not working possibly due to inability to work due to physical limitations. Married people get adequate emotional and financial support from their families, hence married people have higher QOL as mentioned in literature.^[14,16] Poor personal relationships, anxiety, common complications of dialysis such as strict dietary restrictions causing reduction in social and recreational activities, medical complications, economic pressure, marital

disputes, sexual dysfunction, emotional stress and anxiety, time occupied due to dialysis result in impairment of QOL.^[1,8] In this study, overall QOL score was fairly maintained unlike in other studies.^[7,14] The domain affected most adversely is physical health^[16]. As CKD is a chronic, progressive irreversible disease, physical QOL was poor like in other studies.^[1,2,4] This finding is concordant with other studies which showed similar results. The negative effect of the disease process like anaemia, musculo-skeletal, neurological disorders and age related incapacity on the physical activity of patients may contribute to this finding.^[1,16] In this study, it was noticed that the best QOL domain was environmental composite followed by social relationship, followed by mental composite. Dialysis treatment is a repetitive and exhausting routine for CKD patients with changes in lifestyle and occupational inactivity, mood swings, emotional stress, dependency on others, fear of death that affect mental and physical health of patients. The decrease in scores of mental health domain is due to receiving inadequate support from family members, community, financial difficulties, depression, anxiety and sadness.^[17] Numerous studies have demonstrated that routine pre-dialysis counselling contributes to better QOL by offering the appropriate hemodialysis education and awareness.^[2] QOL was significantly affected in patients with multiple co-morbidities like diabetes mellitus, hypertension, ischaemic heart disease, frequent hospitalization and higher dialysis frequency like in other studies.^[1,2] Diabetes affects multiple organs in the body causing vision, cardiac problems, cerebrovascular events and peripheral vascular disease which may result in morbidity and impaired QOL.^[1] All these problems limit daily activities and work capacity affecting physical health.^[1] The presence of comorbidities is an important predictor of mortality because among the hemodialysis patients.^[3,6] Type of dialysis, type of dialysis access did not affect QOL unlike in other studies.^[1] This may be due to provision of good quality care during dialysis and good quality reverse osmosis (RO) water. Failure of dialysis access affected physical composite. This lead to additional access insertion. Failure of AV-fistula in dialysis patients also contributes to the use of central lines. Furthermore, the inconvenient site of central lines like in neck may make daily activities more difficult, and they may be socially embarrassing. Though QOL was expected to improve in patients undergoing thrice weekly dialysis, but physical composite was found to decline. This may be due to that as the number of dialysis increases, the patient has to spare more time and resources. Furthermore, since many of patients stay far away from the dialysis center, they have to spend extra time, money to meet their travel expenditure like in other studies.^[16] Presence of anaemia had negative impact on physical and social composite unlike in other study^[6] The factors contributing to malnutrition among individuals on hemodialysis include dialysis induced protein loss and inflammation, suboptimal energy and protein intake, alterations in taste, anorexia, depression, reduced physical functioning, improper nutrition counselling, inadequate translation of the dietary recommendations into smart food choice and interesting diets and lack of social, financial support.^[5] Patient specific customized nutrition counselling along with routine nutrition assessment, follow-up of patients, continued nutrition education, and motivation, support from the medical care team especially the dietician is needed for better dietary compliance and overall improvement of QOL.^[5] The present study provided an insight into the factors that affect the QOL in hemodialysis patients. The present results can help us increase the existing knowledge on the impact of End-Stage Kidney Disease and hemodialysis on the patients' quality of life. It seems that addressing the issues related to quality of life can positively affect the patients' quality of life and even reduce the caregivers burden.^[18] The present study showed that the physical domain of QOL was the most affected, followed by psychological, environmental and social domains.^[5,18,19] Employment, economic status, presence of comorbidities, anaemia and patient hospitalization were found to affect one or more domains of QOL. Elderly Age, male gender, education/literacy status were significant independent variables with positive impact on QOL whereas long travel distance for dialysis, irregular frequency of dialysis, dialysis access failures, presence of ischaemic heart disease had negative impact on the QOL. It was found that studies on QOL offer strategies for health care workers to measure physical, psychological, social life and environmental necessities in order to satisfy the real needs of dialysis patients. To our knowledge, there is paucity of such literatures in this field in this part of world. However, our results should be interpreted with

consideration to the following limitations. This study was able to assess HR-QOL at only one time as it was a cross-sectional study without any follow-up.

CONCLUSIONS

The Hemodialysis patients were not having adequate QOL in physical composite but had satisfactory QOL in environmental and social life composites including patient satisfaction about quality of dialysis offered in the hospital.

Ethics Committee Approval

Ethics approval was obtained from Vydehi Institute of Medical Sciences and Research Centre, Bangalore 560066, VIEC/2025/APP/07; Dated: January 28, 2025.

Informed Consent

Written informed consent was obtained from the patients who agreed to take part in the study.

Declaration of Interests:

The authors have no conflict of interest to declare.

