



Study of Self-care and Its Related Factors in Hemodialysis Patients in Kermanshah

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Authors' contributions

This work was carried out in collaboration between all authors. Author BKP designed the study, managed the literature searches. Author FMF wrote the protocol, and wrote the first draft of the manuscript and author AHH performed the statistical analysis, managed the analyses of the study. All authors read and approved the final manuscript.

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ABSTRACT

Aims: Chronic renal failure is a progressive and irreversible disorder, which disables kidneys to excrete metabolic waste and maintain fluid and electrolyte. Hemodialysis is one of the main treatments for chronic kidney failure patients. These patients with the onset of dialysis faced in their lives with numerous needs and a lot of changes and to live with this chronic disease it is necessary to Carry out self-care activities. According to increasing number of hemodialysis patients, This research was done With the aim of examining self-care and Related activities and its relationship with variables such as age, sex, level of education, Marital status and economic status of hemodialysis patients.

Study Design: The present study is a cross-sectional observational study that evaluates 122 patients under treatment by hemodialysis in educational hospitals of Kermanshah Imam Reza and Imam Khomani as accessible. To collect data, demographic information and self-care checklist

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were used To collect data. Data analysed by software spss22 and using descriptive statistics (percent, diagram, mean) Student t-test and ANOVA or f test.

Findings: In examining the demographic variables, 50% of women participated in the study (22.3%) of the subjects were aged 60-70. 72.1% of subjects had an education level less than a diploma, and 83% were non-working. The findings of research with confidence coefficient 95% indicated that means of self-care in surveyed patients are 56.32 and patients have had most self-care for skin and fistula (24.99) and least self-care for sleep (6.20). Self-care is higher in people with higher education, and there is no relationship between self-care and the variables of sex, age, economic status and marital status of patients.

Conclusion: There is a significant relationship between self-care and patient education thus, by considering the level of knowledge and the state of their lives and correcting patients' weaknesses, training of self-care activities should be increased.

Keywords: Demographics; self-care; hemodialysis; patients.

1. INTRODUCTION

The increasing prevalence of chronic diseases is one of the problems that healthcare providers face in the communities [1]. One of these diseases is a chronic renal failure, which today affects about 2-4% of people and is an irreversible condition that eliminates the function of the nephros and progresses to treatments such as dialysis to prevent deadly Uremia [2]. According to the Association for the Support of Kidney Patients, the number of patients undergoing hemodialysis in Iran increases by 15% annually [3].

With widespread access to dialysis, the lives of hundreds of thousands of patients with ESRD (End Stage Renal Diseases) have been prolonged. They need diet and fluid for the preservation of their lives and prevent cardiovascular complications [4]. As the number of these patients increase, long-term health care providers have multiple problems such as frequent admission, increased cost of treatment, and disability [5]. Many believe that care should be taken by the people themselves to organise these patients and facilitate their work [6]. In this way, many researchers have drawn attention to identifying factors related to the self-care of patients, especially in terms of demographic variables. In this regard, age, gender, education, marriage, and income are the most common individual variables [7]. Some studies have shown that there is a significant relationship between self-care and some individual and demographic variables [8]. The results of different studies vary. For example, a study by Payab et al. found that the level of education and household income had a significant impact on the quality of life of hemodialysis patients [3]. A study on women referring to health centres by

Sheikhzade Anari et al indicated that physical self-care dimensions had a significant relationship with the occupation, income, and education [9].

Considering the increasing number of hemodialysis patients and the long duration of the disease, the purpose of this study was to determine the level of self-care and its related factors, such as age, sex, level of education and marital status, and the economic status of hemodialysis patients.

2. MATERIALS AND METHODS

This is a cross-sectional study. The statistical population includes all hemodialysis patients in educational hospitals of Imam Khomeini and Imam Reza in Kermanshah, 2014. With a confidence level of 95% and the test power of 80%, the minimum sample size was calculated to 118.

The questionnaires included demographic information (age, sex, marital status, economic status, educational level, employment status, duration of illness, and place of residence) and self-care performance checklist developed by researchers at Gonabad University of Medical Sciences. It included 24 self-care activities related to diet and fluid control, skin care and fistula, activity and fatigue, sleep and rest.

To validate self-care checklist, content validity has been used that has been approved after consideration of the comments of several faculty members and specialists in nephrology in Mashhad. The reliability of the checklist was confirmed by using a test-retest method that was performed with a gap of one week on 30 hemodialysis patients ($r = 0.78$) [10]. Answers

were predicted in Likert scale from never to always. Each item is given between 0 and 4 points. The total score for this tool is between 0 and 96. Self-care performance is divided into levels very weak (from 0 to 12), poor (from 13 to 24), moderate (from 25 to 48), good (from 49 to 60), very good (from 61 to 73), and excellent (from 74 to 96).

