

RESEARCH ARTICLE

Self-care Self-efficacy and Quality of Life among Patients Receiving Hemodialysis in South-East of Iran

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ABSTRACT:

Objective: Hemodialysis, encounter end stage renal disease (ESRD) patients with many physical and psychosocial stresses that negatively affect their quality of life. There is growing recognition that self-care self-efficacy in chronically ill patient is associated with improvement of quality of life (QoL). This study thus was conducted to examine self-care self-efficacy and its relationship to quality of life in hemodialysis patients in South-East of Iran.

Method: Using translated FS36 and SUPPH, QoL and self-care self-efficacy of 60 hemodialysis patients in Pastor Hospital supervised by Bam university of Medical Science assessed. Data were analyzed using SPSS 16.

Results: In SF36, participants' general quality of life (mean=45.82, SD=19.06) as well as overall physical health (mean= 45.52, SD=19.26) and overall mental health (mean= 46.27, SD=19.72) were low. Descriptive analysis indicated that participants were moderately unconfident of being able to perform self-care behaviors related to the illness (mean=2.94, SD=0.69). The results indicated that there was a positive correlation between participants' quality of life and their self-care self-efficacy.

Significance of results: Findings from this study suggest that with the purpose of improving hemodialysis patients' QoL, health care professionals need to first identify patients who lack the self-care efficacy required to self-care, and then focus on specific educational interventions to build confidence in self-care during hemodialysis sessions.

KEY WORDS: Quality of life, self-care self-efficacy, hemodialysis, ESRD, South-East of Iran

INTRODUCTION:

End stage renal disease (ESRD) is “a progressive destruction of kidney function in which the body metabolism and water and electrolyte balance would be disturbed resulting in uremia” (Heidarzadeh et al., 2010).

ESRD is a major public health problem, because of high morbidity and mortality as well as significant social and financial burden of this disease (Heidarzadeh et al., 2010) and its increasing prevalence (Pakpour et al., 2010). The main treatment of ESRD is kidney transplantation, however in a world where there is still a significant shortage of renal donors, dialysis (hemodialysis (HD) or peritoneal dialysis (PD)) is by far the most common route of treatment (Atashpeikar et al., 2012). HD is an expensive and time consuming procedure that requires patients to follow a strict treatment schedule and fluid and dietary

restrictions so it accompanies wide range of life style changes (Moattari et al., 2012b, Ouzouni et al., 2009). Additionally, these patients encounter many physical and psychosocial stresses including hypertension, lack of appetite, anemia, sexual disorders, reduced or loss of financial income, social isolation, loss of sense of security, dependence on caregivers, etc (Moshtagh et al., 2013, Heidarzadeh et al., 2010). Although HD therapy prolongs patients' life, often there is a significant reduction in quality of life (QoL) of patients receiving HD (Sathvik et al., 2008). Quality of life "is demonstrated through the physical, psychological and social domains of health and appears to be influenced by a person's experiences, beliefs, expectations and perceptions" (Weng et al., 2010). Recently, an increasing amount of interest for improvement of QoL is observed in patients who suffer from chronic diseases, including those with ESRD (Theofilou, 2011). And large amounts of data in the recent decade demonstrate that health-related quality of life noticeably influences dialysis outcomes. Consequently, it is need to pay attention not only on how long but also on how well ESRD patients live (Peng et al., 2011). There is growing recognition that self-care in chronically ill patient is associated with improvement of quality of life (Seto et al., 2011, Heidarzadeh et al., 2010). Self-care is associated with several advantages, it improves coping with or adjustment to illness, increases sense of wellbeing, improves symptom control, decreases risk of complication, increases control and autonomy, increases functioning and finally enhances quality of life (Doran, 2010). High level of perceived self-care efficacy is related to more self-care practice (Doran, 2010). Self-efficacy theory is widely applied in predicting health related behaviors (Bandura, 1997) which is defined as "an individual's confidence in his/her ability to perform a specific behavior or task" (Ammentorp et al., 2007). Enhancing the perception of self-efficacy has a positive effect on an engaging in health-promoting behaviors, motivation, thinking style, and state of emotional wellness and coping with chronic physical illnesses (Akin et al., 2009). Self-care self-efficacy, is defined as "the confidence a person has in his or her ability to perform relevant self-care activities"(Chen et al., 2012).

