University of Basrah

College of Nursing

Assessement of Malnutrition among Patients Undegone Hemodialysis in Al-Basrah Teaching Hospital

In Prtial Fulfillment of the Requirements for the Degree of Bacaloriote in Nursing Science

To College of Nursing/ University of Basrah

A Project Submitted By

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هُوَ الّذِيَ أَنزَلَ السّكِينَةَ فِي قُلُوبِ الْمُؤْمِنِينَ

لِيَزْدَادُوَاْ إِيمَاناً مّعَ إِيمَانِهِمْ وَلِلّهِ جُنُودُ

السّمَاوَاتِ وَالأَرْضِ وَكَانَ اللّهُ عَلِيماً حَكِيما

(سورة الفتح: اية ٤)

Supervisor Certification

I certify that this research, which is entitled (**Assessement of Malnutriion among Patients Undegone Hemodialysis in Al-Basrah Teaching Hospital**) was prepared under my supervision at College of Nursing/ University of Basrah in partial fulfillment of the requirements for the degree of bachloriote in Nursing Sciences..

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Dedication

To those who have suffer for years for fruitful moments, to the good heart my first teacher and role model in life

Our dear father

To the one who placed me among the treasures of her gardens, she stayed the high's on my rest

Our dear mother

To those who have been waiting for along time.To the tributaries of loyalty my strength in life

Our dear brothers

To those who inspired me the Ambition to complete what I started. To the fragments of my life may guard them

Our wife and kids

To my supervisor who didn't hesitate to help me, who helped me in my research thank you very much

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Abstract

Background: Malnutrition is a common problem in patients with end stage renal disease (ESRD) undergoing hemodialysis (HD) that is associated with increased morbidity and mortality.

Objectives: To assess malnutrition among patients with hemodialysis and to findout relationship between malnutrition and some demographic charachteristics**.**

Methodology: A descriptive Cross-Sectional study design, (100) patients participate in the study. The self-report questionnaire was contain two parts which are: **part I** consists of demographic data, **part II** include Mini Nutritional Assessment (MNA®). The data were analyzed by using two statistical approaches: Descriptive and Inferential statistic by SPSS program.

Results: The percent age ranging between (51-60 years) were (25.5%), and less than half of participants were males (48.1%). body weight (48.0 %) were at a level (57-77 kg). Patients of hemodialysis were at risk of malnutrition (70.0%), but normal nutritional state were (5.0%).

Conclusion: The study concludes that majority of the hemodialysis patients were at risk of malnutrition (70.0%), but the lowest percent were normal nutritional state (5.0%). The relationship between malnutrition scores and sociodemographic data is insignificant, the nutritional status of hemodialysis patients affected by hemodialysis sessions.

Recommendations: Improving knowledge and practice of patients with ESRD about importance of nutrition, followed up by health-care team in HD centers. The use of a valid and easy scale such as MNA may provide a quick and valid picture on the nutritional status of HD patients.

Keywords: Asessmenet**,** Malnutrition, Hemodialysis.

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List of Abbreviations

Abbreviations	Word
AV	Arterio-Venous
BMI	Body Mass Index
Cm	Centimeter
CNS	Central Nervous System
CKD	Chronic Kidney Disease
CRF	Chronic Renal Failure
ESRD	End Stage Renal Disease
IDPN	Entradialytic Parenteral Nutrition
eGFR	estimated Glomerular Filtration Rate
GFR	Glumerular Filtration Rate
HD	Hemodialysis
Kg	Kilogram
MNA	Mini Nutritional Assessment

N	**Number of cases**
PEG	**Percutaneous Endoscopic Gastrostomy**
PD	**Peritoneal Dialysis**
PEW	**Protein Energy Wasting**
QOL	**Quality Of Life**
RRT	**Renal Replacement Therapy**
SPSS	**Statistical Package for the social science**
SGA	**Subjective Global Assessment**

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Chapter One

Introduction

Chapter One

1. 1. Introduction

Chronic kidney disease (CKD) is a global widespread epidemic disease, which its prevalence rate is 5-15%. The incidence rate of end-stage renal disease (ESRD) patients requiring dialysis is also increasing [1,2]. Hemodialysis patients have a much higher mortality rate than the general population [3,4]. Several risk factors contribute to increased mortality rate in hemodialysis patients. The most important risk factor is cardiovascular disease [5,6]. An important non-cardiovascular risk factor of mortality among hemodialysis patients is malnutrition [7].

