Biopsychosocial Needs for Patients with Chronic Renal Failure

Aya Rabea Abd-Elgany Hakel,[1] Manal Hussein Nassr,[2] Arzak Mohamed Khalifa.[3]

B.Sc In Nursing[1], Prof. of Medical Surgical Nursing[2], Lecturer of Medical Surgical Nursing[3] Medical surgical Nursing Department(critical care) – Faculty of Nursing – Ain Shams University

Abstract

Background: Chronic renal failure (CRF) is a worldwide public health problem with an increasing incidence and prevalence. Assessment of biopsychosocial needs of patients with CRF is an important nursing role helping to provide a comprehensive patient's care. **Aim of study:** The study aimed to assess biopsychosocial needs for patients with chronic renal failure. **Study design:** A descriptive exploratory design was used. **Settings:** The study was conducted at Hemodialysis Units, which is affiliated to Ain Shams University Hospitals. **Subjects:** A purposive sample of 137 patients with chronic renal failure attending the previous mentioned settings. **Tools of data collection:** I- Patient's interviewing questionnaire. II- Patient's biopsychosocial needs questionnaires:- was assessed through using;-1-Barthel Index 2-Anxiety assessment scale 3-Beck depression inventory 4- Social Dysfunction Rating Scale. **Results:** 78.1% of studied patients had unsatisfactory level of total knowledge. 76.5% of studied patients were independent, 48.9% of studied patient had mild anxiety, and 71.5% of them had mild depression and 51.1% of them had mild social dysfunction. **Conclusion:** a majority of patients had unsatisfactory knowledge regarding disease, the highest needs for patient with CRF were the psychological needs followed by social and physical needs. **Recommendations:** A simplified, illustrated and comprehensive Arabic booklet including information about disease should be available for patients and supportive care services in dialysis setting should be directed towards meeting biopsychosocial needs of patients with CRF.

Keyword: - Biopsychosocial needs (physical, psychological and social needs)**,** Chronic renal failure.

Introduction

Chronic kidney disease (CKD) is gradual loss of kidney function over a period of months or years. Early on there are typically no symptoms. Later, leg swelling, feeling tiredness, vomiting, loss of appetite, or confusion may be developed. Complications may include heart disease, high blood pressure, bone disease, or anemia. Causes of chronic kidney disease include diabetes, high blood pressure, glomerulo-nephritis, and polycystic kidney disease **(National Institute of Diabetes, Digestive and Kidney Diseases, 2017).**

Chronic renal failure (CRF) was considered a fetal disease prior to the development of hemodialysis and transplantation. The numbers of patients receiving hemodialysis are increasing and increase costs which lead to increase the burden on health systems. The incidence of renal failure has doubled in the last 15 years **(Bagalad, Mohankumar, Madhushankari, Donoghue, & Kuberappa, 2017).**

The patients with CRF are faced with numerous biopsychosocial problems which cannot be controlled even with new advancement. In every aspect of life, patients undergoing hemodialysis are faced with many stressful factors such as; difficulty in daily

living activity, dependency to others to keep living, family problems, change in sexual functions, social isolation, change in self imagination (body image), mental pressure and fear from death **(Mamhoud, 2015).**

Prober assessment and effective management of the patient with CKD is very important to slow the rate of progression, reduce mortality& morbidity and the burden of disease on the healthcare system and people affected by this condition **(Murphy et al., 2016).**

Nurses play a pivotal role in the management of patients with CKD because the patient has many physical, psychological and social needs. In addition to an initial assessment of the patient, the nurse makes on going assessment, these assessment make nurse alert to change on patient response to health and illness **(Farag, 2013).**

Biopsychosocial assessment is a nursing role from the time of the first diagnosis of CKD. Ask patient about understanding of diagnosis and treatment regimen. Assess changes in body system related to disease. Assess for anxiety and coping styles used by the patient or family members. Psychosocial issues affected by CKD include family relation, social activity, work pattern, body image and sexual activity. The long-term treatment of disease and many treatment options need psychosocial assessment **(Urden, Stacy & Lough, 2018).**

Assessment of biopsychosocial needs is very important to suggests patient's perceptions of health and the threat of disease, as well as barriers in a patient's social or cultural environment, which help nurse to encourage patient to engage in health promoting or treatment behaviors, such as medication, taking proper diet or nutrition, and engaging in physical activities and this result in promoting patient's quality of life **(Hasselder, 2017).**

Significance of the study

Chronic renal failure is threatening life disease and worldwide health problem with an increasing incidence and prevalence, poor outcomes, and high cost. In Egypt each year over 117 patients per million on hemodialysis die and is considered disturbing problem threatening the population all over the world **(Abd elhamid, 2017).** Assessment of biopsychosocial needs of patients with CRF is highly—recommended so, the researcher conduct this study to assess this needs.

Aim of study

This study aimed to assess biopsychosocial needs for patients with chronic renal failure through the following:

-Assess physical needs for patients with chronic renal failure.

-Assess psychological needs for patients with chronic renal failure.

