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PHYSICAL SYMPTOMS OF PATIENT WHO UNDERGOING HAEMODIALYSIS IN AL-HILLACITY

Salah SaeedHashim[1],SaharAdham Ali[2]
[1]*MSN , "Ministry of Higher Education &Scientific Research, Al-furat Al-Awsat Technical University,Babylon technical institute"*
[2]*Assist prof . Dr. University of Babylon – College of Nursing –Adult Nursing Department.*
salahnursing@gmail.com

ABSTRACT

Background: Chronic kidney disease is a global disease that affects people of all ages. Reduced glomerular filtration, which is linked to dysfunction or job loss and regulatory secretary kidney and endocrine dysfunction, is identified when the rate of glomerular filtration is less than "15 ml / min / 1.73 m^2 values.

Objective: To determine the physical symptoms for patient undergoing hemodialysis

Method: Quantitative study descriptive design carried out to reach the objectives of the study from the period from 27 September 2020 through 20 June 2021. Purposive sample from (150) patient who scheduled for regular hemodialysis sessions. Special form prepared to facilities data collection, the form divided to two parts, first part consist (6) items related to demographical characteristics while the second part two consist (6) items focused on physical symptoms distributed related to body systems.

Result: The majority of the study sample have been 85 (56.7%) male, the highest percentage of age 64(42.7%) were ranged between (56-70) years old, the highest percentage 42 (28%) primary school, while the majority of samples 106 (70.7%) were married. In addition, 58 (38.7) have free job depending on their working status. Related to chronic diseases most of the study sample (60%) were with hypertension.

Conclusion:

Most of the study sample recorded fair physical symptoms related to body system (cardio, respiratory, digestive, urinary and musculoskeletal), while the results presented low staterelated to sexual interestand difficulties to become aroused.

Key words: Physical symptoms, patient, hemodialysis

I. INTRODUCTION

Chronic kidney disease is a global problem that affects people of all ages. Reduced glomerular filtration, which is linked to dysfunction or job loss and regulatory secretary kidney and endocrine dysfunction, is identified when the rate of glomerular filtration is less than "15 ml / min / 1.73 m 2 values (Khalaf, 2016).

Patients on dialysis may be at risk for a variety of acute consequences, including low blood pressure, nausea, vomiting, headaches, convulsions, sleeplessness, confusion, high blood pressure, fainting, irregular heartbeats, and convulsions. Patients undergoing dialysis treatment must be able to deal with these physiological problems (Koca&Eren,2014).

Chronic kidney disease has evolved into a major public health concern. Renal replacement treatment is being used by approximately 1.4 million people throughout the world. Early intervention is one method to lessen the financial burden of chronic renal disease. To do so, it's vital to identify people who are at a higher risk of developing renal disease. The genetic and phenotypic composition of an individual causes kidney disease. Significant influences include race, gender, age, and family history. For example, having African-American

heritage, being older, having a low birth weight, and having a family history of renal disease are all important risk factors for chronic kidney disease. Furthermore, renal disease can be caused by smoking, obesity, hypertension, and diabetes mellitus. End-stage renal disease can develop fast in a patient with uncontrolled diabetes and/or hypertension. Exposure to heavy metals, excessive alcohol use, smoking, and the use of analgesics are all risk factors. Risk factors include acute renal failure, hyperlipidemia, a family history of cardiovascular disease, metabolic syndrome, HIV infection, hepatitis C virus infection, and malignancy (Kazancioglu, 2013).

Objective:

To determine the physical symptoms for patient undergoing hemodialysis

Methodology:

Quantitative study descriptive design carried out to reach the objectives of the study from the period between 27September 2020 through 20 June 2021.Purposive sample from (150) patient who scheduled for regular hemodialysissessions were selected. Special form prepared to facilities data collection, the form divided in to two parts, first part consist (6) items related to demographical characteristics while the second part two consist (6) items focused on physical symptoms distributed related to body systems. The validity of the form obtained by content validity from (13)experts, data collected by face to face interview the form need about (20-30) minutes to be completed for each participated.

Ethical and administrative consideration

Official agreement was obtained from the Ministry of health - Babylon health department training and development Center which directed to babilcenter for hemodialysis units in Imam Al-sadiq Teaching Hospital and hemodialysisunit in Marjan Teaching Hospital.empleded consent agreement was obtained from the participant afterthey receiving explaining about the study and its objectives.

