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Distressing symptoms among Patients with Chronic Renal Failure Undergoing Hemodialysis and its relationship with Quality of Life

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ABSTRACT

Aims: Few studies have assessed physical and emotional distressing symptoms in patients with chronic renal failure undergoing hemodialysis. The aim of this study was to investigate distressing symptoms and its relationship with the quality of life of the patients, suffering from chronic renal failure undergoing hemodialysis.

Methods: In this cross sectional study, two hundred patients with chronic renal failure undergoing hemodialysis at four dialysis units in Karaj, in 2011 were interviewed and also their medical records were investigated. Sampling method was census sampling. The used instruments included; demographic data form, dialysis symptom index and World Health Organization quality of life (WHOQOL-BREF) questionnaire .Data were analyzed by SPSS software and using descriptive statistics, t-test, ANOVA and Pearson coefficient correlation.

Results: Findings showed that, the most common distressing symptoms was related to decreased interest in sex (87%), difficulty of becoming sexually aroused (81%), fatigue(68.5%) and bone or joint pain(57%) .77% had mild and 20.5% had moderate distressing symptoms severity. There were significant positive correlation between frequency score of distressing symptoms with age ($p<0.0001$) and negative and significant correlation with physical health ($p<0.0001$) social relationships ($p<-0.011$), mental health ($p<0.0001$), environmental health ($p<0.0001$) and total score of quality of life ($p<0.0001$). Distressing symptoms severity had significant positive correlation with age ($p=-0.006$) and negative correlation with physical health ($p<0.0001$) social relationships ($p<0.0001$), mental health ($p<0.0001$), environmental health ($p<0.0001$) and total score of quality of life ($p<0.0001$).

Conclusions: Hemodialysis patients experience many distressing symptoms that negatively affect their quality of life. Teaching self-care behaviors in order to reduce and control distressing symptoms can help to improve the quality of life in hemodialysis patients.

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1. Introduction

End-Stage Renal Disease (ESRD) is a stage, during that the kidneys are not able to do

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metabolic actions and maintain fluid balance and electrolytes and it ends to a dangerous and fatal situation named uremic [1].

More than fifty years ago, ESRD patients mostly passed away because of lack of appropriate treatment, [2].

But nowadays patients who suffer from chronic renal failure of execration of waste materials through dialysis could have longer life [3]. Despite that, dialysis have increase of survival of patient, but these patients experience some symptoms during their disease, which affect their family and personal quality of life [4] and expose them to morbidity and mortality [5].

Results of Caplin's study indicated that 82% hemodialysis patients complained fatigue, 76% hypotension, 74% cramp, 63% confusion, 52% itching, 51% lumbago, and 50% fatigue.

23% of patients experience distressing symptoms during dialysis, 34% at the time of backing to home, 16% bedtime, 24% in the morning, and 3% before the next dialysis [6].in the study of Murtagh, 76% energy decrease, 74% itching, 65% confusion, 61% Asthma, 57% edema,53% pain, 50% xerostomia, 50% muscular cramp, 48% restless legs, 47% loss of appetite, 44% reduced concentration, 42% skin dryness, 41% sleep disorder, 35% constipation, were the most distressing symptoms in hemodialysis patients [7].

Nowadays, improvement of quality of life with the maximum performance and sense of well-being, ability of doing different daily activities and decrease of affecting factors of this disease on quality of life are included the main aim of treatment.

Quality of life is a multi-dimensional, relative content, which is affected by time and place and personal and social values [8]. Patient with the same clinical conditions report different quality of life, so evaluation of patients' quality of life help treatment staff to understand the way of patients' understanding of health, ability to perform and the sense of well-being and to pay attention to treatment methods of promoting patients' quality of life [1].

There are little studies about emotional and physical distressing symptoms in patients with chronic renal failure undergoing hemodialysis. Diagnosing distressing symptoms in hemodialysis patients is necessary in designing care program and education based on patients' need, with the aim of dealing with distressing symptoms and promoting patients' quality of life.

So the present study had been done with the aim of diagnosing distressing symptoms in patients with chronic renal failure undergoing hemodialysis and its relationship with quality of life.

2. Methods

It was a sectional study, that its statistical population was all the patients with chronic renal failure, referring to hemodialysis units of Shahid Rajayee, Shahid Bahonar, Shariati, Tamin Ejtemayee of Alborz in Karaj in 2012. Sampling had been done with census method. Patients with emergency hemodialysis, experience of hemodialysis less than one year, lack of interest in participating in the study, lack of complete consciousness were excluded from the study.

Data had been collected by individual interview method. Used tools in this study were demographic form, dialysis symptoms index, and global organization questionnaire for quality of life.

Also some information, such as; laboratory parameters were excluded from patient's medial recording. Data collection tools included two parts.

A: dialysis symptom index had been designed by Weisbord in 2004.

