

# A Survey on Relationships between Mental Health Related Factors (Stress, Depression, Anxiety) and Marital Satisfaction in Hemodialysis Patients

Seyed-Hoseein Salimi<sup>1\*</sup>, Ali Tayebi<sup>2</sup>

<sup>1</sup>Physical Fitness Research Center, Department of Psychology, Baqiyatallah University of Medical Sciences, Tehran, I.R. Iran

<sup>2</sup>Department of Nursing, Baqiyatallah University of Medical Sciences, Tehran, I.R. Iran

## Abstract

**Background and Aims:** The aim of the present study was to find the relationships between mental health component (depression, anxiety and stress) with marital satisfaction in hemodialysis patients.

**Methods:** 43 patients were recruited from the hemodialysis unit aged from 22 to 83. All the participants were requested to fill in the Depression, Anxiety, and Stress scale (DASS) and Enrich Inventory as well as a demographic Form.

**Results:** Results revealed that the majority of patients suffered from depression, anxiety and stress. Patients with severe to clinically symptoms of depression showed more marital conflicts including personality issues, communication, leisure activities, sexual relations, children and parenting, and total scores of Enrich. However, for anxiety and stress marital conflicts were found for children and parenting and sexual relation subscales.

**Conclusions:** This study showed that depression had the most significant influence on marital conflicts than anxiety and stress which should be considered in psychological support program for hemodialysis patients.

**Keywords:** Depression, Anxiety, Stress, Hemodialysis

## Introduction

It is reported that some psychological disorders such as depression are more common in hemodialysis patients. The term depression refers to a mood state or an illness diagnosed according to DSM IV criteria (1). Depression and anxiety are common in most physical problems such as hemodialysis (2-6) and low back pain (7) and increased more physical, mental health, and social problems. Lopes et al (2002) in a study covering 5,356 hemodialysis patients from different hospitals in the USA and Europe found that 20% of them showed depression (8). Cukor et al (2008) explained depression in patients treated with dialysis was a late event and should be concerned at least 2 years before renal replacement

therapy (RRT) (2). As Hedayati et al (2005) showed, the diagnosis of depression is associated with more hospitalization (9).

In addition, research showed that for patient with depression, as the duration of the hemodialysis increased, the rate of physical problems also increased (10). Aghanwa & Morakinyo (1997) in a studying comparing hemodialysis and orthopedics patients

### \*Correspondence:

Seyed-Hoseein Salimi, PhD  
Physical Fitness Research Center, Department of Psychology,  
Baqiyatallah University of Medical Sciences, Tehran, Iran.  
E-mail: seyhossalimi@yahoo.com

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with a healthy control group found that, according to DSM IV, hemodialysis patients significantly had higher psychiatric disorders (11). Soykan et al (2005) showed that end stage renal failure (ESRF) patients had sexual dysfunction disorders and comorbid depression (12).

To our knowledge, few studies examined the relation between depression and anxiety with employment in hemodialysis patients. Takaki and Yano (2006) reported that there were consistent association between depression, anxiety and employment (13). Njah et al (2001) found that decreasing order and pressure from environment cause life dissatisfaction (4).

Recent studies confirmed that chronic kidney disease strongly affects sexual function. Research found that marital discordance is more possible in couples with chronic diseases (5, 14). They concluded that all the kidney transplantation patients should be referred to psychological team for marital satisfaction consultation before operation. Lew-Starowicz and Gellert (2009) showed that anxiety in men and depression in women independently decreased the quality of sexual function (5). Moreover, researchers confirmed that marital conflicts may affect perception of couples towards illness and decrease the ability and self-esteem of the patient to comply with the renal replacement therapy (RRT) (3). Overall, low marital satisfaction has been associated with poorer health quality. In addition, chronic diseases put high strain on marital roles therefore spouses are more likely to accept a caregiver role which may result in depression and/or hostility. Conversely, good marital satisfaction may provide positive attitudes and warm intimacy for couples and enable them to adjust with the problems.

