

Assesment of Quality of Life in Patients Undergoing Hemodialysis in RMI, Peshawar

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ABSTRACT

Introduction: Chronic kidney disease (CKD) is an important cause of morbidity and mortality worldwide. It has been affecting the quality of life (QOL), an important parameter which needs to be addressed. This study assessed QOL keeping in view WHO criteria for patients undergoing hemodialysis at Rehman medical institute (RMI). The study also evaluated the effects of various socioeconomic and demographic factors affecting life of such patients.

Materials and Methods: A cross sectional descriptive study was conducted by selecting a convenient non-probability sample of 100 patients with chronic kidney disease (CKD) undergoing hemodialysis at Rehman Medical Institute /Dialysis center. The project duration was five months, and during this period data collection was done using the World Health Organization Quality of life (WHOQOL-BREF) questionnaire.

Patients aged 18 years and above and on regular MHD for at least 3 months were included in this study. Patients with cognitive impairment and coexisting diseases such as stroke, chronic obstructive pulmonary diseases, heart diseases, and chronic liver diseases were excluded from the study as these factors could potentially affect their QOL and act as confounding factors.

Results: Out of the 100 hemodialysis patients, 51% were men while 49% of the participants were females. 36% of the subjects were above 60 years old. The total score of quality of life was found to be higher in participants <60 years, of higher educational level, being very informed about the health problem, not experiencing difficulties with social or family environment, had help at home. Among them 43% subjects were not happy with their quality of life, only 13% were satisfied.

Conclusion: Patients with chronic kidney disease on dialysis had overall low QOL scores in all four domains. Age, education, marital status and gender affected one or more domains of QOL in such patients. Low income status was the only independent negative predictors of QOL of patients on maintenance hemodialysis. Education level is a positive factor for improving QOL of hemodialysis patients.

Keywords: quality of life, hemodialysis, WHOQOL-BREF, chronic kidney disease, End-stage renal disease (ESRD).

INTRODUCTION

End-stage renal disease (ESRD) is the terminal irreversible deterioration in renal function. Beyond this stage, life can only be sustained with renal replacement therapy, either in terms of dialysis or transplant.¹

Around 10% of the population worldwide is affected by chronic kidney disease (CKD), and millions die each year because they do not have access to affordable treatment. CKD was ranked 27th in the list of causes of total number of deaths worldwide in 1990, but rose to 18th in 2010. The incidence of this disease in Pakistan is 100 per million population a year.^{2,3}

Millions of patients of ESRD lives has served by the technique of hemodialysis since 1960. Over 2 million people worldwide currently receive treatment with dialysis or a kidney transplant to stay alive, of the 2 million people who receive treatment for kidney failure, the majority are treated in only five countries – the United States, Japan, Germany, Brazil, and Italy. These five countries represent only

12% of the world population. Only 20% are treated in about 100 developing countries that make up over 50% of the world population. Dialysis is a treatment that filters and purifies the blood using a machine. This helps keep fluids and electrolytes in balance when the kidneys can't do their job.^{4,5} Although it is a life-saving modality, but it has its own side effects. Patients with CKD on dialysis have to bear significant physical, psychological, and economic challenges. Patients, along with their families, changes their lifestyles to adapt to the rigor and frequencies of hemodialysis sessions, which can be up to thrice a week. In addition, specific dietary regimens and associated health problems can adversely affect Quality of life of these patients^{6,7,8}

It is believed that the health-related quality of life (HRQOL) of dialysis patients is usually worse than that of the age-matched subjects from the general population, because of the typically high burden of comorbidity and complications of ESRD.⁹

This was also confirmed by a study conducted in Nepal that patients with chronic kidney disease on dialysis had overall low QOL scores in all four domains. 10

Because of an increase in survival rates for patients with

ESRD, HRQOL has become increasingly important as an outcome measure in the evaluation of dialysis treatments. QOL has become a key outcome measure in the treatment of chronic illness, such as chronic kidney disease (CKD), where the goal is not the elimination of disease, but rather the adjustment of patients to physical limitations, changes in lifestyle, and medical treatments.^{11,12}

Assessment of QOL of patients with CKD not only helps to assess the quality of dialysis program but also is useful to guide nephrologists to develop better interventions and plans of care for the future.^{13,14} Several studies, especially conducted in developed countries, have assessed QOL of patients with CKD and identified multiple factors influencing their QOL. However, not much studies have been conducted to assess the QOL of patients with CKD in Pakistan. Therefore, this study will assess the QOL of patients undergoing hemodialysis with respect to physical, psychological, social, and environmental domains as outlined in the World Health Organization Quality of Life (WHOQOL- BREF) questionnaire.¹⁵

MATERIALS AND METHODS

Setting: Rehman Medical Institute /Dialysis center.