American Society for Parenteral and Enteral Nutrition has defined malnutrition as "an imbalance of need and supply of energy, protein and micronutrients leading to growth and development defect" [8]. Malnutrition in the form of protein energy wasting (PEW) is highly prevalent in hemodialysis patients [9].

Inadequate intake of certain nutrients, anorexia, nutrient losses during hemodialysis, and elevated protein catabolism due to increased production of inflammatory cytokines and drug-related factors contribute to nutritional deficits in hemodialysis patients [10].

Nutritional inadequacy caused by numerous factors (e.g. metabolic acidosis, altered intestinal flora, and hormonal dysregulation) can progress kidney disease and increase mortality and morbidity [1].

Malnutrition in these patients reduces quality of life, increases the risk of infection, increases the risk of diseases, and impairs wound healing. It also results in poor rehabilitation, fatigue, lethargy, as well as increased hospitalization and mortality in these patients [3]. Therefore, it is essential to

assess nutritional status for early diagnosis of malnutrition in these patients in order to take effective measures to initiate supportive nutritional program.

Nutritional status was reported to differ in various races and regions. Therefore, it is essential to assess nutritional status of these patients [11]. The prevalence of malnutrition in HD patients varies widely, ranging from 16% to 62% depending on the study subjects and assessment methods [12]. It is advocated that early detection of malnutrition will facilitate early and comprehensive nutritional support, management and prevention of the associated negative clinical outcomes for malnutrition [13].

The aim of the current study was to estimate the prevalence of malnutrition among HD adult patients by using Mini Nutritional Assessment scale to gain an insight into this problem in Basrah City.

1. 2. Importance of the Study

With a prevalence of 10 to 60% , malnutrition continues to be a problem in Chronic Renal Failure (CRF) patients on Hemodialysis (HD), increasing their morbidity and mortality Factors that discourage food intake and promote hypercatabolism can lead to malnutrition[14].

Among them are anorexia due to uremia, gastrointestinal disorders, psychological factors, severedietary restrictions, social problems, comorbidities, inflammatory processes, hypercatabolism due to nutrient losses during dialysis and metabolic changes. Detecting malnutrition in CRF patients is a challenge [15].

1. 3. Problem Statement

Assessement of Malnutrition among Patients Undegone Hemodialysis in Al-Basrah Teaching Hospital.

1. 4. Objectives of the Study

The study aims at:

1. To assess malnutrition among patients with hemodialysis.
2. To find out relationship among malnutrition and some demographic charachteristics (Age, Sex, Educational level, Mrital status, and Residence)

1. 5. Research Question and Hypothesis

What is the relationship between malnutrition and hemodialysis in patients with chronic kidney disease ?

1. 6. Definitions of Terms

1. Assesssment

a. Theoritical Definition

Assessment refers to a related series of measures used to determine a complex attribute of an individual or group of individuals. This involves gathering and interpreting information of attainment of goals [10].

b. Operational Definition

Is action or an instance of making a judgment about patients with hemodialysis.

2. Malnutrition

a. Theoritical Definition

An imbalance of need and supply of energy, protein and micronutrients leading to growth and development defect is highly prevalent in hemodialysis patients [8].

b. Operational Definition

The condition that develops when the body is deprived of vitamins, minerals and other nutrients it needs to maintain healthy tissues and organ function. Malnutrition occurs in people who are either undernourished or overnourished.

3. Hemodialysis

a. Theoritical Definition

Medical procedure to remove fluid and waste products from the blood and to correct electrolyte imbalances. This is accomplished using a machine and a dialyzer, also referred to as an "artificial kidney"[12].

b. Operational Definition

It is a procedure in which a machine filters harmful waste and excess salt and fluid from the body when the kidneys not able to perform normal function.

