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Quality of life comparison between hemodialysis and peritoneal dialysis among end-stage renal disease patients in Kuwait

Abstract

Hemodialysis (HD) and peritoneal dialysis (PD) are important renal replacement therapies for end-stage renal disease (ESRD) patients. Comparison of quality of life (QoL) between the two modalities is lacking in Kuwait. This study aimed to compare QoL between HD and PD patients, model the association between satisfaction with treatment modality and a set of covariates. A cross-sectional study was conducted in which data were collected from all dialysis centers in Kuwait. Means, standard deviations of QoL were reported. Logistic regression was used to model and quantify the associations. HD (PD) comprised 84.4% (15.6%), with mean (SD) age for HD (PD) 55.28 (13.42) and 58.44 (15.42) years. The most common cause of ESRD is diabetes mellitus (38.1%). PD patients had higher mean scores in all domains except Mental Health and Role limitation due to emotional problem, though not significantly different. The odds of being satisfied with treatment modality for those who live with family/others are six times compared to those who live alone. The odds of somebody diagnosed with ESRD for more than a year to be satisfied with treatment modality is 6.3 times compared to those diagnosed less than a year. For a patient on dialysis between 1 and 3 years, the odds of being satisfied with treatment is 34% lower compared to those on dialysis less than a year. PD patients showed better QoL overall. Subgroups with worse QoL are those with diabetes as their cause of ESRD. Patients who lived alone, been diagnosed with ESRD less than a year ago, been on dialysis between one and three years were less satisfied with their treatment modality. Hence, emotional strengthening and support need to be established through family or support groups to improve patients QoL.

Keywords: hemodialysis, peritoneal dialysis, end stage renal disease, ESRD, quality-of-life, multivariate logistic regression, diabetes mellitus, hypertension, Kuwait, SF-36, MH, RE, RP, OR, AOR, CI, SPPS

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Abbreviations: HD, hemodialysis; PD, peritoneal dialysis; ESRD, end stage renal disease; QoL, quality of life; CKD, chronic kidney disease; KDOQI, kidney disease outcomes quality initiative; GFR, glomerular filtration rate; NKF, national kidney foundation

Introduction

Renal failure is a temporary or permanent damage to the kidneys, which results in loss of their normal function. There are two types of renal failure: acute renal failure and chronic renal failure. Chronic kidney disease (CKD) is used to cover all degrees of decreased renal function. The Kidney Disease Outcomes Quality Initiative (KDOQI) of the National Kidney Foundation (NKF) established a definition and classification of CKD. The KDOQI defines CKD as either kidney damage or a decreased glomerular filtration rate (GFR) of less than 60mL/min/1.73m^2 for three or more months. The KDOQI classified CKD into 5 stages, with the last stage known as end-stage kidney disease (GFR<15mL/min/1.73m^2).[1,2]

The most common causes of ESRD are diabetes mellitus and hypertension, which are responsible for two-thirds of the cases, as cited by the NKF. Other causes include: chronic glomerulonephritis, adult polycystic kidney disease, congenital abnormalities. Treatment modalities for ESRD patients are either kidney transplantation or dialysis. There are two types of dialysis: hemodialysis (HD) or

peritoneal dialysis (PD). HD is usually performed several times a week and lasts several hours.[3]

QoL is one of several aspects in which these dialysis modalities can be assessed. Literature has shown equivalent survival and clinical outcome with PD and HD.[4] Thus, in the absence of medical contraindications, the decision to which dialysis modality should be employed becomes a matter of personal choice. Such a decision requires consideration of the potential gains or losses in the patient QoL.

QoL is a multi-dimensional concept that affects performance of the individual in physical, psychological, social, and spiritual aspects of life and can be affected by political, cultural, economic, and spiritual beliefs.[5] Measuring QoL is important for public health policy, research, evaluation, and clinical decision-making.[6] QoL is also an important indicator of the quality of healthcare.[7] A study in the United Arab Emirates found that patients who have dialysis for survival live with a great deal of uncertainty about the future.[8] They do not deal only with treatment-related complications, but also with the changes in their perception of their own self-worth. The major psychological and physiological stresses experienced by patients on dialysis are pain, restriction of fluids, itching, discomfort, limitations in physical activity, fatigue, weaknesses, high cost of care, feelings of inadequacy and negative moods. These factors may contribute to the diminished

