AMERICAN UNIVERSITY OF BEIRUT

PREVALENCE OF DEPRESSION AND ANXIETY IN END-STAGE RENAL DISEASE PATIENTS UNDERGOING HEMODIALYSIS AT AUBMC

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A project submitted in partial fulfillment of the requirements for the degree of Master of Science in Nursing to the Rafic Hariri School of Nursing at the American University of Beirut

> Beirut, Lebanon May 2017

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Date of Project Defense: April 28, 2017

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ACKNOWLEDGMENTS

Special thanks are for Dr. Samar Noureddine (first reader) and Dr. Laila Farhood (second reader) for supporting, guiding and mentoring me. Also, for providing me with constructive feedback and helping me with editing and statistical analysis.

In addition, I would like to thank Mrs. Hanadi Mezher and the nurses on the hemodialysis unit for helping me in my interviews through being witnesses for illiterate/visually impaired patients, for approaching the patients to get their acceptance, and for helping me keep track which patients I still had to interview.

AN ABSTRACT OF THE PROJECT OF

<u>Victoria Gaby Semaan</u> for <u>Master of Science in Nursing</u> Major: Adult Care Track

Title: <u>Prevalence of Depression and Anxiety in End-Stage Renal Disease Patients</u> <u>Undergoing Hemodialysis at AUBMC</u>

End stage renal disease (ESRD) is a chronic disease that requires lifelong treatment. One treatment used for ESRD is dialysis, which puts the patients under multiple stressors that impact their physical, psychological and emotional capabilities. Depression and anxiety are common disorders in dialysis patients, affecting their quality of life, morbidity, mortality, and hospitalization stay. In Lebanon, studies concerning the prevalence of depression and anxiety in this population are scarce. The purpose of this study is to describe the prevalence of these disorders among patients receiving hemodialysis at the American University of Beirut Medical Center (AUBMC).

A convenience sample of 83 patients receiving hemodialysis at AUBMC, was recruited while undergoing their dialysis. Informed consents were obtained then patients were interviewed using the Hospital Anxiety and Depression Scale (HADS), in addition to demographic and clinical questions.

The sample included mostly married men over 60 years of age, with 60% from Beirut and 48% having at least high school education. The prevalence of depression and anxiety were 40.8% and 39.6%, respectively, with 20 patients (24.1%) having both conditions. Also, 24.1% self-reported having anxiety symptoms but only 2.4% were taking anxiolytics. Illiterate patients had significantly higher depression scores than those with higher levels of education (p = 0.021), but those who were working tended to have lower depression scores (p = 0.09). Patients who were living with their family had significantly higher anxiety scores than those living alone or with a maid (p = 0.014), but those older than 60 years tended to have lower anxiety scores (p = 0.09).

The findings suggest that anxiety and depression are underdiagnosed and undertreated in this sample. Since early diagnosis can help reduce the negative effects of anxiety and depression, the evidence provided supports the need for a psychiatric advance practice nurse, and/or psychologist/psychiatrist with the interdisciplinary team caring for dialysis patients.

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CHAPTER 1

INTRODUCTION

"End-stage renal disease (ESRD) is defined as kidney failure sufficiently severe to require maintenance dialysis or kidney transplantation to maintain health or life" (Feroze, Martin, Reina-Patton, Kalantar-Zadeh & Kopple, 2010, p.173).

Maintenance dialysis includes two main types: hemodialysis (HD) and peritoneal dialysis (PD). HD is a lifelong treatment that could sometimes affect patients physically and mentally (Kimmel, 2001) and is the most common dialysis treatment used for ESRD patients in Lebanon. In five years (2007-2012), thirteen new dialysis units were initiated in Lebanon and the number of hemodialysis patients increased by 33% from 2,400 to around 3,200 patients, corresponding to an increase in the prevalence of HD in Lebanon of over 700 patients/ million people (Lebanese Kidney Registry, 2013).

Patients with ESRD experience many debilitating symptoms, including fatigue, pruritus, insomnia and cramps. These symptoms affect adversely the quality of life of patients (Bossola et al., 2015; Ma & Li, 2016; Moledina & Perry Wilson, 2015; SuSeł et al., 2014). The World Health Organization (WHO) defines quality of life (QOL) as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns". The WHO considers it as a broad concept that is affected by each "person's physical health, psychological state, level of independence, social relationships, and relationship to salient features of their environment" (WHOQOL Group, 1993, p. 153). The diminished quality of life in chronic kidney disease patients could be attributed to a combination of multiple factors including social, psychological stress, physical

symptoms, and biological mechanisms. The combination of these factors made psychiatric illness very captivating for healthcare workers in ESRD patients because of its high association with morbidity and its effect on healthcare costs (Feroze, et al., 2010). The two most common psychiatric illnesses in this patient population were depression and anxiety (Cukor et al., 2008).

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), a major depressive disorder is defined as an illness that can affect how a person feels, thinks, and behaves contributing to feelings of sadness, loss of concentration, and loss of interest in daily activities that persists more than two weeks. On the other hand, a generalized anxiety disorder is defined as excessive worry, feeling of fearfulness, uncertainty and distress for at least 6 months that can get worse if not treated, causing significant impairment in daily functioning (American Psychiatric Association, 2013). Both disorders have a great effect in diminishing the quality of life of those affected.

1.1. Significance and Aims of the study

Studies in Lebanon about the prevalence of depression and anxiety in ESRD patients are scarce. Only one published study on hemodialysis patients in "Hotel Dieu de France Hospital" in Lebanon was done by Macaron and colleagues (2014) to study the prevalence of anxiety and depression symptoms, and suicidal thoughts in ESRD patients. The authors reported that 45% of the 51 patients undergoing hemodialysis had anxiety symptoms and 50% had depression symptoms. This high prevalence was similar to that reported in the literature (Murtagh et al., 2007; Preljevic et al., 2013; Teles, et al., 2014). Moreover, since the hemodialysis unit at the American University of Beirut Medical Center (AUBMC) was proposing to have a psychiatrist or a psychologist on

board with their team of nephrologists and other interdisciplinary health care members, this study will provide the necessary evidence to support the need of an expert in this field. Especially that ESRD is a lifelong disease that requires chronic treatment.

Hence, the aims of this study are to:

- Determine the prevalence of depression and anxiety in the ESRD patients undergoing hemodialysis at AUBMC.
- 2. Examine associations between anxiety and select demographic and clinical variables
- 3. Examine associations between depression and select demographic and clinical variables

CHAPTER 2

LITERATURE REVIEW

The literature on depression and anxiety in the general population is much more than what is found in patients with renal disease. The sections below review studies of anxiety and depression in patients with renal disease.

