Health Related Quality of Life Among Maintenance Hemodialysis Patients and Healthy Pregnant Women: A Comparative Cross-sectional Study

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Abstract

Introduction: About 600 million (10%) of the world population has chronic kidney diseases (CKD). It is progressive, irreversible but effectively treated with maintenance hemodialysis and renal transplantation. In Nigeria, majority of end stage kidney disease patients struggle to continue regular hemodialysis as renal transplantation is beyond the reach of many. The financial burden and other restrictions on the life of the patients have implications for quality of life of these patients.

Objectives: To compare health related quality of life of end stage CKD patients with that of healthy pregnant women without any medical co-morbidity.

Methodology: WHOQOL-BREF questionnaire was used to determine quality of life of 64 CKD patients and 64 healthy pregnant women in a cross sectional comparative descriptive study. Statistical significance difference between the two groups attributed to events with a p-value lower than 5% (p < 0.05).

Results: The mean quality of life index among the maintenance hemodialysis patient was 43.03±15.96 while it is 63.56±12.61 among the healthy pregnant women and the difference is statistically significant (T= 8.01, p =0.000). Hemodialysis participants had lower QOL across all the four domains when compared to healthy pregnant women.

Conclusion: Health related quality of life of CKD patients in Nigeria is low. The government and care givers need to push for interventions known to make quality of life of CKD as well as that of healthy populace.

Keywords: Chronic Kidney Disease, End Stage Renal Disease, Pregnant women, Quality of Life.

Introduction

It is estimated that 10% of population worldwide (approximately 600 million people) is affected by chronic kidney disease with millions dying each year because they lack access to affordable treatment (WKD, 2015).

More than two million people worldwide are on regular dialysis to keep alive out of estimated twenty million who really need dialysis / renal transplant for life. About 20% of these two million patients receive treatment in close to one hundred developing countries including Nigeria (Couser, 2011). The two million patients are expected to grow to 5.5million by 2030. It is estimated that that twenty five million Nigerians (13.9%) suffer from kidney failure with eighteen thousand Nigerians needing dialysis to survive at a cost of N400,000.00 ($1096)per month (NAN, 2018), while thirty seven million are thought to have CKD in USA and about 4.5 million in Poland; the prevalence is on the increase by the year as there was an increase of over 150 per 100,000 in 10 years in Poland from 141 per 100,000 people in 1996 to 326 per 100,000 by 2006 (National kidney foundation 2019).

According to National Kidney Foundation (NKF) 2019, chronic kidney disease can be defined, in simple terms, as a condition

characterized by a gradual loss of kidney function over time. Chronic kidney disease (CKD), which is also known as chronic renal disease, can also be referred to as the structured and functional abnormalities of the kidney evidenced by kidney damage with or without a reduction in the glomerular filtration rate (GFR) manifested by either Glomerular filtration rate less than 60ml/min/1.73m2 for 3 months or more with or without kidney damage; Markers of kidney damage, including abnormalities in composition of blood or urine or abnormalities of imaging tests; Pathological abnormalities (National Kidney Foundation, 2019).

According to the Acute Dialysis Initiative Guideline (ADIG) 2011, chronic kidney disease (CKD) is defined as a persistent kidney damage accompanied by a reduction in the glomerulus filtration rate (GFR) and the presence of albuminuria. The implications of having chronic kidney disease is that for a while, the kidneys have been malfunctioning.

Kidney disease caused by high blood pressure affects every group and race, however, certain groups are at a higher risk, including African American people who have diabetes and people with a family history of high blood pressure and kidney disease (Walsh, 2012).

The main function of the kidneys is to filter the blood. They remove waste products like urea, uric, acid, phosphates, etc. and flush them from the body as urine. When the kidneys don't work right, waste builds up in the blood and causes sickness.

According to the National Kidney Foundation 2019, the symptoms of worsening renal functions include progressive fatigue and reducing energy, having trouble concentrating, anorexia, insomnia, muscle cramping especially at night, dry and itchy skin, reduced appetite, azotaemia, encephalopathy, etc.

Chronic Renal Failure (CRF) is an irreversible and progressive kidney failure, where hemodialysis has been proved to be the most effective treatment modality, as it results in long rates and maintains patients' life at a satisfactory level. However, this treatment has a number of restriction and modification not limited to fluid restriction and diet modification which have a detrimental impact on the quality of patient's life. Hemodialysis itself is time consuming taking between four to six hours of the patient per session, thus patients on long term dialysis suffer from loss of personal freedom, often have to depend on helpers in form of their relatives and health care givers; there is associated disruption of family life and social life with loss of financial income and capability. All these add up to affect the physical, psychological, socioeconomic, and environmental aspects of life of the patients negatively leading to compromised quality of life (QoL) (Lin, 2005, Blake, 2000). Quality of life research endpoints have emerged as valuable research tools in assessing the outcome of therapeutic intervention in chronic diseases (Kaufman, 2001).

