



The quality of life in hemodialysis patients referring to hospitals of Zahedan University of Medical Sciences

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ABSTRACT

Background: Patients with chronic and advanced kidney failure, who undergo hemodialysis treatment due to various drug therapies, encounter basic problems in their life style; consequently, these conditions affect both their physical and psychosocial state. The main purpose of this study was to determine the quality of life of hemodialysis patients referred to Zahedan University of Medical Sciences in Khatam-Al-Anbia and Ali-Ebnabitaleb hospitals in 2017.

Methods: This is a descriptive-analytical study. All patient participants (n=129) referring to Zahedan hemodialysis clinics completed a questionnaire which included two sections: demographic data (7 questions) and Kidney Diseases Quality of Life (KDQOL) (24 questions) whose validity and reliability had been confirmed in previous studies. Data analysis was conducted through SPSS software v. 19 using statistical tests such as ANOVA and Independent T-test.

Results: Of 129 hemodialysis patients, %58.9 were men. %41.2 of participants were 46-65 years old. The duration of kidney failure in %63.6 of patients was between 1 to 5 years. The participants' mean (SD) score of quality of life was 42.51±1.21. Moreover, results revealed that there was a statistically significant relationship between quality of life and age (P = 0.048) and kidney disease state (P=0.026). A positive and significant association was also observed between education (P=0.03), sex (P=0.04), Job (P=0.04), income level (P=0.043) and quality of life.

Conclusion: The findings of the current study showed that illiteracy or elementary education, Joblessness, and low income may increase duration of dialysis and reduce the quality of life in dialysis patients. Thus, it is necessary to provide these patients with more social support and take their welfare condition into account.

Keywords: Quality of life; Chronic Kidney disease; Renal dialysis

Citation: Seraji M, Shojaeezadeh D, Sadeghi R. **The quality of life in hemodialysis patients referring to hospitals of Zahedan University of Medical Sciences.** J Pharmacoconomics & Pharm Manage 2017; 3(1-2): 1-4.

1. Introduction

End-stage renal failure is a chronic disease that exerts a negative impact on patients' health-related quality of life (QOL) mainly due to the accompanied impairment or to the imposed limitations in almost all domains of their daily lives [1-2]. Nowadays, chronic kidney disease (CKD) has been increasing due to various factors [3-6]. According to the nephrology, urology and kidney implantation research in Iran, there were about 29,000 individuals affected by CKD in 2006 of whom 14,000 receiving hemodialysis services. According to these existing reports and statistics, this disease is prevailing in Iran [4]. Due to their lifetime increase, the number of these patients is increasing. This disease influences life and in its progressive stages it can affect performance and quality of life. Dialysis and other treatment methods somehow decrease the diseases' symptoms and improve the patients' life status. However, the patients' quality of life is influenced by the disease complications and most of the patients become disable [5-9].

According to the World Health Organization (WHO), quality of life is an individual's understanding of his or her status in life, value system in which he or she is living, and his/her goals, expectations, standards, and priorities. Thus, it is completely an individual-dependent concept which is not observable for others [10-13]. Quality of life can be influenced by various factors such as individual and social factors, diseases, and individual clinical status. End-stage renal disease and its treatments leave the patient exposed to various physical, social, mental, and economical problems and generally, influence their quality of life [14-17].

Low quality of life in the hemodialysis patients may affect different dimensions of their life. That is, the decrease of quality of life from physical perspective can change the individuals' performance, affecting daily activities and overall ability to life [18]. Furthermore, the incidence of chronic kidney failure can lead to the individual dependence on others, low self-esteem, and the feeling of loneliness,

and it can affect the socio-mental aspect of an individual quality of life [19]. Chronic diseases, such as CKD which has a progressive trend, are mostly known as disabling diseases and in spite of great developments such as hemodialysis and kidney transplantation in treatment of chronic kidney failure, quality of life in patients is jeopardized seriously, and in most of the cases, it is lower than natural state [20].

