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Research Article

ASSESSMENT OF QUALITY OF LIFE AMONG PATIENTS WITH END STAGE RENAL DISEASES ON HEMODIALYSISIN JAZAN REGION, SADI ARABIA, 2018

Hassan Najmi¹, AbdulmlikNajmi², Khaled Mashhour³, Asim Hakami⁴, AL-Muhannad Khabrani⁵, Manssour Alfaifi⁶, Majed najmi⁷, Mohammed Hamdi⁸

¹Dr. Najmi H., MBBS, Registrar-Family Medicine, Jazan Health Affairs, Ministry of Health, Saudi Arabia. Hnajmi7@gmail.com

² Dr. Najmi A, MBBS, Medical Intern, Faculty of Medicine, Jazan University, Saudi Arabia. E-mail: Maloky007@hotmail.com

³ Dr. Khaled M, MBBS, Medical Intern, Faculty of Medicine, Jazan University, Saudi Arabia, E-mail: <u>Kkmmm99@gmail.com</u>

,⁴ Dr. Asim H., MBBS, Medical Intern, Faculty of Medicine, Jazan University, Saudi Arabia.

⁵Dr.AL-Muhannad K., MBBS, Medical Intern, Faculty of Medicine, Jazan University, Saudi Arabia. E-mail:<u>almhndyhy81@gmail.com</u>

⁶Dr.Manssour A, MBBS, Medical Intern, Faculty of Medicine, Jazan University, Saudi Arabia. E-mail: manssour.1415.forever@gmail.com

⁷Dr. Najmi M, MBBS, Pharmacist ,Jazan Health Affairs, Saudi Arabia.

E-mail:manjmi@moh.gov.sa

⁸ Dr, Mohammed H, MBBS, Medical Intern, Faculty of Medicine, Jazan University,

Saudi Arabia. E-mail: m.eid2022@hotmail.com

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| Abstract: | | |
| Background: It has been reported that patients | with end stage renal disease (ESRD) | suffering from impaired quality of life. |
| However, this study aimed to assess quality of life | e among patients with ESRD on hemodia | alysis in Jazan Region Saudi Arabia and |
| to identify possible risk factors for impaired quali | ty of life among those patients. | |
| Methods: A cross-sectional quantitative study o | n stable patients with ESRD on hemod | dialysis $(n = 271)$ were interviewed to |
| assess their quality of life using WHOQoL-BR | EF. Personal, socio-demographic, life | estyle habits and clinical factors were |
| gathered through the interview and by reviewing | g medical records. The data were analy | zed using SPSS (statistical package for |
| social science studies). | | |
| Posults : The results show that the sufficient over | all quality of life was reported among or | aby 5.5% of patients Furthermore there |

Results: The results show that the sufficient overall quality of life was reported among only 5.5% of patients. Furthermore, there were 37% of participants were not satisfied with their general health. In the scores of quality of life domains, the lowest rating domain was for physical health with a mean of 46.7 (\pm 12). While the psychological domain got an average of 52.7 (\pm 16.6). The mean score for social domain were 53.7 (\pm 23) and 50.7 (\pm 15.2) for environmental domains. There were significant relations between quality of life and age, socioeconomic status, time spent(months) since last admission, and physical activity among participants in this study.

Conclusion: Quality of life of hemodialysis patients in Jazan Region is severely deteriorated. There were many factors affecting quality of life of patients with ESRD including personal, demographic, clinical factors. In addition, inactivity have the strongest contribution to worsen quality of life.

Recommendation: Outpatients' physician should be trained to evaluate quality of life and identify patients' problems to resolve it to improve treatment outcomes and therefore quality of life among those patients. Key words: Hemodialysis, quality of life, Jizan city, Saudi Arabia.