In this study, 122 patients with hemodialysis were selected using available sampling method. Having obtained a license from Kermanshah University of Medical Sciences and the above hospitals as well as the head of nurses in the hemodialysis department, the researchers attended the research field and gave the developed questionnaires to participants during dialysis. The plan was explained to the volunteer patients and 122 questionnaires completed for 2 months. The criteria for entering patients were six months of hemodialysis and age over 18 years of hemodialysis patients; the exclusion criterion was a relinquishment of the study. Then, data were analysed using descriptive statistics, one-way ANOVA, and SPSS-version 22. Moreover, participants were assured that their information would remain confidential, so questionnaires are unnamed. Participation in the research has been entirely optional.

3. RESULTS

In this study, 122 hemodialysis patients were studied, which consisted of 60 male and 60 remaining female samples. At first, Descriptive

findings and further statistical analysis are presented. In the study, 50% of the participants were women, of which 22.3% were aged 60-70. 62.3% of the participants had a poor economic status with an income below five hundred thousand tomans. 68% were married, and 83.6% were unemployed. 72.1% had below school diplomas, 18.9% had diplomas, 6.6% had bachelors, and 8.8% had postgraduate degrees. According to the data obtained in Table 1, (36.1%) of the total patients had a good level of self-care, of which 34.4% were good male participants, and 37.7% were good female participants. 36.1% were moderate. The male participants at a very good and excellent level (29.5%) and (16.4%) compared to this level in women (19.7%) and (4.9%) indicates that male participants are more capable of self-care. The average self-care scores in male samples (59.84) and female samples (52.80). But with respect to p-value = 0.061 with a percentage error of 0.05. No significant difference is observed.

The age of participants was considered as a nominal variable of five states and self-care scores as a variable. Therefore, one-way ANOVA is the most appropriate method for testing the difference in self-care scores in different age groups. According to the analysis and the f-test with the error percentage of 0.05, there is no significant difference in terms of age. Comparison of self-care mean scores in the age group is shown in Table 2.

Table 1. Absolute and relative frequency distribution of the samples based on the gender and scores of self-care activities

Gender		Self-care activities					Total
		Excellent	Very good	good	Average	Low	
Female	Number	3	12	23	22	1	61
	Percent	4.9	19.7	37.7	36.1	1.6	100
Male	Number	10	18	21	12	0	61
	Percent	16.4	29.5	34.4	19.7	0	100
Total	Number	13	30	44	34	1	122
	Percent	10.7	24.6	36.1	27.9	0.8	100

Table 2. Mean scores of self care in age groups

Age	Weak and moderate	Good	Very good and excellent
18-39	22.2%	48.2%	29.6%
40-49	10%	50%	40%
50-59	25.9%	29.6%	44.4%
60-69	40.47%	23.07%	36.46%
70 and higher	32%	44%	24%

Another variable that was considered is the status of the education of the participants who were divided into two groups of diplomas and below the diploma and the bachelor's degree and higher than a bachelor's degree. Self-care mean score is 55 in a group of diplomas and below the diploma and 69 in a group of the bachelor's degree and higher than bachelor's degree. The results of the t-student test with a percentage error of 0.05 indicate a significant difference in self-care between the two above-mentioned groups.

The fourth variable was the marital status of the participants. They were included in two groups of non-married (single, widowed, and divorced) and married. Mean score of marital status was 55 in non-married (single, widowed, and divorced) group and 57 in the married group. According to the analysis and the t-Student test with the error percentage of 0.05, there is no significant relationship between self-care and marital status.

The next variable is the economic situation of studied patients. Three economic levels were predicted for them: (1) below 500 thousand tomans, (2) between 500 thousand tomans and 1 million tomans, and (3) higher than 1 million tomans. Mean scores of self-care were obtained 58 in two groups of 1 and 2 and 59 in the third group. According to the low average difference in the groups and the results of the f- test, there is no significant difference in self-care scores of participants and their economic situation.

Also, the highest level of self-care in self-care activities in patients was initially in skin care, and fistula as its mean was 24.99 with P-Value=0.019. Regarding nutrition and diet therapy, it was 18.29 with P-Value=0.044. The

lowest level of self-care was observed in sleep and rest (6.20) with P-Value=0.897. The results are shown in Table 3.

4. DISCUSSION

The purpose of this study was to investigate the relationship between self-care activities and factors such as age, gender, educational status, economic status and marital status. In this study, there was no significant correlation between self-care and gender with p-value = 0.061 and error rate of 0.05, which was not consistent with similar studies in this field such as the study of the oppressed and associates under the heading of self-care in patients with type 2 diabetes. In the study of Mazlum et al., Self-care is less observed in women, and there is no relationship with other demographic variables such as age, education, and marital status [11]. In a study by Mccaba, self-care was higher in men and older people with higher education these results are consistent with the results obtained from this study only in terms of self-care relationship with educational status [12]. It seems that the effect of gender differences on self-care capacity is influenced by other variables such as physical and mental status and the level of knowledge of individuals. For example, Atalebi explained the cause of better self-care in men with hypertension with higher levels of higher education than contributing women [13]. Also, Bahrami and his colleagues considered the lack of time as a major deterrent to the adoption of self-care behaviours in women [14]. In the present study, although the gender factor was expected to affect self-care activities, the similarity of the quality of life of both male and female patients to one another led to almost the same level of self-care.

