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AN ASSESSMENT OF QUALITY OF LIFE AMONG HAEMODIALYSIS PATIENT

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ABSTRACT

End Stage Renal Disease (ESRD) is growing as a serious and problematic issue worldwide. Hemodialysis is commonly used as renal replacement therapy which affects the quality of life of patients. Patients using hemodialysis have a moderate quality of life (QOL) and survival rate. This is a cross sectional study carried out to assess the QOL of hemodialysis patients. This study included 178 hemodialysis patients who had undergone at least three months of maintenance hemodialysis. Hemodialysis patients' QOL was shown to be considerably reduced ($P< 0.05$). Data were collected using WHOQOL-BREF questionnaire through face to face interview schedule. The main goal of this study was to find out the QOL of hemodialysis patients. Different tests were used, such as the ANOVA test to determine the association between socio-demographic variables with multiple items and the independent t-test for variables with two items. In the psychological and physical elements of the WHOQOL-BREF, female hemodialysis patients demonstrated a significantly ($P<0.05$) lower quality of life than did male patients. Higher education status was found positively correlated with the physical functioning, psychological functioning, social functioning and environmental aspects of WHOQOL BREF. The mean ± SD for literate population were 47.07±12.86,45.69±16.83, 46.62±21.19 and 43.30 ± 15.50 respectively, which were higher score compared to QOL score of illiterate population in all domain. The highest QOL score of HD patients was found in social domain (49.65±19.57) followed by environmental health (44.73±13.95), psychological health (42.87±16.48) and physical health

(41.63±15.51). The QOL score of male patients was higher in physical (P=0.04) and psychological health (P=0.02).Quality of life of dialysis patients was found lower with the increase in age. In this study QOL score of patients above the age of 60 was lower in physical (25.50±21.85), psychological (29.50±23.50) and social (44.00±13.66) domains compared to QOL score of patients below age of 30. This study demonstrates better QOL score of hemodialysis patients in social domain. Education had positive effects on quality of life. Age was negative predictor of QOL in physical and psychological health. Health Care providers and family members need to provide counseling and support in order to improve quality of life.

KEYWORDS: Hemodialysis patient, Quality of Life, QOL, physical health, psychological health.

INTRODUCTION

1.1 Background

Quality of life (QOL) research outcomes have now become important research instruments in evaluating the treatment intervention's results in chronic illnesses. Chronic kidney disease (CKD) is one of the chronic conditions that cause disability in various aspects of the patients' life, leading to impaired quality of life developing CKD is more after the age of 50, and most prevalent in adults over the age of 70. According to Global Burden of Disease (GBD), 1.2 million people died from kidney failure, an increase of 32 % since 2005. About 1.7 million people die from acute kidney failure each year and 2.3-7.1 million ESRD patients are thought to die without access to chronic dialysis in 2010.[1] The prevalence of ESRD is 11.36 % in Nepal.[2] Common risk factor for Chronic Kidney Disease (CKD) is high blood pressure and high blood sugar. One in three adults with diabetes and one in five adults with high blood pressure have CKD.

Different renal replacement therapy (RRT) are now available, which has decreased the intensity of signs and symptoms and prolonged the survival of CKD patients.[3] Hemodialysis therapy is costly, time-consuming, and needs hydration and diet restrictions. Long-term dialysis therapy independently leads to a reduction in or loss of financial income, loss of autonomy, dependency on caretakers, disturbance of marital, familial, and social life. These causes have a negative impact on the physical, psychological, financial, and environmental facets of life, which compromises QOL.[4] The burden of end stage renal disease is increasing, however a small fraction of ESRD patients receive RRT each year.[5] Some of

major problems prevailing in Nepalese HD patients are infrequent and inadequate hemodialysis along with malnutrition, frequent use of blood transfusion. Similarly, cost of travel of regular follow up apparently affect the dialysis recipients. Sufficient dialysis centers are not available. So that the treatment of ESRD is costly and unaffordable for most Nepalese people. Naturally, the quality of life of patients on maintenance hemodialysis is compromised affecting various health outcomes. The main goals of this study were to evaluate the QOL of patients undergoing hemodialysis in relation to their physical, psychological, social, and environmental health dimensions, as well as to determine the impact of age, gender, income, education level, disease duration, and duration of therapy on QOL.