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Author Contributions

1. **Dr Girish P Vakrani:** Contributed toward management of patients, data collection, Literature search, data analysis, and manuscript preparation.
2. **Dr Archana Chiniwalar:** Contributed toward management of patients, data collection.
3. **Dr Nambakam Tanuja Subramanyam:** Contributed toward statistics, Literature search and manuscript preparation.
4. **Dr Priyashree R:** Contributed toward management of patients and statistics.
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6. **Dr Ankita D Patil:** Contributed toward management of patients and statistics.
7. **Dr Jagadeesh T:** Contributed toward management of patients and statistics.

References

1. Alhajim SA. Assessment of the quality of life in patients on haemodialysis in Iraq. *Eastern Mediterranean Health Journal* 2018;23(12):815-820.
2. Abbas EM, Harshavardhan R, Mohammed H, Loona V, Faseeh KM. An assessment of quality of life in ESRD patients undergoing hemodialysis. *The Egyptian Journal of Internal Medicine* 2024;36:104.
3. Elezi B, Rumano M, Abazaj E, Topi S. Health-related quality-of-life measures used in hemodialysis patients in Albania. *The Egyptian Journal of Internal Medicine* 2023;35:3.1-7.
4. Ishiwatari A, Yamamotob S, Fukuma S, Hasegawa T, Wakaia S, Nangaku M. Changes in quality of life in older hemodialysis patients: a cohort study on dialysis outcomes and practice patterns. *Am J Nephrol* 2020;51:650–8.
5. Ekbote A, Jerath SG, Sharma V, Subbaiyan SS, Shah KD, Joshi VR et al. Nutrition profile and quality of life of adult chronic kidney disease patients on maintenance hemodialysis in India: An Exploratory Study. 2024;34(5):493-500.
6. Eswarappa M, Anish LS, Prabhu PP, Chennabasappa GK, Gireesh MS, Rajashekar et al. Health-related quality of life of patients with chronic kidney disease on maintenance hemodialysis and its determinants: a study from a tertiary hospital in South India. *Turk J Nephrol* 2024; 33(3):279-88.

7. Anandraj J, Subramanian S, S Parameswaran, Kar SS. Quality of life and its associated factors among patients undergoing dialysis in a tertiary care hospital, Puducherry, South India - a cross-sectional analytical study. *J Urol Ren Dis* 2020;05:1189.1-8.
8. Polanska BJ, Uchmanowicz I, Wysocka A, Uchmanowicz B, Lomper K, Fal AM. Factors affecting the quality of life of chronic dialysis patients. *The European Journal of Public Health* 2017;27(2):262-7.
9. Zyoud SH, Daraghmeah DN, Mezyed DO et al. Factors affecting quality of life in patients on haemodialysis: a cross-sectional study from Palestine. *BMC Nephrology* 2016;17:44.
10. Yonata A, Islamy N, Taruna A, Pura L. Factors Affecting Quality of Life in Hemodialysis Patients. *International Journal of General Medicine*.2022;15:7173-8.
11. Veerappan I, Arvind RM, Ilayabharthi V. Predictors of quality of life of hemodialysis patients in India. *IJN* 2012;22(1):18-25.
12. Sethi S, Menon A, Dhooria HPS, Makkar V, Dhooria GS, Chaudhary R. Evaluation of Health-Related Quality of Life in Adult Patients on Hemodialysis. *International Journal of Applied and Basic Medical Research*.2021;11(4):221-225.
13. Salmi I, Kamble P, Lazarus ER, D'Souza MS, Maimani YA, Hannawi S. Kidney disease-specific quality of life among patients on hemodialysis. *International Journal of Nephrology* 2021;2021:8876559.
14. Manju L, Joseph J. Health-related quality of life among patients undergoing hemodialysis in a tertiary center in South Kerala. *Clinical Epidemiology and Global Health* 2024;26:101547:P1-5.
15. Oevelen MV, Bonenkamp AA, Sluijs AVEAD, Bos WJW, Douma CE, Buren MV et al. Health-related quality of life and symptom burden in patients on haemodialysis. *Nephrol Dial Transplant* 2024;39:436–44.
16. Ravindran A, Sunny A, Kunnath RP, Divakaran B. Assessment of quality of life among end-stage renal disease patients undergoing maintenance hemodialysis. *Indian Journal of Palliative Care* 2020;26(1):47-53.
17. Raoofi S, Kan FP, Rafiei S, Hoseinipalangi Z, Rezaei S, Ahmadi S et al. Hemodialysis and peritoneal dialysis-health-related quality of life: systematic review plus metaanalysis. *BMJ Supportive & Palliative Care* 2023;13:365-73.
18. Hejazil SS, Hosseini M, Ebadi A, Majd HA. Components of quality of life in hemodialysis patients from family caregivers' perspective: a qualitative study. *BMC Nephrology* 2021;22:379.
19. Thenmozhi P. Quality of life of patients undergoing hemodialysis. *Asian J Pharm Clin Res* 2018;11(4):219-23.