



IMPACT OF HEMODIALYSIS ON THE QUALITY OF LIFE AMONG ESRD PATIENTS

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ABSTRACT

Aim: To determine QOL standards in patients with ESRD undergoing twice/week hemodialysis.

Methods: This was a multicenter cross-sectional study conducted in patients of either sex, aged above 18 years diagnosed with ESRD who were undergoing hemodialysis for at least three months in three hemodialysis centers. For QOL assessment, patients underwent KDQOL questionnaire survey. KDQOL is a disease-specific QOL questionnaire. **Results:** Total of 74 patients with ESRD (mean age: 54.7 years; men: 67.6%) undergoing hemodialysis enrolled. Overall, 53 (71.6%) patients had improvement in their life in comparison to last year. Majority of patients reported no bodily pain (66.2%). Majority of patients (68.9%) did not feel frustrated due to kidney disease. Total of 75.7% of patients did not feel like a burden on their family. More than half of the patients reported they did not bother about dry skin (55.4%), sleep disturbance (66.2%), and problem with access site (75.7%). Most of the patients reported that dialysis staff encouraged them to be as independent as possible (93.7%) and support them in coping their kidney disease (93.3%). **Conclusion:** The present study was done to throw a light on the status of QOL of Indian patients undergoing hemodialysis and might inspire the healthcare providers to endeavor for quality in delivery of dialysis in the future.

KEYWORDS : Hemodialysis, end stage renal disease, quality of life, KDQOL

INTRODUCTION:

End stage renal disease (ESRD) is approaching an epidemic proportion due to an increasing aging population, diabetes prevalence and other co-morbidities. From 2009 to 2015, ESRD annual incidences significantly increased by 7.5%1. According to the statistics, there are about 2.5 million ESRD patients who receive renal replacement therapy (RRT), and this population is expected to double to about 4.5 million by 20302. Hemodialysis (HD) is the most common method of RRT for patients suffering from CKD3. India is estimated to have about 120,000 patients on Hd4.

Traditional assessments of patient out-come on treatments for ESRD are based on aspects such as patient biochemistry, hospitalization rates, technique survival, and mortality. However, in recent years measuring the impact of ESRD treatment on patient's quality of life (QOL) has become increasingly well recognized as an important measure of treatment outcome. The present study aimed to determine QOL standards in patients with ESRD undergoing twice /week HD.

MATERIALS AND METHODS:

This was a multicenter cross-sectional study conducted in three HD centers. The study was conducted in accordance with the principle of Declaration of Helsinki and study protocol was approved by independent institutional ethics committee. Written informed consent was obtained from all the patients before enrollment in the study.

Patients of either sex, aged above 18 years diagnosed with ESRD who were undergoing HD for at least three months in a center were included. Patients who were on HD less than twice /week were excluded.

For data collection, patients who needed assistance to complete the questionnaire were identified and assisted by the researcher. For QOL assessment, patients underwent KDQOL questionnaire survey. KDQOL is a disease-specific

QOL questionnaire that was developed in 1994 to measure HR-QOL in patients with CKD (Hays et al. 1994). The 11 domains of Kidney Disease Specific Component are: symptom/problem list (12 items), effects of kidney disease (8 items), burden of kidney disease (4 items), cognitive function (3 items), quality of social interaction (3 items), sexual function (2 items), sleep (4 items), social support (2 items), work status (2 items), patient satisfaction (1 item), and dialysis staff encouragement (2 items). SF-36 includes 36 items that measure eight domains and the eight domains are: physical function (10 items), role limitations caused by physical problems (4 items), role limitations caused by emotional problems (3 items), pain (2 items), general health perceptions (5 items), social function (2 items), emotional well-being (5 items), and energy/fatigue (4 items). The final item, the overall health rate item, asks the respondents to rate their health on a 0–10 response scale. Different questions have different answer options, which range from two to seven. When scoring, each question is scored in a scale ranging from 0 (worst health) to 100 (best health). All items in a domain are summed up and averaged to give an average score for each domain which ranges from 0 (worst health) to 100 (best health). Three summary scores; kidney disease summary component (KDSC), physical component summary (PCS) and mental component summary (MCS) are derived from the 19 domain scores of KDQOL-SF, by averaging the domain scores in respective three summary components.

Descriptive analysis of data was done using SPSS version 23.0. Quantitative data were presented as mean (standard deviation [SD]) and qualitative data were presented as frequency (percentages).

RESULTS

Total of 74 patients with CKD undergoing HD were enrolled in this study. The mean age of patients was 54.7 years and majority of patients were men (67.6%) (Table 1). The mean cardiac status was 45.5%. Majority of patients had good to excellent health (77.0%) while only six (8.1%) patients had

poor health. Majority of patients (60.8%) had hypertension (Figure 1). More than 40% of the patients had dialysis vintage of < 1 year (Figure 2).