-Assess social needs for patients with chronic renal failure.

Research question:

What are the biopsychosocial needs (physical, psychological and social needs) for patients with chronic renal failure?

Subjects and methods

I- **Technical design included**: Research design, setting, subjects and tools of data collection

Research design:

A descriptive exploratory design was utilized to meet the aim of this study.

Descriptive research is method aims to accurately and systematically describe a population, situation or phenomenon. A descriptive research design can use a wide variety of quantitative and qualitative methods to investigate one or more variables. Unlike in experimental research, the researcher does not control or manipulate any of the variables, but only observes and measures them **(McCombes, 2019).**

Research setting:

The study was conducted at Hemodialysis Units, which are affiliated to Ain Shams University Hospitals. There are two units, Unit 1 is consisting of 12 hemodialysis machines negative for hepatitis C virus (HCV) only and don't have machine for hepatitis B virus (HBV), and work three shifts from 8am -8pm, and have one head nurse, five bed side nurses and six assistant nurses. Unit 2 consists of 18 hemodialysis machine and works three shifts from 8Am -8Pm, and has two head nurses, ten bed side nurses and five assistant nurses, with total capacity 30 patients in each shift.

Subjects:

A purposive sample of 137 patients with CRF through consecutive six months duration of data collection in the previous mentioned setting. The total number of patients was 180 patients and the study subjects were selected after exclusion of 43 patients according to the following inclusion criteria:- Adult patients (age ≥ 18 years), from both genders, accept to participate in the study and able to comprehend, patients free from co-morbid mental or psychiatric condition.

Tools of data collection:

The tools used in this study were: -

I-Patient's interviewing questionnaire:

This tool was developed by the researcher in simple Arabic language based on the extensive review of relevant and recent literatures **(Long, Phipps & Cassmeyer, 2010; Osborn, Wraa & Watson, 2010; Christensen & Kockrow, 2011; Daniels, Nosek & Nicoll, 2012).**

It was consists of three parts:-Socio-demographic characteristics, medical related data as well knowledge. It was the following:

➢ **The first part:** it was concerned with the socio-demographic characteristics of patients under the study as age, gender, marital status, educational level, occupation, residence, housing condition, home ventilation, number of rooms, sanitation and number of family members, income, health insurance cover treatment cost, health awareness and health guidance from the medical team.

➢ **The second part:** it was concerned with patient's clinical data. This part was used to assess patient's past medical history it included other chronic diseases, past surgeries, previous hospitalization and family history. Also present history as diagnosis, duration of the disease, duration of treatment by hemodialysis, investigation performed periodically, complications, medications and follow up.

➢ **The third part:** it was concerned with assessment of patient's knowledge regarding the disease. It was composed of six parts each question have three multiple choices as the following:

I: It was concerned with definition and causes of CRF. It is consisted of 4 questions.

II: It was concerned with signs and symptoms of CRF. It is consisted of 3 questions.

III: It was concerned with complications of CRF. It is consisted of 2 questions.

IV: It was concerned with diagnosis and investigation of CRF. It is consisted of 2 questions.

V: It was concerned with medical management of CRF. It is consisted of 2 questions.

VI: It was concerned with patient's self care and follow up. It is consisted of 7 questions.

Scoring System:-

- This tool consisted of 20 questions which were scored as the correct answer has got one score and zero was given to the incorrect answer.

- The scores of each statement were summed up giving a total score, the total score of all patients knowledge was calculated and categorized as follows:-

- If total grade <75% (<15 grades) it was considered unsatisfactory level of knowledge.

- If total grade ≥75% (≥15 grades) it was considered satisfactory level of knowledge.

II- Patient's Biopsychosocial Needs Questionnaires:

It was used to assess physical, psychological and social needs of patients with CRF, this tool included the following parts:-

Part 1: Barthel Index: - It was used to assess patient's physical needs of daily living activity; it was adapted from **Collin et al., (1988).** It was translated into Arabic language. It was composed of ten items as the following:-

- Mobility included (3) items.

- Nutrition included (1) item.

- Urination and defecation included (3) items.

- Personal hygiene included (3) items.

Scoring system:

Barthel index of activity of daily living (ADLs) included ten items and three response for each item ranged from (0-2) classified as the following:

0= Dependant

1= Need assistance

2= Independent

➢ The total score of Barthel Index Scale was (0-20). The lower the score is the higher patient's physical needs. The patient's score was calculated and classified as the following :-

-The score from (0-6) (0-30%) patients were dependent and had higher physical needs.

-The score from (7-13) (35% - 65%) patients were need assistant.

-The score from (14- 20) (70% -100%) patients were independant.

Part 2: Patient's psychological needs:- It was assessed through using the followings:-

a) **Anxiety assessment scale:-** was adapted from **Costello & Comery (1995).** Arabic version (anxiety scale A - 2nd edition). Which is a 9-items self-report scale; it was used to assess patient's level of anxiety.