2.1. Depression in ESRD Patients

Depression is a worldwide illness affecting almost 350 million people (WHO Fact Sheet, 2016). The prevalence of major depression was 9.9% in a sample of 3000 civilians in Lebanon (Karam et al., 2008). More recent data from 991 civilians in South Lebanon show a prevalence of 14.6% (Farhood, Fares, Sabbagh & Hamady, 2016). Reliable data that can be used to compare the prevalence of depression between hemodialysis patients and the general population are still lacking given the different tools used to measure anxiety and depression in the various studies. However, there was a general agreement between investigators that the rate of depression was high among hemodialysis patients (Wang & Chen, 2012). A recent meta-analysis of dialysis patients by Palmer and colleagues (2013) found that the prevalence of depression differed depending on the methodology used to diagnose it. Therefore, it varied from 22.8 % when using an interview-based diagnosis to 39.3% when using a self-administered scale (Ma & Li, 2016; Palmer et al., 2013).

Depression is considered one of the most common complications of ESRD because of its association with increased mortality and decreased quality of life (Farrokhi, Abedi, Beyene, Kurdyak & Jassal, 2014; Teles et al., 2014). A study by

Hedayati et al. (2008) supported this relationship showing that depression was an independent predictor of prolonged hospital stay, morbidity, and mortality in ESRD patients. Also, depression was documented as an independent risk factor for nonadherence to treatment in patients on maintenance dialysis (Cukor, Rosenthal, Jindal, Brown & Kimmel, 2009). Patients with ESRD might have higher risks of depression-related mortality because of its association with comorbid conditions. However, after adjusting for these comorbid conditions, Farrokhi and colleagues (2014) found an independent association of depression with mortality in patients on dialysis. The magnitude of increased risk of mortality was 1.5 times higher in the presence of depression. Thus, depression may have a role in contributing to the poor outcomes that dialysis patients bear (Farrokhi et al., 2014).

The etiology of depression in ESRD patients is suggested to be associated with the elevated levels of pro-inflammatory cytokines, particularly tumor necrosis alpha and interleukin IL-6, which might be linked to cardiovascular side effects speeding the progression of the disease and the initiation of dialysis at a higher estimated glomerular filtration rate (eGFR) (Chilcot et al., 2008; Farrokhi, et al., 2014; Kimmel, 2001; Kimmel, Emont, Newmann, Danko & Moss, 2003; Sonikian et al., 2010; Taraz, Taraz & Dashti-Khavidaki, 2015; Tsai et al., 2012).

2.2. Anxiety in ESRD Patients

Anxiety was another common symptom observed among ESRD patients undergoing HD and PD and have shown marked decrease in QOL through increasing the burden of ESRD and dialysis (Cukor, Ver Halen & Fruchter, 2013; Kring & Crane, 2009; Macaron et al., 2014; Wang & Chen, 2012). A review of 55 research studies by

Murtagh, Addington-Hall and Higginson (2007) on the prevalence of anxiety symptoms in patients with ESRD found that 12% to 52% of these patients had anxiety. After one year, Cukor and his colleagues (2008) did a study on anxiety disorders in ESRD patients using the DSM-IV criteria. They reported a prevalence of 45.7% of diagnosed anxiety disorders from a sample of 70 patients (Cukor et al., 2007), which was similar to that reported by Murthagh et al. (2007). However, data are still infrequent about the rates of anxiety in HD and PD; also the impact of diagnosing it is still less studied among renal patients (Cukor et al., 2008; Kimmel, Cohen, Peterson & Cukor, 2006; Turkistani et al., 2014; Wang & Chen, 2012). According to Sareen and colleagues (2006), anxiety disorders are important public health problems and more efforts to recognize and treat them should be considered. They found that having anxiety disorders comorbid with other physical health conditions was associated with decreased quality of life, compared to having only physical conditions. The study done by Cukor et al. (2008) supported this finding, showing an association between decreased quality of life and anxiety. However, their study included a small sample recruited from only one center, so it was not representative of the whole population.

2.3. Co-occurrence of Anxiety and Depression in ESRD Patients

Moreover, studies on depression comorbid with anxiety in the hemodialysis population were also rare, especially the ones examining their association with quality of life (Cukor, Ver Halen & Fruchter, 2013; Preljevic et al., 2013). The first study to assess the relationship between depression and anxiety disorders together in dialysis patients was done by Preljevic et al. (2013), who reported that 22% of their sample of 109 patients suffered from a current depressive disorder, 17% suffered from a current

anxiety disorder, and 8.3% had depression with a comorbid anxiety disorder. Dialysis patients in this last category scored significantly lower on the Health Related Quality of Life (HRQOL) scale (mean = 31.7) compared to dialysis patients with no psychiatric disorders (mean = 57.7). Also, significantly lower scores were documented in two QOL domains (role limitations due to emotional and mental health problems) compared to patients with only depression (Preljevic et al., 2013). Preljevic et al. (2013) found that both anxiety and depression were associated with diminished HRQOL. Lower scores on HRQOL are also associated with mortality. Thus, both depression and anxiety disorders need to be addressed when treating dialysis patients since anxiety strengthens the negative relation between the quality of life and depression in this population (Preljevic et al., 2013).

As the disease progresses to requiring dialysis, patients start experiencing multiple losses including their kidney function, primary role in their family and job, physical function and mobility, tolerance to activities, and others. This change in the patients' way to control their life predicted more depression (Cvengros, Christensen & Lawton, 2005). Also, patients start experiencing multiple stressors like dietary limitations, recurrent hospitalizations, short life span confrontation, burden of debilitating illness (like anemia, bone disease, and others...) and treatment dependence (Chilcot, Wellsted, Da Silva-Gane, & Farrington, 2008; Feroze, et al., 2010; King-Wing Ma & Kam-Tao Li, 2016; Mitema & Jaar, 2016). These factors, in addition to the extra physical symptoms and workload that the ESRD patients usually bring to their family and friends, can all be major contributors to increase the rates of depression and anxiety, increase feelings of loss of control and poor adherence to treatment.

2.4. Under-recognition of ESRD Patients with Depression or Anxiety

Usually dialysis nurses and physicians (who are not psychiatrists) fail to recognize symptoms of anxiety and depression and thus these problems remain undiagnosed (Feroze, et al., 2010). The healthcare team in the dialysis unit should be able to identify high-risk patients in order to refer them to a specialist for formal assessment (Ma & Li, 2016). Moreover, diagnosed ESRD patients were found to be undertreated. In the study of Cukor and colleagues (2007), 71.4% of the patients with ESRD had a diagnosis of a psychiatric disorder based on the DSM-IV, and only 12% of those diagnosed with depression or anxiety received treatment. Another recent study that supported this was by Teles and colleagues in 2014, who found that the prevalence of depression symptoms in their sample of 96 hemodialysis patients was 42.7% but less than 20% of those received appropriate treatment. This suggests that anxiety and depression are under recognized and shows possible acceptance by physicians and other staff of these disorders as part of a dialysis patient's experience with ESRD (Cukor et al., 2007). This situation puts hemodialysis patients at risk for further morbidity and reduced quality of life.