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QoL reported by patients on regular dialysis. ESRD imposes substantial effects on the patient's QoL by negatively affecting their social, financial and psychological well-being. The disease also affects body image and can have impact on patient's overall QoL and other domains like physical, functional, social and mental status. Previous research that compared HD and PD showed patients undergoing either treatment modality experienced QoL deficits.[9]

Interest in measuring QoL in both clinical trials and everyday clinical practice is on the rise, but there is lack of research that asses or compare QoL of patients comparing HD and PD in Kuwait. Therefore, the objectives of this study are: (1) compare QoL between HD and PD patients with ESRD in Kuwait (2) establish estimates for the proportion of each type of dialysis in Kuwait. Our aims were, as well, to estimate and test factors and disease profile characteristics that influence patients' satisfaction with the treatment modality. This study also provides a window to assess QoL for the patients in Kuwait, as well as to allow physicians and future patients to have better knowledge on determining a suitable modality of treatment; ultimately enhancing patient care and health in terms of mental, physical, and social well-being.

Materials and methods

Study design and participants

This is a cross sectional study that uses a non-probabilistic sample. Patients who have been on dialysis therapy for more than 3 months were allowed to participate. This will help exclude the influence of metabolic factors such as uremic encephalopathy on the level of consciousness. Also, patients who have no cerebro-vascular disease or serious intellectual impairment were included. Patients who are over 21 years old (the legal age for informed consent in Kuwait) were allowed to participate. These criteria were implemented in similar studies.[10,11] In order to reduce recall bias, patients who were not oriented to time, place, and person were excluded. Also acute cases or those who suffered infection or clot formation at the access site, cerebrovascular diseases, acute coronary syndrome, peritonitis, or malignancy during the span of the four weeks prior to the start of data collection were excluded.

For ethical purposes, an informed consent was approved by Kuwait University Health Science Center Ethical Committee and Kuwait Ministry of Health. Written informed consents were obtained from each participant individually. All subjects have been informed of their rights to refuse or discontinue participation in the study, according to the ethical standards of the Helsinki Declaration of 1983.[12]

Data collection

A self-administered questionnaire, the 36-items short-form (SF-36), was used to collect data. The questionnaire is composed of 55 questions that were divided into three main sections: socio-demographic characteristics, disease profile, and QoL. The English version of the questionnaire was translated into Arabic and then back translated to English by two independent people. All questions were tested for comprehensibility to insure that the same intended meaning was provided in both forms. The SF-36 is a standardized questionnaire derived from a larger set of questions used in the US Medical Outcomes Study in the mid-1980.[13] It has become one of the most widely used for the health-related quality of life measures which are generic, multi-dimensional measures of self-reported health status. The questionnaire consists of 36 questions (items) measuring physical and mental health status in relation to eight health domains: Physical Functioning (PF, 10 items), Role limitations to Physical health (RP, 4 items), Body Pain (BP, 2 items), General Health perceptions (GH, 5 items), Social Functioning (SF, 2 items), Role limitations due to Emotional health (RE, 3 items), Vitality or fatigue (VT, 4 items), and Mental Health (MH, 5 items). The score for each domain ranges from 0 to 100 with higher scores indicating better quality of life, using the standard scorings instructed by RAND Health[14] for globalization. Data were collected during the period 26th of March to the 7th of April 2015. Of the 485 patients approached, 29 were ineligible, and 49 patients (10.1%) refused to participate. Of the 407 patients who filled the questionnaire, 9 were excluded; hence a final sample of 398 was included in the analysis.

Data analysis

Data were analyzed using SPSS statistical software (SPSS Inc., Chicago, IL, USA). Descriptive statistics: frequencies/percentages, means, and standard deviations were calculated. For testing the association between the type of dialysis and socio-demographic characteristics, Pearson's chi-square test or Fisher's exact test was used. The two-sample t-test was used for comparing means of all continuous variables when normality holds, otherwise Mann Whitney U test is used. All tests are two tailed with a p value less than 5% is deemed significant.

Results and discussion

Analysis and results

Table 1 displays the socio-demographic characteristics of the participants. The HD (PD) patients comprised 84.4%(15.6%) of the sample, respectively. The mean (SD) age of the HD patients is 55.28(13.42) years, while 58.44(15.42) years for PD patients. About 56.6%(48.4%) of the HD (PD) patients were females. About 78.6%(38.7%) of the HD (PD) patients were Kuwaiti. Roughly 47.7%(53.2%) of the HD (PD) patients had at least high school, while 79.4%(65%) of the HD (PD) patients were retired or unemployed. An estimated 61.6%(74.2%) of the HD (PD) patients were married, while only 48.8%(21%) of the HD (PD) patients had income more than 1000KD. PD was favored (46.8%) by low income patients, while HD was favored (48.8) by higher income patients. Of the HD (PD) patients, 3.6%(9.7%) lived alone. Significant associations between treatment modality with nationality, educational level, monthly income and living status were present.