QOL is central concern in evaluative research and improved QOL is probably the most desired outcome of all healthcare policies.[7] Measuring QOL changes usually involves soliciting, self reported feelings, behaviors and attitudes of people through interviewing or evaluating responses to questionnaires. A variety of instruments has been used to measure health related quality of life in hemodialysis patients among which WHOQOL-BREF in this study because it has good to excellent psychometric properties of reliability and validity. It has been validated in people in hemodialysis.[8]

1.2 Rationale of the study

End Stage Renal Disease (ESRD) is a serious disease and a cause for a growing public health concern in both developed and developing countries. It is problematic and complicated. The prevalence of ESRD is 11.36 % and incidence is around 100 per million per year in Nepal.[2]

Most of healthcare interventions are only concerned with eradication of symptoms and attempts to delay complications as much as possible. Health care is essential for human wellbeing where the patient's wellbeing is a primary aim, therefore attention should be focused on QOL aspect of health. This study focused in assessing quality of life in ESRD patients.

1.3 Significance of the study

CKD and its complications contribute significantly to ill health, disability and premature death. Additionally, CKD is a contributing factor to several other causes of morbidity and mortality. Hemodialysis affects the QOL domains of patient. This study identified the important variables needed to establish the basis for future research among hemodialysis patients. It also expanded the limited knowledge about the Nepalese HD patients and affected

QOL domain. Hemodialysis patients have compromised quality of life due to reduced or loss of income, loss of freedom, dependency on caregivers, disruption in family and social life. Patient's age, sex, education status, socioeconomic status, food habit also affect the QOL of hemodialysis patients. This study compares the QOL scores observed in different domains. It also investigate the effect of sociodemographic factors of hemodialysis patients on QOL.

2. OBJECTIVES

I. General objectives

To assess quality of life among hemodialysis patients in Shahid Dharma Bhakta National Transplant Center.

II. Specific Objectives

To compare the quality of life domains of patients undergoing hemodialysis To assess where or not the QOL measure is related to socioeconomic status of hemodialysis patients.

To observe the relationship between duration of dialysis and the patient's QOL.

3. METHODOLOGY

3.1 Study Design

This was a cross-sectional hospital based descriptive as well as analytical study. To learn the profile of respondent, presentation, description of data collection and to describe the characteristics of the subject descriptive research design was undertaken. On the other hand analytical research design was employed to examine the relationship between the independent variables (factors that influence the quality of life of among HD patients) and dependent variables (quality of life of HD patients). This design of study was conducted as a cross sectional study in order to identify the existence and relationship of one or more independent variables upon a dependent variable of interest at given point of time.

The selection of the participants for this study was conducted from the currently active outpatient (those in HD for more than 3 months) on the day of interview. For data collection, the information was provided by the primary informant through interviewer administered structured questionnaires.

3.2 Study Setting

Shahid Dharma Bhakta National Transplant Center was selected for this study. It was located in Dudhpati 17, Bhaktapur. There were three different sections in department of nephrology and renal transplant named as hemodialysis" A" schedule, hemodialysis "B" schedule and

special hemodialysis schedule. Each schedule run for morning shift, afternoon shift and late evening shift. Patients infected with HCV (hepatitis C virus), HIV were admitted in special schedule section but section A and section B had similar type of patients. Around 90 HD patients were available at each schedule.

3.3 Study period

Patients undergoing hemodialysis during the time period of 25 June to 29 September 2022 were enrolled in the study.

3.4 Study population

I. Inclusion criteria

The study population included CKD patients of 18 years who were under hemodialysis treatment twice per week at least for three months and can speak Nepali language, and are able to provide informed consent were included during sampling. Patients of all genders were eligible in the study.

II. Exclusion criteria

Patients with multiple organ failure, malignancies, hearing problem and any major surgery during previous three months were excluded from the study.

3.5 Sampling method

3.5.1 Sampling technique: The study participants were enrolled using a convenience sampling method.

3.5.2 Sample size: There were 178 hemodialysis patients enrolled in the study.

3.6 Study instrument

WHOQOL-BREF questionnaire was used through face to face interview setting for the collection of data. WHOQOL-BREF questionnaire, developed by WHOQOL group consists total of 26 questions and four domains and provides score on four dimensions of quality of life. Four dimensions of quality of life include physical health, psychological, social relationships and environment.