The main aim of the present study was to verify the level of mental health factors in kidney disease patients. In addition, the study attempts to find whether or not there are differences between patients with high scores in mental health problem (i.e.,

depression, anxiety, and stress) with patients in the normal group (low scores) on marital satisfaction.

## Materials and Methods

Participants were recruited from the hemodialysis unit of the Baqiyatallah Hospital in Tehran from March to September 2008. Subjects included 43 patients comprising 21 female and 22 male hemodialysis patients. The range of age was between 22 and 83 with a mean of 54 (SD = 14.79). All the patients had good orientation and had no other major medical and/or psychological problems and were willing to participate. Patients with major psychological or physical problems (i.e., psychiatric disorders, addiction, and major physical diseases) other than kidney diseases were excluded from the study. All patients were requested to fill in two self-report questionnaires including the Depression, Anxiety, and Stress Scale (DASS), and The Enrich Inventory as well as a demographic form. Cronbach's coefficient of 0.70, 0.66, and 0.76 were obtained for depression, anxiety and stress, respectively (Farsi version) (15).

The Depression, Anxiety, and Stress Scale (DASS) were used to measure depression, anxiety and stress. The DASS is a 21-items self-report inventory (short version) and developed by Lovibond and Lovibond (1996) (16). Each subscale was measured on a Likert scale scoring from 0 to 2. The lowest and highest scores range from 0 to 42. The DASS-21 is a 21-item instrument designed to measure the three negative states of depression, anxiety, and stress. The depression scale assessed dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest or involvement, anhedonia, and inertia. The anxiety scale assessed autonomic arousal, situational anxiety, and subjective experience of anxious affect. The stress scale assessed difficulty relaxing, nervous arousal, and being easily upset or agitated, irritable, or over-reactive and impatient. Lovibond and Lovibond suggested a cut off scores to categorize patients into normal (scores 0 to 9), mild (10 to 12),

**Table 1.** level of satisfaction in dialysis patients.

Variables	level of satisfaction (n)				
	Very much	moderate	little	very little	missing
<b>Socio-economic Satisfaction</b>	11	14	13	3	2
<b>Family satisfaction</b>	27	7	3	4	2
<b>Job satisfaction</b>	27	7	1	1	5
<b>Wellbeing at home</b>	25	7	3	6	2

moderate (scores 13 to 20), severe (scores 21 to 27), and extremely severe (scores 28 to 42) groups (16). The scales are useful to verify depression, anxiety and stress and have high internal consistency for each subscale, with Cronbach's alpha ranging from 0.73 to 0.81 (16).

The ENRICH inventory was developed by Olson and Colleagues as a self report measure of couple's marital satisfaction. The short form of the scale contains 47 items (17). The inventory is designed to identify couple relationships in several marital domains and comprises marital satisfaction, personality issues, communication, conflict resolution, financial management, leisure activities, sexual relation, children and parenting, family and friends, and religious orientation. Several studies confirmed the statistical characteristics of the inventory. Cronbach's coefficient of 0.62 to 0.94 and test-retest reliability with one week interval of 0.94 was demonstrated by Soleymanian (1994) (Farsi version) (18). The lowest and the highest row scores range from 47 to 235. The cut off scores of 41-60 is considered as the medium marital satisfaction and scores below and above this range show the low and high marital satisfaction levels, respectively. In order to show the level of marital satisfaction, the row scores are changed to t scores (normal curve) based on the scale's manual.

In addition, all the subjects were requested to fill in a demographic form which comprised of several items such as age, marital status, and satisfaction level in several domains including socio-economic, family, job domains, and wellbeing at home. Levels of satisfactions were assessed with self-rated questions scored from very little (1) to very much (4).

### Statistics

Data were analyzed using the Statistical Package for Social Sciences (SPSS) for windows. Non-parametric test, Spearman correlation coefficient, t test, and ANOVA were used.