Table 2 presents the disease profile of the HD and PD patients. The most common causes of ESRD were diabetes mellitus and hypertension accounting for 61.9% among HD and 66.1% among PD patients. Approximately 88.1%(82.3%) of the HD(PD) patients with ESRD were diagnosed more than a year ago. Approximately 50%(77.4%) of the HD(PD) patients were on dialysis for less than three years. Approximately 95.8% of the HD patients had 1-3 sessions per week, while 77.4% of the PD patients had daily sessions. Only 2.7% (33.9%) of the HD(PD) patients changed their type of dialysis during the last six months. The covariates: time duration on dialysis, number of dialysis sessions/week, session duration, and change in type of dialysis during last six months were significantly associated with dialysis modality.

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Table 1 Socio–demographic characteristics of the HD (n=336) and PD (n=62) patients in Kuwait (N=398)

Covariate	HD n(%)	PD n(%)	P value
Age group			
21–40	49(14.6)	9(14.5)	0.087[1]
41–60	161(47.9)	21(33.9)	
>=61	126(37.5)	32(51.6)	
Age, mean(SD)	55.28(13.42)	58.44(15.42)	0.068[3]
Gender			
Male	146(43.5)	32(51.6)	0.235[1]
Female	190(56.5)	30(48.4)	
Nationality			
Kuwaiti	264(78.6)	24(38.7)	<0.001[1]
Non–Kuwaiti	72(21.4)	38(61.3)	
Marital status			
Single	45(13.4)	5(8.1)	0.162[1]
Married	207(61.6)	46(74.2)	
Divorced/Widowed	84(25.0)	11(17.7)	
Education level			
Illiterate	83(24.7)	12(19.4)	0.045[1]
lementary school	12(3.6)	7(11.3)	
Middle school	81(24.1)	10(16.1)	
High school	60(17.9)	15(24.2)	
Diploma/University & higher	100(29.8)	18(29.0)	
Employment Status			
Student	9(2.7)	1(1.6)	0.136[1]
Employed	60(17.9)	19(30.6)	
Retired	153(45.5)	25(40.3)	
Unemployed	114(33.9)	17(24.7)	
Family income(KD)			
Less than 500 KD	51(15.2)	29(46.8)	<0.001[1]
500 –1000 KD	121(36.0)	20(32.3)	
More than 1000 KD	164(48.8)	13(21.0)	
Living Status			
Alone	12(3.6)	6(9.7)	0.045[2]
With family/others	324(96.4)	56(90.3)	

[1]Pearson chi square test, [2]Fisher exact test, [3]Mann Whitney U test.

Table 2 Disease profile characteristics for HD (n=336) and PD (n=62) patients in Kuwait (N=398)

Covariate	HD n(%)	PD n(%)	P value
Diagnosis of ESRD			
Less than 1 year	40(11.9)	11(17.7)	0.206[1]
At least one year	296(88.1)	51(82.3)	
Cause of ESRD			
Diabetes	128(38.1)	24(38.7)	
Hypertension	80(23.8)	17(27.4)	
Glomerulonephritis	10(3.0)	3(4.8)	0.677[2]
Polycystic kidney	13(3.9)	3(4.8)	
Others	105(31.3)	15(24.2)	
Duration on dialysis(Year)			
Less than 0.5	38(11.3)	16(25.8)	
0.5–<1	35(10.4)	11(17.7)	
1–<3	95(28.3)	21(33.9)	<0.001[1]
3–<5	74(22.0)	10(16.1)	
At least 5	94(28.0)	4(6.5)	
Dialysis sessions/week			
1–3	322(95.8)	6(9.7)	
4–6	13(3.9)	8(12.9)	<0.001[1]
Daily	1(0.30)	48(77.40)	
Session duration(hours)			
Less than 2	1(0.3)	30(48.4)	
2–4	321(95.5)	1(1.6)	<0.001[1]
At least 4	14(4.2)	31(50.0)	
Changed type of dialysis within 6 months			
Yes	9(2.7)	21(33.9)	<0.001[1]
No	327(97.3)	41(66.1)	

[1]Pearson chi square test, [2]Fisher's exact test.