2.5. Instruments used in Evaluating Patients for Depression and Anxiety

The gold standard for diagnosing psychiatric disorders in dialysis patients remains the Structured Clinical Interview for DSM disorders (SCID), which is preferably done by an experienced psychiatrist. Self-report scales usually lead to over-diagnosis because symptoms of ESRD, especially those associated with uremia, are very similar to those of depression and anxiety (Kimmel, Cohen, Peterson & Cukor,

2006; Ma & Li, 2016). However, they remain useful in identifying high-risk patients (Ma & Li, 2016).

In the literature, depression was studied more extensively than anxiety, and thus, good screening tools that screened anxiety were fewer (Cukor et al., 2008; Feroze et al., 2010; Wang & Chen, 2012). In choosing a particular screening tool for use in clinical practice, one should consider the sample that it will be used for, the way it will be administered, the overall time needed to score it, and its ability to detect depression alone or anxiety and depression together (Preljevic et al., 2012). In a study done by Preljevic, et al. (2012), the Beck Depression Inventory (BDI), Hospital Anxiety and Depression Scale (HADS-D), and the Cognitive Depression Index (to a lesser degree), have shown acceptable performances as screening instruments for depression in dialysis patients. Also, HADS-A, which is the other part of the HADS, was found to be an acceptable tool for anxiety in dialysis patients.

HADS was developed by Zigmond and Snaith (1983) as a self-report questionnaire that assessed current anxiety and depression disorders. It has 14-items; half of them related to anxiety disorders (HADS-A) and the other half to depression (HADS-D). The patients have to complete them in relation to what they have been feeling in the past week. The authors recommended cut-off scores ≥8 on both HADS-A and HADS-D (Bjelland, Dahl, Haug & Neckelmann, 2002; Preljevic et al., 2012; Zigmond & Snaith, 1983). However, in dialysis patients, Preljevic and colleagues (2012) found that to have a balance between sensitivity and specificity cut-off scores for depression and anxiety should be lower; around ≥7 for HADS-D and ≥ 6 for HADS-A. Their sample of dialysis patients performed acceptably better when using these lower cut off scores.

Both the Beck Depression Inventory (BDI) and HADS-D did not show any superiority in assessing depression. However, the HADS showed an advantage of covering the anxiety disorders as well. It is also a briefer (takes 2–5 minutes to complete) and easier tool than the BDI (Preljevic, et al., 2012). Its simplicity made it easier for literate people to have less problems completing it themselves, on paper or electronically (Stern, 2014). Moreover, it showed good psychometric properties in identifying depression and anxiety, and assessing their severity in somatic and psychiatric patients (Bjelland et al., 2002).

HADS concurrent validity showed medium to strong correlation of around 0.60 to 0.80 with other questionnaires such as the BDI, State-Trait Anxiety Inventory (STAI), Clinical Anxiety Scale (CAS), and Symptom Checklist 90 Scale (SCL-90) (Bjelland et al., 2002). It has also shown good internal consistency (Cronbach's alpha for HADS-A and HADS-D ranged from 0.67 to 0.93, mean = 0.82) in all of its different translations, which supported the robustness of this scale (Bjelland et al., 2002). Hence, HADS was chosen in several studies as an acceptable routine screening scale for assessing anxiety and depression in dialysis patients.

In conclusion, it is essential to identify correctly the psychopathological state of the patients so that appropriate treatment can be started (Cukor et al., 2008). Not treating these symptoms is a costly burden to dialysis patients with negative impact on physical and psychological levels (Chilcot, et al., 2008). Feroze et al. (2010) supported this idea by stating that "a team approach that includes psychologists, psychiatrists, or social workers is generally needed in order to identify, comprehensively diagnose, and treat these illnesses" (p.176). The current study is a first step in examining the problem of anxiety and depression among hemodialysis patients at AUBMC.

CHAPTER 3

METHODOLOGY

To answer the research questions of the project, we conducted a descriptive study using a convenience sample and survey methodology. The details of the methodology are described below.

3.1. Study Design and Setting

This is a cross sectional descriptive study selected to collect information on two common disorders (anxiety and depression) that cause major impairments in the quality of life of ESRD patients undergoing hemodialysis. This study took place in Lebanon and specifically in the American University of Beirut Medical Center (AUBMC). AUBMC is a major tertiary referral center and patients from all religious affiliations and from many regions in Lebanon (urban and rural) are admitted to it. Therefore, chronic ESRD patients undergoing hemodialysis at AUBMC constituted the target population for this study.

3.2. Participants

Ninety patients who were currently receiving hemodialysis were targeted in the dialysis unit at AUBMC. All consecutive patients who fit the study eligibility criteria were recruited between March 21 and April 19 using convenience sampling. To be eligible for this study, patients were selected if they were above 18 years of age, Lebanese citizens diagnosed with end stage renal disease and receiving chronic hemodialysis (i.e. at least one-month duration) at AUBMC, and able to understand

English or Arabic. Exclusion criteria included: major hearing impairments, dementia or any other mental impairment that might hinder the patients' ability to answer the questions, patients diagnosed with acute renal failure undergoing temporary dialysis and patients undergoing emergency dialysis. Of the 90 patients on hemodialysis, one had mental impairment, another was not Lebanese and three started dialysis treatment less than one month ago; thus 85 patients were eligible for inclusion in the study.

3.3. Measures

The prevalence of depression and anxiety was screened using the Hospital Anxiety and Depression Scale by Zigmond and Snaith (1983), which was found to be an acceptable instrument to screen current anxiety and depression disorders in dialysis patients. This instrument was translated into Arabic, French, German, Dutch, Hebrew, Italian, Swedish and Spanish (see Appendix). The Arabic version was found to be reliable and valid in Saudi Arabia and in the United Arab Emirates with a Cronbach alpha of 0.73 for HADS-A and 0.77 for HADS-D (Al Aseri et al., 2015; El-Rufaie & Absood, 1987, El-Rufaie & Absood, 1995; Terkawi AS, et al., in press). The HADS contains 14 items (7 addressing anxiety and 7 depression) and was scored according to Preljevic and colleagues (2012) recommendations for dialysis patients; ≥7 for HADS-D and score ≥6 for HADS-A, because it showed preferable balance of sensitivity and specificity in ESRD patients. Each item was scored on 4-point Likert scale with 3 as the highest extreme and 0 indicating absence of the symptom. Summative scores were used, with a maximum of 21 points for each of HADS-A and HADS-D.

In addition, data was collected from the patients about the following: age, gender, district, marital status, education level, working status, number of family

members in the household, medical and family history, drug history, time since dialysis initiation, and cause of chronic kidney disease if known (see Appendix). Patients were also asked if they received social support (emotional or financial).

3.4. Scoring

As per Zigmond & Snaith (1983), the HADS scale was scored for both disorders in terms of severity, where scores between 0-7 resembled normal cases, 8-10 borderline cases, and 11-21 abnormal cases {11-14: (Moderate); 15-21: (Severe)}. However, since the Preljevic et al. (2012) cut off scoring was used in this study, the normal and borderline criteria were changed to accommodate the new cut off points. For depression, 0-6 was considered normal, and 7-10 as borderline cases. For Anxiety, 0-5 was considered normal and 6-10 as borderline cases. The scores for cases (moderate and severe, were the same as what is recommended by Zigmond and Snaith (1983).