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Hassan Najmiet al

Corresponding author:

Dr.Hassan Najmi, *Public Health Administration, Jazan Health Affairs, Ministry of Health, Saudi Arabia. PO Box 604, Postal code 85537, Samitah, Jazan, Saudi Arabia. Mobile: +966-560606035.* <u>*Hnajmi7@gmail.com,*</u>



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1. INTRODUCTION:

Chronic renal disease is considered as a public health issue and one of the leading factors of disabilityadjusted life years (WHO, 2012). Chronic renal disease patients usually suffer from professional due to limitations in physical activity fatigue, weaknesses, social, sexual, and psychological problems (Welch & Austin, 2001). For their survival, chronic renal disease patients tend to stay with disease for a long period under dialysis, which always creates a bad feeling of uncertainty toward their future. Chronic renal disease often require prolonged periods of treatment, a fact that places a significant demand on health care services and affects the patient's whole life. Those patients have to live, not only with their treatment-related complications but also with changes in their concept of self and self-confidence, and sometimes a reversal in family roles (Ayoub, 2012).

A dialysis schedule can significantly obstruct both professional and personal lifestyle (Valderrabano et al., 2001). These factors may contribute to lowered Quality of life (QOL) reported by patients on regular dialysis (Kimmel, 2002).

Clinical manifestations of chronic renal disease and its psychosocial consequences increase stress levels and mostly affects the patients' quality of life (QOL) (Oliveira et al., 2016). It has been noted that the currently available various renal replacement therapies could reduce the severity of symptoms and resulted in longer survival of chronic renal failure patients. Long-term dialysis therapy results in a loss of freedom, dependence on caregivers, disruption of marital, family, and social life, and reduced or loss of financial income. Due to these reasons, the physical, psychological, socioeconomic, and environmental aspects of life are negatively affected, leading to compromised QOL (Sathvik et al. 2008).

Quality of life has been considered as an important factor for evaluating the quality and outcome of healthcare for patients with chronic illnesses, e.g., diabetes mellitus, bronchial asthma and chronic renal failure (Ayoub, 2012).

The WHO defined quality of life as: "an individual's perception of their position in life, in the context of culture and system of values in which they live and in relation to their goals, expectations, standards and concerns".(WHO, 1996) Quality of life serves as an indicator in clinical trials for specific diseases, assesses the physical and psychosocial impact that the disorders may have on affected individuals, allowing better knowledge about the patient and their adaptation to their unhealthy condition. There is a variety of instruments to assess the Quality of Life. These allow us to evaluate the impact of a chronic illness on the patient's life and offer a type of treatment outcome based on the individual's own perception of their general health condition. Quality of life represents the sum of subjective sensations related to the state of well-being (WHO, 1996).

2. METHODS:

2.1. Participants

A cross-sectional study was used to assess quality of life among patients with ESRD on hemodialysis in Jazan region. The patient registry of Jizan Health affairs allow us identification of all patients on hemodialysis visiting the dialysis centers. We could thus identify all patients in the population who had visited 8 dialysis centers during year 2018 with a diagnosis of ESRD. We identified 842patients aged 85 years and younger with such a diagnosis and reviewed their medical records. The sample size for this study was calculated based on a sample size formula for cross-sectional study design The following parameters were used to calculate sample size: p = 20% (11), 95% confidence interval, margin of error below 5% and a non-response rate of 10% producing a sample of 271 patients.

2.2. Data collection instruments and measurements

The data was collected by interview "face to face" using standardized questionnaire. A pretested and organized survey was utilized to get the data on socio-statistic profile, history of illness. The personal satisfaction was surveyed by WHOQOL-BREF scale. The WHOQOL-BREF is an Arabic version of WHOQOL-BREF available, and validated by WHO. The Arabic version of the WHOQOL-BREF was based in the first instance on the original (English) version of the instrument.

