



## The relationship between emotional intelligence and quality of life hemodialysis patients

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### ABSTRACT

Hemodialysis treatment methods in patients with chronic kidney failure increase the life span of these patients, but hemodialysis affects all life aspects of patients and diminishes the quality of life patients. The aim of the study was to examine the relationship between emotional intelligence and quality of life for hemodialysis patients. This study was a descriptive – correlational research conducted in 2014 on 98 hemodialysis patients Referred to Hospitals of University Medical Sciences in Iran Iranshahr. The tools used in this study included demographic questionnaire, Cyberia Shrink Emotional Intelligence Questionnaire, and the Kidney Disease Quality of Life-Short Form Questionnaire. After obtaining informed consent, patient completed the questionnaire. Finally, raw data were collected through questionnaires and were analyzed using SPSS16 Software. To investigate the relationships between predictor and criterion variables, Pearson correlation and linear regression analysis were used. The mean age of patients was 33/36 and the majority of participants were male (58.1 percent). In terms of variable of education level, majority of participants had elementary education, and 54.54% of the mean weight of the patients was 41.06 kg. Mean score of life quality was  $41.06 \pm 15.95$  and the mean score of emotional intelligence was  $43.99 \pm 10.50$ . Pearson correlation coefficient with 99% probability confidence showed significant positive correlation between the components of emotional intelligence and quality of life in hemodialysis patients ( $p < 0.001$ ) and emotional intelligence with regression coefficient 0.412 predicts 30% of the variance of quality of life in hemodialysis patients. It is recommended for nurses and nursing directors to improve the quality of life hemodialysis patients by training emotional intelligence skills.

**Keywords:** chronic kidney failure, hemodialysis, emotional intelligence, quality of life.

### INTRODUCTION

Chronic kidney failure or kidney disease at the final stage is a chronic and irreversible disease [1]. In United States of America, nearly five hundred thousand people are affected with disease [2]. The rate of incidence of this disease is 242 cases per one million people in the world population and annually 8 per cent of these patients increase [3]. There are about 50 thousand kidney patients in Iran that nearly 29 thousand of them require dialysis and annually 1,500 of these patients lose their lives due to complications of the disease[4].

While hemodialysis increases life span of patients, it affects all aspects of natural life and creates many problems for patient, including hypotension, nausea and vomiting, sweating, seizures, and air embolism which may cause entry of air into the patient's vascular system [5]. Other complications of hemodialysis include restlessness, lack of control

over the treatment process, limited activity due to changes in diet, sleep disturbances, changes in body image, inability to work, inability to communicate with friends and family, mood changes, loss of social security, creating dependence on others changes, and change in quality of life [6].

People with chronic diseases compared with control group may experience more problems including low self-esteem, emotional and behavioral problems that chronic renal failure is not an exception in this regard. The incidence of chronic renal failure and treatment procedures, including hemodialysis, can create some complications for the patient, eventually leading to lifestyle changes, health status and his role in society and changes in quality of life [7].

Mental and social health of hemodialysis patients depends largely on the amount of stress. Mental pressures cause that dialysis patient to have no good mental status and mental problems and social isolation [8].

Chronic renal failure patients are treated to provide their health, while several physical, mental and social stressors affect them overshadowing the quality of life for dialysis patients. Thus, studying the concept of quality of life in hemodialysis patients by a nurse is a very important issue [9]. Quality of life is an important criterion assessing the effectiveness of health care and the impact of the disease on life of the person [10].

The World Health Organization defines quality of life as the person's perception and understanding of his living conditions in terms of culture and values of the society in line with goals, expectations, standards and interests of individuals [11].

Quality of life is a multidimensional and relative concept influenced by time, place and individual values [12]. Many social and cultural factors such as religious beliefs, social networks and relations between them and the physiological, behavioral, and emotional factors are involved in quality of life of chronic patients in critical condition [13].

The results of Mahmoudi *et al* [2004] suggest that the quality of life in hemodialysis patients is affected by cognitive and emotional processing [14]. Emotional intelligence is the kind of intelligence that involves the ability to recognize their own and others' feelings and emotions and use of them to make the right decisions in life [15]. In contrast, cognitive intelligence allows individuals to process information and it includes mainly knowledge, similarities and differences, inference and deduction [16].