Chapter Two

Review of The Literatures

Chapter Two

Review of the Literatures

This chapter reviews the related and relevant evidence on the subject of the study as available in the literature. Such a review is organized systematically and presented as follows:

2. 1. Historical Overview

The first scientific descriptions of these procedures dates back to the 19th century and came from the Scottish chemist Thomas Graham, who became known as the "Father of Dialysis." At first, osmosis and dialysis became popular as methods used in chemical laboratories that allowed the separation of dissolved substances or the removal of water from solutions through semipermeable membranes [16].

The first historical description of this type of procedure was published in 1913. Abel, Rowntree, and Turner "dialyzed" anesthetized animals by directing their blood outside the body and through tubes of semipermeable membranes made from Collodion, a material based on cellulose. It is impossible to say for sure whether Abel and his colleagues intended to use this procedure to treat kidney failure from the start [17].

There is no doubt, however, that dialysis treatment today continues to use major elements of Abel's vividiffusion machine. Before the blood could be routed through the "dialyzer," its ability to clot or coagulate had to be at least temporarily inhibited. Abel and his colleagues used a substance known as hirudin, which had been identified as the anticoagulant element in the saliva of leeches in 1880 [18].

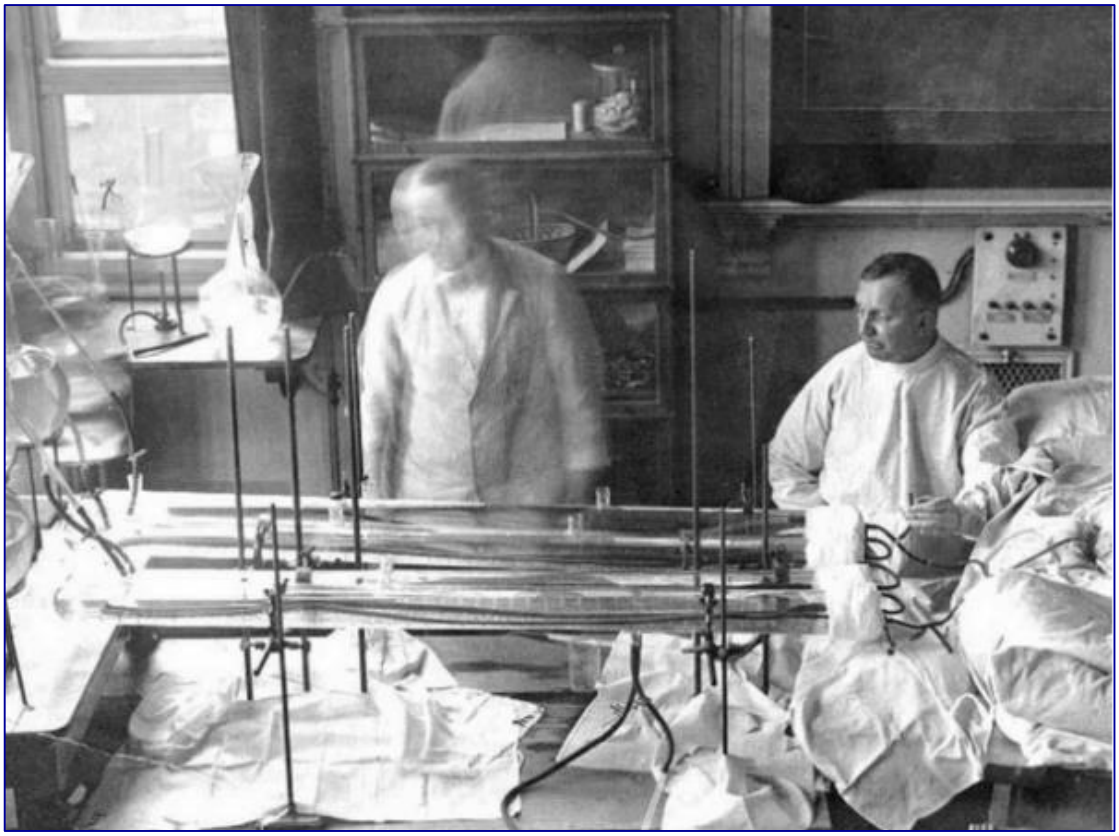

Figure (2-1) show Dr. Georg Haas performing dialysis on a patient at the University of Giessen