II. RESULT:

Table (1) Distribution of Demographical Characteristics of study sample Sample

Variables		Study Sample(N=150)	
		F	%
Age groups	(25-40) years	44	29.3
	(41-55) years	42	28
	(56-70) years	64	42.7
Gender	Male	85	56.7
	Female	65	43.3
Level of Education	Not read and not write	31	20.7
	Read and write	20	13.3
	Primary school	42	28
	Secondary school	41	27.3
	Bachelor	16	10.7
	post graduated	0	0
Marital Status	Single	21	14
	Married	106	70.7
	Divorce	3	2
	Widowed	18	12
	Separated	2	1.3

Working Status	Student	3	2
	Employee	15	10
	Jobless	24	16
	Free job	58	38.7
	House wife	26	17.3
	Retired	24	16
Residency	Rural	71	47.3
	Urban	79	52.7

Table (1) depicts the following distribution of personal characteristics: The study sample had a higher amount of males (85; 56.7 percent) and the highest percentage of people aged (64; 42.7 percent) who were between the ages of 56 and 70.

In terms of education, primary school had the largest number (42; 28%), whereas the bulk of the samples (106; 70.7%) were married. Furthermore, (58; 38.7%) of the participants have a free job based on their employment status, and (79; 52.7%) of the participants will live in an urban area.

Table (2): Distribution of participants according to BMI

No.	Classification of BMI as WHO	Sample (N=150)		Minimum kg/ m^2	Maximum kg/ m^2
		F	%		
1	Under Wight (<18.5 kg/ m^2)	9	6	13.3	18.3
2	Normal Wight (18.5 – 24.9 kg/ m^2)	79	52.7	19.1	24.9
3	Over Wight (25 – 29.9 kg/ m^2)	41	27.3	25.1	29.7
4	Obese (30 – 34.9 kg/ m^2)	15	10	30.4	34.6
5	Extremely Obese (>35 kg/ m^2)	6	4	37.1	42.9
General		150	100	13.3	42.9
Body Mass Index (BMI)		Minimum	Maximum	Mean	±SD
		13.3kg\m	42.9kg\m	25.2	4.96

According to the WHO classification of BMI, the largest proportion of patients in normal body weight between (18.5 – 24.9 kg/ m2) was (79; 52.7 percent), while the lowest percentage was (6; 4 percent) of patients who were extremely obese according to BMI value (>35 kg/ m2). In terms of body mass index, the lowest result was 13.3 kg/m2, while the highest was 42.9 kg/m2.

Table (3): allocation of the study sample related to the present symptoms of digestive system

No.	Items	Mean ±SD	Assessment
1	Change in taste	1.58 ±0.753	Good State
2	Lack of appetite	1.86 ±0.760	Fair Symptom
3	Constipation	1.61 ±0.818	Good State
4	Diarrhea	1.38 ±0.564	Good State
5	Stomach pain such as (cramps)	1.60 ±0.655	Good State
6	Dry mouth	2.52 ±0.730	Worse Symptom
7	Thirst	2.51 ±0.775	Worse Symptom
8	Food cravings	1.54 ±0.756	Good State
9	Nausea	1.77 ±0.737	Fair Symptom
10	Felling bloated	2.01 ±0.938	Fair Symptom
11	Loss of weight	1.61± 0.888	Good State
General assessment		1.81 ± 0.383	Fair Symptom

(1-1.6= good state, 1.7-2.3= fair symptom, 2.4-3= worse symptom)

Table (3) displays the participants' ratings of their digestive system symptoms. The overall rating of current symptoms was (1.81 0.383), indicating a fair symptom level.

Table (4):allocation of the study sample related to the present symptoms of symptoms of musculoskeletal system

No.	Items	Mean ±SD	Assessment
1	Pelvic pain	1.40 ±0.666	good state
2	Swelling of upper extremities	1.29 ±0.638	good state
3	Swelling of lower extremities	1.98 ±0.930	fair symptom
4	Feeling tired or fatigued	2.69 ±0.636	worse symptom
5	Lack of energy or feeling washed out	2.69 ±0.634	worse symptom
6	Joint pain	2.21 ±0.887	fair symptom
7	Muscles cramps during dialysis	1.75 ±0.741	fair symptom
8	Muscles weakness	2.25 ±0.835	fair symptom
9	Muscles soreness	1.90 ±0.925	fair symptom
General assessment		2.01 ±0.499	Fair Symptom

(1-1.6= good state, 1.7-2.3= fair symptom, 2.4-3= worse symptom)

Table (4): represents the symptoms of patient's related to musculoskeletal system, the overall assessment recorded (2.01±0.499) mean which indicate fair symptoms.