The purpose of this study is to assess the quality of life of patients on hemodialysis.

Statement of Problem

Patients with chronic kidney diseases need to continue hemodialysis in order to sustain life, especially in climes where kidney transplantation is not easily available. Most of the patients pay out of pockets and are not looking forward to better days, rather to when death will come coupled with amounts of money, they must spend to keep alive. So, they are hardly excited about life and may not be the best of patients one would want to cater for. The major health risks (Hypertension and Diabetes) predisposing to renal disease has the propensity to affect many organs of the body thus making the toll of disease burden borne by CKD patients to be very high thus affecting the general well-being of these patients inclusive of their emotional health. The magnitude of how the disease is affecting the lives of these patient often times is underestimated causing negative attitude towards the patients. It is therefore paramount to know just how much CKD affects the quality of life of the patients with end-stage kidney failure who depends on hemodialysis for life maintenance.

Specific Objectives

1. To determine quality of life index of male CKD patients on maintenance hemodialysis.
2. To compare quality of life index of CKD patients to that of patients in otherwise healthy state aside carrying pregnancy.

Limitation/Strength of Study

STRENGHT: The use of validated & reliable WHOQOL-BREF instrument is a plus. The fact that the QOL of renal patients is compared not with healthy general population but with a healthy population who need be on regular medications and also keep regular hospital appointments. The online filling of questionnaires removes bias or feeling towards the presence of researcher.

WEAKNESS: Findings based solely on feelings of patients which may be influenced by momentary conditions. Participants drawn from only two regions of the six regions of Nigeria and minimum sample size adopted.

Research Methodology

Research Design

The study was a descriptive comparative cross-sectional study. A comparative analysis of health-related quality of life of CKD and healthy Intra partum women.

Objectives 1-2 will be answered by carrying out a cross sectional comparative study using WHOQoL-BREF instrument.

Research Settings

This research was carried out in eleven hospitals in five states in the South west region of Nigeria and the Federal capital Territory, Abuja. The eleven hospitals consist of two federal teaching hospital, two state teaching hospitals, two federal medical centres, two private specialist fertility hospitals, two private specialist Haemodialysis hospitals and a private hospital in the Federal Capital territory.

Study Population

The target population for this research are end stage renal disease male patients on haemodialysis and low risk intra-partum women with no medical complication.

Selection Criteria

Inclusion Criteria

(i) Patients above 18years of age.
(ii) Male patients who have been on maintenance hemodialysis for at least Three months.
(iii) Intra partum women who have had at least one delivery in the past and do not have any medical complication or factor that makes pregnancy high risk.
(iv) Consenting patients.

Exclusion Criteria

(i) Patients with cognitive impairment and are unable to respond adequately.
(ii) Patients with other concomitant diseases that could affect their functions or independently affect reported or measured QoL such as patients with stroke, heart diseases or chronic liver diseases.
(iii) Non-consenting patients.

Sample Size Determination

Estimating the sample size required for comparison of health-related quality of life of CKD patients on hemodialysis against that of healthy pregnant women, a sample size formula for comparison of two proportions will be used, calculated as follows (Charan, 2013).

$$no = \frac{\left[z_{1-\alpha}\sqrt{2p(1-p)} + z_{1-\beta}\sqrt{p_1(1-p_1) + p_2(1-p_2)}\right]^2}{(p_1 - p_2)^2}$$

Where:

n_o	=	minimum sample size for each group.
$Z_{1-\alpha}$	=	Standard normal deviate corresponding to the probability of making type I error (α) at 5% = 1.96.
$Z_{1-\beta}$	=	Standard normal deviate corresponding to the probability of making type II error (β) of 10%. Power at 90% = 1.28.

$$\frac{(p_1 + p_2)}{2} \frac{(p_1 + p_2)}{2}$$

$p_1 p_1$	=	Percentage quality of life score among CKD on hemodialysis.
$p_2 p_2$	=	Percentage quality of life score among healthy pregnant women.
$p\ p$	=	Arithmetic average of the two percentages.

A previously published study documented the average percentage quality of life scores across

the four domains among CKD undergoing hemodialysis to be 50% (Ogutmen et al 2006).

Sampling Technique

Purposive sampling was used in selecting the centers where the study will take place. End stage renal disease is certainly not managed in primary and secondary health facilities in Nigeria majority especially the middle and lower class of the population receive care in the Tertiary centers (Teaching hospital, Federal Medical Centers, Federal Specialist Hospital and Private Specialist Hospital). Quota sampling is employed in assigning that one third (twenty-one) of the patients undergoing hemodialysis and healthy intra partum women to be interviewed are to be drawn from private renal centers and Labor Ward which most time take care of upper and medium class of these group of patients.