Table 3 presents mean scores of HD and PD patients on the eight domains of the SF-36 and a comparison of means along with 95% confidence intervals (CI). The overall mean score favored PD by 3.1 points. In addition, patients on PD performed better in all domains individually, except in MH and RE. No significant differences were noticed, except at the RP domain with marginal significance (PV=0.053).

It was noted in Table 2 that diabetes as a cause for ESRD accounted for 38.1%(38.7%) of the HD(PD) patients. Hence, a comparison of means of HD and PD patients according to diabetes being a cause of ESRD is performed on eight domains of the SF-36 questionnaire and

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is presented in Table 4. No significant differences were found across the eight domains or overall mean score. Though, for other causes of ESRD, the overall mean score of PD was higher compared to HD, while for diabetes as an ESRD cause, the overall mean score for HD was slightly higher.

Table 3 Comparison of overall and mean scores between HD and PD patients for eight domains from the SF–36 questionnaire (N= 398)

Domain	HD(n1=336)	PD(n2=62)	PV
	Mean(SD)(95%CI)	Mean(SD)(95%CI)	
PF	43.29(28.729)(40.21–46.37)	44.35(29.204)(36.94–51.77)	0.789[1]
RP	26.04(38.619)(21.90–30.19)	35.48(40.876)(25.10–45.87)	0.053[2]
BP	59.64(36.150)(55.76–63.52)	66.77(29.741)(59.22–74.33)	0.252[2]
GH	50.22(21.786)(47.89–52.56)	53.15(16.675)(48.91–57.38)	0.232[1]
SF	46.72(27.706)(43.75–49.69)	52.14(30.115)(44.49–59.78)	0.189[2]
RE	49.01(47.481)(43.91–54.10)	45.70(46.453)(33.90–57.50)	0.571[2]
VT	46.64(22.980)(44.17–49.10)	48.95(28.474)(41.72–56.18)	0.547[1]
MH	71.49(21.884)(69.14–73.84)	70.58(24.262)(64.42–76.74)	0.998[2]
Overall	49.13(20.765)(46.90–51.36)	52.14(20.541)(46.92–57.36)	0.294[1]

PF, physical functioning; RP, physical role limitations; BP, body pain; GH, general health;

SF, social functioning; RE, emotional role limitations; VT, vitality (fatigue/energy); MH, mental

health; [1]Two sample t–test; [2]Mann–Whitney U test.

Table 4 Comparison of overall and mean scores between HD and PD patients for eight domains from the SF–36 questionnaire stratified by diabetes as a cause of ESRD (N= 398)

Domain	Diabetes as an ESRD cause(n1=152)	Other causes of ESRD (n2=246)	PV
	Mean(SD) 95%CI	Mean(SD) 95%CI	
PF	37.37(27.428)(32.97–41.76)	47.22(28.988)(43.58–50.86)	0.001[1]
RP	21.88(36.315)(16.06–27.69)	31.00(40.370)(25.93–36.07)	0.022[2]
BP	63.39(34.101)(57.92–68.85)	59.13(35.976)(54.61–63.64)	0.265[2]
GH	52.47(20.483)(49.18–55.75)	49.57(21.408)(46.88–52.26)	0.184[1]
SF	45.23(27.704)(40.79–49.67)	49.00(28.337)(45.45–52.56)	0.178[2]
RE	48.03(47.720)(40.38–55.67)	48.78(47.101)(42.87–54.70)	0.756[2]
VT	46.15(21.711)(42.67–49.63)	47.52(25.176)(44.36–50.68)	0.579[1]
MH	72.89(21.711)(69.50–76.29)	70.39(22.873)(67.52–73.26)	0.378[2]
Overall	48.43(19.138)(45.36–51.49)	50.33(21.667)(47.60–53.05)	0.375[1]

PF, physical functioning; RP, physical role limitations; BP, body pain; GH, general health; SF, social functioning; RE, emotional role limitations; VT, vitality(fatigue/energy); MH, mental health; 1Two sample t–test; 2Mann–Whitney U test.

In order to assess the strength and significance of the association between satisfaction with the treatment modality and a list of covariates, logistic regression model was implemented. Univariate logistic regression was used to establish crude odd ratios (OR). To account for potential confounding effects, a multivariate logistic regression was used to obtain adjusted odds ratios (AOR). Table 5 presents the OR and AOR between patients' satisfaction with the treatment modality and the socio-demographic and disease profile characteristics.