Scoring system:

The scale was composed of nine items each items had three responses, ranged from (1-3) as the following: -

1= Never

2=Sometimes

3=Always

-Total score of instrument is 27, the higher the score is the higher anxiety level and higher psychological needs.

-The score (22-27) =sever anxiety

 -The score (16-21) =moderate anxiety

 - The score (9- 15) =mild anxiety

b) Beck depression inventory(BDI):- It was adapted from **Beck, Steer and Brown, (1996)** 2nd edition. It was used to assess the existence and severity of symptoms of depression as listed in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders Fourth edition, it translated into Arabic version by **(Ghareeb, 2000).** It is composed of 16 items, each statement had four responses such as; crying, optimism, feeling of guilt and change in sleep pattern.

Scoring system:

The scale was composed of sixteen items each item had four responses, ranged from (0-3) the total score of instrument is 48, the higher the score is the higher the depression level and higher psychological needs. The patient's total depression score was calculated and classified as the following: -

-The score (48-33) =severe depression

-The score (32-17)=moderate depression

-The score (16-1) = mild depression

-The score (0) = no depression

Part 3: Social Dysfunction Rating Scale: It was a standardized scale adapted from **linn et al., (1969).** It was written in Arabic language used to assess patient's social needs. It was included 19 items scale which measures the negative aspect of an individual's social adjustment. This scale was divided into three subgroups, the self-perception, interpersonal relations, and social performance.

Scoring system:

The scale was composed of nineteen items each items had three responses, ranged from (1-3) as the following: -

1= Never

2=Sometimes

3=Always

The total score of instrument was ranged from (19-57) the higher score is the higher social needs. the patient's score was calculated and classified as the following:-

The score (57-45) = sever social dysfunction

The score (44-32) = moderate social dysfunction

The score (31-19) = mild level of social dysfunction

II. Operational design:

 It was included preparatory phase, validity and reliability of the developed tool, pilot study and field   work

The preparatory Phase:

It included reviewing of related current national and international literatures and theoretical knowledge of various aspects of the study using books, articles, internet, periodicals and magazines to develop tools of data collection.

Validity:

Validity was conducted to test the tools for appropriateness, relevance, comprehensiveness, understanding and applicability, easiness for administration, and clearance of tool (patient's interviewing questionnaire and patient's biopsycosocial needs questionnaires) through a jury of 5 experts; two professors and three assistant professors from the Medical-Surgical Nursing department staff at the Faculty of Nursing, Ain

Shams University. Some questions were omitted, some are added and other are rephrased and then the final form was developed in physical, psychological and social needs scale which were used for data collection.

Reliability:

The suitable reliability test was carried out to test tool reliability using internal consistency method. They proved a high degree of reliability with alpha Cronbach test in which (alpha = 0. 86 for assessment of patient's social needs & alpha = 0.85 for assessment of patient's physical needs & alpha = 0.83 for Assessment of patient's educational needs &alpha = 0. 79 for Assessment of patient's psychological needs and alpha = 0.78 for Patient's interviewing questionnaire)

Pilot study:

A pilot study was carried out on 10% (14 patients) of studied subjects under study for testing clarity and applicability of the data collection tools and then the necessary modifications was done according to the results of pilot study. Some questions were omitted such as five statements had been deleted from Beck Depression Inventory Scale and two questions were deleted from social dysfunction rating scale and some sentences were rephrased. The Barthel Index of ADLs was rephrased and then the final form was developed. The patients recruited in the pilot study were excluded from the current study subjects.

Ethical consideration:

Ethical approval was obtained from the Scientific Ethical Committee at Faculty of Nursing at Ain Shams University. A written informed consent was obtained from each participant prior to data collection. Explaining the aim of the study to the director of the unit to take his permission to do the study. Explaining the aim of the study to each participant to be familiar with the importance of his participation. A brief explanation of the study was given to assure the participant that the information obtained were confidential and used only for

the purpose of the study and didn't cause any harm or pain for participants. Patients were informed that they were allowed to choose to participate or not in the study and that, they had the right to withdraw from the study at any time without giving any reasons.

Field work:

Data collection took about 6 months beginning from February 2018 until end of July 2018. It was filled out by the researcher who visits the units of Hemodialysis. Data were collected 2 days per week during morning and afternoon shifts. First, the researcher greeted the patients, introduced herself and explained the aim of the study. Filling the tools took from 35- 45 minutes for every patient distributed as the following. Patient's interviewing questionnaire took about 15minutes, Barthel Index of activity of daily living took about 5 minutes, Anxiety assessment scale took about 5 minutes, Beck depression inventory took about 10 minutes and social dysfunction rating scale took about 10 minutes.

III. Administrative design:

An official letters were issued from the Faculty of Nursing, Ain Shams University explaining the aim of the study to   obtain the permission for collecting of the data ; this letters were submitted to the Hospital Director and the Director of Dialysis Units   at Ain Shams University Hospital.

Statistical Design:

The data were collected, tabulated, and analyzed by statistical package for social science (SPSS) version 17.0 on IBM compatible computer (SPSS Inc., Chicago, IL, USA).