All consenting hemodialysis patients and healthy intra partum women chosen for this study were included until the appropriate minimum required number is met.

Data Collection Instrument

The instruments consist of a questionnaire on socio-demographic and clinical history, the WHOQoL-BREF (Appendix 1). The WHOQoL-BREF is a 26-item self-administered generic questionnaire, being a short version of the WHOQoL-100 scale. This instrument emphasizes the subjective response of patients rather than objective conditions. The WHOQoL is made up of domains (or dimensions) and facets (or sub domains). Domains are broad groupings (e.g., physical/psychological/ social) of related facets. A facet is a specific aspect of life for which a coherent definition could be articulated. Of the 26 items of the WHOQoL-BREF, the items on 'overall rating of QoL' and subjective satisfaction with health are not included in the domains, but are used to form one facet on overall QoL and general health. Each item of the WHOQoL- BREF has 5 options to which the patient is expected to respond on a 5-point Likert-type scale. The WHOQoL- BREF produces a QoL profile with 4 domain scores of physical health, psychological health, social relationships, and environment. There are 2 items that are examined separately: question 1 asks about an individual's overall perception of QoL; and question 2 asks about an individual's overall perception of their health. The 4 domain scores are scaled in a positive direction (higher scores denote higher QoL). The scores of items within each domain were used to calculate domain scores. A score of mean ±1 standard deviation (SD) on each domain were graded 'fair', a score of < mean - 1 SD graded 'poor', and a score of > mean + 1 SD is 'good'.

For the purpose of this study cut off point of 60% was accepted as indicating good quality of life for each of the four domains of WHOQoL-BREF index.

At the peak of rounding up to collect data for this study, covid-19 which had been declared a pandemic by WHO had imposed different levels of restriction of movements in different parts of Nigeria. I therefore decided to transform the study instruments above to electronic questionnaires which can be sent via SMS link by the research assistants to mobile phones of identified participants to be filled at the convenience of their homes or free time and the responses were automatically received by me from whichever part of the country where the data is filled. The electronic instruments for quality-of-life assessments (Appendix 3) All responses were therefore be received electronically obviating the need for me to travel to collect the data sheets from research assistants.

Data Collection

A letter of introduction was obtained from the appropriate authorities in order to obtain permission to administer the questionnaires to the sample population. The clients' confidentiality was promised by telling them that their name is not required. Care was taken to ensure that all those who accept to participate in the study: patients did so voluntarily and their informed consent were sought.

Data Analysis Method

The Statistical Package for Social Sciences (SPSS) software Version 20 was used for analysis. Summary scores were generated for the WHOQoL-BREF by organizing the items into facets representing the domains covered by the questionnaire. Categorization of levels of QoL for each domain were done using the mean value ±1 SD. In computing these summary scores, patients with missing values was excluded from

analysis for that particular domain. The categories of good, fair, and poor were cross tabulated against patient variables such as age, sex, marital status, education, occupation, and clinical variables. Descriptive statistics were calculated for all variables, for continuous variables, these included mean ± SD. For categorical variables, descriptive statistics included the number and proportions in each category. Frequency distributions and cross tabulations were generated and chi-squared used to compare proportions. Bivariate relationship between socio-demographic factors and QoL scores was analyzed using independent samples *t*-test and one-way analysis of variance. Multiple linear regression analysis was used to determine independent predictors of QoL.For the purpose of this study cut off point of 60% was accepted as indicating good quality of life for each of the four domains of WHOQoL-BREF index.

Result

A sub-total of sixty-four renal patients on hemodialysis and sixty-four women in the post-partum period participated in this aspect of the study focused on determining health- related quality of life thus bringing the total number of participants to one hundred and twenty-eight. Seventy-three (57.03%) of the participants filled the on-line google forms while the remaining fifty-five (42.97%) participants filled printed questionnaires in their various centers of care.

Table 1: Shows the socio-demographic characteristics of the participants. Three-fifth of the participants was in their 3rd& 4th decade with 92.2% of the intra-partum participants in this category. The hemodialysis participants (mean age 46.48±13.68) were however fifteen years older than the intra-partum participants (mean age 31.63± 4.57) and the difference is statistically significant (X2 = 57.711, p value =0.000). Majority of participants (63.3%) were from Yoruba ethnic group. The likelihood of the delivered mothers being Yoruba was twice as much as that of renal patient who had more than half (56.2%) as other tribes aside Yoruba. Over four-fifth of the participants possessed tertiary level of education. Three occupation categories topped the list constituting over a quarter each namely business, civil servants and professionals. The participants were most likely to be married (86.7%) and to be a Christian (80.5%). Two-fifth of participants was resident in Osun state while about one-fifth each was in FCT, Abuja and Oyo state.