## Results

With respect to sex, 21 patients were male and 22 were females. With respect to marital status, 3 were single, 32 were married, 1 was divorcee and 7 were widowed. In addition, data revealed that 9 subjects were unemployed, and 9 were employed, 10 were housewives, and 8 were retired.

The satisfaction levels of the subjects in several domains were evaluated and data showed that the majority of the subjects had high satisfaction in all domains including family, job, and wellbeing at home, except in socio-economic status where most

**Table 2.** The mean and standard deviation of satisfactions domains in dialysis patients (n =43).

Variables	Mean	SD
Age	54.00	14.79
Socio-economic Satisfaction	1.88	0.81
Family satisfaction	2.76	1.04
Job satisfaction	3.25	0.97
Wellbeing at home	2.59	1.05
Total scores of Enrich	160.39	25.04

of the patients had moderate satisfaction (Table 1). The mean scores and standard deviation for satisfaction domains were presented in Table 2. As Table 2 shows, the highest and the lowest mean scores were found for job satisfaction and socio-economic satisfaction levels, respectively.

Table 3 shows the mean and standard deviation of the psychological scales as well as the number

and percentages of the dialysis patients in DASS subscales. According to cut off scores for DASS-21 items, it appears that the mean scores of DASS subscales are in severe range (scores 7- 10). As table 3 shows, most of the patients are in groups of severe symptoms to clinical symptom in all three subscales (depression, anxiety, and stress). That is, 51.2% of patients showed either severe or clinically manifest depressive symptoms. Similarly, 44.2% also have severe to clinical manifest anxiety symptoms, and 60.5% of them also show severe to clinically manifest stress symptoms.

As table 2 shows, the total mean scores of Enrich is 160 (t score = 44). That is, the patients had relatively marital satisfaction level because t score between 40 and 60 is relatively marital satisfaction. In order to evaluate whether or not there were differences between those with normal scores in DASS with the group of patients with severe to clinically manifest symptoms scores in DASS in Enrich scale, analysis by t test was conducted between two groups comprising group with normal to mild scores (n =21) with the group with severe to clinically manifest symptoms

**Table 3.** The mean scores, SD and cutoff scores' groups of dialysis patients in DASS.

Variables	N	Mean	SD	cutoff scores' groups (n - %)				
				normal	mild	severe	extremely	clinical
							severe	symptoms
DASS								
Depression	41	7.19	5.68	18 (41.9)	3 (7)	10 (23.3)	3 (7)	9 (20.9)
Anxiety	43	6.30	7.46	20 (46.5)	4 (9.3)	10 (23.3)	4 (8)	5 (11.6)
Stress	43	8.47	6.13	14 (32.6)	3 (7)	11 (25.6)	5 (11.6)	10 (23.3)
					Total	43	21.95	14.95

**Table 4.** Analysis by t test between depression groups (normal and mild = 21, severe to clinically symptoms = 22) on enrich subscales' scores.

Enrich subscale	depression groups	M	SD	t	sig
Personality issues	Normal and mild	21.93	4.05	2.613	0.015
	Severe to clinically symptoms	18.00	3.74		
Communication	Normal and mild	33.71	5.07	2.812	0.009
	Severe to clinically symptoms	28.69	4.11		
Conflict resolution	Normal and mild	16.53	3.044	1.713	0.099
	Severe to clinically symptoms	14.38	3.595		
Financial management	Normal and mild	14.80	3.299	1.376	0.180
	Severe to clinically symptoms	13.38	1.805		
Leisure activities	Normal and mild	18.73	3.195	2.026	0.053
	Severe to clinically symptoms	16.69	1.843		
Sexual relation	Normal and mild	18.33	3.519	2.510	0.019
	Severe to clinically symptoms	15.33	2.425		
Children & parenting	Normal and mild	18.67	3.177	3.478	0.002
	Severe to clinically symptoms	14.38	3.330		
Family and Friends	Normal and mild	14.53	3.044	0.077	0.939
	Severe to clinically symptoms	14.45	1.695		
Religious orientation	Normal and mild	15.07	3.845	0.945	0.353
	Severe to clinically symptoms	13.77	3.345		
Total scores	Normal and mild	171.20	28.011	2.289	0.036
	Severe to clinically symptoms	146.88	11.765		

scores (n= 22). The results are shown in tables 4 to 7. With regard to depression scores in two normal and severe groups, we found that severe to clinically manifest symptoms group had lower scores in several Enrich subscales including personality issues, communication, leisure activities, sexual relations, children and parenting, and total scores of Enrich

