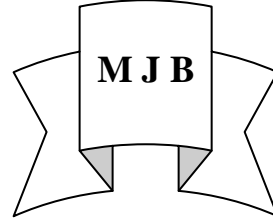


## Assessment of Depression for Adult Patients with Hemodialysis

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### Abstract

**Background:**-Hemodialysis is the most common method of dialysis. Hemodialysis is used for patients who are acute ill and require short-term dialysis (days to weeks) and for patients with End stage renal disease (ESRD) who require long-term or permanent therapy. A dialyzer (also referred to as an artificial kidney serves as a synthetic semi permeable membrane, replacing the renal glomeruli and tubules as the filter for the impaired kidneys. For patients with chronic renal failure, hemodialysis prevents death, although it does not cure renal disease and does not compensate for the loss of endocrine or metabolic activities of the kidneys. Treatment usually occurs three times a week for 3 to 4 hours per treatment. Patients receive chronic or maintenance dialysis when they require dialysis therapy for survival and control of uremic symptoms. The trend in managing End stage renal disease (ESRD) is to initiate treatment before the signs and symptom associated with uremia become severe.

**Methods:**-A descriptive study was carried out of Baghdad Teaching Hospital and Surgical Specialties Teaching Hospital from 6\4\2010 to 1\7\2011. A purposive "non- probability" sample of (50) patient with hemodialysis with criteria of the sample (adult patients and 18 years and above).questionnaire form was constructed for the purpose of the study.

Data were collected through the application of the questionnaire and interview technique. Validity of questionnaire was response through panel of (10) experts. Test- Retest reliability was determined through a computation of Pearson Correlations for the health problems assessment of depression scales ( $r=0.86$ ).

Data were analyzed through descriptive statistical approach (frequency, percentage and mean of score) and inferential statistical approach (chi-square, and correlation coefficient).

**Results:**-The findings of the study had revealed that most of patients with hemodialysis has mean age were (47.2) years and most of them from group (48-58) years (26%) and were males (64%) living in urban residence (94%), and they were married (88%). Most of them no read and write (22%) in the level of education with retired occupation (36%) and then barely sufficient (50%) for monthly income in spite of living in ownership house (78%).

**Conclusions:**-The study concluded that most of the study sample who suffering from depression were (middle age, males, married, secondary graduate, housewives, urban residence, and live in renter house). Although all the items of depression scale among moderate and high severity. The study concluded that there is a significant association at ( $P \leq 0.05$ ) between depression and educational level only.

### تقييم الكآبة للمرضى البالغين في الانغاذ الدموي

#### الخلاصة

**الخلفية:** الإنغاذ الدموي هو الطريقة الأكثر شيوعاً للإنغاذ. الإنغاذ الدموي يستخدم للمرضى الذين لديهم أمراض حادة والتي تتطلب إنغاذاً قصيراً (أيام إلى أسابيع) وللمرضى الذين لديهم أمراض بولية للمراحل المتأخرة والتي تتطلب مدة طويلة للعلاج. الإنغاذ يعني استخدام الكلية الصناعية المتكونة من غشاء شبه نفاذ اصطناعي يعيد ويصفي مثل كبيبات وأنايبب الكلى للكلية الضعيفة. أما للمرضى الذين لديهم أمراض بولية للمراحل المتأخرة فإن الإنغاذ الدموي يستخدم للوقاية من الموت ولكنها ليست لعلاج أمراض الكلى ولا يعوض عن

فقدان نشاطات الغدد الصماء أو الايض. العلاج يحدث غالباً ثلاث مرات في الأسبوع وكل جلست علاجاً تستغرق (٣-٤) ساعات. الإنفاذ يحافظ على بقاء حياة المرضى والسيطرة على زيادة أعراض السموم . تميل تدابير علاج الأمراض البولية للمراحل المتأخرة قبل ظهور العلامات والأعراض المتعلقة بزيادة السموم وقبل ان تصبح شديدة.