In fall 1945, Willem Kolff, of the Netherlands, made the breakthrough that had stubbornly eluded Haas. Kolff used a rotating drum kidney he had developed to perform a week-long dialysis treatment on a 67-year-old patient who had been admitted to hospital with acute kidney failure.The patient was subsequently discharged with normal kidney function as shown in figure (2-1). This patient proved that the concept developed by Abel and Haas could be put into practice and thus represented the first major breakthrough in the treatment of patients with kidney disease. The success was partially due to the technical improvements in the actual equipment used for the treatment. Kolff's rotating drum kidney used membranous tubes made from a new cellulose-based material known as cellophane that was actually used in the packaging of food. During the treatment, the blood-filled tubes were wrapped around a wooden drum that rotated through an electrolyte solution

known as “dialysate.” As the membranous tubes passed through the bath, the laws of physics caused the uremic toxins to pass into this rinsing liquid [19].

While consensus exists as to the importance of identifying and treating malnourished CKD patients [20]. The necessary tools for such intervention are currently lacking. Over the years, many methods have been proposed to identify malnourished and wasted CKD patients, as well as to grade the severity of their state [21, 22].

Unfortunately, none has proven both easy to use in the clinical setting, easy to interpret and accurately linked to patient outcomes and composite nutritional status. Thus, there is currently no single tool that can be used to identify high-risk individuals; with so many concurrent metabolic and nutritional abnormalities, such a tool has remained elusive, the National Kidney Foundation Clinical Practice Guidelines for Nutrition in Chronic Renal failure [23].

Nutritional status should not be evaluated with only a single measure alone, but instead using a combination of valid, complementary measures. Indeed, according to an expert panel directed by the International Society of Renal Nutrition and Metabolism [24].

2. 2 Classification of Chronic Kidney Disease (CKD)

Long relatively unnoticed, the worldwide trend of increasing body weight, hypertension and insulin resistance in the population has been followed by a similar but delayed increase in CKD prevalence [25]. This increase has also led to an increased awareness, and a common nomenclature developed to facilitate clinical and scientific evaluation. According to this, CKD can be divided into 5 stages (Table 2-1) depending on the presence of kidney damage, i.e., albuminuria, and loss of kidney function as assessed by

glomerular filtration rate (GFR). CKD is usually characterized by a progressive course of worsening renal function eventually leading to stage 5 CKD, also called end-stage renal disease (ESRD), which requires renal replacement therapy (RRT). Currently, two major kinds of RRT are clinically available, dialysis and kidney transplantation. Dialysis is furthermore available as hemodialysis (HD, entailing extracorporeal filtration of blood) or peritoneal dialysis (PD, which utilises the peritoneal membrane as a filter) [26].

(Table 2-1) Classification of Chronic Kideney Disease.

Prevalence of CKD*	Stage	Description	GFRmL/min/ 1.73m2)
3.1%	CKD 1	Kidney damage with normal GFR	≥ 90
4.1%	CKD 2	Kidney damage with mildly decreased GFR	60-89
7.6%	CKD 3	Moderate decrease in GFR	30-59
0.25%	CKD 4	Severe decrease in GFR	15-29
0.25%	CKD 5	Kidney failure	< 15 or dialysis

*Prevalence of CKD in the American population [13]

2. 3. How Chronic Kidney Disease Alters Nutritional Status

Patients with CKD present a variety of metabolic and nutritional abnormalities [27]. An early diagnosis and proper treatment of these conditions, including dietary interventions, can slow down the progression of disease symptoms [28], and may also ameliorate disease complications such as hyperkalemia, acidosis and sarcopenia [29].

Metabolic and nutritional abnormalities arise in CKD from both pathophysiological (e.g. uremic toxicity, altered metabolism) and iatrogenic (e.g. polypharmacy and the prescription of a low protein diets to slow disease

progression) causes. Patients with renal disease are also more vulnerable to malnutrition due to their intake of numerous medications, a more restrictive diet, disabilities and disease-related social issues. With the start of dialysis, some of these abnormalities are improved, but others remain or worsen, while new factors also likely contribute to increase the prevalence of malnutrition and protein-energy wasting (PEW) in this population [30].