Table 6 presents multivariate logistic regression results relating satisfaction with treatment to some disease profile characteristics. After adjusting for age, nationality, marital status, educational level, occupational status and income, result revealed that the odds of patients living with family/others to be satisfied with treatment modality are six times compared to those who live alone (AOR=6.18, 95% CI (1.66, 22.99). Moreover, patients who have been diagnosed with ESRD for at least a year have about six times the odds of being satisfied with treatment modality compared to those who were diagnosed with ESRD for less than a year (AOR=6.28, 95% CI (1.91, 20.66). As for time on dialysis, patients on dialysis between one and three years have 80% lower odds of being satisfied with treatment modality (AOR=0.204, 95% CI (0.062, 0.667). Finally, although marginally significant (PV=0.063), the odds of a female to be satisfied with treatment modality is roughly two and a half times compared to males (AOR=2.45, 95% CI (0.954, 6.298). It is to be noted that

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patients on HD were less likely to be satisfied with treatment modality (AOR=0.532, 95% CI (0.174, 1.622)) though not statistically significant. This may be explained and supported by results in Table 3, in which PD mean scores were higher for seven of the eight domains of the SF-36, although not significantly different.

Table 5 Comparison of overall mean and mean scores between HD and PD patients according to diabetes as a cause of ESRD for eight domains from the SF–36 questionnaire(N= 398)

Domain	Diabetes as ESRD Cause		PV	Other Causes of ESRD		PV
	HD	PD		HD	PD	
	Mean(SD)	Mean(SD)		Mean(SD)	Mean(SD)	
PF	38.95(28.31)	28.96(20.64)	0.169[2]	45.96(28.73)	54.08(29.84)	0.113[1]
RP	21.29(36.60)	25.00(35.36)	0.439[2]	28.97(39.62)	42.11(43.15)	0.056[2]
BP	63.85(34.72)	60.94(31.15)	0.531[2]	57.06(36.85)	70.46(28.62)	0.068[2]
GH	52.42(20.99)	52.71(17.88)	0.950[1]	48.87(22.20)	53.42(16.11)	0.138[1]
SF	44.26(27.23)	50.42(30.17)	0.319[1]	48.23(27.95)	53.22(30.44)	0.319[1]
RE	48.44(48.03)	45.83(46.95)	0.849[2]	49.36(47.25)	45.61(46.77)	0.571[2]
VT	46.68(20.83)	43.33(26.24)	0.490[1]	46.61(24.26)	52.50(29.59)	0.185[1]
MH	73.50(20.82)	69.67(23.11)	0.475[2]	70.25(22.48)	71.16(25.25)	0.616[2]
Overall	48.67(19.39)	47.11(18.07)	0.714[1]	49.41(21.61)	55.32(21.58)	0.122[1]

PF, physical functioning; RP, physical role limitations; BP, body pain; GH, general health; SF, social functioning; RE, emotional role limitations; VT, vitality(fatigue/energy); MH, mental health; 1Two sample t–test, 2Mann–Whitney U test.

Table 6 Association between satisfaction with treatment modality and a list of covariates using multivariate logistic regression(N=398)

Covariate	Crude OR(95% CI)	P value	Adjusted OR*(95% CI)	P value
Gender				
Male	1		1	
Female	1.609(0.882, 2.937)	0.121	2.451(0.954, 6.298)	0.063
Type of dialysis				
PD	1		1	
HD	0.582(0.221, 1.532)	0.273	0.532(0.174, 1.622)	0.267
Living status				
Alone	1		1	
With family/Others	2.937(0.999, 8.633)	0.05	6.182(1.662, 22.987)	0.007
Time of ESRD diagnosis				
Less than 1 year	1		1	
At least 1 year	2.955(1.441, 6.060)	0.003	6.28(1.909, 20.663)	0.002
Time on dialysis				
Less than 1 year	1	0.143	1	0.011
1–<3 years	0.655(0.302, 1.416)	0.282	0.204(0.062, 0.667)	0.009
3–<5 years	2.155(0.727, 6.386)	0.166	0.851(0.205, 3.537)	0.825
At least 5 years	0.977(0.416, 2.295)	0.958	0.330(0.091, 1.205)	0.093

*Adjusted for: age, nationality, marital status, educational level, occupational status, income.

For the multivariate logistic regression model, it is be noted that according to the omnibus test statistic, the model is significant (χ^2=33.471, DF=21, PV=0.041). Also, according to Hosmer-Lemeshow test, the multivariate logistic regression model fits the data well (χ^2=8.923, DF=8, PV=0.349), and discriminates very well with an 87.9% correct classification rate. For those reasons, we have good faith in the estimates produced by the logistic regression model.