Reviewing literatures indicated that, there are several studies regarded self-care self-efficacy and/or quality of life among patients receiving hemodialysis. Tsay and Healstead (2002) conducted a study to examine the relationships between self-care self-efficacy, depression and quality of life of 160 HD patients in Taiwan. They used Strategies Used by People to Promote Health (SUPPH) and the Quality of Life Index (QLI) to respectively assess self-care self-efficacy and quality of life of patients. They found that self-care self-efficacy is an important predictor of QoL in hemodialysis patients (Tsay and Healstead, 2002). Weng et al., (2010) explored the effects of self-efficacy and different dimensions of self-management on quality of life of 150 adult kidney transplant recipients in northern Taiwan. Using tow self-administrated questionnaire including self-efficacy scale, self-management scale as well as 36-item Short Form

Health Survey (SF-36) they found that Self-efficacy can improve self-management and will improve QoL of participants indirectly (Weng et al., 2010). Heidarzadeh et al., (2010) conducted a study to assess relationship between quality of life and self-care ability among patients receiving hemodialysis in three hospitals in North-West of Iran. Self-care ability examined by self-designed questionnaire and QoL assessed by SF36 quality of life questionnaire and Sweden health related quality of life questionnaire. Results showed that there are positive and significant relationship between quality of life and self-care ability (Heidarzadeh et al., 2010). Atashpeikar e al., (2012) carried out a study to assess self-care ability of 115 HD patients in three hospitals in North-West of Iran. Self-care ability was measured using a self-designed questionnaire and found that participants did not have adequate self-care ability (Atashpeikar et al., 2012). In the context of Iran no study was found to assess self-care self-efficacy and quality of life of patients receiving hemodialysis. This study thus conducted to examine self-care self-efficacy and its relationship to quality of life in hemodialysis patients in South-East of Iran.

Context

In Iran, which is seen as a developing country, the prevalence of ESRD is 360 per million populations (Rouchi et al., 2009). The prevalence and incidence rate of ESRD is principally increasing in recent years (Mahmoodi et al., 2012). The number of patients that need hemodialysis is increasing about 15% in Iran annually (Moattari et al., 2012a). According to Statistics of Iran Specific Diseases Center and Association of Kidney Patients Support, there are 267 dialysis centers in Iran (52 in Tehran and 215 in other cities) (Heidarzadeh et al., 2010). Unfortunately, we had not access to statistics related to ESRD and HD in South-East of Iran and particularly the study setting; the city of Bam. The city of Bam is located in a vast plain in the south-east of Kerman Province. The city is famous for its ancient architecture and the 2500 year-old Arg-e-Bam citadel. On 26 December 2003, the city of Bam, with a population of around 240000, was devastated by a 7.7 magnitude earthquake, resulting in the death of >40000 people, rendering 30000 injured, and leaving some 75000 people homeless (Who, 2004). A total of 18000 buildings (87% of all buildings), including 131 school buildings, and nearly every health care facility, were destroyed (Who, 2004).

METHODS:

Design

This is a descriptive, correlational study and was approved by Bam University of Medical Science. There was also an approval from the head of Pastor Hospital which is supervised by Bam University of Medical Science prior to the collection of data.

Background Information

First, a questionnaire was designed to obtain background information which was assumed to influence self-care self-

efficacy and quality of life of patients receiving hemodialysis in South-East of Iran. It was developed based on three categories including: (1) personal characteristics like gender, age, marital status, jobs and education level (2) ESRD related patient data such as duration of illness and underlying disease(3) and hemodialysis related patient data like duration of hemodialysis treatment and number of hemodialysis sessions per month.

Instruments

36-item Short Form Health Survey (SF-36)

To examine participants’ quality of life we used Iranian version of 36-item Short Form Health Survey (SF-36) (Montazeri et al., 2005). SF36 is a 36-item instrument and measures the following eight health concepts: physical functioning (10items), role limitations due to physical problems (4items), bodily pain (2 items), vitality (4items), general health perception (5items), social function (2items), role limitations due to emotional problems (3items), and mental health (5items). Scores for each category range from 0 to 100, and higher scores indicating better health status. In addition, the SF-36 provides summary scales for overall physical and mental health.