3.7 Scoring of WHOQOL-BREF questionnaire

Four domain scores denote an individual's perception on own quality of life in each particular domain. Negatively scale questions were made positive by reverse scoring of 3 items (questions 3, 4, 21), whereas all other items were scaled in a positive direction (i.e. higher

scores denote higher quality of life). There were two items examined separately; question 1 asks individual's perception of quality of life and question 2 asks about individual's perception of health.

Raw data was obtained after the administration of questionnaire to the study sample. The raw scores were converted to transformed scores. The scores were transformed to a range of 4-20 at first and second transformation converts scores to 0-100 scale. A better quality of life is reflected in higher scores.

3.8 Statistical analysis

Data were analyzed using IBM Statistical Package for Social Sciences (SPSS version 18). Descriptive statistics were used for the calculation of frequency, percentage, mean, median and standard deviation of socio-demographic characteristics and WHOQOL-BREF scores. Independent sample t-test and one way ANOVA test were used to determine association between QOL domains and demographic characteristics. Correlation was used to observe relationship among the demographic variables of respondents.

3.9 Ethical consideration

Ethical approval letter was received from IRC-KUSMS (Institutional Review Committee Kathmandu University School of Medical Sciences) and the approval number is 55/22.Approval and permission letter was obtained from the Research committee and hospital administration of Shahid Dharma Bhakta National Transplant Center.

Consent was obtained from participants Every participants were provided with an explanatory form about the study for their personal records and with contact information of investigator. This form included the purpose of the study, confidentiality of information and some instructions. It also included statement about people's right to participate or to refuse that. Participants were assured anonymity, and that their participation was voluntary.

RESULT

4.1 Demographic characteristics of hemodialysis patients

Among 178 participants, 108 (60.7%) were male and 70 (39.3) were female. In this study, 107 (60.1%) were between 30-60 years of age and 102 (57.3%) belonged to *Aadibasi/Janajati* ethnic group, 45 (25.3%) of the participants were illiterate, 88 (49.4%) were educated up to 10^{th} grade, and 92 (51.7%) were from middle socioeconomic category.

Number of participants receiving complete care and psychological support from their family were 96 (53.9%), while 34 (19.1%) individuals did not get any assistance from their family. About 50.6% participants were urban resident and 158 (88.8%) participants had non-vegetarian food habit (Table 1).

Table 1: Demographic characteristics of hemodialysis patients.

Variable	Frequency (N=178)	Percentage (%)
Gender		
Male	108	60.7
Female	70	39.3
Age (years)		
<30	4 41	23.0
30-60	107	60.1
>60	30	16.9
Education level		
Illiterate	45	25.3
Up to 10 class	88	49.4
Higher	45	25.3
Duration of Dialyisi (Month)		
3-6	55	30.9
7-9	50	28.1
10-12	37	20.8
13-24	15	8.4
>24	21	11.8
Ethnicity		
Brahamin/chhetri	44	24.7
Adibasi/janajati	102	57.3
Others	32	18.0
Residence		
Urban	90	50.6
Rural	88	49.4
Socioeconomic status		
Lower	86	48.3
Medium	92	51.7
Higher	0	0
Vegetarian	20	11.2
Non vegetarian	158	88.8
Family support		

Full	96	53.9
Partial	48	27.0
No support	34	19.1

4.2 Association between demographic variables and QOL

Socioeconomic status influenced the quality of life of HD patients. Significant difference was found in QOL scores in physical health (P=0.02), social health (P<0.001) and environmental health (P<0.001) with different level of socio-economic status. One way ANOVA test showed that HD patients who had medium level of economic status, scored higher score in physical (44.15±17.58), psychological (43.70±19.82),social (55.72±20.17) and environmental (50.42±14.61) dimensions compared to HD patients who had lower economic status (38.93±12.46, 41.96±11.97, 43.13±16.70, 38.63±10.20 respectively) (table 2).

Income level was significantly associated (P<0.05) with all QOL domains of hemodialysis patients. QOL scores were higher with high level of income. Participants with monthly income NRS 30000-40000 had better quality of life.

Regarding the impact of dialysis duration on quality of life (QOL), patients who had been receiving hemodialysis for 10 to 12 months had significantly higher QOL score in physical (P<0.001) and psychological (P<0.001) domains than did the participants with shorter and longer than 10 to 12 months dialysis durations. Findings were tabulated in Table 2.Patients who were urban residents reported higher QOL scores in physical (P=0.01) and environmental (P=0.01) dimensions compared to the patients who were rural residents.