More than three-fifth (66.41%) of the total participants came from private medical centers while the public hospitals made up the rest. About three-quarter of the hemodialysis patients came from two private medical centers namely Zenith medical and kidney center, FCT, Abuja (45.31% contribution) and Renal dialysis center, Ibadan (28.13% contribution). Of the intra-partum mothers the leading center that contributed highest participant was a private hospital Ayomide women's health specialist hospital, Osogbo (43.75%) followed by a public institution Lautech Teaching Hospital, Osogbo (37.5%) Figure1.

The participants who were on maintenance hemodialysis perceived hypertension (61.2%) followed by infection (20.7%) and diabetes (7.5%) as the three leading causes of their renal injury. When the participant had two causes in mind doing collaborative damage it was hypertension followed by diabetes but if they felt there were more than two causative factors then it was hypertension, diabetes and then infection.

Table 2 shows the quality-of-life index among the participants. The mean quality of life index among the maintenance hemodialysis patient was 43.03±15.96 while it is 63.56±12.61 among the healthy pregnant women and the difference is statistically significant (T= 8.01, p =0.000). It also shows that hemodialysis participants had lower QOL across all the four domains of physical health (domain 1), psychological (domain 2), social relationships (domain 3) and environment when compared to healthy pregnant women. The hemodialysis participants scored lowest in physical health domain and it is the only domain where they scored significantly below 50 in the (0-100) scale. Of the seven parameters assessed under physical health, hemodialysis patient were most dissatisfied with amount of energy they had to do work (work capacity) with a score of 31 on the 0-100scale followed by undue dependence on medications and medical aids with a score of 38. The healthy pregnant women were satisfied with their physical health scored their physical health scoring as 63.73 which is 30% over and above 41.33 of hemodialysis patient and the difference is statistically significant. However, of the seven parameters assessed in the physical

health, unlike the hemodialysis patient, pregnant women were happy with the energy they had for work with score of 63 but were dissatisfied with medications and medical aids dependence scoring it 38 on the 0-100 scale.

Table 2 further shows that hemodialysis participants had their highest quality of life score in domain 4 i.e., their environmental assessment where they had overall score of 51.81 compared to 41.33 in physical health. Of the eight parameters evaluated in domain 4, participants on maintenance hemodialysis were most satisfied with their physical environment describing at as very much healthy with a score of 69 followed by conditions of their living place which scored 56 on the 0-100 scale. Whereas both the two arms of participants had their lowest quality of life scores in domain one relating to their physical health, highest score differ among the two arms being domain 4 in the hemodialysis group but domain 2 (psychological) among healthy pregnant women. In domain 2, pregnant women felt their lives were extremely meaningful (QOL6) and were most satisfied with their lives (QOL19) with score of 94 on the 0-100 scale. The next aspect of the lives of pregnant women scored high close to the one already mentioned is in domain 4 of environment where like hemodialysis participants, pregnant women scored health of their physical environment high 81 on the 0-100 score h.

Table 3 shows summary of global scoring of quality of life and satisfaction with health of the participants. Participants on maintenance hemodialysis were quite unsatisfied with their state of health compared to intra-partum patient and the difference also is statistically significant.

Table 4 shows the overall rating participants gave to their quality of life and how satisfied they were with the state of their health. It shows statistically significantly acclaimed better quality of life (X2= 28.560, p= 0.000) and more satisfied state of health (X2=62.948, p=0.000) among the intra-partum participants than the hemodialysis participants.

Half of the renal participants indicated that their quality of life was good compared to three-fifth of intra-partum participants. Similarly, only about one-tenth (7.8%) of hemodialysis participants considered the quality of life to be very good compared to 32.8% of healthy pregnant women making the chances of having very good quality of life among hemodialysis patients to be four times lower than that of healthy population. The observed difference in overall rating of quality of life is statistically significant (X2= 28.560, p=0.000).

Figure8shows the participants summary of how satisfied they were with their health. Whereas only 14.1% of hemodialysis participants were satisfied with their health, 54.7% of healthy pregnant were satisfied with theirs putting the likelihood of being satisfied with once health to be three times commoner among healthy pregnant women than hemodialysis patients. In the same vein, over half (51.6%) of the renal participants were dissatisfied with the state of their health compared with only3.1% among the post-partum participants and these observed differences was found to be statistically significant (X2= 62.948, p=0.000).

