

# Evaluation of Quality of Life among Kidney Transplant Patients- A Cross Sectional Study

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## ABSTRACT

Kidney transplantation is the famous and most important choice of treatment of renal replacement therapies (RRTs) because of its positive impact on morbidity, survival and cost. The health related quality of life is becoming important outcome. Quality of life is usually impaired in patients who have renal transplant because of renal transplant patients have anxiety, lack of social, physical and emotional support and diminished ability to take care of themselves. The basic purpose of renal transplantation is to achieve maximum quality of life with minimum side effects.

**Methods:** A cross sectional study was conducted at Rukhsana Akhtar Bahria International Orchard Hospital Lahore after approval from institution board of university of Lahore. 36 patients were enrolled in study by using purposive sampling technique. After taking informed consent all Kidney transplant patients aged between 18 years to 60 years, visited the post-transplantation OPD and continuously in follow-up sessions were included in study. A validated and standard WHO questionnaire of "Kidney Disease and Quality of Life (KDQOL-36™)" was used for data collection. Data was entered and analyzed in SPSS version.21.Chi-square test was applied to find out significant association between qualitative variables. P - Value < 0.05 will be considered as statistically significant.

**Results:** Majority of patients were from 40-49 years 10(27.0%). Females were more as compared to men (20(55.6) vs 16(44.4%)). 10(27.8) patients can read and write and 8(22.2%) have done matriculation. More patients live in Urban area as compared to rural area(19(52.8%) vs 17(47.2%)).8(22.2%) patients have less than 1 year of post kidney transplantation time and 19(52.8%) have 1 to 3 years. All the seven domains of KDQOL show poor QOL. General Health, Physical function and physical and emotional function shows average QOL and Emotional, social, daily activities and overall KDQOL shows poor QOL. There was insignificant association with age, gender, education; residential area and Post kidney transplantation length of time (years)(p-value > 0.05).

**Conclusions:** After renal transplantation HRQOL becomes very important factor. After kidney transplantation HRQOL depends on many factors. It was concluded from current study that the HRQOL was not as good as it should be. Over the period of transplantation time patient's quality of life remain same. The society, government, family, and medical staff need to support patients so they can also improve their QOL.

**Key word:** Renal Diseases, Kidney transplant, Quality of life, KDQOL-36

## INTRODUCTION

Kidney transplantation (KT) is the best choice for end-stage renal disease patients. Kidney transplantation is the famous and most important choice of treatment of renal replacement therapies (RRTs) because of its positive impact on morbidity, survival and cost.<sup>1,2</sup> There is a lower risk of mortality in patients with KT as compared to those who were on dialysis and waiting for transplantation. It was also observed that when RRTs were compared with KT it proves better and positive impact on the health related quality of Life of patients.<sup>2,4-6</sup> A study was conducted on the measurement of Quality of Life of kidney transplant patients showed better outcomes in terms of better independence, socialization and better ability to work.<sup>7</sup> Quality of life (QoL) is defined as the degree to which the experience of an individual's life meets that individual's wants and needs.<sup>8</sup> HRQoL has become a very significant health indicator for treatment policies.<sup>9</sup>

According to Human development index Pakistan is classified as Low resource country.<sup>10</sup> The end-stage renal disease (ESRD) estimated incidence is 100 per million population (pmp). In government and private sectors, transplantation and dialysis both facilities are available.<sup>11</sup> The stage 3 and 4 combined prevalence was 14 %, which was highest in Punjab (19%), NWFP and Baluchistan (12%) Sindh (7%) respectively.<sup>12</sup>

The main objective of KT is to enhance the QoL of patients with ESRD. KT may have adverse effects also in terms of rejection of graft, development of vascular problems, and infectious diseases. According to the World Health Organization (WHO) top twenty leading cause of deaths in 2004 was lifestyle-related diseases and kidney disorders.<sup>13</sup>

Quality of life is usually impaired in patients who have renal transplant because of renal transplant patients have anxiety, lack of social, physical and emotional support and diminished ability to

take care of themselves. After transplantation, kidney transplant patients need to learn to adapt to optimal physical function, changing emotional challenges and social roles. The purpose of the current study is to evaluate the QoL of kidney transplant patients who private sector hospital Lahore.

