

Quality of life of hemodialysis patients in selected teaching hospitals of chitwan, Nepal

Abstract

Hemodialysis patients suffer from average quality of life and survival. A descriptive research design was used, 96 respondents who had received haemodialysis treatment after completion of 1 month duration of hemodialysis in two different teaching hospital at Bharatpur Chitwan, Nepal. Data were collected by using standard tool Short Form-36 version 2 through face to face structure interview schedule. The objective of study was to find out the quality of life (QoL) of haemodialysis patients. Various test such as one sample t-test, ANOVA test, independent t-test, Pearson's correlation was applied. The mean±SD was 57.45±16.25, 55.72±22.41 and 60.04±11.50 in overall QoL, physical and mental component summary respectively which was slightly above the average. All dimension and sub scale was statistically significant. Younger respondents had statistically significant with overall QoL ($p<0.001$) and physical component summary ($p<0.001$). There was correlation between physical and mental component summary with overall QoL 0.970 ($p<0.001$) and 0.698 ($p<0.001$), and between the physical and mental component summary was 0.502 ($p<0.001$). Below average score were seen in the general health (32.86±25.74) and vitality (41.53±13.98) sub scale. Other variable were not statistically significant. The study shows that QoL was average. Age, level of education, sex, employment status and diabetes had positive relation with QoL. In order to improve quality of life counseling should be done by the of health personnel.

Keywords: quality of life, hemodialysis patients, bharatpur, chitwan, physical function

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Srijana Ghimire,¹ Saroj Chandra Neupane,²
Monoarul Haque³

¹Lecturer of Nursing, Chitwan Medical College, Nepal

²Program Director, Sunaulo Health Nepal, Nepal

³Senior Lecturer, Community Medical Institute, Bangladesh

Correspondence: Monoarul Haque, Senior Lecturer,
Community Medical Institute, Bangladesh, Tel 8801915839550,
Email monoarmunna@yahoo.com

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Introduction

Kidney disease is a worldwide public health problem, due to increasing incidence and prevalence rates of diabetes, hypertension, polycystic kidney disease and an ageing population etc. The treatment and management of kidney disease is expensive and often outcomes are poor.¹ Chronic kidney disease (CKD) is common among adults in United States that is more than (10%), more than 20million people may have CKD of various levels. The chances of CKD in increases with age after 50years and is most common in among adult than older 70years. Diabetes and hypertension is most common risk factor for CKD, approximately 1 of 3 adult with diabetes and 1 of 5 adult with high blood pressure has CKD.² Renal function were assessed in Chitwan Medical College Teaching Hospital, out of 5990 subjects 90 patient were diagnosis as renal disease and another 90 subject has been included in the study those are normal individual. The ($p<0.003$) than those of normal individuals except total protein and albumin which was significantly lower in experimental group. This data conclude that renal dysfunction is scanty but trend is common feature in Chitwan.³ CKD is a major public problem all over the world. As a field of study, hemodialysis cases also increases day by day due to chronic illness such as diabetes hypertension, metabolic syndrome etc. Incidence of chronic renal failure and hemodialysis treatment lead to change in lifestyle, health status and the person's role, all which affect the quality of life. Financial burden is also high for weekly hemodialysis and occasional admission in emergency department due to complication. Nepal is underdeveloped country in the world and grossly limited treatment option for CKD. The quality of life of dialysis patient is affect through different associated factor. Health

related quality of life research and measurement has expanded greatly over the last few decades. To date there are many articles related to quality of life. Although substantial effort has been made in the western literature to document QoL, these issue are largely ignored in developing countries like Nepal. So that researcher wants to increase knowledge that will improve nursing practice, ultimately enhancing quality of life for these patients.

Methodology

Research design

Descriptive Cross-Sectional study design was used for this study to find out quality of life of hemodialysis patients.

Study setting and population

For setting, 2 medical colleges were selected. They were Chitwan Medical College Teaching Hospital and College of Medical Sciences Teaching Hospital both are situated in Bharatpur 10, Chitwan. 750 bedded running with different department and 5 hemodialysis machine for hemodialysis in Chitwan Medical College Teaching Hospital and 700 bedded running and 4 hemodialysis machine for hemodialysis in College of Medical Sciences Teaching Hospital. All hemodialysis patients attended for hemodialysis treatment.

Sampling of the study

A total number of 115 patients were attended for hemodialysis, among them completion of one month duration of hemodialysis treatment start and with the age of 18years and above patients was 96.