The WHOQOL-BREF is a 26-item, self-directed, non-specific questionnaire that is a short form of the WHOQOL-100 scale. The response alternatives extend from 1 (very dissatisfied/very poor) to 5 (very satisfied/very good). Evaluations are made over the first two weeks. It comprises of domains and facts (or sub-domains) (WHO, 1996). The more popular model for interpreting the scores has 4 domains, namely, Physical health 7 items include (Pain prevents activities, enough energy for daily life, Able to get around, Satisfaction with sleep, Satisfaction with activity of daily living, Satisfaction with work capacity and Need treatment to function), Psychological health 6 items (How much enjoy life, Feel life meaningful, Able to concentrate, Accept bodily appearance, Satisfaction with self and How often negative feelings), Social relations 3 items include(Satisfaction with personal relationships, Satisfaction with sex life and Satisfaction with friends' support) and Environment 8 items which are (Feel safe in daily life, Healthy physical environment, Have enough money for needs, Satisfaction information for day-to-day life, Have leisure opportunity, Satisfaction living place, Satisfaction with access to health service and Satisfaction with transport) (WHO, 1996). Our analysis depended on this model. The domain scores of the WHOQOL-BREF can be calculated in three ways:

The first one is a summation of the raw scores of the constituent elements. The second and third ways comprise of changing the raw scores. In the second way, the raw scores are changed into scores that range from 4-20, to be in line with the WHOQL-100 Instrument. The third way converts the 4-20 scores onto a 0-100% scale (WHO, 1996). Internal consistency reliability (Cronbach alpha) for the total scale was 0.93, for the physical domain was 0.80, for the psychological domain was 0.69 and for the environment domain was 0.83.

2.3. Data analysis

For categorical variables, numbers and percentages was used to summarize discrete variable. The frequency distributions was displayed as tables. For numerical variables, this was the mean and the standard deviation for normally distributed variables, and the median and the range for non-normally distributed variables. To test the significance for the differences between groups, chi-square was used for testing the significance of difference in qualitative variables. All statistical tests were two-sided; and a p < 0.05 was considered significant. The statistical analysis was performed using SPSS ver. 17.0 (SPSS Inc. Chicago, IL, USA) software.

3. Ethical Considerations

Prior to beginning of the study, approval to conduct the study was obtained from the Local Research Ethics Committee from JazanHealth Affairs. Details of the study were explained to patients and their families by the researcher in a separate clinic. The informed consent were taken from all patients who accepted to participate in the study. The researcher reminded participants that the data collected remained anonymous to protect their confidentiality.

4. RESULT:

This study included 271 patients with ESRD on hemodialysis. The response rate was 100%. Of the total respondents. In the scores of quality of life domains, the lowest rating domain was for physical health with a mean of 46.7 (\pm 12). While the psychological domain got an average of 52.7 (\pm 16.6). The mean score for social domain were 53.7 (\pm 23) and 50.7 (\pm 15.2) for environmental domains.

4.1. Socio-demographic, habitual risks and health risks with ESRD

A total of 271 were included in the study with a response rate of 100%. Table 1 provides the main personal and demographic details of study participants: the mean age was 60.5 years (SD ± 9.3), with 34.3% of participants were <60 years and 6.6% aged > 70 years. The mean age for males was 54.4 years (SD ± 13.3) and 52.2 years (SD ± 12.3) for females. In addition, 67% of participants were male and married (96%). According to level of education, 24.7% of participants had obtained higher education $(\geq$ secondary school). More than half of them (56.9%) were retired and 18.8% were house wives. The current smoker participants were 15.5%.. There were (28.8%) of Participants were khat chewers. There were only 8.3% of participants were attending regular exercise. Overweight and obesity were found among 50% and 10.3% of the patients

4.2. ESRD and Comorbidities among Participants

Disease duration in months ranged from 12 to 432 months with a median of 90 months. Duration of dialysis ranged between 3 and 5 years among 61.6% of the patients whereas it exceeded five years among 17.2% of them. Around 78% of patients reported a history of admissions during the last 12 months. The

most common form of complications came in the form of (with about 22% of participants). Patients who reported that they were using their medication regularly were 69%. More than half of patients reported suffering from at least one additional chronic disease (52%). The most common comorbidities among patients were stroke, joint and back pain, hypertension, and diabetes (23%, 20%, 17% and 18% respectively).