Duration: Six months.

Population & Sample:

Population: All patients with chronic kidney disease undergoing hemodialysis.

Sample: Patients fulfilling inclusion criteria.

Criteria:

Inclusion:

1. Age of patients 18 years and above.
2. On regular MHD (maintenance hemodialysis) for at least 3 months.

Exclusion:

- 1 Patients with cognitive impairment and coexisting diseases such as stroke, chronic obstructive pulmonary diseases, heart diseases, and chronic liver diseases were excluded from the study as these factors could potentially affect their QOL and act as confounding factors.

Data Collection Procedure: The study was conducted after

approval from hospital's ethical and research committee. The participants visited the Dialysis unit thoroughly and questionnaires were given to the patients of inclusive criteria reassuring their privacy and confidentiality. Strictly exclusive criteria will be followed to control confounders and bias in the study result

Data Analysis: Data was analysed by using a statistical software SPSS version 20.0. Mean +- Standard Deviation was calculated for quantitative variables like age, weight etc. Qualitative like gender, residence etc are presented in the form of frequencies and percentages. P value of less than or equal to 0.05 will be

considered significant. All the results will be presented in the form of graphs and tables

Sample Size: 100

Sampling Technique: Convenience non-probability sampling technique.

Study Design: Observational, cross-sectional study.

RESULTS

A total of 100 respondents were included in this study. Their mean age was 53.64 years. Among 100 patients on MHD, 10(10%) were illiterate and 71(71%) were married. The demographic characteristics of the study population (n=100) are presented in Table 1.

Table 1: Demographic Data.

Characteristics	N=100
Age Group (years)	09
18-34	55
35-60	36
> 60	
Sex	59
Male Female	41
Educational Level	10
Illiterate Primary Secondary Tertiary	17
	40
	33

Table 2:

Marital Status	
Unmarried	09
Married	74
Widowed	09
Divorced	07
Separated	01

Table 3: Quality of Life

n = 100	Frequenc	Percent
Very poor	06	6.0
Poor	37	37.0
Neither poor nor good	44	44.0
Good	13	13.0
Total	100	100.0

Table 3 shows the QOL assessment of the subjects undergoing hemodialysis. According to this study 43(43%) subjects were not happy with their QOL, while 13(13%) were satisfied. The rest 44(44%) subjects marked neither poor nor good in their questionnaires.

Table 4: Physical Health

	Very satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very dissatisfied
Daily life activity	3(3%)	22(22%)	37(37%)	34(34%)	4(4%)
Sleep	1(1%)	16(16%)	47(47%)	25(25%)	11(11%)
Capacity of work	3(3%)	24(24%)	33(33%)	36(36%)	4(4%)

Table 4 shows the physical health aspects of QOL assessment. Majority of the patients (71%) were either dissatisfied (34%) or neither satisfied nor dissatisfied (37%) with their daily life

activities. 36% subjects were not satisfied with their sleep, only 17% were satisfied. 40% of the subjects were not satisfied with their work capacity.

Table 5: Psychological

	A little	Moderately	Mostly
Body Appearance	17(17%)	61(61%)	22(22%)
Negative Feelings	39(39%)	52(52%)	9(9%)
Meaning of life	28(28%)	56(56%)	16(16%)
Concentration	31(31%)	60(60%)	9(9%)

Table 5 shows the psychological aspects of QOL assessment. Majority of the subjects were moderately affected by psychological factors such as negative feelings and ability to concentrate. 61% of the subjects were moderately satisfied with their body appearance.

Table 6: Social And Personal Life

	Very satisfied	satisfied	Neither satisfied nor dissatisfied	dissatisfied	Very dissatisfied
Personal Relationships	3(3%)	15(15%)	37(37%)	39(39%)	6(6%)
Support From Friends	1(1%)	17(17%)	30(30%)	44(44%)	8(8%)
Sex Life	8(8%)	17(17%)	56(56%)	16(16%)	3(3%)

Table 6 shows the social and personal aspects of QOL assessment of CKD patients. Most of the subjects were not satisfied with their social and personal life. 45% were not happy with their personal relationships. 52% were not satisfied with support from their friends. 56% of the patients were neither satisfied nor dissatisfied with their sex life.