Two types of statistics were done:

1. Descriptive statistics [e.g. percentage (%), mean (x) and standard deviation (SD)]

2. Analytic statistics: which include the following tests.
   - Chi-square test ($\chi 2$): was used to study association between two qualitative variables.
   - t- test; is a test of significance used for comparison between two groups normally distributed having quantitative variables.
   - Pearson correlation: is a measure of the linear correlation or dependence between two variables X and Y, giving a value between +1 and −1 inclusive, where 1 is total positive correlation, 0 is no correlation, and −1 is total negative correlation.

-Non significant (NS) P- value > 0.05

-Significant (S) P- value < 0.05

-Highly significant (HS) P- value ≤ 0.01

Results

Table 1: Frequency distribution of socio-demographic characteristics among patients under study (n=137).

Items	No	%
Age groups		
≥18 – 30 years	13	9.5%
>30 – 50 years	66	48.2%
≥ 50 years	58	42.3%
Age (years)		
Mean ±SD	45.67±13.97	
Range	18 – 78	
Educational level		
Not read & write Read &	45	32.8%
write	29	21.3%
Secondary	28	20.4%
High	35	25.5%
Job		
Full time work	15	10.9%
Half time work	18	13.2%
Don't work	104	75.9%
Nature of work	N = 33	
Physical	7	21.2%
Mental	11	33.3%
Physical & mental	15	45.5%
Residence		
Rural	85	62.0%
Urban	52	38.0%

Regarding socio-demographic characteristics of patients under study table 1 showed that, the mean age was 45.67±13.97. In relation to educational level it was found that, 32.8% were not read and write, higher educational level were 25.5%.While 75.9% didn't work. Also, 45.5% of the patient who had job depends on physical and mental work. Regarding the residence, 62.0% of studied patients were living in rural areas.

Figure (1): Percentage distribution of total knowledge regarding chronic renal failure among studied patients.

Regarding total knowledge of patients under study, the result revealed that, 21.9% of patients had satisfactory total level of knowledge while, 78.1% of them had unsatisfactory level of total knowledge.

Table 2: Number and percentage distribution of patient's level knowledge regarding chronic renal failure (n=137).

Items	Satisfactory		Unsatisfactory	
	N	%	N	%
Definition and causes of disease	94	68.6	43	31.4
Sign & Symptoms of disease	24	17.5	113	82.5
Complicatio ns of disease	102	74.5	35	25.5
Diagnosis and investigation	28	20.4	109	79.6
Medical management	87	63.5	50	36.5
Patient's self-care and follow up	12	8.8	125	91.2

Total satisfactory level ≥ 75%,
unsatisfactory level < 75%

This table revealed that, 68.6%, 74.5% and 63.5% of the patients had satisfactory level of knowledge regarding definition and causes of disease, complications of disease and medical management respectively. While 82.5%, 91.2% and 79.6% of patients had unsatisfactory level of knowledge regarding signs and symptoms of disease, regarding self care and diagnosis respectively.
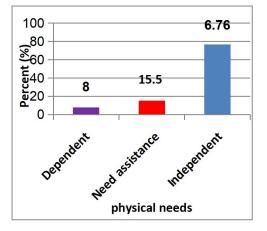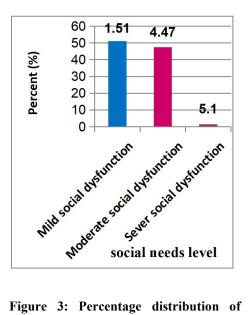

Figure 2: Percentage distribution of total physical needs among patients under study (n=137)

Figure 2 showed that, according to parthel index, it was found that, 76.5% of patients were independent, 15.5% of them need assistance, and 8.0% of patients under study were dependent.

Table 3: Number and percentage distribution of psychological needs among the studied patients (n=137).

Items	N	%
Anxiety level		
mild anxiety	67	48.9%
Moderate anxiety	47	34.3%
Sever anxiety	23	16.8%
Depression level		
mild depression	98	71.5%
Moderate depression	25	18.2%
Severe depression	14	10.3%

This table showed that, regarding anxiety level, 48.9% of patients under study had mild anxiety. Regarding depression level, 71.5% of patient under study had mild depression.

Figure 3: Percentage distribution of total social needs among the studied patients (n = 137).

Figure 3 showed that, regarding social needs of patients under study, this figure revealed that, 51.1% of patients under study had mild social dysfunction, while 47.4% of patients under study had

Discussion

Chronic renal failure is the conditions that greatly reduce renal function by destroying renal nephrons and producing a marked decrease in the GFR. Many patients with chronic renal failure progressed to the final stages of the disease which deteriorate patient's physical health and then death occurred. So, patients need renal replacement therapy (dialysis therapy) to improve the biopsychosocial outcomes **(Allrefer, Pretagostini & Poli, 2016).**

A long with basic survival and other clinical outcomes; patients' quality of life is an important indicator to reflect the biopsychosocial needs of these patients. Although it is well-documented that ESRD

moderate social dysfunction, and 1.5% of them had sever social dysfunction.