**الطرق:** -دراسة وصفية أجريت في مستشفى بغداد التعليمي ومستشفى الجراحات التخصصية التعليمي للفترة من ٢٠١٠/٤/١٦ إلى ٢٠١١/١١/٢٠. شملت عينة البحث (٥٠) مريض من الإنفاذ الدموي اختيرت بطريقة غرضيه (غير احتمالية) وحسب مواصفات العينة (المرضى البالغين من ١٨ سنة فأكثر). صممت استمارة استبانته لغرض الدراسة وجمعت البيانات بتطبيق استمارة الاستبانته وبطريقة المقابلة. تم تحديد صدق الأداة من خلال عرضها على (١٠) خبراء من ذوي الاختصاص ومن ثم تم تطبيق (الاختبار - وإعادة الاختبار) لتحديد ثبات الاستمارة من خلال حساب معامل الارتباط بيرسن ( $r=0.86$ ). وتم تحليل البيانات من خلال أسلوب الإحصاء الوصفي (التكرار، النسبة المئوية و الوسط الحسابي الموزون) والأسلوب الإحصائي الاستنتاجي (مربع كاي، ومعامل الارتباط).

**النتائج:** - وقد أظهرت نتائج الدراسة أن معدل عمر معظم مرضى الإنفاذ الدموي (٢ و٤٧) سنة ومن ضمن فئة (٤٨-٥٨) سنة واغلبهم من الذكور (٦٤%) الساكنين في المناطق الحضرية (٩٤%) ومتزوجون (٨٨%) وان اغلبهم يقرأ ويكتب (٢٢%) بالنسبة للمستوى الثقافي ومن المتقاعدين (٣٦%) ودخلهم الشهري بالكاد يكفي (٥٠%) رغم أنهم يسكنون في منازل ملك (٧٨%).

**الاستنتاجات:** -واستنتجت الدراسة أن الغالبية العظمى من عينة البحث يعانون من الكآبة (٧٦%) والأكثر معاناة هم من (متوسطي الأعمار، الذكور، المتزوجون، خريجي الدراسة الإعدادية، ربات البيوت، الساكنين الحضر في بيوت إيجار) وان غالبية فقرات مقياس الكآبة تتراوح بين الشديدة ومتوسطة الشدة وكذلك أظهرت الدراسة أن هناك علاقة أو دالة إحصائية تحت مستوى احتمالية خطأ ( $P \leq 0.05$ ) بين الكآبة والمستوى الثقافي فقط.

## Introduction

Hemodialysis is a method for removing waste products such as potassium and urea, as well as free water from the blood when the kidneys are in renal failure. Hemodialysis is one of three renal replacement therapies (the other two being renal transplant; peritoneal dialysis) [1].

Psychiatric evaluation of depression in medically ill patients using DSM-III-R or Research Diagnostic Systems has not been validated for this population. Diagnosis of depression has been especially problematic in patients with end-stage renal disease (ESRD). The study found a 17.7% prevalence of RDC-defined minor depression and a 6.5% prevalence of major depression in 124 ESRD patients treated with hemodialysis [2].

Vegetative symptoms of depression were less useful for discriminating between those with and without depression than were the psychological symptoms of suicidal ideation, depressed mood, and discouragement [3].

Abstract loss of interest in normal daily activities you lose interest in or pleasure from activities that you used to enjoy. Depressed mood, you feel sad, helpless or hopeless, and may have crying spells [4].

Sleep disturbances, sleep too much or having problems sleeping, waking in the middle of the night or early in the morning and not being able to get back to sleep, and impaired thinking or concentration. Trouble concentrating or making decisions [5].

Problems with memory (difficulty with short term memory) changes in weight, and an increased or reduced appetite [6].

Fatigue or slowing of body movements, feel weariness an lack energy, feel as tired in the morning, and have trouble getting out of bed [7].

Feel like you're doing everything in slow motion or you may speak in a slow, monotonous tone. Low self-esteem, feel worthless, excessive guilt, pessimism, poor self-esteem, and self-criticism are all common. Agitation you may seem restless, agitated, irritable and easily annoyed, and difficulty controlling your temper [1].

Physical complaints, such as gastrointestinal problems (indigestion, constipation or diarrhea), headache and backache. Many people with depression also have symptoms of anxiety [8].

