Original Research Article

Well-being of Hemodialysis Patients Referred to the Hospitals of Zahedan, Southeast of Iran

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ABSTRACT

Introduction: Due to the importance of determining the well-being of hemodialysis patients, this study aimed to evaluate different aspects of well-being in hemodialysis patients referred to hospitals in Zahedan, Iran. **Materials and Methods:** This descriptive-analytical study was performed on 129 patients receiving hemodialysis at hospitals affiliated to the Zahedan University of Medical Sciences in 2016. Data were collected using a questionnaire that evaluated the socio-demographic characteristics and well-being of hemodialysis patients. Reliability and validity of the questionnaire were assessed. Data were analyzed in SPSS software using descriptive statistics and analytical tests including independent t-test, one-way analysis of variance and Pearson correlation coefficient. Statistical significance level was set at 0.05. **Results:** The mean score of emotional well-being was 138.95±21.9. There were statistically significant correlations between gender and the spiritual aspect of well-being. There was a statistically significant relationship between education level and the physical and mental aspects of well-being. Family income was significantly correlated with the mental (P=0.04), social (P=0.03) and intellectual aspects of well-being (P=0.03). Moreover, emotional well-being was significantly associated with the mental aspect of well-being (P<0.001, r=0.912). **Conclusions:** The overall mean score of well-being is more than average in hemodialysis patients. Factors such as gender, education level and income affect the emotional well-being of patients.

KEYWORDS: Well-being, Hemodialysis, Patients

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INTRODUCTION

The prevalence of chronic kidney disease (CKD) has been increasing due to various factors [1]. According to the latest reports, about 29000 Iranian individuals were affected by CKD in 2006, 14,000 of which were receiving hemodialysis treatment [2]. Hemodialysis affects CKD patients' quality of life and performance in its progressive stages. Although hemodialysis and other treatments can reduce the symptoms of the disease, the patients' quality of life is influenced by the complications of the disease, which could lead to disability [3].

Reduced quality of life in hemodialysis patients may affect different aspects of their lives. For instance, physical side effects of the disease can change the individual's performance and his/her ability to perform daily routine activities [4]. Furthermore, CKD can lead to dependence on others, low self-esteem, and feeling of loneliness. It also affects the socio-mental aspect of an individual's quality of life [5].

General feeling of well-being is an important issue in hemodialysis patients. Well-being is defined as the state of having logic, independence, and self-confidence [6]. Rilerdon considered health promotion as a way to reach well-being. Rif and Singer also emphasized on the balance between aspects of well-being [6]. Well-being is to accept an individual as a valuable person and understand his or her feelings. The person should feel free to express his/her feelings such as anger, anxiety, fear, and pleasure [6-7]. This multidimensional procedure involves mental, social, physical, and emotional health [6, 8]. It is important to pay attention to well-being and mental health of patients with chronic diseases such as kidney failure or

end-stage renal disease, which have severe complications [9].

Stress is an important factor affecting the well-being of hemodialysis patients [10]. An aspect of well-being is social well-being, which concerns *social* functioning and abilities. This aspect of well-being includes social cooperation, acceptance and integrity [6, 11]. On the other hand, physical well-being is defined as having a flexible, energetic and strong body with a healthy heart [11]. In addition, emotional well-being concerns life satisfaction and positive effects on life [6]. Well-being from a spiritual aspect deals with goals and meanings (sense) of life [12,13], which includes honesty, forgiveness, hope, mercifulness, following a goal in life, and accepting comprehensive and unique concepts [12, 14]. Studies have shown a relationship between spiritual well-being and reduced depression, increased self-confidence and decreased disability [15].

Hemodialysis can have negative effects on general health and well-being of patients. It can also affect their physical performance, mental status and social relationships. Complications of hemodialysis are not limited to the physical and mental aspects, and affects socioeconomic aspects as well [3]. Despite recent medical advancements and high prevalence of dialysis, death, and hospitalization rates, no comprehensive study has been conducted on the well-being of hemodialysis patients in Iran. Therefore, the current study was designed assess the well-being of hemodialysis patients referred to hospitals affiliated to the Zahedan University of Medical Sciences, Iran.

MATERIALS AND METHODS

This descriptive analytical study was conducted on all hemodialysis patients (N=129) referred to Khatam-Al-Anbia and Ali-Ibn-Abitaleb hospitals in Zahedan in 2016. Inclusion criteria included receiving hemodialysis two times a week for at least six months, age of ≥18, and having no mental or conceptual disorder. Exclusion criteria consisted having a known mental disease or musculoskeletal disorder and unwillingness to take part in the study. Written consent was obtained from all subjects. Ethical approval was obtained from the Vice Chancellor of Research of the Iranshahr University of Medical Sciences (code= IR.IRSHUMS.REC.1395.14), and details and purpose of the study were explained for the subjects. In addition, the patients were assured about the confidentiality of their information.