Table (5): allocation of the study sample related to the present symptoms of Cardiovascular System

No.	Items	Mean ±SD	Assessment
1	Hypotension	1.67 ±0.764	good state
2	Hypertension	2.30 ±0.809	fair symptom
3	Chest pain	1.59 ±0.743	good state
4	Palpitation	1.70 ±0.750	fair symptom
5	Anemia	2.22 ±0.623	fair symptom
General assessment		1.89 ±0.337	Fair Symptom

(1-1.6= good state, 1.7-2.3= fair symptom, 2.4-3= worse symptom)

According to the symptoms of cardiovascular system, Table (5): shows that the assessment of those symptoms presented (1.89 ±0.337) mean which indicate fair symptom presence related to the cardiovascular System.

Table (6):allocation of the study sample related to the present symptoms of respiratory system

No.	Items	Mean ±SD	Assessment
1	Shortness of breathing	1.63 ±0.755	good state
2	Orthopnea	1.96 ±0.962	fair symptom
3	Cough	1.59 ±0.716	good state
General assessment		1.72 ±0.203	Fair Symptom

(1-1.6= good state, 1.7-2.3= fair symptom, 2.4-3= worse symptom)

Table (6) shows the symptoms of the respiratory system, with a mean of (1.72±0.203), indicating a fair symptom.

Table (7):allocation of the study sample related to the present symptoms of genitourinary system

No.	Items	Mean ±SD	Assessment
1	Burning sensation	1.39 ±0.731	good state
2	Oliguria	1.33 ±0.650	good state
3	Lack of sexual interest	2.70 ±0.599	worse symptom
4	Difficulty in becoming aroused	2.69 ±0.625	worse symptom
5	Frequent urination	1.25 ±0.517	good state

General assessment	1.87 ±0.752	Fair Symptom

(1-1.6=good state, 1.7-2.3= fair symptom, 2.4-3= worse symptom)

According to table (7): the overall assessment result was (1.87±0.752) mean, which showed fair symptoms for genitourinary system problems.

Table (8):allocation of the study sample related to the present symptoms of integumentary system

No.	Items	Mean ±SD	Assessment
1	Itchy	2.00 ±0.867	fair symptom
2	Slow healing of sores	1.44 ±0.807	good state
3	Change in nails	1.52 ±0.800	good state
4	Hair loss	1.53 ±0.817	good state
5	Excessive sweating	1.44 ±0.709	good state
6	Dry skin	2.17 ±0.888	fair symptom
General assessment		1.68 ±0.318	fair symptom

(1-1.6= good state, 1.7-2.3= fair symptom, 2.4-3= worse symptom)

The symptoms of the integumentary system among individuals are shown in table

(8) As (1.68±0.318) fair symptoms for the overall mean.

III. DISCUSSION

When the findings of the demographical Characteristics presented the participants age recorded a two-third of participants 64 (42.7%) aged between (56-70) years old, this findings clearly directed that the disease occurs mostly in advanced age as being the age expresses an experience deteriorating physical and psychological functions.

In a similar vein, the number of elderly dialysis patients is rising in several nations. In Japan, for example, the growth is connected to a rise in dialysis patients aged 70 and up (Hanafusa et al., 2017).

According to the United States Renal Data System (USRDS), the dialysis population in the United States is trending in the same direction. The proportion of dialysis patients aged 50 and up is much higher (USRDS, 2015). According to the Dialysis Outcome and Practice Patterns Study (DOPPS), approximately half of Belgium's dialysis patients are 75 years old or older (Canaud et al., 2011).

Regarding gender, most of the study sample are males 85 (56.7%) compared to females 65 (43.3%). This result is comparable to a research that found that males were more likely than women to be on hemodialysis in all age categories (59 percentvs 41 percent overall), with substantial variations between nations. Men had a greater estimated glomerular filtration rate at the start of hemodialysis than women (Hecking et al., 2014).

Estimated glomerular filtration, estimated from blood creatinine, is frequently used to decide when patients begin dialysis; however, because creatinine production rates are lower in women, this might lead to a lead time bias, with male patients beginning dialysis sooner than females (Vongsanim, & Davenport, 2019).

The male predominance may be due to societal treatment seeking behavior in which people avoid treating females, as well as the fact that therapy is costly and lifelong (Santosh et al., 2016).

With respect to educational level, most of the study sample are primary school 42 (28%), these findings comes in the same line with findings of study which conducted among patients undergoing hemodialysis, the findings illustrated that the patients were express low level of education (primary to secondary school) and those means patients not aware their management of health status under the renal failure (Van Bulck et al., 2018).