## METHODOLOGY

A cross sectional study was conducted at Private sector Hospital Lahore after approval from institution board of university of Lahore. 36 patients were enrolled in study by using purposive sampling technique. After taking informed consent all Kidney transplant patients aged between 18 years to 60 years, visited the post-transplantation OPD and continuously in follow-up sessions were included in study. Terminally ill patients/hospitalized in Intensive care unit, having any comorbidity like uncontrolled diabetes mellitus, uncontrolled hypertension and cognitive limitations were excluded. A validated and standard WHO questionnaire of "Kidney Disease and Quality of Life (KDQOL-36™)" was used for data collection. Quality of life scale consisted on following subparts and each subpart has different numbers of items such as, Physical function has 10, emotional function has 07, Social function has 08, daily activities has 09, physical & emotional problem has 20 and general Health has 2 total items. The total score for all items ranges from 56 to 213. Participants' responses falling in the ranges of 0-49%, 50-74% and 75-100% will be recorded as poor, average and good quality of life, respectively. Data will be entered and analyzed in SPSS version.21. Quantitative variables were presented in the form of mean and standard deviation. Qualitative variable were presented in the form of frequency and percentages Chi-square test was applied to find out significant association between qualitative variables. .P-Value < 0.05 will be considered as statistically significant.

**RESULTS**

Table 1: Demographic Characteristics of Patients

Variable	Frequency (%)
Age (years)	
19-29	18(50.0)
30-39	8(22.2)
40-49	10(27.8)
Gender	
Male	16(44.4)
Female	20(55.6)
Education	
Illiterate	4(11.1)
Read/Write	10(27.8)
Matriculation	8(22.2)
Secondary	6(16.7)
Bachelor	5(13.9)
Masters	3(8.3)
Residential Area	
Urban	19(52.8)
Rural	17(47.2)
Type of kidney donor	
Relative	11(30.6)
Non Relative	25(69.4)
Post kidney transplantation length of time (years)	
Less than 1	8(22.2)
1 to 3	19(52.8)
4 to 6	6(16.7)
Greater than 6	3(8.3)

Table 1, showed demographic history of patients. Majority of patients were from 40-49 years 10(27.0%). According to gender 44.4% were male and 55.6% were female. Education of the participants 11.1% were illiterate, 27.8% were able to read and

write, 22.2% had completed their matriculation, 16.7% had completed their secondary degree, 13.9% were having bachelor degree and 8.3% had done their masters. Regarding residential area majority of 52.8% were from urban area while remaining 47.2% were from rural area. According to type of kidney donor 69.4% were having non relative kidney donor while 30.6% were having relative as kidney donor.

Table 2: Descriptive analysis of components of KQDOL

Variable	Min.	Max.	Mean+SD
General Health(2*5=10)	2	10	5.97+2.20 (Average)
Physical Function(10*3=30)	12	24	16.72+2.92 (Average)
Emotional Function(7*6=42)	9	25	15.50+3.87 (Poor)
Social Function(8*6=48)	8	25	10.64+3.08(Poor)
Daily Activities(9*5=45)	14	33	15.14+4.52 (Poor)
Physical and Emotional Problems(20*2=40)	23	36	24.39+2.57 (Average)
TOTAL	83	126	88.35+19.16 (Poor)

Table 2 describes the descriptive analysis of KDQOL. The overall mean score of KDQOL was 88.35+19.16. All the 7 domains of KDQOL shows mean score as general health (5.97+2.20), Physical function (16.72+2.92), Emotional function (15.50+3.87), social function (10.64+3.08), daily activities (15.14+4.52) and Physical and Emotional Problems (24.39+2.57). All the seven domains show poor QOL. General Health, Physical function and physical and emotional function shows average QOL and Emotional, social, daily activities and overall KDQOL shows poor QOL.