Data were collected using a questionnaire consisting of two sections. The first section included demographic information including age, gender, marital status, education, occupation, economic status, background diseases, and duration of dialysis. The second section of the questionnaire was designed by Adams et al. and evaluated the well-being of hemodialysis patients. The questionnaire had 36 Items divided into 6 dimensions of mental, emotional, social, physical, spiritual and subjective aspects [8]. The questionnaire was based on a 6-point Likert scale from "strongly agree [6]" to "strongly disagree [1]". Reliability of the original questionnaire has been approved (overall reliability α=0.91).

Data were collected through interviews and completion of the questionnaire. For illiterate patients, trained personnel completed the data gathering procedure. Finally, data were analyzed in SPSS software (Version 20) using descriptive statistics including means, standard deviation (SD), chi-square test, independent t-test, one-way analysis of variance (ANOVA), and Pearson correlation coefficient. The significance level was set at 0.05.

RESULTS

The mean age of the participants was 52 ± 11.8 years. Table 1 shows the demographic information of the participants.

Table 1. Demographic characteristics of hemodialysis patients

Variable		Number (Percentage)
Age	26-45 years	44(34)
	46-65 years	62(48/2)
	> 65 years	23(17/8)
Gender	Man	76(58/9)
	Woman	53(41/1)
Marital status	Married	79(61/3)
	Single	50(38/7)
Education	Illiterate or elementary education	56(43/4)
	High school education	54(41/9)
	Academic education	19(14/7)
Job	Unemployed	70(54/3)
	Employed	29(22/5)
	Retired	30(23/2)
Monthly income	Low	66(51/2)
	Moderate	31(23/8)
	High	32(25)
Duration of dialysis	1-5 years	82(63/6)
	6-10 years	40(31)
	11-15 years	7(5/4)

The mean score of well-being was 138.59± 21.9. The mean and SD of scores of different aspects of well-being are shown in table 2. The lowest mean score was related to the emotional aspect, while the highest score was related to the mental aspect. There was a statistically significant relationship between gender and spiritual aspect of well-being. In addition, education level was significantly correlated with physical and subjective aspects of well-being. Moreover, there was a significant relationship between income rate and the mental, social and subjective aspects.

Table 2. Mean score and SD of "well-being" and its aspects in hemodialysis patients based on demographic variables

Variable		Subjective aspect	Physical aspect	Emotional aspect	Spiritual aspect	Social aspect	Mental aspect	Total score of well-being
Age	26-45 years	22.1± 1.4	22.2± 2.3	21.2± 2.6	23.7± 3.5	23.7± 3.9	24.2± 3.1	137.1 ±3.2
	46-65 years	23.3± 2.7	23.2± 2.4	21.2± 2.7	22.1± 3.1	23.9± 3.7	24.7± 3.2	138.4 ±3.3
	≥66 years	23.3± 32	23.7± 2.9	20.7± 2.8	22.7± 2.4	25.3± 4.1	25± 3.4	140.7 ±3.6
	P-value	0.99	0.90	0.92	0.97	0.92	0.90	0.90
Gender	Man	23.4± 3.9	23.9± 4.1	21.8± 4.9	26± 4.4	24.7± 4.8	24.5± 3	144.3 ±22.4
	Woman	22.7± 3.3	22.7± 3.7	21.8± 5.2	22.2± 4.7	23.9± 4.1	24.7± 3.4	138 ±21.5
	P-value	0.41	0.66	0.8	0.03	0.41	0.77	0.04
Marital status	Married	23.3± 2.4	23.1± 3.6	22.2± 2.4	21.9± 4.1	24.4± 4.3	24.7± 2.4	137.6 ±12.4
	Single	23.6± 3.4	22.6± 2.8	20.7± 3.4	21.4± 5.3	23.6± 5.4	25.7± 3.8	137.6 ±14.4
	P-value	0.38	0.22	0.33	0.64	0.48	0.63	0.42
Education	Illiterate and lementary education	21.9± 4.8	20.8± 5.4	21.4± 3.1	21± 5.9	23.5± 3.2	24.4± 3.8	133 ±11.8
	High school education	23.6± 6.3	21.1± 6.9	23.5± 3.8	22.7± 7.7	25.6± 4.6	25.3± 4.8	143.8 ±10.8
	Academic education	25.8± 8.5	24.9± 9.9	23.3± 2.8	25± 10.4	25.7± 3.9	25.6± 4.5	150.3 ±8.8
	P-value	0.03	0.04	0.65	0.11	0.61	0.66	0.043
Occupation	Unemployed	20.7± 2.9	20.6± 2.4	20.7± 2.1	21.4± 2.4	23.7± 3.4	22.7± 2.4	129.8 ±3.4
	Employed	24.8± 2.4	23.7± 3.8	24.7± 3.8	23.6± 1.8	24.3± 3.2	23.3± 3.6	144.4 ±3.2
	Retired	24.7± 2.8	21.7± 2.2	22.7± 3.2	22.5± 2.9	24.8± 2.4	21.9± 2.1	138.3 ±2.4
	P-value	0.4	0.7	0.3	0.8	0.9	0.38	0.43
Family income	Low	21/9±3/8	22.4± 3.6	21.7± 2.3	23± 3.8	23/3±3/4	22/9±2/2	135.2 ±3.2
	Average	24/9±3/3	21.7± 2.3	23± 3.8	21.3± 2.3	24/6±4	22/4±3/8	137.9 ±3.4
	Good	28±4/1	21.3± 2.3	22.4± 3.6	23± 3.8	26/7±4/5	26/1±4	147.5 ±3.5
	P-value	0.03	0.7	0.43	0.8	0.03	0.04	0.04
Duration of dialysis	1-5 years	23.5± 2.4	23.4± 2.9	22.8± 3.4	22.4± 3.6	24.7± 2.4	24.5± 3.2	141.3 ±3.4
	6-10 years	26.6± 2.2	22.2± 2.9	20.1± 3.6	21.7± 2.3	23.8± 2.4	24.9± 3.1	139.3 ±2.9
	11-15 years	21.3± 2.3	22± 2.6	19.5± 3.2	21.3± 2.9	24.7± 3.1	23± 3.8	131.8 ±2.8
	P-value	0.40	0.70	0.30	0.80	0.90	0.38	0.40