Hemodialysis patients with a low level of education face daily challenges such as significant symptom burden, time limits to dialysis treatment sessions, rigid compliance to fluid and dietary intake, and a significant pill burden, all of which contribute to patient perceptions of a poor quality of life. (Janosevic et al., 2019).

In terms of marital status, the majority of studied sample were married 106 (70.7%), due to advance age so, naturally, we find that they are married. This finding is supported by a convenience sample composed of 650 hemodialysis patients. Their findings demonstrated that 52% of studied sample were married because their age

over 60 years. Whether human has a disease or not, so it is normal for him to be married in mostly (Polikandrioti et al., 2017).

Related to work status findings indicated that those who are with free works composed the majority 58 (38.7%),while results from the Manitoba chronic kidney disease cohort, the results found that most of the patients with kidney disease especially undergo hemodialysis were unemployment (jobless) because older people and limitations roles in their life (Chartier et al., 2018).By the older age groups, approximately 68% of them not working among the hemodialysis patients in Jordan (Shdaifat&Manaf, 2013).

The data suggest that the urban population accounted for the majority of the study sample, accounting for 79 (52.7%) of the total. This could be due to the fact that kidneys are not readily available in the majority of the study group. In the private sector and in metropolitan locations where they are unable to benefit themes from rural areas due to facility costs and trip distance.

These findings are backed up by a hemodialysis finding in a tertiary care facility in Davangere. This finding revealed that 63 percent of the study participants were from metropolitan areas (Santosh et al., 2016). A study of sickness encroachment among hemodialysis patients revealed comparable trends, with 86 percent of patients hailing from metropolitan areas (Bapat&Kedlaya, 2009).

The results in table (4.2) shown the classification of BMI according WHO, the highest percentage was (52.7%) among those who are normal body weight between (18.5–24.9 kg/ m^2), while the lowest percentage was (4%) of patients were extremely obese according BMI value (>35 kg/ m^2).

The same findings found among (6296) hemodialysis patients with complete data, (1643) died. At study entry, (42%) of patients had a normal weight (BMI, 20–25 kg/m^2), (11%) were underweight, (31%) were overweight, and (16%) were obese (BMI ≥30 kg/m^2) (Cabezas-Rodriguez et al., 2013).

Patients on chronic kidney dialysis have a steady body mass connected with dialysis, with a minimum index of roughly 20 fatalities for those under the age of 60. In investigations of morbidity and mortality, it should look at the BMI of dialysis patients who are older individually (Vashistha et al., 2014).

Most hemodialysis patients are recommended to keep their weight gain between dialysis treatments to no more than 1 kilogram (2.2 pounds) (Loutradis et al., 2019). In comparison, the greatest Body Mass Index value was 13.3 kgm2, whereas the maximum value was 42.9 kgm2.

Hemodialysis has an impact on gastrointestinal function, causing a variety of adaptive and maladaptive reactions. The loss of gut barrier integrity and increased production of uremic toxins are both well-known outcomes of disruption of the colonic microbiota. The findings show that among the examined group, dry mouth and thirst were prevalent digestive system complaints. Hemodialysis patients, on average, have mild symptoms linked to the digestive system (table 3). In end-stage renal disease patients, the total prevalence of gastro-intestinal symptoms, as described by hemodialysis patients, was 70.7 percent moderately symptomatic (Dong et al., 2014).

The findings show that non-specific symptoms such as anorexia, nausea, and vomiting prevail in hemodialysis patients' gastrointestinal tracts, and that these symptoms may be managed with appropriate renal replacement treatment (Santacoloma et al., 2017).

Constipation, indigestion, stomach discomfort, and reflux were the most common complaints. A comprehensive study found that medication usage and dietary data were underreported among the total (5161) participants. Gastrointestinal symptoms are common in dialysis patients; however, the data base is weak, and future research should focus on identifying avoidable causes and potential treatments such as medicines and nutrition.(Zuvela et al., 2018).

As an alternative treatment for the kidneys, kidney cleaning is a more common procedure. In comparison to the general public, dialysis patients have a lower quality of life. It is one of the most serious health difficulties that renal patients face when it comes to cleaning contaminants. Patients who indicated feelings of exhaustion or fatigue, loss of energy, or fatigue were common complaints connected to muscle structural device, as shown in Table (4): In general, the findings reveal that dialysis patients have mild symptoms connected to the structural muscle system.