Table (4): Correlation between total satisfactory level of knowledge and bio-psychosocial needs among studied patients.

Biopsychosocial items	Total satisfactory level of knowledge	
	r	P value
Physical needs	-0.14	0.14
Depression level	0.35	<0.001
Anxiety level	0.17	0.04
Social dysfunction level	0.44	<0.001

This table revealed that, there no significant correlation between patient's knowledge and their physical needs with score (-0.14) at (P value=0.14), also there were a positive statistically significant correlation between total level of knowledge and anxiety (0.17) at P value =0.04, and there were a positive highly statistically significant correlation between total level of knowledge and depression (0.35) at P-value <0.001 and their social needs (0.44) at P-value<0.001.

patients suffer an impaired quality of life compared to the general population, there is limited research focusing on the unique experiences and needs of ESRD patients in Egypt **(Mazairac et al., 2011).** So, this study was carried out in order to assess biopsychosocial needs of patients with chronic renal failure.

Regarding socio-demographic characteristics. The finding of the present study showed that, near half of studied patients their age were ranged from 30-50 years and more than two fifths were above 50 years at mean 45.67±13.97. This finding is consistent with **Ghonemy, Farag, Soliman, El-okely, and El-hendy, (2016),** in their study entitled"Epidemiology and risk factors of chronic kidney disease in the El-Sharkia Governorate, Egypt", who reported that the prevalence of ESRD increased with ageing,

particularly after 50 years, and these results are also similar to the study performed by **El-Zorkany, (2017),** who showed that in his study entitled" maintenance hemodialysis in Menoufiya, Egypt", the mean age of ESRD patients in the Menoufiya Governorate, was 53.18±13.26 years. The highest proportion of patients (36.6%) was aged between 50 and 60 years. It was noted that middle aged patients affected with CKD that may be due to genetic, healthy habit, sanitary environment or social differences between the Egyptian community and other communities.

Regarding to gender, the finding of this study revealed that, slightly more than half of the patients under study were males. This is in accordance with **Abdel-Naem, (2016),** in study entitled "Impact of self learning module on compliance with therapeutic regimen for patients undergoing regular hemodialysis" who found that, more than half of the patients were males. This may be related to males may have unhealthier lifestyles leading to a higher risk for HTN and DM which the most causes of CRF. In addition to differences in hormone levels. Higher testosterone levels in men may cause a loss in kidney function. On the other hand, men's kidneys may not be protected by estrogen, which is higher in women until menopause.

In relation to marital status, the results show that, four fifths of studied patients were married. This might be due to Egyptian social culture, so it requires cooperation from partner for dealing with the entire condition. This finding is highly consistent with the finding of **Hefnawy, (2020)** who found that, 81% of patients were married, and 18.4 were a single in study entitled "Impact of end-stage renal disease and hemodialysis in physical and psychosocial status of elderly patients".

Concerning the educational level, the result of this study revealed that, about one third of patients under study were illiterate, slightly one fifth of patients read and write, one fifth of them were secondary school and one quarter of them had high educational level. This result is consistent with **Ahmed, Zahran, and Issawi, (2020)** in study entitled "Prevalence and etiology of end-stage renal disease patients on maintenance hemodialysis", who reported that one third of patients under study were uneducated. This result may be due to educational costs and economic level of patients.

In relation to occupational status, the current study demonstrates that, more than two thirds of patients under study didn't work or were housewife. This is in agreement with **Abdel-Naem, (2016)** who found that, three quarters of patients under his study had no work. This result may be attributed to that, about half of patient's age were >50 years, and most of patients complain of general weakness and generalized pain, which cause limitation in their movement and ability to carry out normal activity and the patients usually requiring three sessions per week, typically during the work day with each session lasting 3-4 hours.

In relation to residence, this result indicates that, about two thirds of patients under study reside rural area. This result goes in the same line with **Ghonemy et al., (2016),** who found that, more than half of patients were from rural areas. This could be due to poor sanitation in village which may leading causes of increased number of ESRD.

In relation to monthly income of the patients under study, the result revealed that, about three quarters of patients hadn't enough monthly income for their needs, this result is consistant with **Mohamed, (2016)** in study titled "Impact of associated self-care program on selected outcomes among patients undergoing hemodialysis", who reported that, the majority of studied patients hadn't enough income for their needs, and minority of them had enough income for treatment. Insufficient

752

income may contribute to physical and psychological problems. Also, it could lead to non-compliance to dietary modifications or adherence to medications regimen which affected greatly on health of patients.

Regarding health education of patients under study, the result showed that more than half of patients received health education about renal failure, along with the fact that, these educational sessions were not regular and weren't well organized because more than one fifth of them had unsatisfactory level of knowledge regarding their condition. Also, low educational level of the studied patients. All these factors declare the indigence for better health education for these patients. This is inconsistent with **Abbas, and Jaddoue, (2011).** In study titled "Impact of Health Education Program upon Knowledge of Patients with End-Stage Renal Failure" who found that more than half of studied patients with ESRD had poor knowledge regarding their health status.