From the perspective of Goleman [2001], emotional intelligence includes four skills of self-awareness, self-management, social awareness and relationship management [17]. Introducing emotional literacy, Salovey refers to five emotional intelligence skills:

1. Self-awareness: self-awareness means knowledge of self and the detection of emotions in the same way that they are,
2. Empathy: means sensitivity to the interests and feelings of others,
3. Managing emotions [self-control]: The control of emotions in a desired and appropriate way,
4. Self-management: selecting the goal,
5. Relationship management: establishing relationship surrounding people [18].

Goleman [2001] believes that shortcomings and weaknesses in the field of emotional intelligence is the cause of many emotional, social, and health problems in today's world [17]. High emotional intelligence is correlated with extraversion, flexibility, identifying different emotions and feelings and coordinating feelings and providing desired life [19].

People have different capacities on emotional intelligence, some have moderate and others have high capacities. Part of this innate capacity is acquired by experiences [20].

Research conducted by Yarahmadi *et al* in 2015 showed that there is a relationship between emotional intelligence and stress in hemodialysis patients [22]. Additionally, other studies also suggest a relationship between emotional intelligence and communicative function, depression, job satisfaction. According to what was said, the aim of the study was to "examine the relationship between emotional intelligence and quality of life for hemodialysis patients".

## MATERIALS AND METHODS

This study is descriptive – correlation research. The subjects of study included patients with end stage renal failure undergoing hemodialysis referred to hemodialysis departments of Khatam Alnbya Hospital of Iranshahr, Velayat Hospital of Sarbaz, and 22 Bahman Hospital of Nikshahr, Of Iran in 2014. Inclusion criteria for this study were: full consent to cooperate, older than 18 years and younger than 55 years, history of hemodialysis for at least 3 months, being in the list of weekly dialysis, and dialysis at least two times per week and 3 to 4 hours each time, having at

least the ability of reading and writing, lack of participating in emotional intelligence training programs in the past, lack of fever and thrombosis and bleeding.

The present study research proposal was approved by the Ethics Committee affiliated with Tehran University of Medical Sciences, that corroborated its ethical considerations (decree number: 91111960-112844), and the allowance by hospitals authorities and obtaining the written consent of patients, and ensuring them on protecting the information, patients completed the questionnaire of demographic information, quality of life, and emotional intelligence. Due to the small size of the study population, sampling was performed through census and available samples. Finally, 98 patients were included in the study. In this study, three questionnaires were used to collect data: demographic information and disease questionnaire, hemodialysis patients' quality of life questionnaire KDQOL-SF36 (kidney quality of life-Short Form 36), Cyberia Shrink Emotional Intelligence Questionnaire.

The demographic characteristics questionnaire includes cases such as age, sex, marital status, education, number of children, employment status, insurance type, duration of hemodialysis, etc. All information was completed using a case or asking question from patient. To determine the validity of this tool, content validity was used. Ten professors of Tehran University of Medical Sciences, School of Nursing and Midwifery confirmed it.

Quality of Life Questionnaire is used for assessing the quality of life hemodialysis patients. This questionnaire includes both general and specific dimensions consisted of 24 questions. The general dimension of quality of life includes the physical and mental component and eight areas. Public dimension areas include physical functioning, physical role-playing, physical pain, general health, general understanding of health, emotional reaction, and social performance and the impact of the disease on life and vitality [24].

Specified dimension includes symptoms, the effects of kidney disease, job status, changes associated with the disease, sexual performance, sleep status, satisfaction of staff. This questionnaire was translated by pakpour et al in 2009. Scoring in each option is a number between 0 and 100 in terms of the type of question and the positive and negative of each option. Two-option questions are scored with scores 0 and 100, three-option questions are scored with scores 0, 50, and 100, and four-option questions are scored with scores 0, 33.33, 66.66 and 100, five-option questions are scored with scores 0, 25, 50, 75, and 100 and six-option questions are scored with 0, 20, 40, 80, and 100. Question 23 has 7 parts and each part has 100 scores. The standard mean of life quality is 50 that mean lower and higher than 50 respectively indicate high and low performance. Reliability and validity of this instrument were approved in the year 2012 by Yekaninejad et al. The reliability of tool through Cronbach's alpha in the specified dimension was 0.71-0.96. For the general dimension, it was at the range of 0.73 to 0.93, indicating appropriate reliability of this tool. Additionally, interclass correlation coefficient was used to its validity that at the specified dimension, its range was 0.77 to 0.92, and it was 0.79 to 0.92 at the general dimension, indicating high validity of this tool.