Using raw mean score of less than 60 to determine participants with poor quality of life and those with mean score of 60 and above as having good quality of life, this study showed that only a little over fifty percent (55.6%) of the renal participants indicated that they enjoyed good quality of life compared to over nine-tenth (93.8%) of the intra-partum participants (Figure 9) and the difference is statistically significant (t=5.476, p=0.000).

Table 5 a bivariate analysis cross-tabulating quality of life grading (poor versus good quality) against socio-demographic parameters shows significant association with: Type of participants with renal patients associated with higher proportion of poor quality of life (X2 = 24.573, P=0.000);type of hospital attended also showed significant association with hospitals with predominance of intra-partum patients having higher proportion of good quality of life than hospitals with predominance of renal patients ; category of health institution with patients attending Federal health institutions tending to have higher percentage of patients with poor quality of life (53.85%) followed by patients managed in private specialist hospital and state – owned hospitals with almost same percentage (22.62%) of patients with poor quality of life (X2 = 6.387, P= 0.41); marital status with the married and widowed tending to have better quality of life than the single and separated participants (X2 =16.909, P= 0.002); age

category, the higher the age, the lower the quality of life ($X2=20.809$, $p= 0.000$).

Sex also had significant association with quality of life with females having higher quality of life than males. There was however no association between quality of life and tribe, occupation, religion and educational status.

Table 6 shows logistic regression of the seven parameters that showed significant association with bivariate analysis.

Discussion of Health-related Quality of life Findings

The peculiarity of the time frame when this descriptive comparative cross-sectional study was conducted (February to June 2020, peak period for Covid-19 in Nigeria) made it imperative for mode of questionnaire administration to be both on-line and printed self- administered questionnaires. A little close to three- fifth (57.03%) of the participants filled the questionnaires on-line. Majority of similar studies done collected data via printed questionnaires or interviews. Only one study was found like this study which collected data via both on-line & written questionnaire (Warmelink et al 2014) and one also that employed sequential mixed method in which first phase was on-line and second phase of few selected numbers for in-depth interview (Hayes et al 2015).

The hemodialysis participants mean age of 46.48±13.68 years is lower than the mean age of 54.71 ± 14.12 years found by Oliveira et al 2016 in Brazil but similar to 45.48 ±15.31 years of Utsav et al 2017 in Nepal. Nigeria is said to have higher proportion of younger than older generation. The post-partum participants mean age 31.63 ± 4.57 years in this study is slightly higher than mean age of 27.4years from Daglar et al 2020 study from Turkey. Daglar conducted his study among pregnant women while mine was among just delivered mothers. About three-fifth of the cases were from private clinics this is in sharp contrast to the composition of Joshi et al 2017 Nepal study in which four-fifth of the patients came from public institution. The covid-19 restrictions and scaling down of activities in many public institutions during data collection might account for this.

The mean quality of life index among the maintenance hemodialysis patient in this study on the WHO 0 -100 scales was 43.03±15.96 while it is 63.56±12.61 among the healthy pregnant women.

This study shows that hemodialysis participants had lower QOL across all the four domains of physical health (domain 1), psychological (domain 2), social relationships (domain 3) and environment (domain4) when compared to healthy pregnant women. The hemodialysis participants scored lowest in physical health domain and it is the only domain where they scored significantly below 50 in the (0-100) scale. This is in keeping with findings of Joshi et al 2017 that showed that hemodialysis patients in Nepal scored lowest in their physical domain and also lower than 50 (45.93±16.90), this is also similar to the findings of Sathvik et al 2008 which found value of 38.81 + 18.36 among hemodialysis patients and 71.1 ± 14.2 among healthy persons in general population similar to this study that found 63.73 ± 14.16 among healthy pregnant women. This finding follows the pattern seen in the study of Abraham et al in Kerala, India but our finding was not as low as 20.54 ± 3.21 in Abraham's study. The low score in Physical domain was worse with lack of energy for work capacity with score of 31 on 0-100 scale in this study. CKD could cause chronic fatigue due to running battles patient undertake with low hemoglobin level from low erythropoietin production leading to low oxygen carrying capacity and chronic tissue hypoxia. Other causes include low level of albumin resulting from maintenance hemodialysis and high C-reactive protein & interleukin-6 which are evidence of chronic inflammation in the system (Artom et al 2014). Another sub-theme of physical domain scored low after low energy in this study is undue dependence on medications and medical aids scored 38 in this study. The fact that end–stage CKD patients have to do two sessions of hemodialysis (medical aids) a week to keep alive and continually have to take erythropoietin injection, iron sucrose injections, anti-hypertensive when indicated and or anti-diabetic medications if indicated on continual basis is a huge burden to physical health of CKD patients.