Quality of life (QOL) was significantly associated (P<0.05) with education status of HD patients. QOL scores of illiterate subjects were lower in physical (P<0.01), psychological (P=0.01), social (0.04) and environmental (<0.001) domains compared to hemodialysis patients who had higher education level.16

Table 2: Association between QOL domains and demographic characteristics (N=178).

Variable	Physical health	Psychological health	Social health	Environmental health
Gender				
Male **Female**	44.27±13.47 37.56±17.54 (P=0.04)	45.16±16.69 39.33±15.62 (P=0.02)	50.92±19.78 47.69±19.22 (P=0.2)	44.70±14.24 44.77±13.60 (P=0.9)
Marital status				
Married **Unmarried**	40.75±16.07 44.56±13.22	43.51±17.52 40.71±12.34	51.64±20.52 42.98±14.27	43.62±13.87 48.44±13.74

	(P=0.1)	(P=0.3)	(P=0.01)	(P=0.05)
Ethnicity				
Brahamin/Chhetri **Aadibasi/ Janajati** **Others**	40.09±14.28 42.41±17.01 41.25±11.88 (P=0.7)	39.61±14.49 44.82±18.33 41.09±11.59 (P=0.1)	57.77±19.02 47.28±20.37 46.00±14.39 (P=0.06)	46.68±15.88 43.98±13.15 44.43±13.79 (P=0.5)
Education				
Illiterate **Up to 10th class** **Higher**	31.98±18.79 47.07±12.86 40.67±11.49 (P=<0.001)	36.73±17.58 45.69±16.83 43.47±12.98 (P=0.01)	49.80±17.05 46.62±21.20 55.40±17.59 (P=0.04)	40.44±8.29 43.30±15.51 51.80±12.84 (P=<0.001)
Dialysis duration				
3-6 month **7-9 month** **10-12 month** **13-24 month** **>24 month**	46.81±11.20 44.34±12.77 48.13±13.62 32.80±9.60 16.42±9.70 (P=<0.001)	43.94±11.89 46.82±17.00 52.35±14.85 32.13±8.52 21.57±9.70 (P=<0.001)	50.21±19.09 53.38±17.25 52.27±23.76 37.13±17.52 43.57±15.18 (P=0.02)	45.23±16.61 46.92±13.96 46.51±10.57 39.60±11.72 38.71±11.22 (P=0.09)
Socioeconomic Status				
Lower **Medium** **Higher**	38.93±12.46 44.15±17.58 41.62±15.50 (P=0.02)	41.96±11.97 43.70±19.82 42.86±16.48 (P=0.4)	43.13±16.70 55.72±20.17 49.64±19.57 (P=<0.001)	38.63±10.20 50.42±14.61 44.73±13.95 (P=<0.001)
Monthly income(NRS)				
<10000 **10000-20000** **20000-30000** **30000-40000** **>40000**	42.40±15.07 50.60±6.12 20.75±14.02 31.50±13.69 50.00±0.00 (P=<0.001)	42.40±15.07 50.60±6.12 20.75±14.02 31.50±13.69 50.00±0.00 (P=<0.001)	42.40±15.07 50.60±6.12 20.75±14.02 31.50±13.69 50.00±0.00 (P=<0.001)	42.40±15.07 50.60±6.12 20.75±14.02 31.50±13.69 50.00±0.00 (P=<0.001)
Residence				
Urban **Rural**	44.48±17.69 38.70±12.33 (P=0.01)	43.47±19.87 42.25±12.15 (P=0.6)	51.93±14.36 47.30±23.60 (P=0.1)	47.35±12.53 42.04±14.86 (P=0.01)
Food Habit				
Vegetarian **Non-vegetarian**	36.80±15.66 42.24±15.43 (P=0.1)	39.80±14.80 43.25±16.69 (P=0.3)	48.20±21.67 49.82±19.36 (P=0.7)	55.40±13.50 43.37±13.46 (P<0.001)
Family support				
Full **Partial** **No support**	42.20±18.23 44.37±12.06 36.11±9.03 (P=0.05)	45.34±18.93 41.10±12.65 38.35±12.41 (P=0.07)	50.71±16.42 53.94±23.38 40.56±19.60 (P=0.006)	47.53±11.49 45.16±17.19 36.21±12.04 (P=<0.001)

Association between the number of demographic variables and quality of life (QOL) were assessed on hemodialysis patients and the results were summarized in table 2.For the

investigation, 108 male and 70 female hemodialysis patients were enrolled in study. The quality of life (QOL) score reported lower in female HD patients in psychological (39.33±15.62) and physical domain (37.56±17.54) compared to the male HD patients(45.16±16.69 and 44.27±13.47 respectively) (table2).