Overall, 53 (71.6%) patients had improvement in their life in comparison to last year. Majority of patients reported no bodily pain (66.2%) while only seven (9.5%) patients reported severe bodily pain during the past four weeks. Total of 59 (79.7%) patients felt as healthy as anybody they know (Figure 3). More than half of the study population (56.8%) agreed with the fact that kidney disease interferes too much with their life. Majority of patients (68.9) did not feel frustrated due to kidney disease while remaining 28.4% of patients did report frustration due to their kidney disease. More than half (57.1%) of the study population felt that dealing with kidney disease is time consuming. Total of 75.7% of patients did not feel like a burden on their family. Majority of patients (82.4%) isolate themselves from people around them due to kidney disease. Overall, 55.4% of patients did not bother about dry skin and 75.7% of patients did not bother about problem with your access site. Majority of patients (66.2%) did not have sleep disturbance. Total of 73% patients were not working at paying job during the past four weeks. Most of the patients were of the opinion that the dialysis staff encouraged them to be as independent as possible (93.7%) and dialysis staff support them in coping their kidney disease (93.3%) (Table 2).

DISCUSSION

High burden of comorbidities and complications worsen the QOL in patients with ESRD compared to general healthy population⁵. Health-related quality of life (HRQOL) is multi-dimensional and focuses on the impact of the health status of patients on their QOL. Patients undergoing dialysis showed poor HRQOL and further associated with increased risk of mortality and hospitalization⁶. The present study conducted to determine which key factors affect QOL in patients with ESRD undergoing twice /week HD. Following key factors were evaluated among 74 patients with CKD undergoing HD: i) More than half of the study population (56.8%) agreed with the fact that kidney disease interferes too much with their life ii) Frustration due to kidney disease reported in 28.4% of patients iii) More than half (57.1%) of the study population felt that dealing with kidney disease is time consuming iv) Majority of patients (82.4%) isolate themselves from people around them due to kidney disease v) more than half of the patients reported they did not bother about dry skin (55.4%), sleep disturbance (66.2), and problem with access site (75.7%).

In the present study, the mean age was 54.73 years and majority of patients were men (67.6%). The results of the previous studies showed that the overall QOL was correlated with advanced age⁷⁻¹⁰. This may be due to older age people may experience physical and cognitive impairment. In addition, dialysis duration, lower socioeconomic status and higher education level were reported as negative predictors of QOL^{8, 9}. The results of the present study showed that nearly 60% patients had education level above high school diploma and 77% of patients reported good to excellent health. This indicates that higher education level has a significant impact on QOL. Education allows patient to gain knowledge on disease and improve compliance to the medication. Also, higher education leads to higher income which facilitates better treatment modality. In contrast, people with higher education seem to have more expectations from health care facilities and might resulted into dissatisfaction which increase the psychological problems and mental illness.

In the present study, majority of patients reported that kidney disease interfere with their social life, time consuming treatment, and people were isolate themselves from surrounding due to kidney disease. Incidence of dry skin, sleep disturbance are not so common in the present study population. A cross sectional study was conducted in 150

patients with CKD from Nepal and assessed the QOL using WHOQOL-BREF questionnaire¹¹. The findings of this previous study reported that older age and employed patients scored better QOL while unemployed patients, low income status and increased duration on HD have negative impact on QOL¹¹. Another study conducted in 503 south Indian patients with CKD undergoing maintenance dialysis showed age, education, employment, and marital status were the independent predictors of QOL¹². The evaluation of QOL showed physical domain was most adversely affected. Low score of QOL significantly affected the daily activities including sleep and work capacity due to HD in patients with ESRD¹². The data from previous studies showed significant impact of HD on daily activities which further hamper the quality of life¹¹⁻¹³. However, the present study population did not report any consequences related to treatment which can affect the QOL.

One of the major limitations of this study was that we did not evaluate the possible effect of socioeconomic factors and biochemical parameters on QOL of patients with CKD. We also could not look into the effects of duration and frequency of HD. We did not identify a causal relationship between the variables. Prospective study with a larger sample size is needed to confirm these findings.

CONCLUSION

Hemodialysis treatment plays an important part in improving QoL in patients with ESRD. The present study was done to throw a light on the status of QOL of Indian patients undergoing twice /week HD and might inspire the healthcare providers to endeavor for improvement in dialysis care delivery in the future.

Table 1: Demographic Details Of Study Population

Parameters	Value (N=74)
Mean age (SD) in years	54.73 (13.45)
Sex; n (%)	
Men	50 (67.6)
Women	24 (32.4)
General health status; n (%)	
Excellent	4 (5.4)
Very good	6 (8.1)
Good	47 (63.5)
Fair	11 (14.9)
Poor	6 (8.1)
Education	
8th or less	18 (24.3)
High school or less	12 (16.2)
High school diploma	16 (21.6)
College degree	7 (9.5)
Professional or graduate	21 (28.4)
Marital status	
Yes	68 (91.9)
No	6 (8.1)
Cardiac status (%)	45.5 (8.5)
Data shown as n (%), unless otherwise specified.	