Strategies Used by People to Promote Health (SUPPH)

A Farsi-translated version of the Strategies Used by People to Promote Health (SUPPH) (Lev and Owen, 1996) was used to measure self-care self-efficacy among hemodialysis patients. Translated versions of this questionnaire widely have been used throughout the world including Turkey, Taiwan, Chinese, and Australia (Akin et al., 2009, Lev and Owen, 2001, Qian and Yuan, 2012, Graven et al., 2011). The questionnaire consisted of 29 items in three subscale including stress reduction (10 items: 1-10), making decisions (3 items: 11-13) and positive attitudes (16 items: 14-29). The questions are scored from 1 to 5 (1 =low confidence to 5 =very high confidence). An increase in score shows an increase in level of self-efficacy related to self-care behaviors. The questionnaire was translated by Royani et al., (2013) to Farsi by employing standard forward-backward procedure.

Validity and reliability

The validity and reliability of the SF36 was repeatedly checked in previous studies (Kitis et al., 2009, Machnicki et al., 2009, Madeley et al., 2012). Also in Iran several studies translated this instrument to Farsi and assessed its validity and reliability (Abaszadeh et al., 2009, Montazeri et al., 2005, Moattari et al., 2012b) and they found an acceptable validity and reliability.

The validity and reliability of the SUPPH was checked in previous researches in foreign countries (Akin et al., 2009, Graven et al., 2011, Moattari et al., 2012a) and in Iran (Royani et al., 2013) and they found an acceptable validity and reliability for SUPPH. We rechecked reliability of scale through alpha coefficients of internal consistency (n=20). The alpha Cronbach for SUPPH was computed 0.96. So translated scale presented acceptable reliability.

Data collection and analysis

After explaining the purpose of the study, the questionnaires were distribute by the second author to 60 patients with ESRD during receiving hemodialysis in HD center of Pastor Hospital for a three-month period (January to March, 2013). Participation in the study was voluntary and anonymous. Some oral information about the study was also given by the second author. Since, most of participants were illiterate or less educated questionnaire mainly completed with assist of second author. All of distributed questionnaire were returned and there were no drop out also all of questions were answered. Data from the questionnaires were analyzed using software Statistical Package for Social Scientists 16 (SPSS 16). Descriptive statistics were computed for the study variables. To examine the correlation between SF36 and SUPPH Pearson correlation coefficient was used. One-Way ANOVA was used to examine correlation between FS36 and SUPPH scores and some Background information including: age, employment status, education level, underlying disease, duration of ESRD, duration of dialysis treatment. To check the association between SF36 and SUPPH scores and gender in addition to marital status, Independent T-test was performed. The significance level considered at 0.05.

Table 1 Background information of participants

Variable	n	%
Age(years)		
20-30	7	11.7
30-40	13	21.7
40-50	12	20
50-60	13	21.7
60-70	15	25
Gender		
Male	35	58.3
Female	25	41.7
Marital status		
Single	7	11.7
Married	53	88.3
Employment status		
Unemployed	32	53.3
labor	21	35
Clerk	5	8.3
Others	2	3.3
Education level		
Illiterate	15	25
Primary school	17	28.3
middle school	14	23.3
Diploma	13	21.7
Academic education	1	1.7
Underlying disease		
hypertention	23	38.3
diabetes	13	21.7
Urinary stones	7	11.7
Diabetes and hypertension	13	21.7
Polycystic kidney disease	4	6.7
Duration of ESRD (years)		
01-May	40	66.7
05-Oct	18	30
Oct-15	2	3.3
Duration of dialysis treatment (years)		
01-May	46	76.7
05-Oct	11	18.3
Oct-15	3	5

Table 2 participants' quality of life (SF36)

SF36 Categories		Mean	SD	Minimum	Maximum
Physical health	Physical function	55.42	24.52	0	95
	Role physical	30	18.86	0	100
	bodily pain	35.72	24.94	0	87.5
	General health	42.08	24.06	0	90
	Total score	45.52	19.26	4.76	80.95
Mental health	Social function	50.62	25.77	0	100
	Role emotional	44.44	20.96	0	100
	Mental Health	49.16	22.19	0	85
	Vitality	41.87	22.11	0	81.25
	Total score	46.27	19.72	7.14	83.93
SF36' total score		45.82	19.06	5.71	80

RESULTS:

Participants

The sample consisted of 60 participants. A descriptive analysis of background information (Table1) reveals that the participants belonged to the age group of 20 to 70 years with a mean age of 50.86 years and were mainly males (58.3%), married (88.3%) unemployed (53.3%) and their level of education were less than diploma (illiterate: 25%, primary school: 28.3%, middle school: 23.3%). Hypertension was the most common underlying disease among respondents (38.3%) and most of them, between 1 to 5 years lived with ESRD (66.7%) and had received hemodialysis (76.7%).