This tool evaluates 30 mood and physical symptoms in two symptoms frequency in the form of yes (1), no(0) and severity of the signs in the form of rarely (1), sometimes (2), most of the times (3), always (4), during the last one month.

The frequency score range of symptoms is from 0 to 30 scores and the severity scores range of

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the symptoms is from 0 to 120 scores. Ansouz reported internal consistency of this tool 0.83 [9, 10].

B: quality of life had been assessed by the shortened form of world health system questionnaire for quality of life of WHOQOL-BREF, which is driven from WHOQOL-BREF questionnaire.

This questionnaire is translated to different languages like Persian and its validity is confirmed.

This tool includes 26 questions that evaluate the areas of physical health (7 questions), psychological health (6 questions), social relationship (3questions) and environmental health (8 questions) with 24 questions by the help of 5-point Likert scale from 1 to 5. 2 questions did not belong to any areas and measures the situation of quality of life and health totally; the range of the questions was 4-20, that 4 indicates the worst and 20 indicates the best situation.

Validity and reliability of Persian translation of this questionnaire had been assessed by Nejat et.al in the population of Iran that the reliability of the questionnaire in internal coping dimension by Chronbach's alpha had been achieved higher than 0.77 and in re-test, reliability index of interclass correlation in the four areas had been achieved higher than 0.7 [11].

In the present study, in order to determine reliability coefficient of the questionnaires, re-test method had been used, that regarding this, questionnaires had been given to 10 hemodialysis patients in two stages with 10 days intervals and the achieved correlation of the two tests had been estimated, that for dialysis symptoms index (r=0.71) and for the questionnaire of quality of life (r=0.78) had been achieved.

Moral remarks of the present study had been observed in the form of taking permission from the authorities of hospital for doing the research, providing formal letter of introduction to the authorities of hospital, introducing researchers to the samples of the study and explaining aims and the method of doing work for every one of the people of the study, taking written consent from the people of the study for participating in the study and being free in order to withdraw from the continuous of the study, discrepancies with the customs of the society and ensuring the patients and authorities for announcement of results if they like.

In order to analyze data, SPSS statistical software, version 18 had been used. Data had been descripted by frequency distribution tables, average and standard deviation, and for analyzing data, Pearson correlation coefficient, t-test for independent groups, and ANOVA had been used. Significant level had been considered 0.05 in this study.

3. Results

200 patients participated in this study.The average age of the patients was 55.32±12.75. 50% were male, 30.5 illiterate and 47.5% housewives. 49% were suffering from diabetes and 24.5% high blood pressure and the average of the family income was 504.400±145.222 thousand Tomans per month.

The mean of hemoglobin level was 10.92±1.81 grams per liter, the average of BMI was 25.06±4.38 kg per square meter and the average of years of doing dialysis was 3.92±3.25.

There are frequency of distressing symptoms, average and standard deviation of frequency score of distressing symptoms, severity of distressing symptoms and different dimension of quality of life in table 1.

The most frequency of distressing symptoms was related to the decrease of sexual desires, which was 87%.

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From the approach of the severity of distressing symptoms, 2.5% did not experience any distressing symptoms, but 77% estimated the severity of the symptoms low and 20.5% estimated it average.

Table 1: Average and standard deviation, frequency level and the severity of distressing symptoms and different dimensions of quality of life in hemodialysis patients of Karaj in 2012.

Variable		Percent	Frequency	SE±Mean
Frequency of distressing symptoms				11.10±6.16
Severity of distressing symptoms				27.30±16.78
Quality of life	Physical health			2.91±0.48
	Psychological health			2.65±0.62
	Social health			3.07±0.44
	Environmental health			2.97±0.44
	Total score of quality of life			14.57±1.99
Distressing symptoms	fatigue	68.5	137	
	worry	55	110	
	anxiety	49	98	
	sadness	47	94	
	excitability	8.5	17	
	anger	55.5	111	
	decreased sexual desire	87	174	
	decreased sexual arousal	81	162	
	difficulty in falling asleep	43.5	87	
	shaking legs and kicking in sleeping	21.5	43	
	early awakening	28.5	57	
	skin dryness	37	74	
	skin pruritus	36	72	
	bone and joints pain	57	114	
	uscle cramps	50.5	101	
	tingling in legs	47.5	95	
	xerostomia	44.5	89	
	constipation	40.5	81	
	diarrhea	54	108	
	anorexia	13	26	
	nausea	28	56	
	vomiting	10.5	21	
	feet swelling	8.5	17	
	headache	8	16	
	dizziness	42	84	
	problem with focusing	24	48	
	asthma	23.5	47	
	chest pain	20.5	41	
	cough	11	22	

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Table 2: frequency score correlation of distressing symptoms and the severity of distressing symptoms with the variables of the study in hemodialysis patients of Karaj in 2012