Cyberia Shrink Emotional Intelligence Questionnaire: the original form of the questionnaire has 70 questions. In each question, a state of a situation in life is defined and subject should consider himself in that situation and select an option among the options that is more compatible with his mental states (25). A number of test questions were eliminated due to lack of match with culture of our county. Finally, 33 questions were included. Components and questions related to dimensions of emotional intelligence included: self-motivation, (questions 20-21-26-31), self-awareness (question 33-32-27-24-14-12-10-6), self-control (questions 30-23-18-16-11-5-2), social awareness (questions of 29-25-22-17-4-3), and social skills (questions 28-19-13-8-7)[26].

Answers are graded based on the Likert scale of 5 points: Always = 1, often = 2, sometimes = 3, rarely = 4, and never = 5. In addition, scoring the questions 33, 31, 28, 22, 20, 18, 14, 13, 12, 9 and 1 is opposite (ie never = 1, rarely = 2, etc.). The highest score in this test is 165 and the lowest score is 33. Mansouri (2001) in his master's thesis standardized this test and obtained internal consistency of this scale through Cornbrash's  $\alpha = 85\%$  that is acceptable. In investigating the construct validity of test, correlation of scores of the subjects in this test was examined in 30 samples according to Self Esteem test of Copper Smith that was desired evidence of construct validity of the test [26].

The raw data were extracted through questionnaires and were analyzed using SPSS 16 software. To investigate the relationships between predictor and criterion variables, Pearson correlation and linear regression analysis were used.

## RESULTS

In analyzing the demographic characteristics of the study sample results showed that The mean age of patients was 36/33 year and the majority of participants were male (58.1 percent). In terms of variable of education level, majority of participants had elementary education (54.54%), and 63.28% of them were unemployed, 71.46% were from Iranshahr. Moreover, 87.15% of participants have announced their income insufficient, and mean weight of patients 41.06 kg. Results of mean and standard deviation quality of life scores at the specified and general dimension are shown in Table 1.

**Table 1: Mean and standard deviation scores for quality of life patients**

mean±SD	quality of Life dimensions
	Specified dimension
56.20 ± 13.02	Signs and symptoms
31.30 ± 13.48	Kidney diseases effects
26.16 ± 29.95	job
42.88 ± 15.65	Cognitive status
50.56 ± 15.65	Sleep status
36.89 ± 17.05	Social support
36.96 ± 8.77	Satisfaction with disease
52.39 ± 18.34	Satisfaction with staff
42.83 ± 9.89	General health
38.71 ± 14.49	Social interactions
	General dimension
42.28 ± 13.26	Role-playing
74.31 ± 20.05	Physical performance
52.76 ± 18.72	Physical pain
38.06 ± 14.16	General health
35.79 ± 11.65	Happiness and vitality
31.80 ± 9.75	Social performance
21.50 ± 20.22	Emotional role-playing
52.18 ± 22.41	Sexual function
41.06 ± 15.95	Total score quality of life

Based on results of this study, as shown in Table 2, according to the coefficient of correlation and their significance level, with a probability of 99% confidence, it can be concluded that there is significant positive correlation between components of emotional intelligence, including self-awareness ( $r = 0.552$ ), self-control ( $r = 0.239$ ), empathy ( $r = 0.496$ ) self- motivation ( $r = 0.405$ ), and social skills ( $r = 0.633$ ) and quality of life in hemodialysis patients ( $p < 0.001$ ) (Table 2).