In spite of high prevalence of dialysis, death, and hospitalization rates of this disease and the considerable medical achievements during the last recent 20 years, no comprehensive study has been conducted on considering the hemodialysis patient quality of life in Iran. Therefore, the current study was designed and implemented to consider the quality of life in hemodialysis patients referring to hospitals of Zahedan University of Medical Sciences.

2. Methods

This was a descriptive-analytic study conducted on 129 hemodialysis patients (total patients) referring to the hospitals affiliated to Zahedan University of Medical Sciences. The study samples included all hemodialysis patients in Khatam-Al-Anbia and Ali-Ebnabitaleb hospitals in Zahedan in 2017. The inclusion criteria included hemodialysis patients who have been receiving treatment since six months ago, the patients who received dialysis treatments at least two times a week, patients with the minimum age of 18 and having no mental disorder, and having consent to participate in this study. The exclusion criteria included having a known mental disease or performance disability (musculoskeletal disorders), being nursing personnel, and unwillingness of the patients to take part in the study. In order to account for the ethical issues, the comprehensive information about the study's purposes was provided for the patients. In addition, the patients were assured about the confidentiality of the data and results.

The data-gathering instrument was a questionnaire including two sections: the first section was about demographic information such as

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Table 1. The relationship between quality of life and selected demographic variables

	Variables	Number (%)	Mean and standard deviation of QOL	P-value
Age	26-45 years old	44(34)	46.84 ±8.23	0.048
	46-65 years old	62(48.2)	43.91±5.70	
	65 and above	23(17.8)	41.07±4.10	
Gender	Man	76(58.9)	45.15±5.92	0.04
	Woman	53(41.1)	42.20±7.04	
Marital status	Married	79(61.3)	43.36±6.55	0.69
	Single	50(38.7)	42.18±3.45	
Education	Illiterate or elementary education	56(43.4)	42.75±5.44	0.03
	Guidance or high school education	54(41.9)	44.21±6.21	
	Academic education	19(14.7)	47.64±10.43	
Job	Jobless	70(54.3)	40.93±5.48	0.04
	Employed	29(22.5)	45.47±6.15	
	Retired	30(23.2)	43.21±6.28	
Family income	Low	66(51.2)	41.29±5.52	0.043
	Average	31(23.8)	43.88±5.58	
	High	32(25)	45.99±5.56	
Duration of dialysis	1-5 years old	82(63.6)	47.73±6.03	0.026
	6-10 years old	40(31)	44.10±5.71	
	11-15 years old	7(5/4)	41.79±9.25	

age, gender, marital status, education, job, economical status, underlying diseases, and duration of dialysis. The second part of the questionnaire was about evaluating the quality of life of the hemodialysis patients. To do so, the standardized questionnaire on quality of life of hemodialysis patients (kidney Disease Quality of Life-Iranian- final –ver103 (KDQOL)) was used [21]. In various studies and in a translated version in Iran, its reliability was measured and confirmed with Cronbach's alpha 0.7 - 0.9. Mir Saeed Yekaninejad in 2012 assessed and confirmed reliability and validity (Cronbach's alpha 0.73 - 0.93) of the short form of the questionnaire on quality of life of the patients with kidney failure in Iran's society (KDQOL-SFTM1.3) [21].

KDQOL questionnaire is a combination of SF-36 and special factors of the patients affected by kidney disease. It has two aspects: The public and private aspects of quality of life. The general aspect of quality of life includes two physical and mental sections and eight domains. The domains of general aspect of quality of life include physical performance (10 questions), playing physical role (four questions), physical pain (three questions), general health (six questions), general understanding of health (six questions), playing emotional role (three questions), social performance (2 questions), and vitality and joy (8 questions).

The specific aspect of the questionnaire has 9 domains including general status relating to health (three questions), physical performance relating to health (12 questions), limitation related to kidney disease (11 questions), job status (three questions), mental problems related to health (six questions), sexual performance (two questions), sleep status (scoring from 0 to 100), social support (four questions), and satisfaction of care and the demographic information (3 questions). The score of this questionnaire is from 0 to 100, according to specific guideline for analysis, the highest score shows the

greatest quality of life [22].