3.5. Procedure

The dialysis sessions for each patient were set on alternating days so some patients came on Monday, Wednesday, Friday and the others on Tuesday, Thursday and Saturday. Sundays were left for emergency cases. There were morning, noon, and evening sessions ending before midnight. The duration of the hemodialysis session varied between 3-4 hours. All patients were recruited in collaboration with the nurse manager of the dialysis unit while doing their routine dialysis session. If the patient was eligible for the study, he/she was approached by one of the nurses and informed about the study. Those who agreed to participate were then approached by the researcher who further explained the study and secured a written informed consent (see Appendix). If

the participant was visually impaired or illiterate, a nurse witness was present while obtaining the informed consent. Patients then were interviewed using the HADS scale, demographic and clinical questions. The same researcher interviewed all the participants in order to keep consistency in data collection procedure. Each eligible patient needed 15- 20 minutes to complete the study, including reading the consent form, answering the demographic and clinical questions, and the HADS items. Out of the 85 eligible patients who were approached, 2 refused participation in the study, leading to a final sample size of 83 patients; response rate 97.65%.

3.6. Ethical Considerations

Approvals from the Institutional Review Board of the American University of Beirut Medical Center (AUBMC) and from the AUBMC administration were granted. There was minimal risk expected from participating in this study since it was a descriptive study where only general information were collected from each patient about their symptoms and their current feelings in the past 2 weeks. Moreover, patients were participating voluntarily, therefore they could withdraw any time they wanted. Patients were represented as codes in the data set and no other identifying information was taken. Confidentiality was assured through keeping all the instruments and consent in a locked drawer in the primary investigator's office. Electronic data were saved on a password protected computer.

3.7. Statistical analysis

Statistical analysis was performed using the SPSS software version 24.

Demographic data was analyzed by using descriptive statistics that included both

frequencies/percentages and means and standard deviations depending on the level of measure of variables. Bivariate analyses comparing HADS scores by age, gender, marital status, level of education, time since diagnosis and comorbidities were done using t tests, ANOVA and Pearson r correlation coefficients depending on the level of measurement of the variables. Since the sample was relatively small, Mann Whitney U and Kruskal Wallis (non-parametric tests) were used to support the significance found by the t-tests or ANOVA respectively. The significance level used was set at alpha of 0.05.

CHAPTER 4

RESULTS

The final sample included 83 patients who were interviewed face to face while undergoing hemodialysis.

4.1. Demographic Characteristics of the Sample:

Table 1 shows the demographic characteristics of the sample. Out of the 83 participants, 50 (60.2%) were men, and the majority were over 60 years of age (73.2%), from Beirut (60.2%) and married (63.9%). Around half (48.2%) of the participants finished either their high school or a university degree, and 13.3% were illiterate. There were 65.1% of the participants who were living with 2 or more people in their household and 32.5% living with one person (usually a maid). Social support (emotional or financial) was available to 96.4% of the sample (See Table 1).

Table 1. Demographic Characteristics of the Sample (N = 83)

Variable	Frequency	Percent (%)
Age (Mean, Standard deviation)	67.96	16.08
Gender (Male)	50	60.2
Muhafaza		
Beirut	50	60.2
South Lebanon	18	21.7
Mount Lebanon	9	10.8
North Lebanon	5	6.0
Marital status		
Married	53	63.9
Widowed/Divorced	20/2	24.1/2.4
Single	8	9.6
Education		
High school and above	40	48.2
Elementary to Middle School	32	38.6
Illiterate	11	13.3
Living situation		
With 2 or more people	54	65.1
With one person	27	32.5
Working	23	27.7
Availability of social support	80	96.4
(emotional or financial)		

4.2. Clinical Characteristics of the Sample:

Table 2 shows the clinical characteristics of the sample. Most patients reported at least one co-morbidity, with the most frequently reported being hypertension (74.7%), dyslipidemia (41%), heart disease or diabetes mellitus (36.1%)

and thyroid problems (34.9%). Patients who self-reported having either anxiety or depression were 24.1% and 12% respectively. Patients who reported anxiety reported mostly inability to sleep at night. The use of anxiolytics was 2.4% and that of antidepressants was 12%. Most of the patients were more than three years on dialysis (44.6%) and the cause of renal failure varied between diabetes, hypertension, other factors (glomerulonephritis, familial...etc.) and 16.9% did not know the cause of their renal failure, mentioning that it either suddenly happened or the doctor never gave them a clear answer. See Table 2.

Table 2. Clinical Characteristics of the Sample (N = 83)

Variables	Frequency	Percent (%)
Comorbidities		
Hypertension	62	74.7
Dyslipidemia	34	41.0
Heart disease	30	36.1
Diabetes Mellitus	30	36.1
Thyroid	29	34.9
Arthritis	15	18.1
Stroke	12	14.5
Self-reported Anxiety	20	24.1
Self-reported Depression	10	12.0
Use of Anxiety Medications	2	2.4
Use of Depression Medications	10	12.0
Years on Dialysis		
1 month-1 year	15	18.0
>1 year- 3 years	31	37.3
> 3 years	37	44.6
Cause of Renal Failure		
Hypertension	25	30.1
Diabetes	17	20.5
Other	33	39.8
Don't know	14	16.9

4.3. Prevalence of Depression and Anxiety

In this study, the Cronbach alpha coefficient of the HADS-D and HADS-A were 0.82 and 0.76 respectively. Thirty-four (40.8%) participants scored above the cutoff for probable depression, and 33 (39.6%) participants scored above the cutoff for probable anxiety. Table 3 Shows the prevalence of anxiety and depression in our sample (N=83) divided according to the cutoff scores used by Preljevic et al. (2012).

Table 3. Prevalence and Severity of Anxiety and Depression (N = 83)

	Borderline Cases		Moderate Cases	Severe Cases	
			(Score 11-14)	(Score 15-21)	
	Anxiety cut off >	Depression cut	N (%)	N (%)	
	or = to $6 - 10 \text{ N}$	off > or = $7-10 \text{ N}$			
	(%)	(%)			
Depression	-	25 (30.12%)	3 (3.61%)	6 (7.23%)	
Anxiety	21 (25.3%)	-	9 (10.84%)	3 (3.61%)	

Depression and Anxiety were significantly correlated with each other $\hbox{(Spearman rho=0.412, p<0.001), and 24.1\% of the participants had comorbid anxiety $$\&$ depression. }$

4.4. Correlational Analyses

Depression scores were significantly lower in the groups with higher level of education (F=4.076, p=0.021). Using Bonferroni correction, the illiterate group was found to be significantly different from the other educational groups. Depression was found significantly lower in the higher education groups (mean= 4.79) than the lower education groups (mean= 9.18). On the other hand, the elementary to middle school and the high school and above groups did not differ significantly (Table 4). Results were also significant using the Kruskal Wallis test (p=0.024). See Table 4.