4.3. Quality of life and personal, demographic and habitual variables

About (16,7%) of participants who aged older than 70 years were classified as sufficient quality of life compared with only 1.5% of patients who aged 60 vears or less had sufficient quality of life (p = .029). There were 94.7% of male patients had insufficient quality of life compared with 94.1% of female patients, in the same way only 5.9% of female patients had sufficient quality of life without a significant statistical association (p =.5). Among married patients insufficient quality of life was reported among 94.4% and among widowed it was 89%, also without a significant statistical association (p=.7). Regarding level of education; majority of illiterate (88%) reported insufficient quality of life. In comparing with patients who obtained a higher education; the percent of sufficient quality of life in each of the other four group was much lower but without a significant statistical association (p = .3). Insufficient quality of life was reported in about 89% of housewives and 96% of retired. Most of current employed participants reported insufficient quality of life (p = .071) (Table 3). There were 97% of smokers had insufficient quality of life, while Ex-smoker and never smoker were 95% and 93% respectively. No significant association was found between quality of life and smoking status (p = .07). There were 98% of khat chewers had insufficient quality of life compared with 93% of non-chewers. Patients who had a regular exercise had a better quality of life than patients who didn't practice. Quality of life was statistically associated with regular exercise (p = .025).

4.4. Quality of life and clinical variables

Based on history of ESRD disease events ; insufficient quality of life among patients who use his medication regularly was the close to that reported in patients who was not regularly use it 96% and 94% and there were no significant association (p = 0.4). Furthermore, 100% of patients who suffered from another disease had insufficient quality of life (p=.5). No association was found between quality of life and hypertension (p = .6). The only medical factor associated significantly with QOL was the months spent since hospital admission last time because of renal diseases. Patients who spent more than five months were more likely to have sufficient QOL compared to those who spent less than 3 months (12.2% versus none), p=0.048 (Table 2).

5. DISCUSSION:

The purpose of this study was to assess quality of life among Hemodialysis patients and to assess possible risk factors for impaired quality of life among this group of patients.

In the current study, using the WHOQOL tool, sufficient physical domain of OOL was observed among minority of patients (0.5%), sufficient psychological domain of QOL was observed among only 7.1% patients, sufficient social domain of OOL was observed among almost one-third of patients (32.2%) and sufficient environmental domain of OOL was observed among only 7.2% patients. Sufficient overall QOL was reported among only 5.5% of patients. In a similar study carried out in the West Bank of Palestine, utilizing the EQ-5D tool, the QOL scores were significantly low in the physical, psychological, and social domains, with no difference in the environmental domain among hemodialvsis patients compared to healthy subjects (Zyoud et al, 2016). Deterioration of the QOL of hemodialysis patients was also reported by others (Gerasimoula et al, (2015), Sathvik et al (2008)).

In the present study, the significant determinants of bad QOL among hemodialysis patients were younger age (<60 years), low income patients, never practicing physical activities, drinking low frequency of soft drink at night, short duration since hospital admission last time because of renal diseases, having severe depression, anxiety and stress. In a similar study carried out in the West Bank of Palestine (Zyoud et al(2016), utilizing the EQ-5D tool, the main socio-demographic factors associated with QOL were female gender, old age, obesity, low income, residency in a refugee camp, unemployment, and having no formal education. The same also has been observed by others (DeOreo (1997), Moreno et al (1996)).