Research instrument

An interview schedule consisting of semi-structured questions was used to find out the socio-demographic and health related information with the help of literature review. In order to find out the quality of life of hemodialysis patients, data were collected through standardized tool, short form 36 Version 2 (SF-36) interview schedule. Studies to date have yielded content, concurrent, criterion, construct, and predictive evidence of validity. Specially, the physical functioning (PF), role physical (RP) and bodily pain (BP) scales and the physical component summary (PCS) have been shown to be most valid SF-36 scales for measuring physical health and the mental health (MH), role emotional (RE) and social functioning (SF) scales and mental component summary (MCS) measure have been shown to be most valid of the SF-36 scales as mental health measures. The reliability of the eight scales and two summary measures has been estimated using both internal consistency and test-retest methods. The instrument was translated into Nepali language by Nepali teacher and English teacher will allowed to back translate in to English version to see its original meaning. Questionnaire was testing in similar setting in Siddhertha Nagar City hospital at Bhairahawa.

Data collection procedure

First, the official letter was obtained from College of Nursing, CMC. Then oral and written permission was taken from the concerned authority of CMCTH and CMSTH, Bharatpur and submit approved proposal along with official letter to hospital authority. The investigator was introduced herself to the respondents ascertain their cooperation for the study. The verbal consent was obtained from each respondent prior to data collection. Face to face interview was taken from the patient. The interview of 5-6 patients was taken per day for about 20 to 25 minutes. Data was collected from those patients who had completed 18years and completion of 1 month of duration haemodialysis.

Data analysis procedure

All the collected data was reviewed, checked and organized daily for the completeness and accuracy. Coding and organizing was done before data entry. The data was entered in Epidata 3.1 and transform the SPSS program version 20 and analyze. As p -value ≥ 0.05 , data was normal so we use independent t test and one way ANOVA test was used in overall quality of life. One sample t -test used in dimension and sub scale of QoL. The correlation of overall quality of life and its dimension was assessed by Karl Pearson's correlation test.

Results

Respondents' qol on general health

Table 1 shows that 51.0% respondents said that their general health status were fair, 57.3% respondents said get sick a little easier than other people were definitely true, 37.5% respondents said as healthy as anybody. About 66.7% respondents felt my health to get worse were definitely true, and in health is excellent, 34.4% respondents said definitely false.

Respondents' qol on physical function

Table 2 shows that on physical functioning scale during the past 4weeks of life, in the score of yes, limited a lot, 57.3% respondents said vigorous activities, such as running, lifting and 8.3% respondents were climbing one flight of stairs. Regarding the score of yes, limited a little, 34.4% respondents said vigorous activities and

12.5% respondents said climbing one flight of stairs. Similarly 79.2% respondents answered climbing one flight of stairs and 8.3% respondents answered vigorous activities no not limited at all.

Table 1 Respondents' QoL on general health (n=96)

Variables	Frequency	Percentage
General health status in general		
Excellent	0	0
Very good	0	0
Good	26	27.1
Fair	49	51
Poor	21	21.9
Get sick a little than other people easier		
Definitely true	55	57.3
Mostly true	4	4.2
Don't know	1	1
Mostly false	3	3.1
Definitely false	33	34.4
As healthy as anybody I know		
Definitely true	26	27.1
Mostly true	11	11.5
Don't know	5	5.2
Mostly false	18	18.8
Definitely false	36	37.5
Health to get worse		
Definitely true	64	66.7
Mostly true	17	17.7
Don't know	1	1
Mostly false	2	2.1
Definitely false	12	12.5
Health is excellent		
Definitely true	12	12.5
Mostly true	17	17.5
Don't know	12	12.5
Mostly false	22	22.9
Definitely false	33	34.4

Table 2 Respondents' QoL on physical function (n=96)

Physical function	A lot n(%)	A little n(%)	Not at all n(%)
Vigorous activities	55(57.3)	33(34.4)	8(8.3)
Moderate activities	16(16.7)	31(32.3)	49(51.0)
lifting or carrying groceries	20(20.8)	28(29.2)	48(50.0)
Climbing several flights of stairs	43(44.8)	30(31.2)	23(24.0)
Climbing one flight of stairs	8(8.3)	12(12.5)	76(79.2)
Bending, kneeling, or stooping	17(17.7)	31(32.3)	48(50.0)
Walking more than a mile	33(34.4)	18(18.8)	45(46.9)
Walking several hundred yards	22(22.9)	23(24.0)	51(53.1)
Walking one hundred yards	9(9.4)	13(13.5)	74(77.1)
Bathing or dressing yourself	9(9.4)	16(16.7)	71(74.0)

Respondents' qol on bodily pain

Table 3 shows that in bodily pain dimension during the past 4weeks of life, 1/3rd (31.2%) respondents said very mild pain and 46.9% respondents said pain interferes with normal work not at all.