Table 4. Difference in Depression by Level of Education (N = 83)

Illiterate	Elementary &	High school and	F(2,80)	P-value
n =11	Middle School	above; $n = 19$		
Mean (SD)	n= 53	Mean (SD)		
	Mean (SD)			
9.18 (4.56)	5.23 (4.75)	4.79 (3.33)	4.076	0.021

In patients with probable depression, marginal difference was found by work status (p=0.09 by Mann Whitney U). Working patients had lower depression scores than non-working patients (mean= 4.39 vs. 6.13), though results did not reach significant levels. No other significant associations were found between depression scores and any other demographic variable, including gender, age, living condition, marital status, number of comorbidities, or perceived social support, nor any or clinical variable.

Anxiety was significantly associated with living situation. Patients who lived with two or more family members were significantly more anxious than those who lived alone or with a maid (Table 5). Mann Whitney test also showed significant difference (p-value = 0.014).

Table 5. Difference in Anxiety Scores by Living Situation. (N = 83)

Living alone or with 1	Living with 2 people or more	df	t	P-value
person n=29	n=54			
Mean (SD)	Mean (SD)			
3.66 (3.53)	5.89 (4.35)	68	-2.23	0.014

In patients with probable anxiety, marginal difference was found between lower anxiety levels in patients aged sixty years and older compared to their younger counterparts (4.64 vs. 6.41, p= 0.09). On the other hand, working status and the level of education showed no difference but the means were found to be lower as the level of education got higher. No other significant associations were found between anxiety and other demographic or clinical variables.

CHAPTER 5

DISCUSSION

This study was a first step in examining the problem of anxiety and depression among hemodialysis patients at AUBMC. The sample showed clinically significant levels of depression and anxiety, using the HADS tool, similar to the results found in literature by Preljevic et al. (2012). Two fifths of participants scored above the cut-off for probable depression (40.8%), which was slightly above the results found by two studies in Palmer et al.'s meta-analysis (2013) that used the HADS and reported a prevalence of 35% (Chen et al., 2010; Hsu, Chen & Wu, 2009). Macaron et al. (2014), in Lebanon, reported a slightly higher prevalence of 50% using the HADS-D scale; however, they had a smaller sample. This study showed that highly educated patients had lower levels of depression. This could be explained by the fact that educated patients have more resources available to help them cope with their illness. Two studies showed similar association of depression with lower educational levels (Araujo et al., 2011; Keskin & Engin, 2011).

The prevalence of anxiety in this study is similar to what was reported by Murtagh and colleagues (2007). Yet, Macaron et al. (2014), in Lebanon, showed a slightly higher prevalence of anxiety of 45% using the HADS-A scale compared to the current study. This study showed that patients who lived with their family members reported more anxiety than those who lived alone or with a maid. This may be due to the participants having family responsibilities or worrying about being a burden on their families.

Depression and Anxiety were significantly correlated with each other in this study (p < 0.001); this was similar to the findings by Rajan & Subramanian (2016) in Saudi Arabia. Comorbid anxiety and depression were in one fourth (24.1%) of this sample, which is more than what was reported by Preljevic et al. (2013) at 8.3%.

The findings of this study suggest that depression and anxiety are still underdiagnosed and undertreated. In fact, participants who self-reported depression symptoms (12%) reported taking an antidepressant, yet the HADS-D score suggested that 40.8% had probable depression. Moreover, although 24.1% self-reported anxiety, only 2.4% were taking anxiolytics and the HADS-A score showed 39.6% prevalence. The under-diagnosis of these mental health problems may be explained by the acceptance among physicians and other health-care workers in the dialysis unit of these symptoms as being part of the dialysis experience (Cukor et al., 2007; Teles et al., 2014). Patients with renal failure report fatigue, lack of appetite and energy and sleep disturbances that could be attributed to their uremia; yet these symptoms may also reflect an underlying depression that is then missed.

5.1. Comparing Results to Middle Eastern Studies using the HADS

The prevalence of probable anxiety and depression in this study was more than what was reported by Turkistani et al. (2014) in Saudi Arabia, who used the HADS in 286 ESRD patients undergoing hemodialysis. The prevalence of probable depression was 21.1% and probable anxiety was 23.3% in Saudi Arabia, which is almost half of the prevalence found in this study. However, this could be due to the difference in cutoff scores used, Turkistani and colleagues used the recommendations of Zigmond and Snaith (1983). Moreover, Turkistani et al. (2014) found that patients older than 40 years

were more likely to be diagnosed with anxiety than the younger patients. Our study found marginal significance with lower anxiety in patients 60 years of age and older (4.64 vs. 6.41, p < 0.09). The difference may be explained by the different age distribution in the two samples and the relatively small sample in this study.

Macaron et al. (2014), in Lebanon, reported a significant correlation between the presence of comorbidities and depression (p<0.026, OR=4) but no such association was found in this study.

The lack of significant association with gender and marital status was similar to the findings of both Turkistani et al. (2014) and Macaron et al. (2014).

5.2. Implications for practice

Around 40% of hemodialysis patients at AUBMC have probable anxiety or depression symptoms and 24% have both. HADS was used as a screening test, but the final diagnosis should be made by a mental health professional, as per the DSM V criteria. Identifying these patients will provide an opportunity to help them early in their problem. To confirm the diagnosis, a psychiatric mental health advanced practice nurse/clinical nurse specialist is recommended since he/she may be in the best position to assess, treat in collaboration with the multidisciplinary team, and follow these patients, especially that many of them may end up needing renal transplant, which is another challenging part of the ESRD patients' journey. Feroze et al. (2010) supported this by stating that a team approach that includes psychologists, psychiatrists, or social workers is needed to identify, comprehensively diagnose, and treat these illnesses.

5. 3. Limitations

Like any study, there were some limitations. The sample chosen was small and the data collected was from one center only. However, even though many people from the rural areas came to this hospital, there are only few who prefer to come this far to do a dialysis session when they can go to a center near them. Therefore, the results of this study cannot be generalized to all the hemodialysis population in Lebanon.

Another limitation was noted when discussing the interviews with the nursing staff. Many patients denied feeling frightened as if something bad about to happen in their future because they relied on God. On the other hand, nurses were stating that some of these patients seemed to be depressed and came often crying to the dialysis session, which is not in line with their answers. This discrepancy may have affected the results. Participants either had a fatalistic attitude accepting whatever comes, or may be their reliance on God reflects a normal coping pattern in the Lebanese/Middle East population.

Moreover, there were some challenges using the HADS since the questions had to be read out to the patient, explaining the different choices in order to make sure that the right category was chosen. This made patients overthink their answers rather than giving immediate ones, as the instructions to the questionnaire request.

Interviews are often used in the Lebanese population and are specifically appropriate in these participants who were tied to the dialysis machine during the interview. The Cronbach alpha coefficient of the HADS-D and HADS-A were 0.82 and 0.76, respectively in this study, suggesting it is an acceptable screening tool in this population.

