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QUALITY OF LIFE IN PATIENTS UNDERGOING HEMODIALYSIS AT PAKISTAN INSTITUTE OF MEDICAL SCIENCES

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ABSTRACT

Background: The Domain of Quality of life (QoL) among patients undergoing maintenance hemodialysis is often overlooked and not addressed by treating physicians. Physical and mental health directly impacts disease management and prognosis. In current study, we will evaluate quality of life among hemodialysis patients, in terms of physical and mental health using KDQoL scoring. **Methods:** It was a cross-sectional study performed at Nephrology Department, Pakistan Institute of Medical Sciences in a duration of 6 months from April 2019 to March 2019. Total 150 patients were interviewed to and data was collected on Physical health, Mental Health, and Kidney Disease Composite Summary (KDCS) using Kidney Disease Quality of Life Questionnaire. Data analysis was performed through SPSS v-20. **Results:** Among 150 patients on maintenance hemodialysis at our center the most common causes of ESRD were Diabetes and HTN, 70 (46.6%) and 57 (38%) respectively. Using KDQOL-36 scoring, the mean score of QoL was 45.1±25.4. The mean score for PCS, MCS and KDCS were, 35.2±10.4, 42.33±8.27 and 57.9±21.2 respectively. 42% thought that their health is above average and 58% perceived below average. **Conclusion:** We found that the Quality of life index is very less among patients on maintenance hemodialysis. The physical health domain score was low as compared to Mental health and Kidney Disease domain.

KEYWORDS: Hemodialysis, Quality of life, QoL, End-stage-renal-disease (ESRD), Hypertension, Chronic Kidney Disease (CKD).

Abbreviations

Mental Health Composite Summary (MCS), End-stage Renal Disease (ESRD), Kidney Disease Composite Summary (KDCS), Maintain ace hemodialysis (MHD), Mental Health Composite Summary (MCS), Kidney Disease Quality of Life (KDQoL).

INTRODUCTION

ESRD may affects the life of patients in several ways. They live a very restricted life in terms of psychological and physiological stressors experienced by dialysis patients i.e., pain, fluid restriction, itching, discomfort, limitations in physical activity, fatigue, weaknesses, paying for the care, sexual dysfunction, and negative moods. Quality of life (QOL) is a crucial parameter that must be considered when evaluating the experience and outcome of patients receiving health care.[1]

According to the WHO, Chronic Kidney Disease contributes to 0.85 million app. deaths every year, and it is the 12th leading cause of death and 17th leading cause of disability in the world. Moreover, the burden of CKD continues to increase in the low- to middle-income countries.[2]

The rationale of the study was to assess quality of life among hemodialysis patients at PIMS as no study has been done so far at ours center. So, based on the findings of this research, we will work to strengthen patient care in the Nephrology Departments of Pakistan Institute of Medical Sciences.

Contrary to common opinion, fitness encompasses not just physical well-being but also mental and social well-being.[3] Patients of chronic hemodialysis are greatly affected in all these categories so the aim of our work was to evaluate the QOL of CKD patients undergoing dialysis treatment in terms of their physical, psychological, social, and environmental health dimensions, and to identify the correlation between the overall QOL and the diverse domains of Kidney Disease Quality of Life.

MATERIALS AND METHODS

It was a cross-sectional study performed at Nephrology Department, Pakistan Institute of Medical Sciences in a duration of 6 months from April 2019 to March 2019. Sample size of 150 was calculated through WHO sample size calculator. The sampling technique used was convenient sampling.

Inclusion criteria: Patients that have been on hemodialysis for more than three months.

Exclusion Criteria: Patients having any chronic cardiac, vascular, renal or gastrointestinal disease.

Patients who were willing to participate.

KDQOL-SF-36 questionnaire was used for interviewing the patients. Patients' demographic statistics, causes of end-stage renal disease, and effects on quality of life of hemodialysis patients in physical, behavioral, and social health realms were all collected. The QoL scores for the KDQOL-SF-36 domains of Physical Health Composite Summary (PCS), Mental Health Summary (MCS), and Kidney Disease Composite Summary (KDCS) were measured. A score of more than 50% in every domain was considered above average, while a score of less than 50% was considered below average. In both domains, the higher the ranking, the better the quality of life. SPSS v-20 was used for statistical analysis.

RESULTS

We interviewed 150 patients undergoing maintenance hemodialysis, 66 (44%) were males and 84 (56%) were females. The mean age of patients was 45.4±10.2. The educational status of patients was, 52 (34.6%) uneducated, 37 (24.6%) upto primary level, 45 (30%) up to Matriculation and 16 (10.8%) were educated up to Post Graduation level. According to marital status, 108 (72%) patients were married and 42 (28%) were married. The mean dialysis duration was 25.5±12.4. Eighteen (12%) patients undergo Hemodialysis once every week, 120 (80%) twice a week, and 12 (8%) patients had their dialysis thrice a week. Amongst 150 patients undergoing hemodialysis at our center the most common causes were Diabetes and HTN, 70 (46.6%) and 57 (38%) respectively.