Table 2: Assessment of KDQOL

KDQOL parameters	Number of patients (N=74)
Improvement in life in comparison to last year	
Much better now	34 (45.9)
Somewhat better now	19 (25.7)
About the same as one year ago	5 (6.8)
Somewhat worse now	12 (16.2)
Much worse now	4 (5.4)
How much bodily pain have you had during the past 4 weeks?	
None	49 (66.2)
Very mild	3 (4.1)

Mild	10 (13.5)
Moderate	5 (6.8)
Severe	7 (9.5)
Dry skin?	
Not at all bothered	41 (55.4)
Somewhat bothered	18 (24.3)
Moderately bothered	5 (6.8)
Very much bothered	4 (5.4)
Extremely bothered	6 (8.1)
Hemodialysis Patients only- Problem with your access site?	
Not at all bothered	56 (75.7)
Somewhat bothered	13 (17.6)
Moderately bothered	2 (2.7)
Very much bothered	3 (4.1)
Dietary restriction?	
Not at all bothered	38 (51.4)
Somewhat bothered	15 (20.3)
Moderately bothered	10 (13.5)
Very much bothered	9 (12.2)
Extremely bothered	2 (2.7)
Get the amount of sleep you want	
None of the time	11 (14.9)
A little of the time	4 (5.4)
Some of the time	7 (9.5)
A good bit of the time	3 (4.1)
Most of the time	12 (16.2)
All of the time	37 (50.0)
During the past 4 weeks, did you work at paying job?	
Yes	20 (27.0)
No	54 (73.0)
During last 30 days, were you working?	
Working full time	15 (20.3)
Working part-time	4 (5.4)
Unemployed or looking for work	28 (37.8)
Retired	7 (9.5)
Disabled	2 (2.7)
In school studying	1 (1.4)
Keeping in house	8 (10.8)
None of above	9 (12.2)
Dialysis staff encouraged me to be as independent as possible	
Definitely true	51 (68.9)
Mostly true	21 (28.4)
Mostly false	1 (1.4)
Definitely false	1 (1.4)
Dialysis staff support me in coping my kidney disease	
Definitely true	47 (63.5)
Mostly true	22 (29.7)
Mostly false	1 (1.4)
Definitely false	3 (4.1)

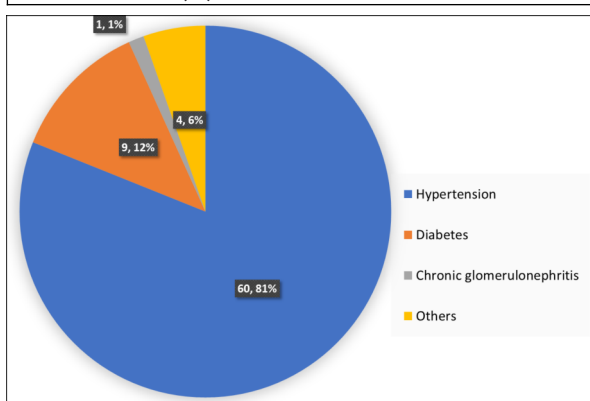


Figure 1: Causes of kidney disease

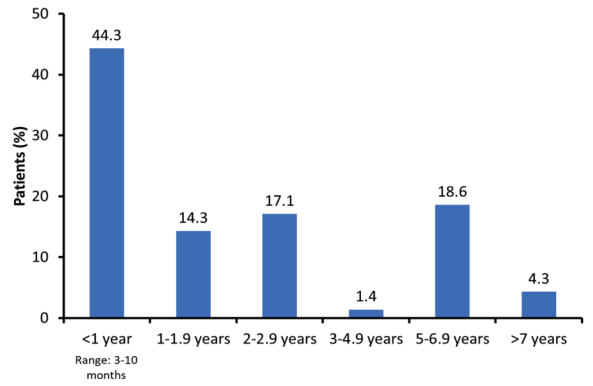


Figure 2: Distribution Of Patients According To Dialysis Vintage (Number Of Years On Dialysis)

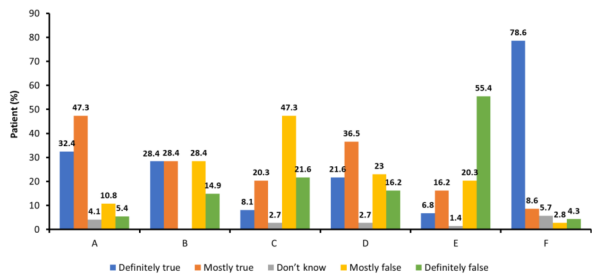


Figure 3: KDQOL questionnaire

A) I am as healthy as anybody I know B) My kidney disease interferes too much with my life C) I feel frustrated dealing with my kidney disease D) Too much of my time is spent dealing with kidney disease E) I feel like a burden on my family F) Did you isolate yourself from people around you?

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