5.4. Recommendations and Conclusion

There is a need to screen hemodialysis patients for anxiety and depression, as one third of the sample had borderline levels of these conditions based on the HADS scale. Thus, the findings support the need of a psychiatric advanced practice nurse or a psychologist and/or psychiatrist to be working with the multidisciplinary team caring for such population at AUBMC. A psychiatric clinical nurse specialist (CNS) can fill this role with the multidisciplinary team by assessing, collaborating and coordinating with the physicians, and doing routine check-ups on the progress of the treatment. Also, nurses can be trained to use this scale as an assessment tool to help monitor progression for anxiety and depression. Based on the score, the patients can be referred for further evaluation and management.

In conclusion, mental health should not be overlooked in this population of ESRD patients undergoing hemodialysis in order to gain an active patient-centered holistic approach to care. Not treating these symptoms increases the burden on the dialysis patients in terms of cost and quality of life. This will be in line with the mission and vision of AUBMC that supports "the delivery of exceptional and comprehensive quality care" to their patients. Hence, through initiating the right screening, diagnosis, and treatment those patients will have a chance to live with dignity while facing their chronic lifelong disease.

APPENDICES

Hospital Anxiety and Depression Scale (HADS)
This scale helps to know your feeling and describes your status in the past week. It is not required to think a lot.

D	A		D	A	
	11	I feel tense or "wound up":	<i>D</i>	11	I feel as if I am slowed down:
	3 2 1 0	 Most of the time A lot of the time From time to time, occasionally Not at all 	3 2 1 0		Nearly all the timeVery oftenSometimesNot at all
		I still enjoy things I used to enjoy:			I get a sort of frightened feeling like "butterflies" in the stomach:
0 1 2 3		 Definitely as much Not quite as much Only a little Hardly at all 		0 1 2 3	Not at allOccasionallyQuite oftenVery often
		I get a sort of frightened feeling as if something bad is about to happen:			I have lost my interest in my appearance:
	3 2 1 0	 Very definitely and quite badly Yes but not too badly A little, but it doesn't worry me Not at all 	3 2 1 0		 Definitely I don't take as much care as I should I may not take quite as much care I take just as much care as ever
		I can laugh and see the funny side of things:			I feel restless as I have to be on the move:
0 1 2 3		 As much as I always could Not quite as much now Definitely not so much now Not at all 		3 2 1 0	Very much indeedQuite a lotNot very muchNot at all
		Worrying thoughts go through my mind:			I look forward with enjoyment to things:
	3 2 1 0	 A great deal of the time A lot of the time From time to time, but not too often Only Occasionally 	0 1 2 3		 As much as I ever did Rather less than I used to Definitely less than I used to Hardly at all
		I feel cheerful:			I get sudden feelings of panic:
3 2 1 0		 Not at all Not often Sometimes Most of the times 		3 2 1 0	 Very often indeed Quite often Not very often Not at all
		I can sit at ease and feel relaxed:			I can enjoy a good book or radio or TV program:
	0 1 2 3	DefinitelyUsuallyNot oftenNot at all	0 1 2 3		OftenSometimesNot oftenVery seldom

Ho	spital Anxiety Depression Scale (HADS) من فضلك، قم بإختيار الإجابة المناسبة التي تناسب حالتك				
A	اشعر بالتوتر الشديد: • اكثر الاوقات • عدة مرات • احياناً • لا أشعر بذلك أبداً	3 2 1 0		D	أحس بأتني هامد (فاقد للطاقة) 3 • تقريباً في كل وقت 2 • في كثير من الأحيان 1 • في بعض الأوقات 0
D	أنا لا زلت أتمتع بالأشياء التي كنت أستمتع بها: • بالتأكيد، كما كنت • لبس تماماً • قليلاً • بالكاد	0 1 2 3		A	ينتابني نوع من الخوف مثل تعصيب بالمعدة: 0 • لا، على الاطالق 1 • احياناً 2 • كثيراً 3 • في أغلب الاوقات
A	أشعر بنوع من الخوف، وكأن شيئا مروّعاً على وشك الحدوث: • بالتأكيد، وبشكل سيء للغاية • نعم، ولكن أقل سوءاً • قليلاً، لكنه لا يقلقني • لا أشعر بذلك أبداً	3 2 1 0		D	لقد فقدت الإهتمام بمظهري: 3 بالتأكيد فقدت كل الإهتمام 2 أنا لا أهتم بمظهري كما يجب 1 قد لا أعتني بمظهري مثل السابق 0 أعتني بمظهري كما كنت سابقاً
D	أستطيع الضحك و رؤية الجوانب الممتعة في الأشياء:	0 1 2 3		A	أشعر باضطراب وعدم القدرة على الهدوء: 3 • في الواقع، كثيراً جداً 2 • في اغلب الاوقات 1 • قليلاً 0 • ابداً
A	تأتيني افكار مقلقة: الخالب الأوقات معظم الأوقات من وقت لأخر، ولكن ليس كثيراً احياناً	3 2 1 0		D	أنا أتطلع للأشياء من حولي باستمتاع: 0 بقدر ما كنت سابقاً 1 نوعاً ما أقل مما اعتدت على فعله 2 بالتأكيد أقل مما اعتدت على فعله 3
D	أشعر بالبهجة: ابداً ليس كثيراً في بعض الأحيان في أغلب الأوقات	3 2 1 0		A	ينتابني إحساس مفاجئ بالهلع: 3 • في الواقع، في كثير من الأحيان 2 • غالبا 1 • ليس كثيراً 0 • ابداً
A	يمكنني الجلوس براحة و الشعور بالإسترخاء: بكل التأكيد عادةً ليس كثيراً ابداً	0 1 2 3		D	يمكنني الإستمتاع بقراءة كتاب جيد أو مشاهدة البرامج التلفزيونية أو الإستماع إلى الراديو: • غالباً • في بعض الأحيان • ليس كثيراً • نادراً جداً

Patient Information:

1.	Age:	Year	rs	
2.	Gender:	□ Female	□ Male	
3.	District/Mouhafaz	za:		
		□ Beirut□ North	□ Mount- Le	ebanon □ South □ Nabatieh
4.	Number of housel	hold members	you currently	live with:
		\Box 0	□ 1	☐ More than 2
5.	Do you have some	eone (or more)	that provides	you with social support?
		□ Yes		\square No
6.	Marital Status:			
		\square Single		\square Widowed
		☐ Married		□ Divorced
		☐ Others, spe	cify	
7.	Education Level:			
		☐ Illiterate (de	oesn't know h	ow to read and write)
		\square Completed	Elementary or	can read and write
		\square Completed	middle school	/Brevet or BT
		\Box Completed	high school	
		\Box Completed	Technique Su	perior (TS)/ License Technique
		□ Completed	a Bachelor of	Sciences/Arts (BS/BA)
		☐ Completed	a Master's De	gree and above
8.	Currently workin	g:		
	•	□ Yes		\square No