At the conclusion of the stage, musculoskeletal damage is still a common concern that limits the physical function of people with kidney disease. Arthritis pain is the most prevalent musculoskeletal manifestation (83 percent) among dialysis patients with partial musculoskeletal symptoms (Afifi et al., 2019).

The knee joint was the most usually affected portion (51.5 percent). On the physical role, pain domain, general health, quality of social interaction, and sleep domain, patients with MSK symptoms scored significantly lower than those without (Ezzat et al., 2020).

Dialysis users die from heart disease and blood vessel disease in more than half of all cases. Kidney failure is caused by abnormalities in the heart and blood vessels. Furthermore, traditional dialysis places the same strain on the heart muscle system, as well as the cardiovascular and vascular systems of patients. The results shown in table (5) suggest that hemodialysis patients have mild symptoms related to the cardiovascular system.

On the contrary, it is restricted to health and life quality. More than (400,000) people get renal dialysis (HD), and despite advancements in treatment, hospitalization and mortality rates remain high, with poor quality of life. Heart disease and blood vessels are responsible for more than half of all deaths among patients with ESRD, with an irregular heartbeat and cardiac arrest accounting for 38% of deaths due to poor quality of life during therapy (US, 2017).

In a subsequent decade, the study sample revealed that hemodialysis patients had a limited impact on their cardiovascular health. The cardiovascular system was impacted by hemodialysis, with metrics derived from pulse-wave analysis (systolic and augmented pressures, pulse height, ejection duration, SEVR) considerably different at the end of dialysis than previously. Combining analysis results in a pulsed wave with water control.Fresh information about the effects of dialysis on the heart and blood arteries (Debowska et al., 2018).

Fluid overload, uremic cardiomyopathy, secondary hyperparathyroidism, and anemia are just a few of the abnormalities attributed to Type 4 CRS' pathogenesis. The physiology of dialysis patients' cardiovascular issues, on the other hand, is still a mystery (Ahmadmehrabi& Tang, 2018).

Those with kidney illness who are on dialysis face not only a topically impacting disease that eventually leads to an irreversible loss of mass nephrons and functions, but also a syndrome affecting many organs, including members of the respiratory system. The findings revealed that patients with moderate respiratory symptoms were more likely to have a positive outcome (table 6). Shortness of breath is fairly prevalent among renal failure dialysis patients, and those who have moderate symptoms improve following dialysis (Palamidas et al., 2014).

Similar findings were obtained in a research, which revealed that all patients (100%) experienced mild to moderate respiratory problems after dialysis. The most common symptom among kidney patients who improved after dialysis is shortness of breath. One of the key pathophysiologic processes of dyspnea is likely neuromechanical dissociation (Debowska et al., 2018).

Infection of the upper or lower urinary tract by microorganisms such as live bacteria, viruses, fungi, and parasites. Renal failure, also known as renal insufficiency, is a medical disorder in which the kidneys are unable to filter waste from the bloodstream properly. The findings show that a lack of sexual interest and trouble in becoming excited were prevalent genitourinary system symptoms among the participants in the study. Dialysis patients, on the whole, exhibit reasonable symptoms associated to the genitourinary system (table 7).

A procedure that uses a specific machine to filter waste items from the blood stream in place of the kidneys to lower the volume of urine generated daily by the individual naturally could result. This occurs because fluid is eliminated from the blood during dialysis, reducing the usual role of the kidneys, resulting in patients expressing excitement about the difficulty in peeing (Diamantidis et al., 2011).

Kidney failure affects several metabolic and endocrine activities in the kidneys, which can lead to anemia, malnutrition, poor fat and carbohydrate metabolism, protein and incomplete energy consumption, and metabolic bone disorders. With dialysis, the number of cutaneous symptoms associated with this condition increases. As a result, it's critical to recognize the various skin changes. Record patient responses to moderate symptoms when assessing the data.integumentary system integumentary system. Patients undergoing where the study recorded the highest amount of average score had dry skin (Table 8). Many internal organs, including the kidney machine, can be detected using the skin as a window. Skin alterations can leave a little mark on kidney injury (Ghunawat et al., 2015).

Drought and itching are the most common skin symptoms of dialysis patients, according to prior studies (Sanad et al., 2014). The manifestations of skin among the study population, which were more common after skin discoloration, were dry (71%), skin hyper pigmentation (46%), and purpura (35%) respectively. Early detection of these issues is critical to improving these patients' quality of life (Raiesifar et al., 2019).

IV. CONCLUSION

Most of the study samples were male, between (56-70) year's age group, married, and primary school holder, involved in free jobs and urban area residency.

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