Table 3 Respondents' QoL on bodily pain (n=96)

Variables	No	Percentage
Bodily pain		
None	28	29.2
Very mild	30	31.2
Mild	9	9.4
Moderate	14	14.6
Severe	15	15.6
Pain interference with normal work		
Not at all	45	46.9
A little bit	19	19.8
Moderately	14	14.6
Quite a bit	18	18.8
Extremely	0	0

Respondents' qol on vitality and mental health

Table 4 shows that regarding the vitality 12.5% respondents answered a lot of energy all of the time during the past 4weeks of life. There were 34.4% respondents said feelings tired most of the

time. Likewise 55.2% respondents said feeling worn out some of the time. Has a lot of energy and feel tired said equal in number 18.8% a little of the time and (39.6%) respondents said feeling full of life none of the time? Regarding the mental health, 12.5%, 31.1% respondents said happy all of the time and some of the time respectively. Likewise 22.9% respondents answered happy a little of the time. Similarly 77.1% respondents said downhearted happy none of the time.

Quality of life score on different dimension

Table 5 shows that transformed score mean±SD was on physical health dimension (p=0.014)55.72±22.41, Physical function (p<0.001)63.59±30.23, rolephysical(p=0.002)56.90±20.90, bodily pain (p<0.001)71.22±27.28. In the general health (p<0.001)32.86±25.74, total mental health dimension (p<0.001)60.04±11.50, vitality (p<0.001)41.53±13.98, social function (p=0.022)55.33±22.48, role emotion (p<0.001)84.89±25.25, mental health (p<0.001)61.82±11.19 and the total QoL (p<0.001)57.45±16.25. There were all dimensions, sub dimension and overall QoL were statistically significant with hemodialysis and general health was found to be most severely affected domain of the QoL.

Overall quality of life according to demographic variables

Table 6 shows that there was statistically significant between quality of life and age life (p<0.001). The mean±SD of overall quality of life was above the average 67.06±12.89 in 20-39years followed by 40-59years 55.84±17.17 and average 50.90±14.17 in ≥60years which shows that better QoL in young adult than older age. There was statistically significant between quality of life and level of education (p=0.010). The mean±SD of overall quality of life was higher 66.18±13.19 who were Secondary and above and lower 54.01±16.22 who were basic education which shows that better QoL in higher education than lower education. There was not statistically significant between quality of life with sex (p=0.745), ethnicity (p=0.396), educational status (p=0.84), marital status (p=0.092) and among married (p=0.567).

Table 4 Respondents' QoL on vitality and mental health (n=96)

Variables	All of the time n(%)	Most of the time n(%)	Some of the time n(%)	A little of the time n(%)	None of the time n(%)
Vitality					
Feel full of life	1(1.0)	11(11.5)	35(36.5)	11(11.5)	38(39.6)
Have a lot of energy	12(12.5)	0(0.0)	49(51.0)	18(18.8)	17(17.7)
Feel worn out	0(0.0)	24(25.0)	53(55.2)	17(17.7)	2(2.1)
Feel tired	5(5.2)	33(34.4)	34(35.4)	18(18.8)	6(6.2)
Mental Health					
Very Nervous	0(0.0)	4(4.2)	19(19.8)	11(11.5)	62(64.6)
Down in the dumps	0(0.0)	4(4.2)	17(17.7)	9(9.4)	66(68.8)
Felt Calm and peaceful	0(0.0)	5(5.2)	23(24.0)	11(11.5)	57(59.4)
Downhearted	0(0.0)	3(3.1)	11(11.5)	8(8.3)	74(77.1)
Happy	0(0.0)	12(12.5)	30(31.2)	22(22.9)	32(33.3)

Table 5 Quality of life score on different dimension

Quality of life	Raw score	Transformed	Minimum	Maximum	p value
	mean±SD	score mean±SD	Score	Score	
Physical Health dimention	55.44±6.90	55.72±22.41	6.9	96.43	0.014
Physical Function	22.71±6.04	63.59±30.23	0	100	<0.001
Role Physical	13.10±3.34	56.90±20.90	0	100	0.002
Bodily pain	4.61±2.45	71.22±27.28	22.5	100	<0.001
General Health	15.01±2.81	32.86±25.74	0	90	<0.001
Mental Health dimention	53.89±5.48	60.04±11.50	26.79	78.57	<0.001
Vitality	13.02±1.62	41.53±13.98	18.75	75	<0.001
Social function	6.28±1.18	55.33±22.48	0	100	0.022
Role emotion	13.18±3.03	84.89±25.25	0	100	<0.001
Mental Health	21.40±2.99	61.82±11.19	20	80	<0.001
Overall QoL	109.34±9.00	57.45±16.25	19.14	88.57	<0.001

Significance level 0.05, one sample t test used in Transformed score.