Children, teens and older adults may react differently to depression. Kids may pretend to be sick, worry that a parent is going to die, perform poorly in school, and refuse to go to school, or exhibit behavioral problems [9].

Less interest in sex, thoughts of death, a persistent negative view of yourself, and your situation and future [10].

### **Patients and Method**

Descriptive study was carried out through the present investigation to achieve the aim of the study starting from the 6\4\2010 to 1\ 7\2011.

The study was carried out of Baghdad Teaching Hospital and Surgical Specialties Teaching Hospital.

Purposive (non-probability) sample of (50) adult patients who were attending outpatient department for hemodialysis.

A questionnaire was designed and constructed by the researcher to measure the variables underlying the study.

The questionnaire consisted (2) parts; first general information (8) variables such as (age, gender, marital status, educational level, occupation, residence, monthly income, and type of house). Depression Scale it consisted (21) items these items rated and scored as (3 for always), (2 for sometime), and (1 for never).

Low score= less than 31.5

Moderate score= 31.5- 52.5

High score= 52.5 and above

No depression= Less than 42

Depression = 42 and more

Data were collected through the utilization of developed questionnaire and interview technique for adult patients with hemodialysis. The interview with each patient took approximately (15-20) minutes.

Data collection carried out during April to December 2010.

The data were analyzed through the application of descriptive data analysis approach [frequency, percentage, mean of score (less than 1.5= low, 1.5 2.5= moderate and 2.5 and above= high)] and inferential data analysis approach (Chi-square and correlation coefficient).

The data were analyzed through the use of statistical package of social sciences (SPSS) version 10.0.

**Results**

**Table 1** distribution of demographic characteristics of (50) patient with hemodialysis.

Age	No depression F	%	Depression F	%	Total F	Total %
18-28 years	1	2	4	8	5	10
28-38	1	2	8	16	9	18
38-48	3	6	8	16	11	22
48-58	4	8	9	18	13	26
58-68	2	6	7	14	9	18
68 and above	1	2	2	4	3	6
Total	12	24	38	79	50	100
Gender	No depression	%	depression	%	Total F	Total %
Male	7	60	25	4	32	64
Female	5	30	13	6	18	36
Total	12	90	38	10	50	100
Marital status	No depression	%	depression	%	Total F	Total %
Single	2	10	4	2	6	12
Married	10	80	34	8	44	88
Total	12	90	38	10	50	100
Level of education	No depression	%	depression	%	Total F	Total %
No read and write	3	20	8	2	11	22
Read and write	2	10	6	6	8	16
Primary graduate	1	6	5	6	6	12
Intermediate graduate	2	8	4	4	6	12
Secondary graduate	1	10	6	4	7	14
Institute graduate	2	10	6	6	8	16
College and above	1	6	3	2	4	8
Total	12	50	38	38	50	100

This table revealed that the majority of age group were (48-58) years old with frequency 13(26%), and the mean of age were (47.2) year. The

most of the study sample were male 32(64%), although, most of them were married 44(88%), and they are no read and write 11(22%).

**Table 2** distribution of demographic characteristics of (50) patient with hemodialysis.

Occupation	No depression F	Depression F	Total F	Total %
Government officer	2	6	8	16
Free job	1	5	6	12
Retired	6	12	18	36
Housewife	1	6	7	14
Unemployed	2	9	11	22
Total	12	38	50	100
Residence	No depression	depression	Total F	Total %
Urban	11	36	47	94
Rural	1	2	3	6
Total	12	38	50	100
Monthly income	No depression	depression	Total F	Total %
Sufficient	1	7	8	16
Barely sufficient	6	19	25	50
Insufficient	5	12	17	34
Total	12	38	50	100
House ownership	No depression	depression	Total F	Total %
Ownership	10	29	39	78
Renter	2	7	9	18
Sharing	0	2	2	4
Total	12	38	50	100

This table revealed that the majority of the study sample were retired 18(36%), and most of them were living in urban residence and have barely sufficient in monthly

income 25(50%) in spite of living in ownership house 39(78%). Most of the study samples have depression 38 (76%).