Data were gathered through interview and filling in the questionnaire. For illiterate patients, trained proxies completed the data gathering questionnaire. Finally, in order to analyze the data, we made use of SPSS software especially descriptive statistical tests such as mean, standard deviation, and some analytic tests such as chi-square test, independent t-test, ANOVA, and Pearson correlation coefficient. The significance level was set in 0.05 (P<0.05).

3. Results

Of 129 hemodialysis patients, %58.9 were men. About %48.2 of them were 46-65 years old. The duration of kidney failure in %63.6 of the participants was 1-5 years. The mean(SD) score of patients' quality of life was 43.65± 6.38. Table 1 shows the relationship between participants' quality of life and their demographic information. The participant quality of life and their general and specific domains and subcategories are provided in Tables 2 and 3. According to the information provided in these two tables, the mean score of mental domain in quality of life is lower than that in physical and renal domains.

An important finding is that the aging population has a significant relationship with score decrease in subcategories of physical performance, understanding general health, social performance, energy/fatigue, symptoms, cognitive performance, sleep, and other physical, mental, and renal domains. In general, the patients' quality of life will significantly decrease by their age increase (P=0.048). Regarding the gender differences, in subcategories such as physical performance, pain, understanding general health, emotional wellness, limitation of emotional role, social performance, energy/fatigue, symptoms, the effect of renal diseases on daily life, burden of the

Table 2. Mean and standard deviation of QOL in participants based on general scales and segregation of the domains

QOL parts	General subcategories of QOL	Mean±SD
Physical parts outline	Physical performance	37.71±19.12
	Limitation of Physical role	37.81±16.17
	Pain	45.46±15.22
	Understanding general health	49.68±17.18
	Total	42.66±17.44
Subjective parts outline	Emotional wellness	38.33±19.11
	Limitation of Emotional role	27.15±5.17
	Social performance	32.02±5.45
	Energy/ fatigue	41.33±6.24
	total	34.70±5.44

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Table 3. Mean and standard deviation of QOL in participants based on specific scales and segregation of the domains

QOL parts	Specific subcategories of QOL	Mean±SD
The outline of Renal disease parts	Symptoms and problems	52.41±12.44
	The effects of renal disease on life	46.56±14.21
	Burden of renal disease	60.78±21.21
	Job status	51.41±12.44
	Cognitive performance	52.42±12.16
	The quality of social relationship	67.83±19.49
	Sexual performance	45.51±12.40
	Sleep	42.66±12.85
	Social support	70.66±13.85
	Morale by the personnel	63.44±20.46
	Patient's satisfaction	46.75±13.48
	Total	54.58±14.44

disease, and also the physical, mental, and renal domains, women have lower quality of life than men ($p=0.04$).

Moreover, in the subcategories of physical performance, understanding general health, emotional wellness, limitation of emotional role, social performance, energy/fatigue, symptoms, burden of the disease, and also the physical, mental, and renal domains, patients with low educational level had low mean score regarding their life quality. Furthermore, for the same subcategories, jobless individuals had a lower quality of life score than those with different jobs ($P=0.04$).

In subcategories of physical and cognitive performance, monthly income had a significant relationship with the scores and then the individuals' quality of life ($P=0.043$).

4. Discussion

Understanding and evaluating the quality of life of the patients affected by end-stage renal disease (ESRD) is important, because hemodialysis patients experience a great deal of disturbance in their life quality [23]. In this study, the mean score of the participants' quality of life was relatively low. In a study carried out by BarazPardanjani et al., in 2007, it was reported that the quality of life of hemodialysis patients in Iran is lower than quality of life of these patients in some other countries [24]. Similarly, in another study conducted by Fructuoso et al., in 2010, the mean score of hemodialysis patients was reported to be lower than the society's normal score [25]. These findings indicate the low quality of life of these patients.