4.3 Comparison of QOL domains score (N=178)

Table 3: Descriptive summary of quality of life (QOL) scores.

Variable	Mean ± standard deviation
Physical	41.63±15.51
Psychological	42.87±16.48
Social	49.65±19.57
Environment	44.73±13.95

The highest quality of life (QOL) score was found in social domain (49.65±19.57) followed by **environmental** health (44.73±13.95), psychological health (42.87±16.48) and physical health (41.63±15.51).

Table 4: Assessment of quality of life with education.

Domains of QOL	Pearson's correlation coefficient
Physical	0.200
Psychological	0.146
Social	0.102
Environmental	0.290

Table 4 demonstrated that level of education had significant relation with QOL. Education level showed positive relation in all domains of health. The reasons behind this might be better understanding level of educated participants about disease, awareness on lifestyle modifications, high level of education increases the chance of creating income source which might increase the socioecomic status of patients. This result was supported with the study of Ravindran et.al.[9,25]

Table 5: Assessment of quality of life with socio-economic status.

Domain of QOL	Pearson's Corrlaion Coefficient
Physical	0.169
Psychological	0.053
Social	0.322
Environmental	0.423

Table 5 showed that positive correlation with socioeconomic status of participants. This might be due to high level of education, support from community, high income. According to

Anees et.al. 2018, socio-economic factors such as education status, income level were important parameter affecting QOL of kidney patients.[12,26]

Table 6: Assessment of quality of life with duration of dialysis.

Domain of QOL	Pearson's Corrlaion Coefficient
Physical	-0.523
Psychological	-0.356
Social	-0.151
Environmental	-0.152

Table 6 showed that duration of dialysis has inverse relation with the negatively skewed value in all domains i.e. as the duration of hemodialysis elongates physical, psychological, social and environmental health of hemodialysis patients also get affected. Reason behind this could be prolonged dietary and fluid restrictions, frequent hospital visiting schedule for dialysis, pain and discomfort, dependence on medical substances, negative feelings such as anxiety, mood swing, and depression, lower financial status. According to Gerasimoula et.al. quality of life of hemodialysis patients had decreased with longer duration of dialysis. In this study it was found that the quality of life scores was decreased by approx 3 units after increasing the duration of dialysis session by one hour.[10,27]

Table 7: Assessment of quality of life with income.

Domain of QOL	Pearson's Corrlaion Coefficient
Physical	-0.166
Psychological	-0.081
Social	0.342
Environmental	0.205

Table 7 showed that income had positive relationship with social and environmental domain According to Wang et al., 2016 income was one of the ways to fulfill someone's substantial needs. Demographic, social, environmental factors associated with individual's welfare along with good income to take care of oneself and family.[31]

DISCUSSION

Several studies showed that QoL of hemodialysis patients was affected with duration of dialysis. A study on Japan by Noto et. al. found that patients with longer duration of hemodialysis was associated with decreased QoL.[30] A study conducted by Ravindran et.al. showed that educated participants had better QoL.[25] According to Anees et.al. income level was a important parameter affecting QoL of CKD patients.[26]

QOL is being most important outcome indicators for any medical and interventional treatment. This is one of the few studies which compares QOL scores between four domains of hemodialysis patients. This study findings revealed that better quality of life of HD patients in social relationship (49.65±19.57) followed by environmental health (44.73±13.95), psychologiacal health (42.87±16.48). It was found that psychological domain was the second most affected domain. The most adversely affected domain was physical and mean QOL score was (41.63±15.51). It was supported with a study conducted in Nepal using similar tool with QOL score in physical (10.61±1.99), psychological (10.84±1.95), environmental (11.25±1.62) and social (13.15±2.10) domains.[6] Another study also showed that the physical health was most adversely affected in HD patients. Social health found to be better in this study that was followed by environmental health and psychological health.[8,20]