( $P<0.05$ ) (Table 4). With regard to anxiety groups, analyses revealed no significant results between the two groups except for children and parenting ( $P<0.05$ ) Enrich subscale (Table 5). Again, for the stress scores, t test analysis revealed that only for the children and parenting, and sexual relation Enrich subscales ( $P<0.05$ ), (Table 6). However, for the total

**Table 5.** Analysis by t test between anxiety groups (normal and mild = 21, severe to clinically symptoms = 22) on enrich subscales' scores.

Enrich subscale	anxiety groups	M	SD	t	sig
Personality issues	Normal and mild	20.59	4.445	0.860	0.398
	Severe to clinically symptoms	19.10	4.149		
Communication	Normal and mild	32.00	5.646	0.911	0.371
	Severe to clinically symptoms	30.10	4.408		
Conflict resolution	Normal and mild	15.78	3.474	0.494	.625
	Severe to clinically symptoms	15.10	3.479		
Financial management	Normal and mild	14.39	3.165	0.626	0.537
	Severe to clinically symptoms	13.70	1.889		
Leisure activities	Normal and mild	18.22	3.282	1.109	0.278
	Severe to clinically symptoms	17.00	1.491		
Sexual relation	Normal and mild	17.78	3.388	1.754	0.092
	Severe to clinically symptoms	15.44	2.963		
Children & parenting	Normal and mild	17.83	3.434	2.284	0.031
	Severe to clinically symptoms	14.60	3.864		
Family and Friends	Normal and mild	14.56	2.064	0.165	0.870
	Severe to clinically symptoms	14.38	3.503		
Religious orientation	Normal and mild	13.94	4.291	-1.022	0.316
	Severe to clinically symptoms	15.40	1.713		
Total scores	Normal and mild	163.33	29.608	0.695	0.497
	Severe to clinically symptoms	154.50	11.879		

score of Enrich, significant differences were found for the personality issues, communication, sexual relation, children and parenting, and the total scores between the two groups ( $P < 0.05$ ) (Table 7).

## Discussion

Poor physical and mental health particularly depression and anxiety are more common in patients with chronic diseases and may increase patients'

tensions and stress. On the other hand, this situation may mitigate the physical and mental status of the patients and increased medication use. Emotional and physical symptoms are common complaints among the patients with hemodialysis. Similar to previous results (2, 4, 5), our results revealed nearly half of the patients had severe to clinically manifest symptoms in all psychologically domains; depression, anxiety, and stress.



**Table 6.** Analysis by t test between stress groups (normal and mild = 21, severe to clinically symptoms = 22) on enrich subscales' scores.

Enrich subscale	stress groups	M	SD	t	sig
Personality issues	Normal and mild	21.54	4.054	1.816	0.081
	Severe to clinically symptoms	18.64	4.217		
Communication	Normal and mild	33.46	5.190	2.232	0.081
	Severe to clinically symptoms	29.29	4.531		
Conflict resolution	Normal and mild	16.69	3.199	1.722	0.097
	Severe to clinically symptoms	14.53	3.399		
Financial management	Normal and mild	14.92	3.499	1.419	0.168
	Severe to clinically symptoms	13.47	1.767		
Leisure activities	Normal and mild	18.77	3.516	1.796	0.084
	Severe to clinically symptoms	16.93	1.710		
Sexual relation	Normal and mild	18.77	3.140	2.990	0.006
	Severe to clinically symptoms	15.36	2.790		
Children & parenting	Normal and mild	18.92	3.252	3.370	0.002
	Severe to clinically symptoms	14.73	3.305		
Family and Friends	Normal and mild	14.92	2.532	0.852	0.403
	Severe to clinically symptoms	14.08	2.532		
Religious orientation	Normal and mild	14.46	4.176	-0.004	0.997
	Severe to clinically symptoms	14.47	3.204		
Total scores	Normal and mild	170.44	29.488	1.815	0.088
	Severe to clinically symptoms	150.33	15.346		