Descriptive findings

As indicated in table 2, participants' general quality of life (mean=45.82, SD=19.06) as well as overall physical health (mean= 45.52, SD=19.26) and overall mental health (mean= 46.27, SD=19.72) were low. The lowest score in category of physical health belonged to role physical (mean= 30, SD=18.86) and the highest score belonged to physical function (mean=55.42, SD=19.26). In category of mental health the lowest and highest score respectively belonged to vitality (mean=41.87, SD=22.11) and social function (mean=50.62, SD=25.77).

Table 3 Participants' self-care self-efficacy (SUPPH)

SUPPH Categories	Mean	SD	Minimum	Maximum
Stress reduction	3.13	0.57	1.5	4.2
Making decisions	2.64	0.75	1.33	4.33
Positive attitude	2.88	0.84	1.18	4.31
SUPPH' total score	2.94	0.69	1.41	4.27

Descriptive analysis (Table 3) indicated that participants were moderately unconfident of being able to perform self-care behaviors related to the illness (mean=2.94, SD=0.69). The highest score of SUPPH belonged to category “Stress reduction” (mean= 3.13, SD=0.57) and the lowest one belonged to “making decisions” (mean= 2.64, SD=0.75).

Correlations

The results indicated that there was a positive correlation between participants' quality of life and their self-care self-efficacy (Table4). As indicated in table 5, quality of life had

significant positive correlation with age (p<0.0001), education level (p<0.0002) and underlying disease (p<0.02), likewise self-care self-efficacy had a significant positive correlation with age (P=0.0001) and education level (P = 0.001).

Table 4 Correlation between self-care self-efficacy and quality of life of participants.

	Pearson test	p-value
Quality of Life	r=0.9	<0.0001
Self-care self-efficacy		

Table 5 Correlation between participants' self-care self-efficacy as well as quality of life and Background information

Scales	Background information	
36-item Short Form Health Survey (SF-36)	Age	T**=9.259
	Underlying disease	T*= 3.007
Strategies Used by People to Promote Health (SUPPH)	Education level	T**=4.784
	Age	T**=0.853
	Education level	T**=5.324

*Correlation is significant at the level of p < .05.

**Correlation is significant at the level of p < .001.

DISCUSSION:

Quality of life and self-care self-efficacy are important indicators of the of healthcare treatment outcome. Yet, to the best of our knowledge, there are very few studies have been examined these tow topics and their relationship among patients receiving hemodialysis. Thus, the aim of this study was to assess self-care self-efficacy and quality of life of 60 patients receiving hemodialysis in South- East of Iran.

The results of this study revealed that quality of life of patients receiving hemodialysis was low (mean= 45.82, SD=19.06) and they mostly were suffering from role limitations due to physical problems (mean=30, SD=18.86). It is consistent with earlier studies which asserted hemodialysis compromise patients QoL (Pakpour et al., 2010, Theofilou, 2011, Landreneau et al., 2010, Baamonde et al., 2013, Mollaoğlu, 2013). Low QoL of participants might be due to their physical and psychosocial stresses that these patients usually encounter including hypertension, lack of appetite, anemia, sexual disorders, reduced or loss of financial income, social isolation, loss of sense of

security, dependence on caregivers, etc (Moshtagh et al., 2013, Heidarzadeh et al., 2010). Even though, long-term impacts of Bam earthquake on participants' quality of life should not be ignored. Older people are recognized as among the most vulnerable people in disasters. Not only because they trap more easily during earthquake but also elderly populations have significant co-morbidities that affect their coping with acute trauma and its long-term consequences (Ardalan et al., 2011). According to a study conducted by Ardalan et al.,(2011) five years after Bam earthquake, this disaster adversely affect survivors' psychological dimensions of QoL.

According to the findings, there is a significant negative correlation between QoL and age. It support the previous study (Tsay and Healstead, 2002) that found this correlation. Elderlies have to encounter many hardships in all of the life aspects (e.g. physical, psychological, and mental). It is therefore not surprising that getting older has a prominent effect on QoL. Likewise some other studies (Barbareschi et al., 2011, Burker et al., 2009), this study findings showed that, there is a significant positive correlation between QoL and education level in chronically ill patients. As Barbareschi et al., (2011) discussed; higher education level make individuals more capable to encounter stressful situations such as chronic illness, and can result in improved QoL. In addition, higher education level may facilitate patients' treatment adherence and influence subjective well-being consequently in can improve their QoL. The majority of underlying disease among this studies' participants was hypertension which has significant negative correlation with their QoL ($p=0.026$). Patients with hypertension that don't receive optimal treatment usually suffer from symptoms such as headache, dizziness, sleepiness which can negatively affect their QOL.