**Table 3** Mean of score for the items of depression.

No.	Items	A	S	N	M.S	Severity
1	I feel sadness and misery to the extent that I can not afford	16	27	7	2.18	M
2	I feel that the future hopeless it and my life can not be changed by any amount of improvement	15	26	9	2.12	M
3	I am a person completely failed	9	13	28	1.62	M
4	I have a feeling dissatisfied and bored at all times	13	27	10	2.06	M
5	I feel guilty at all times	12	20	18	1.88	M
6	I feel punished and suffering in my life and I deserved it	8	24	18	1.80	M
7	I feel I hate myself	9	13	28	1.62	M
8	Blame myself for everything bad is happening	14	19	17	1.94	M
9	I want to cry	30	15	5	2.50	H
10	There is no longer something anger	17	18	15	2.04	M
11	I lost all interest in people and others	14	20	16	1.96	M
12	I will have capacity to take decisions	13	21	16	1.94	M
13	I think that my shape sicken for others	17	14	19	1.96	M
14	I can not work or accomplish anything at all	34	14	2	2.64	H
15	I am suffering from difficulty in sleep	32	16	2	2.60	H
16	I`m very tired and I could not do anything	33	15	2	2.62	H
17	I haven't appetite for food at all	29	16	5	2.48	M
18	I have concerned because of health status	41	9	0	2.82	H
19	Lost my interest in sexual matters entire	33	15	2	2.62	H
20	Loss from my weight	40	9	1	2.78	H
21	I`m thinking for death	36	11	3	2.66	H
	Total	465	362	223	2.23	M

This table shows that the high mean of score in items (9, 14, 15, 16, 18, 19,

20, and 21) and moderate on remaining items.

**Table 4** Association between the demographic characteristics (age, gender, marital status, educational level, occupation, monthly income, and house ownership) with depression.

depression \ age	Low	Moderate	High	Total	$\chi^2$ Obs.	C.S
18-28 years	0	2	3	5	11.37	N.S
28-38	2	6	1	9		
38-48	1	7	3	11		
48-58	0	6	7	13		
58-68	0	6	3	9		
68 and above	0	1	2	3		
Total	3	28	19	50		
Df=10		$\chi^2$ crit.= 18.30			p $\leq$ 0.05	
depression \ gender	Low	Moderate	High	Total	$\chi^2$ Obs.	C.S
Male	2	19	11	32	0.50	N.S
Female	1	9	8	18		
Total	3	28	19	50		
Df=2		$\chi^2$ crit.= 5.99			p $\leq$ 0.05	
depression \ marital	Low	Moderate	High	Total	$\chi^2$ Obs.	C.S
Single	0	5	1	6	2.14	N.S
Married	3	23	18	44		
Total	3	28	19	50		
Df=2		$\chi^2$ crit.= 5.99			p $\leq$ 0.05	
depression \ education	Low	Moderate	High	Total	$\chi^2$ Obs.	C.S
No read and write	0	4	7	11	26.28	S
Read and write	0	3	5	8		
Primary graduate	0	5	1	6		
Intermediate graduate	1	4	1	6		
Secondary graduate	0	6	1	7		
Institute graduate	0	5	3	8		
College and above	2	1	1	4		
Total	3	28	19	50		
Df= 12		$\chi^2$ crit.= 21.02			p $\leq$ 0.05	

This table indicated that there is no significant association between depression with (age, gender, and

marital status) and there is a significant association between depressions with educational level.