Depressed patients significantly suffered from several marital satisfactions including personality issues, communication, financial management, leisure activities, sexual relation, and children and parenting domains. Overall, depressed patients have psychological problems in both family and social

interaction. However, similar results for the anxiety and stress were not repeated. That is, hemodialysis patients with high anxiety had problems only in children and parenting subscale of Enrich. In addition, patients with high stress showed problems in communication, sexual relation, and children and parenting Enrich subscales.

**Table 7.** Analysis by t test between DASS groups (normal and mild = 21, severe to clinically symptoms = 22) on enrich subscales' scores.

Enrich subscale	total score groups	M	SD	t	sig
Personality issues	Normal and mild	21.71	3.950	2.252	0.033
	Severe to clinically symptoms	18.23	4.086		
Communication	Normal and mild	33.71	5.075	2.812	0.009
	Severe to clinically symptoms	28.69	4.111		
Conflict resolution	Normal and mild	16.60	2.971	1.842	0.077
	Severe to clinically symptoms	14.31	3.614		
Financial management	Normal and mild	14.73	3.283	1.228	0.230
	Severe to clinically symptoms	13.46	1.898		
Leisure activities	Normal and mild	18.67	3.288	1.864	0.074
	Severe to clinically symptoms	16.77	1.739		
Sexual relation	Normal and mild	18.73	3.058	3.591	0.001
	Severe to clinically symptoms	14.83	2.443		
Children & parenting	Normal and mild	18.73	3.058	3.653	.001
	Severe to clinically symptoms	14.31	3.351		
Family and Friends	Normal and mild	14.87	2.356	0.863	0.397
	Severe to clinically symptoms	14.00	2.757		
Religious orientation	Normal and mild	14.60	3.888	0.210	0.836
	Severe to clinically symptoms	14.31	3.425		
Total scores	Normal and mild	171.30	27.933	2.317	0.034
	Severe to clinically symptoms	146.75	11.708		

These results revealed that depression had more impact on marital satisfaction than anxiety and stress in hemodialysis patients. In the first line, the most important impact on hemodialysis patients such as other chronic diseases is lowering mood state presented in depression. Perhaps, concept and meaning of hemodialysis for patients come to

believe that they should withdraw from their major social activities and they need more help over time. This may decrease their mood state and depress them. In a vicious cycle, depression may also affect their medical conditions (10) and make worse their psychological life (5, 11, 14). As Mittal et al (2001) reported our study supported the fact that the impact



of the mental health for the dialysis population may become blunted over time, as a useful psychological adaptation (6). More precisely, the patients need to shift to a new life style in their lives.

Due to depression and anxiety in patients with chronic disease, they also may experience social problems such as unemployed, unmarried, and having more negative indicators in their life styles (3) while, our results showed that patients with kidney diseases reported that they were well supported by their colleagues at work as well as by their family members. For this reason, hemodialysis patients showed more satisfaction in both family and job domains.

## Conclusions

Overall, the study revealed that dialysis patients are more likely to experience depression and lower marital satisfaction. It seems that dialysis strongly influences on hemodialysis patients' life styles. In conclusion, it seems that hemodialysis patients feel tired or depressed after treatments due to a significant psychological burden on them. To prevent this, we suggest that mental health program comprising adjustment techniques with the new life style should be presented for hemodialysis patients before the patients commence the medical process.

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## Conflict of Interest

None declared.

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