In comparison with the mean and standard deviation of QOL score in hemodialysis patients in Abaszadeh's study, in 2009, conducted in Kerman [26], the low mean score of the total QOL in this study can be attributed to differences in economic situation, rather than patient's lifestyle. The low quality of life in women receiving dialysis treatments reported in this study is similar to the findings of Lopes et al., in 2006, who carried out their study in seven countries and reported that in comparison to men, women had significantly lower scores in their physical performance, energy/fatigue, and symptoms [27]. Similarly, in Pakpour's study, in 2009, conducted in Tehran, it was reported that women had low QOL score in all three domains [28]. As the probable reasons for these conditions among women, we can mention factors such as their low education, several pregnancies and child deliveries which influence their physical abilities, and the participants' socio-cultural status which subsequently leads to low quality of life among women rather than men.

In addition, the statistically significant relationship between age and three domains of quality of life and subcategories of physical performance, understanding general health, social performance, energy/fatigue, symptoms, cognitive performance, and sleep are similar to the findings of the study conducted by Baghaee et al., in 2013, who reported that individuals above 50 years old obtained significantly lower scores than other younger individuals in physical, mental, and

renal domains [29]. These findings can be associated with the changes of body systems which can decrease the life quality of the aging patients affected by various diseases. The low mean score in some subcategories and all the domains of life quality in patients with low education is similar to some other studies in this context [20, 25]. This finding can be related to patients' lack of knowledge on medical cares, their inability to report their health status, and probably their low income. Moreover, the general quality of life, its domains, and majority of its subcategories in jobless individuals are lower than those in other groups. This finding is in line with the results of some other studies [9, 18, 20].

Since having a job or a fixed income can positively affect the individuals' independency and self-esteem especially during the illness phase and for the costs of their treatment, these findings can be justified. In addition, the relationship between individuals' high income and obtaining better scores in subcategories of physical and cognitive performance is completely evident in the current study. This finding, which is in line with the results of a study conducted by Baghaee et al [29], in 2013, can be justified from two perspectives. First, physical and subjective health is a necessity for having a job or obtaining income; therefore, it is evident that patients with high physical and cognitive health can earn higher income. Second, having high income will enable the patients to afford their treatment costs and will lead to a good sense and then a higher quality of life. Therefore, such findings will highlight the necessity of implementing strategic programs and taking this variable into account for decision making.

The findings of the current study revealed that hemodialysis patients with some specific features could be faced with greater pains and difficulties. Therefore, detecting and implementing the predictive factors can assist the doctors and nurses to prepare better and more favorable treatment programs in order to improve the patients' quality of life. Moreover, the results indicated that female gender and unemployment are of important factors for lowering the patients' quality of life. Therefore, treatment and medical services should support women more than before. It is also necessary to provide employment conditions on the basis of individualistic features, residential areas differences, and even the patients' physical status. In this way, these groups of the patients will have a better life condition and higher quality of life.

The results of the current study can help the stakeholders and officials to take a step toward care and treatment programming in order to promote hemodialysis patients' quality of life. As a limitation of the study, it can be stated that due to the large number of questions in our data-gathering instruments, and probability of making patients tired of answering to many questions, the researcher was not able to account for the patients' nourishment status and diet. Therefore, it is recommended that in future studies, researchers can take into account the relationship between hemodialysis patients' nourishment status and their quality of life for more profound information and results.

5. Conclusion

The findings of the current study showed that illiterate or elementary education, Jobless, low income increase duration of dialysis, reduced the quality of life in dialysis patients, so it is necessary to provide these patients with more social support and take their welfare condition into account.

6. Acknowledgment

This study is the result of research proposal No **14-9513**, which is financially confirmed by Iranshahr University of medical sciences. Therefore, the authors would like to thanks to the officials of Iranshahr University of medical sciences, the personnel of dialysis section in Katam-Al-Anbia and Ali-Ibnabitaleb hospitals, and all the patients who participated in this study.

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