Table 6 Overall quality of life according to demographic

Variable	No	QoL score	p value
Age			
20-39	27	67.06±12.89	<0.001**
40-59	39	55.84±17.17	
≥60	30	50.90±14.17	
Gender			
Male	36	57.87±16.79	0.745*
Female	60	56.75±15.15	
Ethnicity			
Dalit	18	54.17±17.89	0.396**
Disadvantaged janajatis	32	60.05±15.88	
Disadvantaged nondalit	2	64.42±23.03	
Relatively advantaged	12	50.83±18.59	
Upper caste group	32	58.75±14.38	
Educational status			
Literate	7100.00%	59.15±16.10	0.84*
Illiterate	2500.00%	52.62±16.03	
Education level			
Basic literate	41	54.01±16.22	0.001*
Secondary and above	3000.00%	66.18±13.19	
Marital status			
Married	87	56.56±16.18	0.092*
Unmarried	9	66.14±15.06	
If married			
Living with spouse	81	56.82±16.21	0.567*
Widow/widower/ separate	6	52.88±16.83	

Significance level 0.05, *t - independent test, **Anova test

Correlation between qol dimension and overall qol

Table 7 shows that the correlation between quality of life and physical health dimension was 0.970(p<0.001) and correlation between QoL and mental health dimension was 0.698(p<0.001) which shows that dimension of QoL was positively correlated with overall QoL.

Table 7 Correlation between QoL dimension and overall QoL

Dimension	r value	p value
Physical health	0.97	<0.001
Mental health	0.698	<0.001

Significance level 0.05

Table 8 Correlation between physical health and mental health QoL dimensions

Dimension	r value	p value
Physical health vs Mental health	0.502	<0.001

Significance level 0.05

Correlation between physical health and mental health QoL dimensions

Table 8 shows that the correlation between Physical health dimension and mental health dimension was 0.502(p<0.001) which shows that physical health dimension was positively correlated with mental health.

Discussion

Regarding the overall QoL (p<0.001) the mean±SD was 57.45±16.25. The mean±SD was on physical health dimension (p=0.014) 55.72±22.41 and mental health dimension (p<0.001) 60.04±11.50. Regarding the sub scale of quality of life, the transform mean±SD was 63.59±30.23 (p<0.001) on physical function, role physical 56.90±20.90 (p=0.002), bodily pain 71.22±27.28 (p<0.001), general health 32.86±25.74 (p<0.001), vitality 41.53±13.98 (p<0.001), social function 55.33±22.48 (p=0.022), role emotion 84.89±25.25 (p<0.001), mental health 61.82±11.19 (p<0.001). The findings of this study is supported by Shdafat & Abdul Manaf⁴ and mental component summary 51.2±11.3, general health 45.37±14.89, vitality 38.41±17.24 and contrast in physical function 40.58±25.25, role physical 7.79±25.05, bodily pain 49.51±32.10, social function 44.75±31.60, role emotion 12.56±32.52 and mental health 47.68±21.11, physical component summary 44.5±10.3. Similarly, the findings of this study are contrasted to Shrestha et al.,⁵ the mean score for physical health score was only 33.36±16.14. Mental health score was 39.50±14.27. Similarly, the findings of this study is contrast to Pakpour et al.,⁶ physical component scale 41.2±19.3, mental component scale 47.5±20.1, physical function 41.6±30.2, role physical 30.8±32.5, bodily pain 43.9±28.0, social function 44.1±25.7, role emotion 43.1±38.1, mental health 56.7±22.4 except general health 48.5±16.8, vitality 46.3±23.9. Similarly, the finding of this study is supported by AL-Jumaih et al.,⁷ overall QoL mean score was 60.4. The mean±SD of physical component summary was 52.7±23.4, mental component summary 54.1±24.5, physical functioning 56.4±29.1, bodily pain 61.3±34.8, general health 58.2±25.0, social function 58.9±29.1,

mental health 63.7±26.8 and contrast to role physical 35.0±38.8, vitality 56.5±28.9 and role emotion 37.5±44.6. Likewise, the finding of this study is supported by Shdafat & Abdul Manaf⁴ bodily pain 69.64±30.85, mental health 74.99±21.43, role emotional 63.82±42.17 and contrast in physical component summary 38.28±9.11 and mental component summary 41.45±9.88, physical functioning 45.73±30.13, role physical 40.58±39.29, general health 60.89±21.80, social role 70.85±29.00 and vitality 64.08±24.55. Regarding the Karl Pearson's Correlation between overall QoL and physical health dimension and mental health dimension with was 0.970 ($p < 0.001$) and 0.698 ($p < 0.001$) which shows that dimension of QoL was positively correlated with overall QoL. There was a statistically significant correlation of physical health dimension with mental health dimension 0.502 ($p < 0.001$). The findings this study was supported by Shrestha et al.,⁵ There was a statistically significant correlation of physical and mental health dimension ($p = 0.001$).

Conclusion

The finding of study concluded that the overall quality of life was slightly above the average and mental component summary was better than physical component summary. The overall quality of life was higher in younger. Health personnel should conduct counseling to improve quality of life to the hemodialysis patient.

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Conflict of interest

The author declares no conflict of interest.

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