Biopsychosocial needs among the patients under study. Physical needs assessment of the patients under this study showed that, minority of patients under study were dependent in ADL and less than one fifth of them needed assistant, while the majority of studied patients were independent in daily living activity. Regarding ADL items, the movement of patients was mostly affected followed by personal care eight percentages were dependente, while non of patients were dependant in nutrition. This is in agreement with **Lou, Li, Shen, Juan, and He, (2019)** in study entitle "physical activity and somatic symptoms among hemodialysis patients" who found that, there was a significant of ESRD patient's movement ability than reference control population.

This affected of physical power of ESRD patient was due to the fact that, ESRD commonly associated with CKD-mineral and bone disorder. It is a systematic disease that includes skeletal abnormalities which are called renal osteodystrophy, soft-tissue calcification and biochemical change reflecting mineral and hormonal abnormalities. In addition to fatigue due to anemia and dialysis, and complications which occurs from CRF and HD.

Regarding anxiety level among studied patients, the current study revealed that, half of ESRD patients suffered from mild anxiety, one third of them with moderate anxiety and less than one fifth of them had sever anxiety. The current study approximately similar to results were noted by **Sampaio de Brito, Machado, Reis, Carmo and Cherchiglia, (2019)** in study entitled "Depression and anxiety among patients undergoing dialysis and kidney transplantation", found that, 32.3% of patients had anxiety.

Also**, El Filali, Bentata, Ada and Oneib, (2017)** reported that, 25.2% of patients had anxiety disorders in study entitled "Depression and anxiety disorders in chronic hemodialysis patients and their quality of life" and **Schouten, et al., (2019)** documented that, 22% of patients had anxiety symptoms, and documented that, the prevalent anxiety symptoms among ESRD patients could be explained as dialysis is a life-changing event that can create an overwhelming amount of stress for a dialysis patient and anxiety symptoms were associated with increased risk for mortality and frequent hospitalization associated with this condition.

Regarding psychological needs of the patients, using Beck inventory depression scale revealed that, all the studied patients had depression symptoms, less than three quarters of patients had mild depression, less than one fifth of patients had moderate depression and minority of them had severe depression, this result is in disagreement with **Schouten et al., (2019), in** study entitled "Anxiety symptoms, mortality, and hospitalization in patients receiving maintenance dialysis" who found that, 34% of the patients had depression symptoms, and

Sampaio et al., (2019) observed that 41.7% of ESRD patients had depression.

Also, **Ahlawat, Tiwari and D'Cruz., (2018),** in study entitle "Prevalence of depression and its associated factors among patients of chronic kidney disease in a public tertiary care hospital in India" who noted that 44% of the patients had depression, mild depression was found to affect 28.4% of the patients followed by moderate depression, moderately severe, and severe depression (11.8%, 3.8%, and 0.8%, respectively). The most nearby results to our findings which was observed by **Khan, Khan, Adnan and Sulaiman., (2019),** in study entitled "Prevalence and predictors of depression among hemodialysis patients" who found that 84.9% depression level among ESRD patients.

According to **Shirazian et al., (2016),** in study entitled "Depression in chronic kidney disease and end-stage renal disease: Similarities and differences in diagnosis, epidemiology and management" who documented that, this association between ESRD and depression occur as depression was highly prevalent and associated with poor quality of life and increased mortality among adults with CKD, including those with end-stage renal disease.

The different rates of depression in different studies was suggested to be due to the changes between different population in environmental factors, health related factors and co-morbidities, also social support and health services introduced to such debilitated patients.

The present study declared that, more than half of patients had mild social dysfunction, less than half of patients had moderate social dysfunction, with much better domain which is interpersonal relations majority of studied patients had mild social dysfunction but the worst domain was self-perception less than one fifth of studied patients had sever dysfunction. Regarding **Bedrov and Bulaj, (2018),** in their study entitled "Improving self-esteem with motivational quotes" this is due to live with a chronic medical condition is often accompanied by low self-esteem, a diminished sense of personal worth, and lower self-efficacy, a diminished sense of one's ability to influence behavioral outcomes.

This study demonstrated that severity of social dysfunction in ESRD patient's increases with older aged patients and those with not enough income. Regarding **Alhajim, (2017),** also reported that in study entitled, "Assessment of the quality of life in patients on hemodialysis in Iraq". Who found that older age was correlated with poor quality of life (QOL) in all its domains (physical, social, psychological and environmental). But opposite results was noted by Joshi, et al., (2017). In study entitled "Assessment of quality of life in patients undergoing hemodialysis" this study was conducted among 150 patients with chronic kidney disease undergoing hemodialysis and he found that older age had better QOL score in the social domain.

Moreover, regarding correlation between total satisfactory level of knowledge and biopsychosocial needs among studied patients, the study showed that, there were no correlation between patient's knowledge and their physical needs and a positive statistically significant correlation between anxiety, depression and their social needs. This is in agreement with **Abd elhamid, (2017)** in study entitle "Assessment of physical and psychological effect of constant site and different sites of puncture on hemodialysis patients".