**Table 5** Association between the demographic characteristics (occupation, house ownership, and monthly income) with depression.

depression \ occupation	Low	Moderate	High	Total	$\chi^2$ Obs.	C.S
Government officer	2	5	1	8	15.03	N.S
Free job	0	6	0	6		
Retired	0	9	9	18		
Housewife	0	4	3	7		
Unemployed	1	4	6	11		
Total	3	28	19	50		
Df=8		$\chi^2$ crit.=15.50			p≤0.05	
depression \ ownership	Low	Moderate	High	Total	$\chi^2$ Obs.	C.S
Ownership	2	21	16	39	2.19	N.S
Renter	1	5	3	9		
Sharing	0	2	0	2		
Total	3	28	19	50		
Df= 4		$\chi^2$ crit.= 9.48			p≤0.05	
depression \ income	Low	Moderate	High	Total	$\chi^2$ Obs.	C.S
Sufficient	1	3	4	8	2.12	N.S
Barely sufficient	1	16	8	25		
Insufficient	1	9	6	17		
Total	3	28	19	50		
Df= 4		$\chi^2$ crit.= 9.48			p≤0.05	

This table indicated that there is no significant association between

depression with (occupation, monthly income, and house ownership).

**Discussion**

The results of the study revealed that the majority of age group were (48-58) years old with frequency 13(26%), and the mean of age were (47.2) year (Table 1).

This result agrees with other study in Mostar Bosnia which stated that the patients on hemodialysis were aged from 28 to 77 year, with the mean age of 56.2 ± 13.4 years [11].

The most of the study sample were male 32(64%), although, most of them were married 44(88%) (Table1).

This results agrees with other study in Spanish which indicated that men more than women (83 men and 69 women) receiving hemodialysis [12]. Another study reported that 88 patients

receiving hemodialysis were 62 men and 26 women [13]. Although married patients showed a lower percentage of depression, the lower depression percentage among married patients may be due to psychosocial support of the spouses [13].

Regarding to the level of education most of the study sample were no read and write 11(22%) and retired 18 (36%) (Table1).

This result agrees with other study which indicates that the patients with lower education level have inadequate coping patterns with hemodialysis that lead to depression [11].

The findings shows that the study sample were living in urban



residence and have barely sufficient in monthly income 25 (50%) in spite of living in ownership house 39(78%) (Table 2).

The decrease of depression accompanying an increase of avoidance-oriented stress coping was greater in patients with low income and in older patients than it was in the other patients [14].

The results indicated that the study samples were having highly level of depression 38 (76%). In addition, an assessment of war psych-trauma and its effects on the patients` depression levels was not carried out, although the recent war exerted strong effects on general population of the local community (Table 1 & 2).

Depression is common and associated with decreased health-related quality of life and increased mortality in hemodialysis patients [5].

The study in Bosnia recorded significantly prevalence of depression in patients on chronic hemodialysis (51.8%). These results indicate that patients on hemodialysis have a significantly higher level of depression [11]. Nearly 65% of hemodialysis patients had a depressed mood in Southern Taiwan [15].

Co morbid depression occurred in 63% of hemodialysis patients [16].

The findings of the study shows that the high mean of score in items {9 (I want to cry), 14 (I can not work or accomplish anything at all), 15 (I am suffering from difficulty in sleep), 16 (I `m very tired and I could not do anything ), 18 (I have concerned because of health status), 19 (Lost my interest in sexual matters entire ) , 20 (Loss from my weight), and 21 (I`m thinking for death) } and moderate on remaining items (Table 3).

Often chronic kidney disease on hemodialysis suffers from depression and loss of self-confidence [17].

Fatigue and depressive mood are the most significant symptoms experienced by patients with end-stage renal disease receiving hemodialysis in Southern Taiwan [15].

Sleep quality, sexual functioning, and cognitive functioning are quality of life dimensions impacted by daily hemodialysis [18].

Anemia and fatigue contribute to diminished physical and emotional well-being, lack of energy and drive and apathy [1].

Hemodialysis may be a risk factor for developing sleep disturbances [1].

Patients requiring long-term hemodialysis are often concerned about the unpredictability of the illness and the disruption of their lives. They often have financial problems, difficulty holding a job, waning sexual desire and impotence, depression from being chronically ill, and fear of dying. Younger patients worry about marriage, having children, and the burden that they bring to their families [1].

The results of the study indicated that there is no significant association between depression with (age, gender, marital status, occupation, monthly income, and house ownership) and there is a significant association between depressions with educational level (Table 4 &5).

The decrease in depression accompanying the increase in task-oriented stress coping was greater in highly educated patients than it was in the other patients [14]. Presence of depression was not related to age or gender [13].

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