Results showed that participants were moderately unconfident to perform self-care behaviors related to the illness (mean=2.94, SD=0.69). Inconsistently, several studies reported higher level of self-care and/or self-efficacy among ESRD and hemodialysis patients (Tsay and Healstead, 2002, Heidarzadeh et al., 2010, Berns, 2010, Weng et al., 2010). Also there was a negative correlation between patients' self-care self-efficacy and their age ($P = 0.0001$). The reason for this correlation and moderately low level of self-care self-efficacy of participants may be due to specific Iranian culture and religious. The overwhelming majority of Iranians -at least 90 percent of the total population- are Muslims who adhere to Shia Islam. Islamic traditions stress admiring elderly people whether parents or others. There are several verses in the Quran stating that Muslims should show their honor and respect to the elderly (e.g. Verse 23 of Asra Surah, Quran). Therefore, elderly people are not redundant; rather, they are the most respected among family members (Obeidat, 2011). Likewise based on Iranian culture, elderlies must be respected, appreciated, served, and obeyed and they are privileged by a high position among the family members and, when they are in need, they find support from family members (Tajvar et al.,

2008). "There are also many poems and expression in Persian literature regarding the respected position of elderly in families and in the community as the builders of our past and the repository of life experiences." This religious and cultural background inspires Iranian younger people to take care of elderlies and mutually, arise the expectation for older ill people to seek care from younger people (Tajvar et al., 2008). Conclusively, for Iranian ill elderly people independence as well as self-care self-efficacy may not count a value, like in western countries.

The results of this study revealed a positive correlation between patients' self-care self-efficacy and their quality of life which support the finding of extended number of previous studies that reported positive correlation between self-care and/or self-efficacy and quality of life of chronically ill patients (Grady, 2008, Jaarsma et al., 2000, Britz and Dunn, 2010, Tang et al., 2008) including ESRD patients who receive hemodialysis (Tsay and Healstead, 2002). The reason behind this might be that self-care reflects a capacity and intention to adapt to a wide spectrum of limiting caused by ESRD and hemodialysis. Self-care behaviors take place in the context of attempts to maintain control of life and to do so with competence, self-reliance and self-efficacy. Individuals with higher self-care self-efficacy mobilize their personal and social resources proactively to sustain and enhance the quality and length of their life so they experience better quality of life (Abeles et al., 1994). This positive and significant correlation between patients' self-care self-efficacy and their quality of life shows the need for more attention to self-care self-efficacy in hemodialysis patients' QoL. Perform of successful behavior and maintain on it is in a line with self-care self-efficacy, conclusively it can improve patients QoL.

CONCLUSION:

In conclusion, in our study it was determined that, patients receiving hemodialysis in South-East of Iran do not have adequate self-care self-efficacy and they have poor quality of life. And it is revealed that patients with higher Self-care self-efficacy experience better quality of life. Hence, it is imperative that more attention is given to self-care self-efficacy to diminishing the need for health care, facilitating patients' treatment adherence, enhancing functional health status and quality of life of hemodialysis patients. Findings from this study suggest that with the purpose of improving patients' QoL, health care professionals need to first identify hemodialysis patients who lack the self-care efficacy required to self-care, and then focus on specific educational interventions to build confidence in self-care during hemodialysis sessions.

LIMITATIONS:

All data in this study were collected by use of self-report questionnaires. The dependence on self-report aspects in this study may have led to an overestimation of some of the findings due to variance, which is common in different methods. The study is based on a sample of all patients with ESRD that receive hemodialysis in HD center of Pastor

Hospital supervised by Bam University of Medical Science. The convenience sample of patients, which is not representative of all South-East Iranian hemodialysis patients, could limit the generalization of the findings. Exposure to earthquake is associated with multidimensional impairment of QoL. As a result, some variables including disaster exposer, post disaster support and other Bam earthquake related factors which could affect patients' quality of life and their correlation to QoL preferred to be assessed. In addition, in this study employed small group of patients so it is recommended that this research be replicated with a larger group to obtain more comprehensive information.

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