In my opinion as age increased in the elderly, the ability to understand knowledge regarding disease decreased and physical function decreased also ability to concentrate in health education,

on the other hand increasing knowledge about disease increasing anxiety and depression due to fear of complications and death and increasing social needs due to low self-esteem and increase burden on family.

Conclusion

It was concluded that. Regarding physical needs of the patients under study, the minority of patients were dependent in daily living activity and about less than one fifth of them need assistance for performing ADL, while

the majority of studied patients were independent in daily living activity. Regarding psychological needs, it was found that more than one third of patients under study had moderate anxiety level and more than two thirds of them had mild depression. Regarding social needs, it was found that, slightly less than half of studied subjects had moderate social dysfunction and more than half of them had mild social dysfunction. In addition, it was found that majority of the study subjects had unsatisfactory level of knowledge regarding chronic kidney disease.

Recommendations

The study recommended that: -

Recommendation related to the patients:

• Supportive care services in dialysis setting should be directed towards meeting biopsychosocial needs of patients with chronic renal failure

• A simplified, illustrated and comprehensive Arabic booklet including information about disease should be available for patients.

• Continuous assessment of biopsychosocial needs for patients with chronic renal failure are recommended.

Recommendation related to the nurse:

• Establish periodical in-service educational training program to improve nurse's knowledge regarding biopsychosocial needs for patients with CRF.

• The number of qualified, specialized and well-trained nurse should be increased to meet biopsychosocial needs of patients with CKD.

Recommendation related to the research:

• Further studies about the effect of the biopsychosocial needs on patient's quality of life and outcomes should be encouraged.
• Further research studies are needed to focus on studying factors affecting biopsychosocial needs of patient with chronic renal failure.

References

Abbas, A.D., & Jaddoue, B. A. (2011). Impact of Health Education Program upon Knowledge of Patients with End-Stage Renal Failure. Published at Baghdad University, Iraqi National Journal of Nursing Specialties. Available at https://-www.iasj.net. PP. 71-83.

Abd-Elhamid, S. (2017). Assessment of physical and psychological effect of constant site and different sites of puncture on haemodialysis patients, Unpublished Master Thesis in Medical Surgical Nursing, Faculty of Nursing, Ain Sham University.PP.3-20.

Abd-Elnaem, N. T. (2016). Impact of self learning module on compliance with therapeutic regimen for patients undergoing regular hemodialysis. Unpublished thesis of doctorate. Medical Surgical Nursing, Faculty of Nursing, Ain Shams University.pp.117-118.

Ahlawat, R., Tiwari, P., D'Cruz, S. (2018). Prevalence of depression and its associated factors among patients of chronic kidney disease in a public tertiary care hospital in India: A cross-sectional study. Saudi Journal of Kidney Diseases and Transplantation; 29 (5):65– 73

Ahmed, H. A., Zahran, A. M., and Issawi, R. A. (2020). Prevalence and etiology of end-stage renal disease patients on maintenance hemodialysis. Menoufia Medical Journal, 33(3), 766.

Alhajim, S.A. (2017). Assessment of the quality of life in patients on hemodialysis in Iraq. Available at, http.// www. Emro.who.int/emhj Eastern Mediterranean Health Journal. Volume 23, issue 12.

Allrefer, D., Pretagostini, R and Poli, L. (2016). Organ donation- third- party donation: Expanding the living donor pool. Transplant proc., 29: 3399.

Bagalad, B. S., Mohankumar, K. P., Madhushankari, G. S., Donoghue, M., and Kuberappa, P. H. (2017). Diagnostic accuracy of salivary creatinine, urea, and potassium levels to assess dialysis need in renal failure patients. Dental Research Journal, 14(1), 13.

Beck, A. T., Steer, R. A., and Brown, G. K. (1996). Mannual for beck depression inventory (BDI-II). San Antonio, TX: psychological corporation.

Bedrov, A. & Bulaj, G. (2018). Improving Self-Esteem with Motivational Quotes: Opportunities for Digital Health Technologies for People with Chronic Disorders. Front. Psychol. Available at http://dio.org/10.3389/fpsyg.2018.021 26. Accessed on 19/ 11/ 2019, at 10pm.

Christensen, B. & Kockrow, E. (2011). Foundations and adult Health Nursing, 6th ed., St. Louis: Mosby, P.1233.

Costello. C. G. and Comrey. A. L. (1995). Anxity assessment scale. Published in the journal of psychology, 1967, 66, pp. 303-313.

Daniels, R., Nosek, L. and Nicoll, L. (2012). Contemporary medical-surgical nursing, 2nd ed., USA: Thomson Delmar Learning, P.1356.