Khatib et al (2018) observed that increased educational level of hemodialysis patients was linked with higher QOL as patients with a higher education level are more likely to have a better understanding of their illness, its complications, and the importance of adherence to dialysis sessions and other treatment modalities than others (Javanbakht et al (2012). Also, several studies reported the same finding. (Zyoud(2016), Kao et al (2009), Lopes et al (2007). However, in the present study, educational level of patients was not significantly associated with QOL. In the present study, job status of patients was not significantly associated with their QOL. The same has been observed by Juergensen et al (2006). However, in a study carried out in Palestine, unemployed hemodialysis patients had lower QOL than employed patients (Khatib (2018). Also, In Iran, Javanbakht et al (2012) reported that unemployed patients had the lowest QOL, using EQ-5D. Unemployment was also proved to be significantly associated with poor QOL among hemodialysis patients in other studies (Zyoud et al (2016), Al Wakeel et al (2012), Garcia-Llana et al (2013)). as unemployed patients are more likely to have depression (Stankunas et al (2006), to be socially inactive and have lower income, which can lead to impaired patients' OOL (Park et al (2010)).

In the present study, educational level of patients has no effect on their QOL. In an Indian study, level of education was significantly associated with QOL as .patients with higher education reported significantly higher QOL scores in the environmental domain (Sathvik et al (2008). Other studies showed a significant relation between educational level and QOL (Chiang et al (2004, Coelho-Marques et al (2006). A higher educational level is known to play a vital role in raising the awareness of chronic diseases and in a better coping ability with them Patti et al (2007).

In accordance with others (Al-Jabi et al (2015), Khatib et al (2018), Sonthon et al (2017), patients with higher income were more likely to have better QOL. This is attributed to the fact that financial independence might lead to better QOL as patients with higher income have the ability to to afford the needed treatment and ensures a better QOL.

Regarding the medical factors, the only factor associated significantly with QOL was the months spent since hospital admission last time because of renal diseases. In disagreement with others, duration of hemodialysis had no influence on QOL of patients in the present study. Khatib et al (2018) observed that the more chronic the problem, the more deterioration in the QOL.

Also in the current study, having co-morbid disease was not associated with impairment of QOL. In a study carried out in Iran, having DM or other comorbidities was significantly associated with poorer QOL (Saffari et al (2013). In addition, In Singapore, Yang et al. (2015) found that low Charlson comorbidity index was significantly associated with better QOL in patients with renal failure as the more comorbidities the patient has, the lower physical activity and impairment of QOL he will have (O'Shea et al (2015).

6. Limitations

There are several limitations for this study. They are as follows: Study design is a 'cross sectional study' which is limited to time of the data collection and make it difficult to identify causal relationship between variables. Quality of life is based on selfreported questionnaire. So that, the interpretation of quality of life is based on subjective perception, and not objective monitoring. Physical and psychosocial events before the interviews were not assessed. So it is possible that behaviors before the interview were affected by this events which lead to biased subjective perception of the behavioral outcomes and finally female gender were only 33% of the total study population.

7. CONCLUSION:

Quality of life of hemodialysis patients in Jazan Region is severely deteriorated, particularly its physical, psychological and environmental domains. Younger (<60 Years) patients, those with lower income, did not practice regular physical activity, those having short duration since hospitalization were more likely to have poorer Qol compared to others. Poor quality of life affect the majority of patients.

Deeper investigating of the factors impeding the quality of life in hemodialysis patients is very helpful to health care professionals when creating interventions according to their personal requirements.

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Competing interests: The authors have no conflict of interest to declare.

Authors Contribution:

Najmi H, the principal investigator; Shok, and Najmi H and Kurairiprepared the research proposal; Najmi H, Shok A, andShok M, designed this research paper; Najmi H, Najmi A, and Shok, performed data analysis; **Najmi H**, and**Najmi M** wrote the manuscript.

All authors, read and approved the final manuscript.