Table 7.1 & 7.2 Environment

	A little	Moderately	Mostly
Enough money to meet your needs	4(4%)	47(47%)	49(49%)
Availability of information	1(1%)	49(49%)	50(50%)
Physical Environment	19(19%)	65(65%)	16(16%)
Opportunity for leisure activities	3(3%)	52(52%)	45(45%)

Table 8:

	Very satisfied	satisfied	Neither satisfied nor dissatisfied	dissatisfied	Very dissatisfied
Access to health services	6(6%)	52(52%)	32(32%)	8(8%)	2(2%)
Living Condition	4(4%)	56(56%)	29(29%)	10(10%)	1(1%)
Transport	3(3%)	55(55%)	23(23%)	16(16%)	3(3%)

Tables 7.1 and 7.2 cover the environmental aspects of QOL questionnaire. Most of the subjects are happy with access to health services. 60% of the subjects are happy with their living conditions. 58%

are happy with their transport. According to table 6.2 most of the patients are satisfied with their physical environment, opportunities for leisure activities, availability of information and their financial support.

DISCUSSION

CKD severely impacts QOL of patients with adverse effects observed in case of social, environmental, physical, and psychological domains. The gravity of the disease and its chronic nature make it important to pay due attention to the QOL of such individuals. QOL is emerging as an important outcome parameter to assess patients undergoing hemodialysis and monitor their progress and efficacy of disease management. This study demonstrates QOL in different domains, of patients with CKD undergoing MHD, and the factors responsible for such outcome.

Our findings indicate that older patients had significantly better QOL than younger patients in the social domain. This could

be attributed to the fact that older people may have a better understanding of the limitations of social life and so may be more satisfied with life despite the presence of the disease. Moreover, younger patients identify disease as a challenge and a loss, whereas older individuals regard it as less challenging and a part of life¹³. Negative correlation between age and physical domain of QOL observed in this study is quite plausible given that with increasing age, there is a decrease in working capacity and mobility, and an increase in physical pain and discomfort which negatively affect physical health¹⁷.

A number of sociodemographic factors that seem to affect QOL in other studies have not been found to be significant predictors of QOL in this study. We did not observe any effect of gender on QOL of patients on MHD. In this study, the investigators found no significant difference in QOL scores between males and females⁶. Nevertheless, several studies have reported a significant influence of gender on QOL⁸.

While we expected education to affect QOL in patients with CKD, we did not come across any significant results. Our study is consistent with another study which found no significant differences when relating QOL with educational level¹⁷. Even though educated people have a better understanding of the disease and compliance, they were also likely to have higher expectations from health care facilities which might result in increased dissatisfaction that affects their psychological

well-being. This might be the reason why educated patients did not score better in QOL assessment.

While many previous studies have indicated that married people have higher QOL,²⁰ marital status did not affect QOL score in this study, a finding consistent with a study by Bayoumi et al.¹⁹

In bivariate analysis, age was significantly associated with the social domain and employment was found to have a significant association with the environmental domain. However, when these factors were considered together with income and duration on dialysis in multiple linear regression model, age and employment were found to be less significant. This suggests that income and duration on dialysis have a greater significance with respect to social and environmental domains than that of other factors included in analysis. Even though older patients had a better QOL than younger ones in bivariate analysis, the reason for the lack of significance in multivariate study may be due to the greater impact of duration on dialysis on the social domain. Younger patients in the age group of 18–34 years and 35–60 years had undergone dialysis for a longer duration than older patients aged ≥ 60 years. Hence, it might actually have been the shorter duration on dialysis, rather than the older age itself, that resulted in better QOL in the older population.

One of the major limitations of this study was that we did not evaluate the possible effect of biochemical parameters on QOL of patients with CKD. We also could not look into the effects of medications used on QOL and whether patients had twice a week versus thrice a week MHD. Majority of the QOL questionnaires were self-reported except in cases of illiterate patients where the questionnaires were conducted with the help of investigators. In these cases, reporting biases may have acted as confounding factor in our data. We also did not have a control group to make appropriate comparisons of the findings obtained from patients with CKD.

Despite the limitations, the findings of this study shed light on the status of QOL of patients on MHD and might inspire the healthcare providers of social and nephrology unit to strive for betterment in dialysis care delivery in the future. The findings of this study could help doctors, medical professionals, and family members to better understand the physical and psychological problems of patients with CKD on MHD. This, in turn, allows personnel to provide physical, psychological, and social support to the affected patients. Better social support is necessary for young

patients and patients on MHD for a longer duration. Poorer patients, whose QOL is significantly affected by the accessibility and quality of health care, should be provided with free and easily accessible dialysis services. Better access to basic necessities and appropriate management of physical pain for such patients could play a vital role in enhancing physical health of the patients with end-stage renal disease.

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