Variable	Frequency of distressing symptoms		Severity of distressing symptoms	
	p	r	p	r
age	<0001	0.244	0.006	0.957
Income (thousand Toman)	0.882	-0.011	0.704	0.027
Years of being under hemodialysis	0.761	0.022	0.814	0.017
Hemoglobin	0.303	-0.073	0.206	-0.090
BMI	0.899	0.009	0.923	0.007
Physical health of quality of life	<0001	-0.429	<0001	-0.454
Social relationship of quality of life	0.011	-0.179	0.001	-0.228
Psychological health of quality of life	<0001	-0.412	<0001	-0.443
Environmental health of quality of life	<0001	-0.291	<0001	0.281
Total score of quality of life	<0001	-0.402	<0001	-0.419

As table 2 showed, the frequency score of distressing symptoms had positive and significant correlation with age (p<0001) and reverse and significant correlation with physical health (p<0001), social relationship (p<0.011), psychological health (p<0001), environmental health (p<0001) and the total score of quality of life (p<0001).

The severity of distressing symptoms had positive and significant correlation with age (p=0.006) and reverse and significant correlation with physical health (p=0.001), social relationship (p<0001), psychological health (p<0001), environmental health (p<0001) and the total score of quality of life (p<0001).

There was no relationship between frequency score of distressing symptoms and the severity of distressing symptoms with income, the years of being undergoing hemodialysis, hemoglobin level and BMI (p>0.05) (table 2).

In the present study, there was no significant statistical relationship between frequency and severity of distressing symptoms with gender, education and job (p>0.05).

4. Discussion

In the present study the most common distressing symptoms was sexual desire and arousal.

In the study of Asadifard 100% of the hemodialysis women had sexual function disorder that 39% of them had decrease of sexual desire and 62% had decrease of sexual arousal [4].

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In the study of Seethala 80% of hemodialysis women had sexual function index score less than 26.55 [12].

In the study of Hasanzadeh 92.5% of men had sexual dysfunction and 70.2% had decrease of sexual desire [13].

In the study of Malekmakan 87.7% of hemodialysis men had erection dysfunction [14].

Hormonal, vascular, neurotic and psychological factors, suffering from chronic diseases and drugs play role in appearance of sexual disorders among chronic renal failure patients.

In the present study most of the hemodialysis patients had feeling of fatigue.

Fatigue is the most common complain of hemodialysis patients, which decreases person's daily activity and quality of life [15], and increases the danger of emergence of cardio-vascular diseases and it is related to decrease of patient's survival.

Laboratory, clinical, personal and social factors are related to fatigue emergence [16]. Fatigue is among the problems that affect physical, mental, cognitive, emotional, and social function of a person and decreases the person's quality of life.

Control and treatment of anemia, control and treatment of depression symptoms, and exercises can be useful in decrease of patient's fatigue.

In the present study 57% of hemodialysis patients had bone and joint pain. In the study of Davison, 50% of patients complained of pain. 50.5% of cases had musculoskeletal pain and 32% of the patients used drug treatments for pain [17].

In the study of Claxton, 58% of hemodialysis patients had musculoskeletal pain and 45% of the patients that had pain used drug treatment for pain relief [18].

Pain is among the factors of patients' quality of life lowering [19].

In the present study, older patients experienced more and more severe distressing symptoms. This finding was along with the study of Merkus and Thong, which showed that severity and frequency of distressing symptoms in hemodialysis patients is more by aging [20,5]. But the results of the study of Caplin showed that younger patients are faced with more frequency and severity of distressing symptoms [6].

It seems that physiologic changes of the old ages, decrease of self-care ability due to physical, vision and hearing problems, appearance of chronic diseases such as; cardiovascular and respiratory diseases and blood pressure and diabetes are the reasons of frequency increase and increase of distressing symptoms severity with aging.

Results of the present study showed that distressing factors decrease quality of life of hemodialysis patients.

This result was in consistent with the study of Davison, which showed that distressing symptoms cause 46% change in psychological dimension of quality of life and 34% change in physiological dimension of quality of life [21]. Also results of the study of Thong and Davison and Merkus [22, 20, 5] were in consistent with the results of the present study.

It seems that distressing symptoms of disease in physiological (sexual disorder, fatigue and pain and …) and psychological dimension (excitability, sadness, anxiety and…) causes change of lifestyle, decrease of physical function and ability of doing personal , interpersonal and occupational duties, change in the role of being a spouse, being independent to others for doing self-care actions, appearance of financial and occupational problems, which decrease different dimensions of patient's quality of life.

5. Conclusions

Hemodialysis patients experience many distressing symptoms, which have negative effect on the quality of their life.

Teaching self-care behaviors, in order to decrease and control distressing symptoms can help in promoting hemodialysis patients'

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quality of life. Sectional collection of information was among major limitations of this study, because changes of distressing symptoms during different times before and during dialysis were not assessed.

It is suggested that other studies should be done in order to assess changes of distressing symptoms in different stages before and during and after dialysis, also there should be a study with the aim of comparing distressing symptoms in hemodialysis patients, patients of peritoneal and renal transplant.

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