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Discussion

The goal of this study is to assess and compare QoL for HD and PD patients and to identify factors associated with satisfaction with treatment modality in Kuwait. A non-probabilistic sample of HD and PD patients from all dialysis centers in Kuwait was collected using a self-administered SF-36 questionnaire.

The proportions of HD (PD) patients were 84.4% (15.6%). This was expected, and similar to other studies. For example, Abdalla et al.[15] collected data from 340 HD and 30 PD patients in their study.[15] Two studies conducted in the USA, the first used 698 HD and 230 PD patients,[16] while the second used 16,755 HD and 1,260 PD patients, with clear difference in proportions between HD and PD proportions.[17] In the current study, the mean age was marginally statistically significant between HD and PD patients (PV=0.068). Significant difference between mean age of HD and PD was also found by a study in China; however, another study in Saudi Arabia found the mean age to be statistically insignificant.[9,18]

Regarding disease profile, diabetes was found to be the leading cause of ESRD in Kuwait. Interestingly, a local study conducted in 1994[19] found chronic tubule-interstitial disease to be the leading cause of ESRD in Kuwait. A meta-analysis of the epidemiology of ESRD in the countries of the Gulf Cooperation Council was done in 2012 and showed that the summarized estimate of diabetic nephropathy prevalence as a cause for ESRD is 17.27% (95% CI: 11.38-26.21%; 21 studies); there was no heterogeneity between the studies.[20]

Among the eight domains of the SF-36 questionnaire, this study revealed that scores on PF, RP, BP, GH, SF, and VT domains were higher in PD patients compared to HD patients, though not significantly different compared to HD. Furthermore, a study conducted in Taiwan showed that PD patients had higher scores on six of the eight SF-36 subscales compared to HD patients, including emotional problems, bodily pain, vitality, and mental health, in addition to physical functioning and role limitations due to physical functioning.[21] Overall, the comparison between QoL for HD and PD were mixed. The overall QoL mean score for this study was higher by three points for PD compared to HD patients, though not significantly different, which is in line with the published literature.[9,16,18,22]

As noted earlier, diabetes is considered the most common cause of ESRD, for this reason a comparison of the eight domains of the SF-36 based on diabetes being the cause of ESRD is presented in Table 4. Results revealed significant differences between PF and RP domains (PV=.001 and 0.022 respectively). Also, patients with diabetes as a cause of ESRD have a lower overall QoL mean score (poorer QoL) compared to other causes of ESRD, though not significantly lower. This is similar to a study in Spain[23] between diabetic and non-diabetic patients on dialysis. Also, Ai-Hua Zhang[18] conducted a similar study, but failed to establish significance of diabetes as a cause of ESRD on patients' QoL.

In order to better understand the role of diabetes on QoL, patients were further stratified according to their treatment modality with results presented in Table 5. Results reveal that, for patients with other causes of ESRD, mean scores of PD patients were higher on seven domains, compared to HD patients with an overall mean score for PD higher, though not significantly higher. Results suggest that HD patients with causes of ESRD other than diabetes have poorer QoL overall.

After adjusting for age, nationality, marital status, educational level, occupational status, and income multivariate logistic regression results indicated that the odds of those who live with their families or others are 6 times to be satisfied with their treatment compared to those who live alone. The odds of patients who have been diagnosed with ESRD for at least a year to be satisfied with treatment are 6 times compared to those who were diagnosed less than a year. Moreover, the odds for those who have been on dialysis between one and three years to be satisfied with treatment is 80% lower compared to those on dialysis for less than a year. Although not significant, it is noteworthy that female on dialysis have 2.45 the odds of males to be satisfied with treatment. This is not surprising and might be due to Kuwait having a conservative society with a lot of privacy for women in clinics. This is similar to a study conducted in USA[16] in which PD patients in general had greater satisfaction with their therapy.

Conclusion

To the best of our knowledge, this is the first study to assess and compare QoL between HD and PD among ESRD patients in Kuwait. This study aimed to estimate the proportion of HD and PD patients across Kuwait and raises public health awareness and interest in QoL among dialysis patients and to provide a base for future investigations in Kuwait. Generally, PD patients had better QoL mean scores. Subgroups with worse QoL are those with diabetes as ESRD cause. To improve satisfaction with treatment modality, special attention should be directed to those who live alone, had ESRD for less than a year, been on dialysis between one and three years.

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Conflict of interest

The author declares no conflict of interest.

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