Many studies conducted in various parts of countries suggest that hemodialysis patients have low quality of life. Present study showed high mean score in social relationship domain. This domain assess personal relationships, social support and sexual activities; of these three most of the subjects were satisfied with sexual functioning component. Other possible reasons behind this result might be higher support from their spouses, family members, colleagues and community. This finding is supported with a study conducted by Ravindran et.al. in India in 2020.[8,9,21]

The result of present study showed that the environmental health is better than psychological and physical health. The determining factors for environmental health include financial resources, freedom, physical safety and security, condition of living place, acquiring new access to healthcare and transport facilities, participation in and opportunities for recreation / leisure activities and opportunities for acquiring new information. During QOL assessment, it was found that some of HD patients were satisfied with their access to healthcare services and environmental condition of living place. Some of them expressed that they had enough time for leisure activities. Most of participants had lower financial status but the environmental health domain were not lower than psychological and physical health. According to Sathvik et.al. financial resources, opportunities for leisure activities, living environment influences the QOL score in environmental domain.[9,22]

Likewise psychological domain include bodily image and appearance, negative feelings, positive feelings, self-esteem, spirituality/religion/personal beliefs, thinking, learning, memory and concentrations. Many patients had not accepted their bodily appearance and

some of patients had very often negative feelings such as anxiety, mood swing, and depression. Some of them were unable to concentrate their mind. A study demonstrated that fear of death, alterations in bodily appearance add negative result in this domain.[9] Another study showed that many HD patients were not satisfied with themselves and they often had negative feelings such as hopelessness, anxiety, depression. Many of participants thought that they were burden to their families.[11,23]

The lowest QOL score was found in physical domain. The facets measured in WHOQOL-BREF instrument pertaining to physical QOL are activities of daily living, dependence on medical substances and medical aids, energy and fatigue, mobility, pain and discomfort, sleep and rest. Most of the hemodialysis patients expressed that they were felt fatigue, insomnia, physical pain, hindrance in daily activities. The possible reasons behind this result might be dietary restrictions and fluid restrictions, frequent hospital visiting schedule for dialysis, pain and discomfort, dependence on medical substances. A study by Ravindran et. al. showed that daily activities such as sleep and work capacity were disturbed due to physical pain and dependence on medical substances in HD patients.[9] Another study demonstrated that insomnia, physical pain, weakness, hindrance to daily activities negatively influenced the physical health.[9,24]

CONCLUSION

ESRD is chronic disease and increases the mortality and morbidty rate but regular assessment of quality of life is necessary to conduct in hospital so that QOL can be increased.

The assessment of quality of life in hemodialysis patient using WHOQOL-BREF scale was studied with respect to socio-demographic factors and QOL domains. This instrument was found to be very useful, reliable and convenient to use.

In this study, physical health and psychological health of hemodialysis patients were more affected. There is significant association between education, income, and duration of dialysis within four domains.

In order to protect people from the damaging effects of poverty in health it is important to formulate health promotion educational programs or to direct policies to empower the disposable income etc. Helping people in disadvantaged SES to achieve the good health with more advantaged SES would help to prevent the widening of health inequilities. As well,

proper health education with regard to psychological, environmental changes and social relationship will help in improving the QOL among the population.

The findings of the present study indicate that there is an increased need to identify and implement appropriate and targeted interventions by healthcare professionals for achieving better management and finally improving g the low level of quality of life of patients suffering from chronic disorder like ESRD. Among health professionals, if pharmacist can emphasize on counseling it could help to achieve good QOL of hemodialysis patients. Good counseling can maintain mental and physical status.

Further analytical studies will help in understanding the association of factors influencing QOL domains.

Limitations of the study

This study includes failure to consult patients medical records to confirm complications and comorbidities rather than subjects self-report which is fraught with ambiguities, exaggeration. The instrumentation used has closed ended answers, which may not accurately express the patients' feelings.

QOL is the subjective measurement and assumes patients answer how they are feeling about their life honestly. The external environment may influence the way the patient answers the questions and in what context. Another limitation to this study involves the patient answering the questionnaire at the time follow up, anxiety and stress may be a hindrance to their participation.

This study is conducted in particular hospital. The results drawn from the study do not sketch the perfect picture of overall hemodialysis patients of the country. So, the attention can be drawn in order to work out to maintain the QOL of hemodialysis patient in every corner of the country.

Lastly, a potential for investigator bias may also have existed.The researcher conducted each interview, and the study participants were aware the research was being conducted for a thesis.

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