Our study showed that both the hemodialysis patients and healthy pregnant women had their lowest QOL scores in the physical domain although the score of the pregnant women is significantly higher than CKD patients. This observation is different from the findings of

Sathvik et al which showed lowest score among healthy general population to be in the environmental domain. The difference may be different population of healthy individuals used in the two studies. Whereas healthy pregnant women who compulsorily would have to be on daily blood tablets causing medication burden in the physical domain, the Satvik et al group used healthy individuals in the general population who had no business being on regular medications for anything and only needed to be concerned about financial resources which are never enough and ability to acquire new information and skill to be translated to improved financial status. Meers et al, Unruh et al in their studies did not find significant difference between the QOL of maintenance hemodialysis patients compared to healthy normal patients.

Krezpota et al 2018 agreed with our findings that quality of life among pregnant women is high and that of the four domains the lowest values were in physical and environmental. Krezpota QOL values for pregnant women in Poland were however higher by average value of 11 when compared to the values seen across the domains in this study. The difference may be related to difference in recruitment and health support systems in the countries. Krepzato participants were recruited from fitness clubs and antenatal classes whereas our were in the labor wards just after delivery. A pregnant woman attending fitness classes to meet recommended physical activity in pregnancy will likely to be more motivated and empowered than a pregnant woman from a place with weak health system who probably will not partake in any organized physical activity.

This study also showed that hemodialysis patient had their highest score in environmental domain (51.81 ± 18.20) while the post-natal mothers had their highest score in psychological domain (73.31 ± 12.28. This finding regarding environmental domain as highest of four domains among hemodialysis patients agrees with the finding of Joshi et al (53.17 + 15.59, Sathvik et al (60.59 + 11.73). Many items tested under environmental domain are not directly affected by the renal disease like the physical environment (pollution / noise / traffic / climate) and home environment. The hemodialysis patients therefore take solace in this aspect of his life which is spared from the direct effect of treatment by chronic use of medications and hemodialysis. Abraham et al and Ranahbat et al however found lowest score in environmental domain among hemodialysis patients of Kerala,India and Nepal respectively. The difference in findings may be the difference in the different standards of living among the communities used by Abraham and Ranahbat compared to this study (Nigeria) and that of Joshi and Sathvik.

Justification and Conclusion

About 10% of world population suffers from chronic kidney disease and the proportion appears to be increasing per year due to increasing rate of preventable/modifiable factors like hypertension, diabetes, upper urinary tract infections. It is postulated that there have been about 70% increases in prevalence in the last 20 years (Thomas, 2015).

It is now widely accepted that HRQoL(Health related quality of life) is significantly compromised in patients with end-stage renal disease (ESRD) and HRQoL has been associated with increased mortality and morbidity(Mujais, 2009) even though many publications have looked at HRQoL in CKD patients in many populations of the world, very few publications have emerged on this subject matter in Nigeria. QoL has been accepted as important research tool to assess outcome of hemodialysis and other interventions so desired to the extent that Centre for Medicare Services adopted a mandatory requisite of routine measurement of HRQoL at all dialysis units (Finkelstein, 2009, Elder, 2009). HRQoL is certainly not a routinely done in my centre and in many renal units in Nigeria. It will be therefore nice to document the HRQoL of CKD patients on hemodialysis in our unit and other renal units selected.

In conclusion, Health related quality of life of CKD patients in Nigeria is low in physical health, psychological, social relationships and environmental domains compared to healthy pregnant women. The government and care givers need to push for interventions known to make quality of life of CKD as well as that of healthy populace.

Suggestion for future study

The six geo political zone in Nigeria will be used for further exploration on this subject Matter and as well increase the sample size.

Table 1. Sociodemographic Characteristics of the Participants

Variable	Frequency (n=128)	Percentage (%)
Age Group		
≤20yrs	5	3.9
21-30yrs	36	28.1
31-40yrs	41	32.1
>40yrs	46	35.9
Ethnicity		
Yoruba	81	63.3
Igbo	19	14.8
Hausa	15	11.7
Others	13	10.2
Educational Status		
None	1	0.8
Primary	4	3.1
Secondary	16	12.5
Tertiary	107	83.6
Occupation		
Business	37	28.9
Civil Servant	36	28.1
Professional	34	26.6
Student	7	5.5
Artisans	3	2.3
Others	11	8.6
Marital Status		
Married	111	86.7
Single	10	7.8
Widowed	4	3.1
Divorced	2	1.6
Separated	1	0.8
Religion		
Christianity	103	80.5
Islam	25	19.5
State of Residence		
Osun	53	41.4
FCT	29	22.7
Oyo	24	18.8
Lagos	12	9.4
Ekiti	5	3.9
Ondo	5	3.9