Using KDQOL-36 scoring, the mean score of QoL was 45.1±25.4. The mean score for PCS, MCS and KDCS were, 35.2±10.4, 42.33±8.27 and 57.9±21.2 respectively. 42% thought that their health is above average and 58% perceived below average. (Table **II**)

Table I: Patients general information variables.

	Frequency (n)	Percentage (%)
Gender		
Male	66	44
Female	84	56
Marriage status		
Married	108	72

Unmarried	42	28
Education		
Uneducated	52	34.6
Primary	37	24.6
Matriculation	45	30
Upto Post-graduation	16	10.8
Dialysis Frequency		
Once a week	18	12
Twice a week	120	80
Thrice a week	12	8
Cause of ESRD		
Diabetes	70	46.6
Hypertension	57	38
Others	23	15.4

Table 2: KDQoL scoring.

	Mean	**Standard deviation**
Physical Health Composite Summary	**35.2**	**10.4**
Physical Functioning	40.80	25.45
Pain	32.65	37.38
General Health	59.11	29.20
Physical Role limitation	39.07	30.02
Mental Health Summary	**37.05**	**8.77**
Social Functioning	59.16	11.97
Emotional Role limitation	40.53	20.49
Emotional Wellbeing	47.98	26.45
Energy	51.27	28.10
Kidney Disease Composite Summary	**57.91**	**21.02**
Work Status	65.46	17.95
Symptoms/Problems List	61.83	17.47
Sexual Function	68.94	22.55
Burden of Kidney Disease	42.02	36.30
Cognitive Function	65.15	21.30
Quality of Social Interaction	60.35	21.43
Dialysis Staff Encouragement	52.44	17.26
Sleep	38.75	16.47
Social Care	62.45	29.21
Patient Satisfaction	67.54	23.33
Effects of Kidney Disease	54.29	30.24
Overall Score	**43.38**	**13.39**

DISCUSSION

There are three options available for renal replacement therapy i.e., renal transplant, peritoneal dialysis and hemodialysis. In, Pakistan Hemodialysis is the mostly opted option as RRT, as other two options not commonly performed due to financial reason and difficulties. While treating ESRD patients, a nephrologist usually concerned regarding adverse effects of

dialysis and manage them accordingly, but the psychological and social concerns of patients are often not addressed.[4] A study performed in Lahore, Pakistan found that KDQOL scoring is valid for evaluating mental and psychological health of Pakistani population.[5] The mean quality of life in our study was found to be 45.1±15.4 which is almost equal to study performed at RMU, Rawalpindi[5] expressively higher than a study done in Africa 36.9.[6-7]

Our study found that Diabetes as a main cause of CKD leading to hemodialysis 46.6% similar to other studies that have found Diabetic Nephropathy as main cause of ESRD.[8-9] A study performed in Neighbour country Iran declared Hypertension (32%) as a most common cause of ESRD leading to HD.[10] The burden of disease was consistent with many international studies.[7]

Physical health, Mental health and Kidney Disease Composite Summary scores were almost similar to a study performed in Rawalpindi but lower as compared to a study done in Lahore using KDQOL scoring.[7,9] MCS and PCS scores in an Indian study were found to be almost similar to our study (45±23 vs 35.2±10.05 and 34±17 vs 37.05±8.7 respectively).[11] Another important point to be noted that Mental health score is far better than physical health domain. Various studies have demonstrated that low score all three domains of KDQoL leads to high mortality and morbidity.[12,13]

When comparing the results of our study's PCS, MCS, and KDCS with those in other regions, the following conclusions were drawn: the scores of all three domains were higher in studies conducted in Saudi Arabia, Korea, Brazil, Turkey, and Iran, while PCS scores in Europe and the United States (35.5 and 33.1, respectively) and MCS scores in Europe (43.3) were lower.[11,13-15]

It is important to educate patients and their families about hemodialysis in order to increase their quality of life. Patients should provide interpersonal psychotherapy and counseling sessions with a qualified counselor. Furthermore, positive reinforcement from dialysis nurses and a positive doctor-patient interaction will have a positive impact on the patient's self-perception. Patients' physical disabilities can be improved with regular dialysis, good medication enforcement, and self-motivation, resulting in a higher overall quality of life.

CONCLUSION

We found that the Quality of life index is very less among patients on maintenance hemodialysis. The physical health domain score was low as compared to Mental health and Kidney Disease domain.

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