Table 3. Mean scores for self-care activities based on subgroups of self-care activities and gender

	Gender	Self-care activities	Sleep and rest	Activity and fatigue	Skin care and fistula	Nutrition and diet therapy
Number		61	61	61	61	61
Mean	Female	52.80	5.48	5.57	24.36	17.21
Standard deviation		12.210	4.027	3.171	6.514	5.956
Number		61	61	61	61	61
Mean	Male	59.84	6.93	7.92	25.62	19.36
Standard deviation		13.353	4.568	2.923	7.976	5.154
Number		122	122	122	122	122
Mean	Total	56.32	6.20	6.84	24.99	18.29
Standard deviation		13.313	4.350	5.3225	7.119	5.650

Baghaei et al., in a study to investigate the self-care status of diabetic patients in Kashan, showed that self-care has a statistically significant difference in patients less than 60 years old and more than 60 years old; but there was no meaningful relationship in terms of gender. The results of this study contrasted with the results obtained in this study for self-care relationship with age [15].

As noted, the results indicated a significant difference in self-care between the two groups of diplomas and below the diploma and the bachelor's degree and higher than a bachelor's degree. There is also no relationship in terms of marital status that is consistent with the results of another study conducted in Khorramabad by Anbari et al. as they have observed that the mean scores of patients with university education were significantly higher than others but there was no relationship between self-care quality and marital status [8].

In a study on diabetic patients, Seyedoshohadaee et al. showed that the level of education has a significant relationship with self-care, which is consistent with the results of the present study [16]. In general, people who have higher education are more aware of the complications of the disease, diet, and nutrition regimens, and the way to use the drug; thus, it seems that more education for people with low education should be considered [11].

In the present study, although young, married, and good economic situation individuals have more self-care, but there was no significant relationship between self-care and age, income and marital variables. Abbaszadeh showed that self-care has a direct and weak relationship with age and economic capital; divorced subjects had the lowest self-care level and achieved a significant difference between self-care and marital status that did not conform to the present study [17]. It seems that marital status can have a significant effect on the level of self-care of individuals because the spouse can help to reduce the stress on the patient. Due to the responsibility of divorced and widowed people in their lives, they may have less chance of implementing self-care behaviours. Moreover, having a good job and a better economic situation can increase one's self-care ability.

In a study titled "Self care behaviors and its related factors in patients with heart failure", Khoshtarash et al. observed no significant

relationship concerning the relationship between demographic variables and self care behavior, which is inconsistent with the present study in terms of the significant relationship of self care to educational status; it is also consistent in terms of other variables such as the relationship of self-care to gender and age, economic status, and marital status [5].

With regard to self-care activities, the results showed that patients had the most self-care in the field of skin care and fistula (24.99) and had the most defect in sleep and rest (6.20). Results in the study by Atashpaikar et al. as "The ability of self-care in hemodialysis patients" showed that patients did not have complete self-care ability and only 3.7% had good self-care ability [18]. Nevertheless, according to Table 1, most of the patients had moderate to very good self-care levels. The mean score of self-care in this study is 18.29 in the field of nutrition and treatment, 24.99 in the field of skin care and fistula, 6.84 and 6.20 and in the fields of fatigue and activity and sleep and rest, respectively. In the study by Atashpaikar et al., the most self-care ability in the units studied is in terms of vascular care and the most unfavourable field is the observance of the diet. In the present study, the most unfavourable field is sleep and rest. In terms of the ability to care for the skin and fistula, this study is consistent with the study of Atashpaikar; but it is inconsistent in terms of the most unfavourable field of care. In the study of Ashvandi et al. (The study of the effect of education as a small-group method on serum electrolytes in hemodialysis patients), the results showed that hemodialysis patients do not have a complete knowledge of diet and most people do not follow the diet [19]. The results are not consistent with the above study. In the study by Nasiri et al. who studied the effect of an educational plan on hemodialysis patient, the results showed the highest self care deficit had been in the areas of nutrition (lack of adequate knowledge of food containing phosphorus and potassium), excretion (constipation prevention), activity and rest, skin care and drug use, mental health (lack of knowledge of relaxation and problem-solving methods for reduction of anger, and lack of use of these methods [20]. This is in line with the present study in two areas of activity and rest. It seems that the special attention of nursing staff to skin care and fistula has made patients perform well care in this regard. Since the greatest defect has been observed in the field of sleep and rest, the cause can be due to lack of adequate training in this field and complications

from the disease such as itching of the body, anaemia, etc. Accordingly, it is possible to improve the quality of their sleep by providing special training and treatment of complications in this area.

5. CONCLUSION

Due to the increasing growth of hemodialysis patients, it is desirable that community health practitioners make the most use of rehabilitation and self-care programs to return patients as quickly as possible to their daily lives, to improve their quality of life, and to prevent repeated hospitalisation. In this regard, they should pay attention to personal and demographic differences as well as weaknesses of patients.

CONSENT AND ETHICAL APPROVAL

As per university standard guideline participant's consent and ethical approval has been collected and preserved by the authors.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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