Table 2. Quality of Life Comparative Table Renal Versus Pregnant Women

Domain	Renal Patient Qol Index (0-100) Scale	Pregnant Women Qol Index (0-100) Scale	T-Test (P-Value)
1 (Physical Health)	41.33 ± 14.40	63.73 ± 14.16	8.84 (0.000)
2 (Psychological)	50.72 ± 15.81	73.31 ± 12.28	9.03 (0.000)
3 (social relationships)	49.48 ± 23.38	70.05 ± 19.51	5.41 (0.000)
4 (Environment)	51.81 ± 18.20	68.31 ± 14.14	5.73 (0.000)
Average	43.03±15.96	63.56±12.61	8.01 (0.000)

Table 3. Summary Assessment of Quality of Life & Satisfaction with Health among Participants

Global Summary	Renal Patient	Post-Partum Women	T-Test (P-Value)
How would you rate your quality of life			
-- Raw score	3.56 ± 0.89	4.20 ± 0.74	4.44 (0.000)
-- (0 – 100) score	64.06 ± 12.61	80.07 ± 16.08	
How satisfied are you with your state of health?			
--Raw score	2.69 ± 1.04	4.23 ± 0.71	9.86 (0.000)
--(0 – 100) score	42.19 ± 15.96	80.86 ± 36.28	

Table 4. Bivariate Analysis of Association Between Quality of Life & Socio-Demographic Data

Variable * Quality of Life	Chi-Square Value(X^2)	P Value
Type of Patient (Renal or Intra-partum participant)	24.573	0.000
State of residence	36.504	0.000
Hospital attended	41.132	0.000
Hospital category	6.389	0.041
Age group	20.809	0.000
Sex of participant	24,573	0.000
Educational level	4.421	0.219
Marital status	16.909	0.002
Religion	1.927	0.165
Tribe	3.850	0.278
Occupation	0.355	0.837

Table 5. Logistic Regression of Factors Influencing Quality of Life

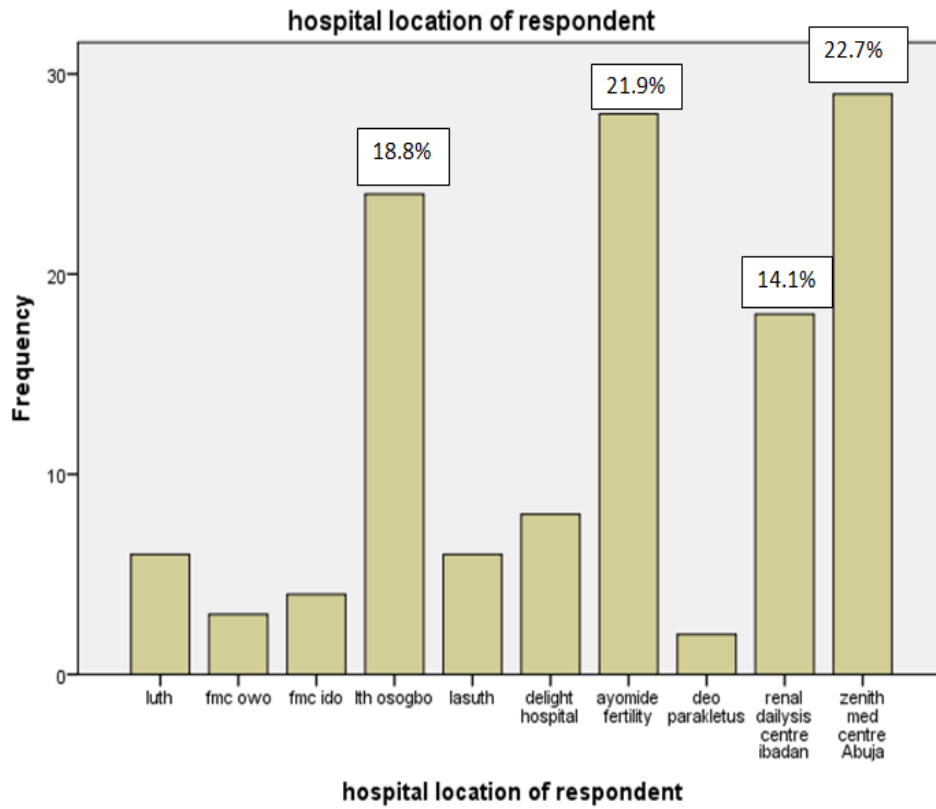| Parameters	Wald Value	Degree of Freedom (Df)	P-Value
Patient type	20.351	1	0.000**
Hospital Category	5.441	1	0.020**
State of residence	9.037	5	0.108
Hospital attended	9.556	9	0.388
Age Group	2.848	3	0.416
Sex	7.232	1	0.007**
Marital Status	1.214	4	0.876