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| (Values are number (percentage) unless otherwise stated) N=271 | | |
|--|----------------------|--|
| Variable | N(%) | |
| Age (years) Mean (SD) | 60.3 (9±) | |
| Gender | | |
| Male | 182 (69%) | |
| Female | 89 (33%) | |
| Marital status | | |
| Married | 233 (86%) | |
| Unmarried | 38 (14%) | |
| Education | | |
| Illiterate | 35 (13%) | |
| Primary | 27 (10%) | |
| Elementary | 46 (17%) | |
| Secondary | 96 (35%) | |
| Diploma, bachelor and above | 67 (25%) | |
| Employment status | | |
| Non employed | 224 (82%) | |
| Employed | 47 (18%) | |
| Smoking status | | |
| Current Smoker this month | 45 (15.5%) | |
| Ex-smoker | 119 (44%) | |
| Never smoke | 110 (40.5%) | |
| Khat chewing | | |
| Yes | 78 (29%) | |
| No | 193 (71%) | |
| Regular Exercise | | |
| Yes | 22 (8.1%) | |
| No | 249 (91.9%) | |
| History of renal surgery | _ () () () () | |
| No | 249 (91.9%) | |
| Yes | 22 (8 1%) | |
| Disease duration in months | (0.1/0) | |
| Median (IOR) Range | 12 (16) 4 to 240 | |
| History of admission during last year | | |
| Yes | 211 (78%) | |
| No | 60(22%) | |
| Co-existing chronic illness | 00 (2270) | |
| Stroke | 62 (23%) | |
| Arthralgia | 52(23.70) 54(20%) | |
| DM | A2(17%) | |
| HTN | +2(1770) | |
| TITIN Regular medications use | 40 (1070) | |
| | 186 (60%) | |
| I CS | 95(210) | |
| INO | 85 (31%) | |

Table 1 : Personal, demographic, habitual factors and details of ESRD among participants

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| Variables | Sufficient quality N (%) | Insufficient quality N (%) | p value |
|-----------------------------------|-----------------------------|-------------------------------|---------|
| Gender | | | 0.5* |
| Male | 7(5.3%) | 125 (94.7) | |
| Female | 3(5.9%) | 48 (94.1) | |
| Age (years) | | | 0.029 |
| < 60 | 1 (1.5) | 64 (98.5) | |
| 60 - 70 | 7 (6.6) | 99 (93.4) | |
| > 70 | 2 (16.7) | 10 (83.3) | |
| Marital status | | | 0.7 |
| Married | 9 (5.6) | 152 (94.4) | |
| Non married | 1 (4.5) | 21 (95.5%) | |
| Education | | | 0.3 |
| Illiterate | 3 (12.0) | 22 (88.0) | |
| Primary | 0 (0.0) | 14 (100) | |
| Elementary | 1 (2.3) | 42 (97.7) | |
| Secondary | 2 (3.8) | 51 (96.2) | |
| Diploma, bachelor and above | 4 (8.3) | 44 (91.7) | |
| Employment | | | 0.071 |
| Retired | 4 (3.8) | 100 (96.2) | |
| housewife | 4 (10.5) | 34 (89.5) | |
| Smoking | | | 0.7 |
| Current | 1 (3.3) | 29 (96.7) | |
| Ex-smoker | 4 (5.2) | 73 (94.8) | |
| Never | 5 (6.6) | 71 (93.4) | |
| Khat chewing | | | 0.19 |
| No | 9 (6.7) | 125 (93.3) | |
| Yes | 1 (2.0) | 48 (98.0) | |
| Exercise | | | 0.025 |
| No | 7 (4.1) | 163 (95.9) | |
| Yes | 3 (23.1) | 10 (76.9) | |
| Duration of dialysis in years | | | 0.9 |
| ≤2 | 2 (8.0) | 23 (92.0) | |
| 3-5 | 6 (8.7) | 63 (91.3) | |
| >5 | 1 (4.3) | 22 (95.7) | |
| Previous history of renal surgery | | | 0.8 |
| No | 10 (5.6) | 170 (94.4) | |
| Yes | 0 (0.0) | 3 (100) | |
| Time spent since last admission | | | 0.048 |
| One month | 0 (0.0) | 29 (100) | |
| 2-3 months | 0 (0.0) | 30 (100) | |
| 4 -5 months | 1 (5.6) | 17 (94.4) | |
| More than 5 months | 9 (12.2) | 65 (87.8) | |

Table 2 Comparison of quality of life among participants by personal, demographic and clinical variables N = 271