We found a significant positive correlation between the mental aspect of well-being and the social, physical, emotional, spiritual, and subjective aspects as well as the total score of well-being. Moreover, there was a positive correlation between the social aspect and physical, emotional, spiritual, and subjective aspects as well as the total score of well-being. In addition, there was a significant positive correlation between the physical aspect of well-being and the emotional, spiritual, and subjective aspects as well as the total score of well-being. Furthermore, there was a positive correlation between the emotional aspect and the spiritual and subjective aspects of well-being and the total score of well-being. Similarly, there was a statistically significant correlation between the spiritual and subjective aspects of well-being. A statistically significant correlation was also found between the spiritual aspect and total score of well-being (Table 3).

Table 3. Relationship between various aspects of well-being

Variable	Mental aspect	Social aspect	Physical aspect	Emotional aspect	Spiritual aspect	Subjective aspect
Mental aspect	_	_	_	_	_	_
Social aspect	r=0.601 p<0.001	_	_	_	_	_
Physical aspect	r=0.758 p<0.001	r=0.746 p<0.001	_	_	_	_
Emotional aspect	r=0.556 p<0.001	r=0.798 p<0.001	r=0.742 p<0.001	_	_	_
Spiritual aspect	r=0.655 p<0.001	r=0.774 p<0.001	r=0.712 p<0.001	r=0.773 p<0.001	_	_
Subjective aspect	r=0.668 p<0.001	r=0.796 p<0.001	r=0.805 p<0.001	r=0.792 p<0.001	r=0.773 p<0.001	_
Total score of wellness	r=0.779 p<0.001	r=0.901 p<0.001	r=0.894 p<0.001	r=0.898 p<0.001	r=0.893 p<0.001	r=0.912 p<0.001

DISCUSSION

According to our findings, the total score of well-being was higher than the average level. This is consistent with study of Tol et al. on type-2 diabetes patients [16]. In our study, the lowest mean score was related to the emotional aspect, while the highest mean score was related to the mental aspect of well-being. However, Tol et al. reported that the lowest and highest mean scores were related to the mental and spiritual aspect, respectively. The low mean score of emotional aspect could be due to the nature of the disease, and because hemodialysis patients receive little attention and care from their loved ones.

We found that gender affected the mental aspect of well-being in a way that men feel better than women do. This finding is in agreement with the result of Tol et al. and Peterson [17]. The mean score of spiritual aspect of well-being was significantly higher in men compared to women. This could be because men could tolerate and cope with their disease more easily than women [18]. In study of Esra et al., there was a statistically significant relationship between the mental aspect of well-being and education level [19]. The social aspect of well-being in hemodialysis patients was significantly correlated with the income rate, so that individuals with high income had significantly higher scores in the social aspect of well-being. Therefore, it is recommended to provide social support for hemodialysis patients with low or moderate income.

In agreement with findings of Tol et al., we found that the physical aspect of well-being was significantly associated with education

level, so that individuals with diploma or academic education obtained higher scores in the physical aspect compared to illiterate subjects. This is because of the knowledge and awareness of highly educated individuals. In the present study, subjects with higher education level has significantly higher scores for the subjective aspect of well-being compared to illiterate and less-educated subjects [20].

CONCLUSION

According to the results of the present study, factors including gender, education level, and income rate are significantly associated with the well-being of hemodialysis patients. In addition, there are statistically significant relationships between different aspects of well-being. It is recommended to conduct future studies using the methods used in our study to further investigate this issue.

ACKNOWLEDGMENTS

This study was derived from the result of a research proposal (No14-9513) apprvoded and supported by the Iranshahr University of Medical Sciences. The authors would like to express their gratitude to the officials of the university, personnel of dialysis department in Katam-Al-Anbia and Ali-Ibn-Abitaleb hospitals, and all patients who participated in this study.

CONFLICTS OF INTEREST

There is no conflict of interest.

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