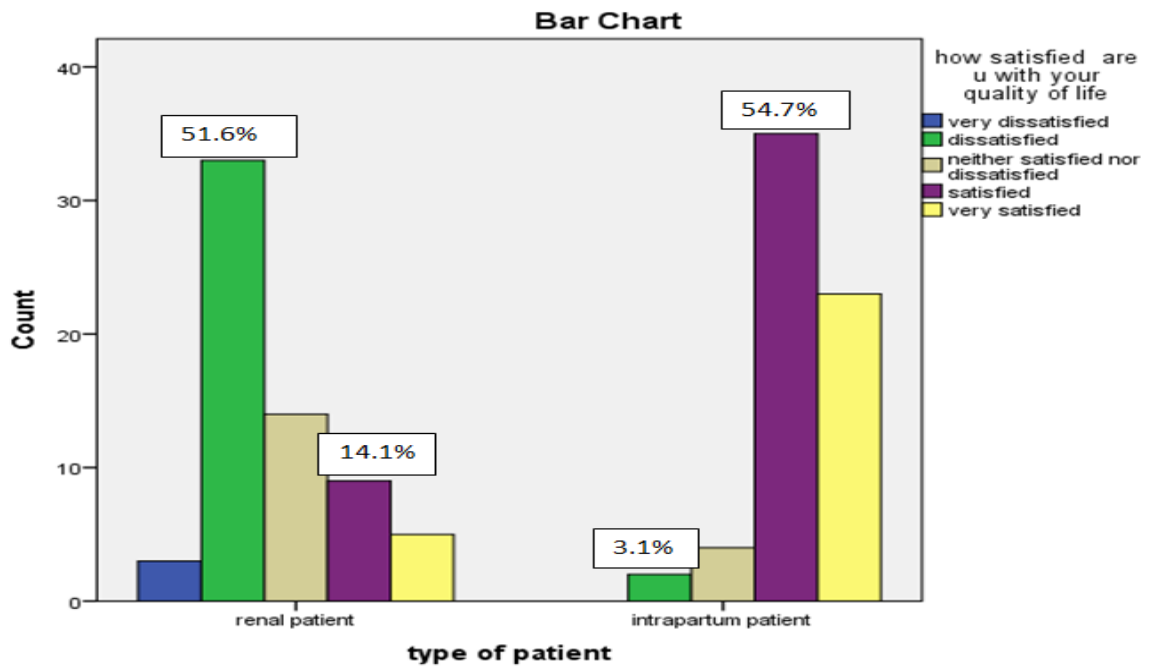**Figure 1.** Hospital Location of Participants

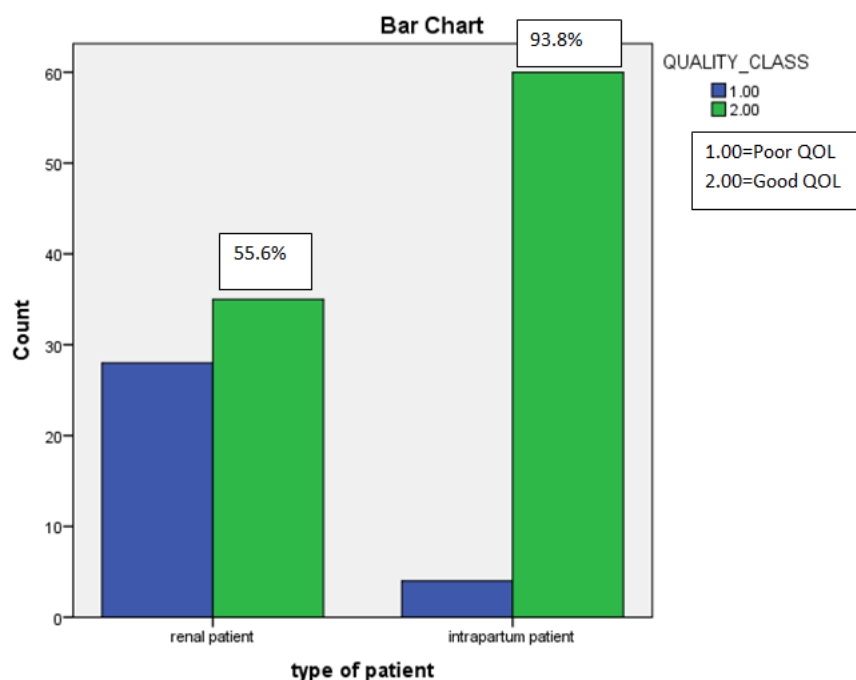**Figure 2.** Overall Assessment of Participants Satisfaction with their Health

Figure 3. Quality of Life Classification by Mean Score Cut-off Sixty among Participants

Acknowledgement

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