7. Tast Meur	ai mstory.	
	☐ Diabetes Mellitus	☐ Dyslipidemia
	☐ Hypertension	☐ Heart disease
	☐ Stroke	☐ Liver disease
	☐ Thyroid disease	☐ Arthritis
	☐ Cancer	☐ Other:
	☐ Psychiatric illness: sp	pecify:
10. What medi	ications are you taking now?	
11. Family His	tory:	
	☐ Diabetes Mellitus	☐ Dyslipidemia
	☐ Hypertension	☐ Heart failure/disease
	□ Stroke	☐ Liver diseases
	☐ Thyroid diseases	□ Cancer
	☐ Psychiatric illness: sp	pecify:
12. Years on D		
	□ 1-3 months	$\square > 3$ months-1 year
	$\square > 1$ year -3 years	□ > 3- 5 years
	□ > 5 years	
13. Cause of k	idney failure:	
	☐ Diabetic Nephropathy	☐ Hypertension
	☐ Glomerulonephritis	☐ Polycystic kidney disease
	☐ Does not know	□ Others

		سنة	١. العمر:
	🗆 ذکر	🗌 أنثى	٢. الجنس:
			٣. المحافظة:
□ الجنوب	□ جبل لبنان	□ بيروت	
□ النبطيه	□ البقاع	🗌 الشمال	
	منزل:	لساكنين معك في ال	٤. عدد الأشخاص ا
□شخصين أو أكثر	🗌 واحد	□ صفر	
		عية/الزوجية:	٥. الحالة الاجتماع
	□أرمل	□ أعزب	
	🗆 مطلق	□ متزوج	
		🗆 غير ذلك	
	، الدعم الاجتماعي ؟		٦. هل لديك شخص
	y 🗆	□ نعم	
	ً أن يقرأ و يكتب)		٧. التحصيل العلمي
	، أو يستطيع أن يقرأ ويكتب	🗌 أنهى الإبتدائي	
	توسطة/ Brevet/BT	🗌 أنهى السنة الم	
		🗌 أنهى الثانوية	
: فنية (LT)	إمتياز الفني (TS) أو إجازة	🗌 أنهى شهادة الإ	
(BS / I	ِس في العلوم / الفنون (BA	🗌 أنهى بكالوريو	
	ماجستير وما فوق	🗌 أنهى درجة الد	
			٨. هل تعمل حالياً:
	λ	🗌 نعم	

<u> 4 معلومات عن المريض:</u>

	🗌 السكري	🛘 إضطراب شحوم الدم
	□ الضغط	□أمراض في القاب
	_ جلطة	🗌 أمر اض في الكبد
	□أمراض في الغدة الدرقية	🗆 التهابات المفاصل
	🗆 سرطان	□غير ذلك:
	🔲 أمراض نفسية، حدد:	
١٠. ما الأدوية التي	تتناولها حالياً؟	
١١. تاريخ العائلة ا	طبي:	
	🗌 السكري	□ إضطراب شحوم الدم
	_ الضغط	
		□أمراض في القلب
	□جلطة	□ أمراض في الكبد
	□أمراض في الغدة الدرقية	□ سرطان
	أمراض نفسية، حدد:	
۱۲. منذ متی تقوم	غسيل الكل <i>ى</i> ؟	
	🗆 شهر إلى ٣ أشهر	🗆 ٣ أشهر إلى سنة
	🗆 أكثر من سنة إلى ٣ سنوات	🗌 أكثر من ٣ سنوات إلى ٥ سنوات
	□ أكثر من ٥ سنوات	
١٣. سبب الفشل الك	لوي:	
	 بسبب داء السكري 	🗆 الضغط
	🗌 التهاب كبيبات الكلى	🗆 مرض تكيس الكلى
	🗆 لا أعرف	🗆 غير ذلك

٩. التاريخ الطبي للمريض:

Consent for Participation in a Research Study

The research team: Dr. Samar Noureddine (primary investigator), Victoria Semaan, Dr. Laila Farhood

Study title: Prevalence of Depression and Anxiety in End Stage Renal Disease Patients Undergoing Hemodialysis at the American University of Beirut Medical Center

Study site: The American University of Beirut Medical Center

We are inviting you to participate in a research study at the American University of Beirut. Please take your time and read the information below carefully before you decide whether or not you want to participate in this study. You may ask for clarification or further information about the content of this form or about the study as a whole.

a. Project Description

The purpose of this research study is to determine the frequency of depression and anxiety problems in patients undergoing hemodialysis. If you agree to participate in this study, you will be among 90 patients who will be asked about how they have been feeling in the past week. The study will be completed in one interview. The study will take place while you are doing your routine dialysis session. The nurse manager of the dialysis unit will invite you to participate in the study. If you agree, then the researcher will come to give you more information about the study and ask any questions you may have. If you agree to participate, an interview will be made. The interview includes 14 questions about whether or not you were feeling down or anxious in the past week. Few other questions will be about your social status and history of prior illnesses. The estimated time to complete this study is a maximum of 15–20 minutes.

b. Risks and Benefits

Your participation in this study does not involve any physical or emotional risk beyond the risks of daily life. As some questions in the survey are sensitive, you may feel uncomfortable or nervous at answering them. The investigator may end your participation in case you get upset from the interview because we are concerned about your wellbeing. You have the right to withdraw your consent or discontinue participation at any time for any reason. Withdrawal or refusal to participate will not affect your relationship with the American University of Beirut, its Medical Center or with your physician, nor the quality of services you will receive at this hospital. The benefits from participating in this study include being screened to check whether you have depression, anxiety or both. If the screening results, suggest psychological problem, then you will be referred to your physician for further evaluation and treatment if needed at your own expense.

c. Confidentiality

All the information collected in this study will be kept confidential. Your privacy will be ensured in that all data resulting from this study will be analyzed, written, and published in aggregate form. Your identifying information will be coded into numbers.

The filled questionnaires will be put in a locked cabinet that only the research team involved in this study can access. All data will be destroyed three years after completion of the study. The electronic files that contain the study data will be saved on a password

protected computer and only the study team will have access to them. These files will also be deleted 3 years after completion of the study.

The records of this study will be monitored and may be audited by the institutional review board without violating confidentiality.

d. Your Rights

Your participation will be entirely voluntary. If you choose not to participate you will still receive your normal services at this hospital.

Investigator's Statement:

I have reviewed in detail the informed consent doorisks and benefits with	(name of patient, legal red all the patient's questions clearly
Name of Investigator or Designee	Signature
Date & Time	
Patient's Participation:	
I have read and understood all aspects of the resear been answered. I voluntarily agree to be a part of can contact Dr. Samar Noureddine at 03-579451 of study in case of any questions. If I feel that my question the Institutional Review Board for human I understand that I am free to withdraw this conserproject at any time, even after signing this form, a benefits. I also know that I will receive an original consent.	this research study and I know that I or any of her designee involved in the lestions have not been answered, I can rights at 01-350000, extension 5454. In the and discontinue participation in this and it will not affect my care or
Name of Patient or Legal Representative	Signature
Date & Time (written by Patient or Legal Representative)	
Name of witness (if patient visually impaired or illiterate)	Signature

موافقة للإشتراك في البحث العلمي

إسم الباحث: د. سمر نور الدين (الباحثة الأساسية)، فكتوريا سمعان، د. ليلي فرهود.