**Table 2: Pearson's correlation coefficient between emotional intelligence components with the quality of life patients**

emotional intelligence components	Mean and SD	correlation coefficient with the quality of life	p-value
self-awareness	48.11 ± 43.96	0.552	0.0001
self-control	37.71 ± 11.67	0.239	0.003
empathy	40.98 ± 10.94	0.496	0.001
self- motivation	48.20 ± 8.82	0.405	0.007
social skills	49.63 ± 10.60	0.633	> 0.001
total emotional intelligence	43.99 ± 10.50	0.412	0.001

Table 3 shows results of linear regression analysis based on prediction of emotional intelligence and the quality of life. According to Table (3), emotional intelligence and regression coefficient 0.412 predicts 30% of the variance in the quality of life in hemodialysis patients and  $f$  is significant  $p < 0.001$ .

**Table 3. Linear regression analysis based on the predictor variable of emotional intelligence and quality of life**

Predictor variable	F	P	R	R <sup>2</sup>	β	T	P
Life quality	18.03	0.000	0.412	0.306	0.55	4.24	0.000

## DISCUSSION

The present study was conducted to investigate the relationship and predict the quality of life in hemodialysis patients based on emotional intelligence. This study showed that emotional intelligence is generally positive and significant predictor of quality of life. The results are in line with the results of research conducted by Downey [2008] on the depression of 250 students in Romania [27], the study conducted by Ciarrochi *et al.*, [2003] on 302 students showed that people who have higher emotional intelligence cope with life's problems easier and have a higher quality of life [28]. It is also consistent with results of research conducted by Furnham [2007] and Yousephe

et al [2010] in Iran in which results showed a positive relationship quality of life and emotional intelligence of students, is consistent, so that people who have higher emotional intelligence are adapted with life problems and have more life satisfaction [29, 30].

Yalcin study in Turkey on 32 diabetic patients revealed that emotional intelligence reinforcement increases the quality of life of diabetic patients [22].

The findings of the current study that showed relationship between social skills and empathy dimension of emotional intelligence with quality of life of hemodialysis people are in line with results of study conducted Ahmadi 2012. The results of this study showed relationship between the social relations and responsibility and the quality of life [31]. In this respect, the study of Bagheri et al. [2010] showed a relationship between social relations among nurses and their quality of life [32].

Ayranci study in the field of job and social performance in Turkey showed that people with high emotional intelligence are more successful in social relationships and job performance [33]. These findings are also consistent with the findings of studies that showed intimacy emotional intelligence intimacy increases empathy with others and improves the social relations among people [34].

Other findings of the study showed the relationship between self-motivation dimension of emotional intelligence and quality of life hemodialysis patients. These findings are also in line with Animasahun research conducted in 2008. Therefore, it can be said that people who have higher self-motivation have better life quality [35].

In addition, findings of the study showed relationship among the self-control dimension of emotional intelligence that is consistent with the result of study conducted by Murray [2003] [36].

Petrovici states that people with internal control have sufficient control over their own lives and have better performance in performing their tasks, and less influenced by others. They also consider high value for personal achievements and skills. They adopt high responsibility for their life. They hard-working people making effort to resolve their problems and they have desired level of life quality [37].

In addition to the above-mentioned findings, this research revealed relationship between self-awareness dimension of emotional intelligence and quality of life. This result is in line with result of study conducted by Sasse in 2013 and Klages in 2004 [38, 39].

Generally, in explaining these results, it can be said that emotional intelligence and the quality of life are two areas are linked with each other very closely that the problems of each of these areas can be passed on to other area that the results of the studies mentioned indicate this fact.

## CONCLUSION

The aim of treatment of patients undergoing hemodialysis is to increase the life span of them that this lifespan should have high quality. It is recommended that administrators of nursing to consider nursing educational and supportive programs and workshops, to hold educational courses and workshops in the field of emotional intelligence for nurses working in hemodialysis department, and increase their awareness about emotional intelligence. It is also suggested that future studies to conduct research on patients with other chronic diseases such as cancer and multiple sclerosis. In addition, it is recommended that the relationship between emotional intelligence and other aspects leaving chronic disease such as depression and anxiety and self-efficacy to be examined.

Some limitations of this study include low sample size and the location of its implementation that cannot be generalized its results to other cities of Iran. Therefore, it is recommended that this study to be conducted on higher number of population and in other Iranian cities.

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