Variable	KQDOL LEVEL				p-value
	Poor n(%)	Average n(%)	Good n(%)	Total n(%)	
Age (years)					0.343
19-29	12(66.7)	5(35.7)	1(25.0)	18(50.0)	
30-39	3(16.7)	5(35.7)	0(0)	8(22.2)	
40-49	7(70.0)	2(20.0)	1(10.0)	10(27.8)	
Gender					0.702
Male	9(50.0)	5(35.7)	2(50.0)	16(44.4)	
Female	9(50.0)	9(64.3)	2(50.0)	20(55.6)	
Education					0.224
Illiterate	1(5.6)	2(14.3)	1(25.0)	4(11.1)	
Read/Write	3(16.7)	6(42.9)	1(25.0)	10(27.8)	
Matriculation	5(27.8)	3(21.4)	0(0)	8(22.2)	
Secondary	2(11.1)	2(14.3)	2(50.0)	6(16.7)	
Bachelor	5(27.8)	0(0)	0(0)	5(13.9)	
Masters	2(11.1)	1(7.1)	0(0)	3(8.3)	
Residential area					0.533
Urban	8(44.4)	9(64.3)	2(50.0)	19(52.8)	
Rural	10(55.6)	5(35.7)	2(50.0)	17(47.2)	
Post kidney transplantation length of time (years)					0.971
Less than 1	3(16.7)	4(28.6)	1(25.0)	8(22.2)	
1 to 3	10(55.6)	7(50.0)	2(50.0)	19(52.8)	
4 to 6	3(16.7)	2(14.3)	1(25.0)	6(16.7)	
Greater than 6	2(11.1)	1(7.1)	0(0)	3(8.3)	

According to table 3 there was insignificant association between demographic characteristics and QOL. According to age majority of patients belongs to 40-49 years of age (10(27.8%) and have poor (22(61.1%) QOL. Females were more as compared to men (20(55.6) vs 16(44.4%)). 10(27.8 patients can read and write and 8(22.2%) have done matriculation. More patients live in Urban area as compared to rural area(19(52.8%) vs 17(47.2%)).8(22.2%)

patients have less than 1 year of post kidney transplantation time and 19(52.8%) have 1 to 3 years. Regarding association of demographic variables with levels of quality of life there was insignificant association with age, gender, education, residential area and Post kidney transplantation length of time (years)(p-value > 0.05).

## DISCUSSION

After kidney transplantation health related quality of life have become an important tool for determining post transplantation outcomes in terms of health assessment, morbidity and mortality. The current study evaluates the post HRQOL of kidney transplant patients.

In current study the majority of patients were below 40 years of age i.e 71.4% whereas 28.6% were from 40-49 years of age. In relation to excellent quality of life 75% were from age group above 40 whereas 25% were having age less than 40 years. There was no association between QoL with respect to age group (P-Value>0.05).

According to US renal data system (2008) it was reported that older patients now no longer consider contraindication to dialysis. Incidence rate of dialysis was most common in 45-64 years and >70 years of age have highest incidence of end stage renal disease.<sup>13</sup>In another study it was reported that elder patients have better psychological strength for dialysis as compared to young ones. However with regard to age there is limitation in their physical functioning.<sup>14</sup>

In this study when patients quality of Life was assessed through KDQOL it shows that the general health was average but all the other domains of KDQOL shows good QOL. The overall quality of life of patients was good.

A comparative study was conducted to assess the QOL between Hemodialysis and renal transplantation patients. The results reveal that renal transplantation patients have significant better QOL as compared to hemodialysis. There was significant difference in general health and familial sub scale. For patient's better QOL renal transplantation have become better option.<sup>15</sup>

Another study reported that life satisfaction was highest among kidney transplantation patients. Patients who were dialysis were more depressed as anxious. KT patients also feel that they have more social support which also increase their satisfaction.<sup>16</sup>

This study shows that social function was having 7 questions; the mean score was 17.64+4.08, with minimum score of 8 and maximum score of 25. Daily activities were comprised of 9 items; the mean score was 23.14+4.52. Over all patients have good social function. A study was conducted in 2007 on social participation of successful kidney transplantation patients. They reported that patients have low education and they spent less time in obligatory activities. They participated less in physical activities.<sup>17</sup>There was no significant difference was found in socializing and going out. These results were similar with current study.

It was revealed in current study that post kidney transplantation time have insignificant association with quality of life. A study conducted on HRQOL of KT patients according to length of Kidney transplantation time. They observed patients twice and thrice and conclude that Quality of life of patients does not change over the time period. There QOL of life is consistently lower than normal population which is in accordance to current study.<sup>18</sup>

## CONCLUSION

The QOL of patients after kidney transplantation was poor. Their social, emotional and daily activities were effect poorly. Social and emotional support is the key essential for the improvement in HRQOL. The society, government, family, and medical staff need to support patients so they can also improve their QOL. Different management seminars or session under the supervision of medical

staff like nurses, or health care professionals should be conducted so that patients can improve their HRQOL. Furthermore, high reliance on corticosteroids in treatment needs to be reconsidered.

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