عنوان البحث: مدى انتشار الاكتئاب والقلق في نهاية مرحلة المرض الكلوي عند المرضى الذين يخضعون لغسيل الكلى في المركز الطبي للجامعة الأميركية في بيروت

مكان إجراء البحث: المركز الطبي للجامعة الأمريكية في بيروت.

أنت مدعو(ة) للمشاركة ببحث علمي سيجرى في الجامعة الأميريكية في بيروت. الرجاء أن تأخذ(ي) الوقت الكافي لقراءة المعلومات التالية بتأن قبل أن تقرر (ي) إذا كنت تريد(ين) المشاركة أم لا. بإمكانك طلب إيضاحات أو معلومات إضافية عن أي شيء مذكور في هذه الإستمارة أو عن هذه الدراسة.

أ. وصف البحث العلمي وهدفه وتفسير مجرياته

يهدف هذا البحث العلمي إلى تحديد مدى انتشار مشاكل الإكتئاب والقلق لدى المرضى الذين يخضعون لغسيل الكلى. إذا وافقت على المشاركة في هده الدراسة، ستكون ضمن ٩٠ مريض سوف يُسألون كيف كان شعور هم في الأسبوع الماضي. ستنتهي هده الدراسة في مقابلة واحدة. ستجرى الدراسة خلال جلسة غسيل الكلى الروتينية الخاصة بك. ستدعوك الممرضة المسؤولة عن قسم غسيل الكلى للمشاركة في الدراسة. إذا وافقت أن تشارك في الدراسة سيزورك الباحث لإعطائك معلومات عن الدراسة والإجابة عن أي أسئلة قد تكون لديك. إذا وافقت، سيتم مقابلتك للرد على ١٤ سؤال حول ما إذا كنت أو لا كنت تشعر باحباط أو قلق في الأسبوع الماضي. وتشمل المقابلة أيضا أسئلة حول وضعك الاجتماعي وتاريخ الأمراض السابقة. الوقت المقدر لإكمال هذه الدراسة هو في الحد الأقصى من ١٥٠ - ٢٠

ب. اذكر التأثيرات السلبية او ردات الفعل التي يمكن ان يسببها الإشتراك في هذا البحث

لا ينطوي على مشاركتك في هذه الدراسة أي خطر مادي أو عاطفي أكثر من مخاطر الحياة اليومية. بما أن بعض الأسئلة قد تكون ذات طابع حساس، قد تشعر بالإنز عاج أو التوتر من الإجابة عليها. قد ينهي الباحث مشاركتك في الدراسة في حال انز عجت من المقابلة لأننا حريصين على صالحك. لديك الحق في سحب موافقتك أو مشاركتك في المقابلة في أي وقت ولأي سبب. انسحابك أو رفضك المشاركة في هذا البحث لن يؤثر على علاقتك بالجامعة الأمريكية في بيروت أو المركز الطبي أو طبيبك أو نوعية الخدمات التي تتلقّاها في هذه المستشفى.

ج. اذكر الفوائد التي قد تنتج عن هذا البحث

تشمل الفوائد من المشاركة في هذه الدراسة فحصك للتأكد مما اذا كان لديك اكتئاب ، قلق أو كليهما. سوف تحال للحصول على المساعدة إذا لزم الأمر. إذا أشارت نتائج الدراسة مشاكل نفسية لديك، سيتم إبلاغ طبيبك المعالج عن النتيجة حتى يقوم بالمزيد من التقييم و العلاج إذا لزم الأمر على نفقتك.

د ــانسريه

ستبقى كل المعلومات التي سيتم جمعها في هذه الدراسة سرية. سيتم ضمان خصوصيتك من خلال تحليل وكتابة ونشر البيانات الناتجة عن هذه الدراسة في شكل مجموع. سيستعاض عن المعلومات التي قد تشير إلى هويتك بأرقام.

سيتم وضع الإستمارات في خزانة مقفلة لا يمكن أن يصل إليها إلا فريق البحث المسؤول عن الدراسة. وسيتم تدمير جميع البيانات المتعلقة بالدراسة بعد فترة ثلاث سنوات من انتهاء الدراسة.

سيتم حفظ الملفات الإلكترونية التي تحتوي على البيانات المتعلقة بالدراسة على كمبيوتر محمي بكلمة مرور وسيتم محو هذه المعلومات بعد فترة ثلاث سنوات من انتهاء الدراسة. سوف تراقب لجنة الإخلاقي ملفات هذه الدراسة وقد تدقق فيها من دون انتهاك سرية المعلومات.	
 ٥ - حقوقك إن مشار كتكم هي طوعية تماما. إذا اخترت عدم المشاركة ستظل تتلقى الخدمات العادية في هذا المستشف 	لمستشفى.
موافقة الباحث:	
لقد شرحت بالتفصيل استمارة القبول في هذا البحث، طبيعته، ومجرياته وتأثيراته السلم المشترك او ممثله القانوني أو وليه الجبري أو وصيه اذا المشترك قاصرا أو غير قادر على التوقيع). ولقد أجبت على كل أسئلته بوضوح على خير ما أستط وسوف أعلم المشترك بأي تغييرات في مجريات هذا البحث أو تأثيراته السلبية أو فوائده في حال حصو أثناء البحث.	ىيە اذا كان ما أستطيع.
إسم الباحث أو الشخص المولى الحصول على موافقة المشترك	
التاريخ و الساعة	
موافقة المشترك: لقد قرأت استمارة القبول هذه وفهمت مضمونها وتم الرد على جميع أسئلتي. أنني حرا مختارا القد قرأت استمارة القبول هذه وفهمت مضمونها وتم الرد على جميع أسئلتي. أنني حرا مختارا الإشتراك في هذا البحث، و أعلم ان باستطاعتي الإتصال بالدكتورة سمر نورالدين على الهاتف ١٠٤٩/ ٣٠ أو أي من معاونيها في الدراسة في حال وجود أي أسئلة. واذا شعرت لاحقا ان الأجوبة تحتاج مزيد من الإيضاح فسوف أتصل بأحد اعضاء لجنة الأخلاقيات على الهاتف: ١٠ (٢٧٤٣٧٤ ، التحويا ٥٤٥ . كما أعرف تمام المعرفة بانني حر في الإنسحاب من هذا البحث متى شئت حتى بعد التوقيع الموافقة دون ان يؤثر ذلك على العناية الطبية المقدمة لي. وأيضاً أعلم أني سوف أحصل على نسخة مالأصل عن هذه الموافقة.	۵۷۹٤۵۱ تحتاج ال <i>ی</i> <i>التحویل :</i> توقیع علی
إسم المشترك او ممثله القانوني	
التاريخ و الساعة (بيد المشترك او ممثله القانوني)	
التوقيع	•

اسم الشاهد (إذا كان المريض ضعيف البصر أو أمي)

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