El Filali, A., Bentata, Y., Ada, N., Oneib, B. (2017). Depression and anxiety disorders in chronic hemodialysis patients and their quality of life: A cross-sectional study about 106 cases in the northeast of morocco. Saudi J Kidney, p.p28:341-8

El-Zorkany, K. (2017). Maintenance hemodialysis in Menoufiya, Egypt: Is there any progress. Available at, volume 17 issues 2 http://www.jesnt.org/article. pp. 58-63.

Farag, E. (2013). Biopsychosocial needs of patient with leukemia, Unpublished Master Thesis in Medical Surgical Nursing, Faculty of Nursing. Ain Shams University pp.25-28.

Ghareeb, A. G. (2000). Manual of the Arabic BDI-II. Alongo Press. Cairo inventory: the author's twenty-five years of evaluation. Clin Psychol Rev, 8, 77-100.

Ghonemy, T. A., Farag, S. E., Soliman, S. A., El-okely, A., and El-hendy, Y. (2016). Epidemiology and risk factors of chronic kidney disease in the El-Sharkia Governorate, Egypt. Available at: http://www.sjkdt.org/article. Accessed on 5/1/2020. At 2:30 am.

Hasselder, A. (2017). Renal Transplantation: Long Term Effect of Immune suppression, Professional Nurse, 14(11): 771-776.

Hefnawy, G. R. (2020). Impact of end-Stage renal disease and hemodialysis in physical and psychosocial status of elderlypatients. Egypt. Available at: http://www.sjkdt.org/article. Accessed on 5/1/2020.At 2:30 am.

Khan, A., Khan, A. H., Adnan, A. S. and Sulaiman, S. (2019). Prevalence and predictors of depression among hemodialysis patients: a prospective follow-up study. BMC Public Health 19, 531 https://doi.org/10.1186/s12889-019-6796-z.

Linn, M. W., Sculthorpe. W. B., Evje, M., Slater, P. H. and Goodman, S. P. (1969). Social dysfunction rating scale. May; 6(4):299-306.

Long, B., Phipps, W. & Cassmeyer, V. (2010). A Nursing Process Approach, 3rd ed., St. Louis: Mosby, p. 1110.

Lou, X., Li, Y., Shen, H., Juan, J. and He, Q.   (2019). Physical activity and somatic symptoms among hemodialysis patients: a multi-center study in Zhejiang, China. BMC   Nephrol 20, 477 https://doi.org/10.1186/s12882-019-1652-z.

Mahmoud, SH. A. (2015). Assessment of self – care practice of patients on maintenance hemodialysis at Cairo University Hospitals, published Master Thesis in Medical Surgical Nursing, Faculty of Nursing, Cairo University.P.P3-20. Available at: https://scholar.google.com. Accessed on 5/1/2020. At 3:30 am.

Mazairac, A. H., De Wit, G. A., Penne, E. L., Van der Weerd. N. C., De Jong, B., Grooteman, M. P., …et al. **(2011).** Investigators changes in quality of life over time–Dutch haemodialysis patients and general population compared. Nephrol Dial Transplant. 26(6): PP.1984–1989.

McCombes, S. (2019). Descriptive research, methodology, knowledge base. Available at: https://www.scribbr.com/methodology/descriptive-research. Accecced on 5/11/2019. At 9:55 pm.

Mohamed, S, K. (2016). Impact of associated self care program on selected out comes among patients undergoing hemodialysis, doctorate Thesis in Medical Surgical Nursing, Faculty of Nursing, Cairo University.P.78.

Murphy, D., McCulloch, C.E., Lin, F. (2016). Trends in prevalence of chronic kidney disease in the United States. Ann Intern Med; 165: P.P 473-481.

National Institute of Diabetes and Digestive and Kidney Diseases (2017). Health information, chronic kidney disease. Available at: https://www.niddk.nih.gov. Accessed on 19/ 12/ 2017. At 6:00pm.

Osborn, K., Wraa, C. & Watson, A. (2010). Medical Surgical Nursing, 1st ed., Boston: Pearson, p.1078.

Sampaio de Brito, D.C., Machado, E.L., Reis, I.A., Carmo, L.P.F. and & Cherchiglia, M.L. (2019). Depression and anxiety among patients undergoing dialysis and kidney transplantation: a cross-sectional study. Sao Paulo Med. J. vol.137 no.2.

Schouten, R.W., Haverkamp, G.L., Loosman, W.L., Chandie, P.K., Ittersum, F.J., et al. (2019). Anxiety Symptoms, Mortality, and Hospitalization in Patients Receiving

Maintenance Dialysis: A Cohort Study. AJKD August Volume 74, Issue 2, Pages 158–166.

Shirazian, S., Grant, C.D., Aina, O., Mattana, J., Khorassani, F. and Ricardo, A.C. (2016). Depression in chronic kidney disease and end-stage renal disease: similarities and differences in diagnosis, epidemiology, and management. Kidney Int Rep. 2(1):94–107. Published 2016 Sep 20. doi:10.1016/j.ekir.2016.09.005.

Urden, L. D., Stacy, K, M., Lough, M. E. (2018). Critical care nursing, diagnosis and management, 8th edition., Elsevier, Mosby. P.P 428-435.