2. 4. Malnutrition versus Protein-Energy Wasting (PEW)

Malnutrition in the context of CKD occurs when an inappropriate dietary intake of one or more macro- or micro-nutrients results due to an inadequate diet. Meanwhile, wasting is the result of metabolic abnormalities that cannot be corrected solely by an improved diet [30], thus, malnutrition may indicate both a state of under-nutrition and one of energy excess [31]. For instance, malnutrition may be diagnosed both in a sarcopenic dialysis patient with a too low calorie intake, as well as in an obese insulin-resistant patient with CKD stage 3 and a very high energy intake. **Protein-energy wasting** is defined as a state of gradual and non-functional loss of muscle and fat tissue, eventually resulting in cachexia [32, 33].

Decreased functional capacity due to metabolic stresses is often present. The described state is not merely caused by an inadequate dietary intake, but rather the result of disease processes such as acidosis [34], inflammation driven catabolism, nutrient losses in the dialysate, along with endocrine disturbances, such as hyperparathyroidism, hyper-glucagonemia [35].

protein-energy wasting is currently the recommended term to describe the commonly observed alterations of nutritional status seen with CKD [36], although the term malnutrition is still widely used. PEW may be seen as a broader concept that includes also malnutrition; in reality, both PEW and “pure” malnutrition are usually present in CKD patients with poor nutritional

status. Further differentiating the two syndromes, PEW is but mostly caused by alterations in physiological processes such as energy expenditure, inflammation, central nervous system (CNS) signaling and endocrine disorders, resulting in inappropriate catabolism of muscle more than of fat [37, 38].

Low protein diet is advocated for many CKD stage 4 and 5 subjects, as it has been demonstrated to reduce uremic symptoms and to slow the rate of renal function decline [39]. Low protein diet may also result in a negative protein balance, especially in subjects not taking amino acid and/or keto acid supplementation [40].

2. 5. Management of Malnutrition in Chronic Renal Failure

Nutritional status should be monitored regularly in all children with (CKD), the best measures of nutritional status in children with CKD have not been established [41]. Adequate nutritional status can perhaps be best defined as maintenance of normal pattern of growth and normal body composition by consumption of appropriate amounts and type of food [42].

Nutritional status is particularly important, because itinfluences growth sexual development, and neurocognitive development[43].

Consultation with dietitian should take place at least 3 times yearly. Dietetic documentation should include reports of food intake, subjective global assessment, anthropometric measurement, estimation of the serum albumin, and prealbumin, the serum lipid profile, sodium and potassium intake, calcium and phosphorus status, and any change in body weight [44].

An awareness of energy expenditure in chronic terminal kidney failure and the consequences of malnutrition have lead to new challenges in nutritional therapy, both in the dose and quality of the proteins, with

adebate ranging over the advantages of ketoanalogues, and also in method for repletion in oral administration , but this can be enhanced with artificial support such as oral supplements, parental nutrition during dialysis or such alternatives as enteral nutrition at home in the case of chronic kidney problems in children, using percutaneous endoscopic gastrostomy (PEG), in order to nourish the patients and minimize growth disorder [45].

Certain general measures for prevention and treatment of uraemic malnutrition should be considered in all ESRD patients. Considering the catabolic nature associated with uraemia and chronic dialysis it is clear that ESRD patients should be continually encouraged to maintain adequate protein and caloric intake. Most of these patients tend to continue their predialysis diet while on chronic renal replacement therapy .

It is therefore especially important to ensure that the protein and calorie intake of these patients meets the increased requirements of dialysis. Frequent comprehensive dietary counseling by an experienced dietitian is important, as is detection of early sign of malnutrition. Similar efforts should be expended not only in out patients setting, but also when the patients are hospitalized, a setting in which these patients have ever lower protein and calorie intakes.

Dietary counseling to improve nutritional status is limited in optimizing the dietary intake in certain subgroup of malnourished dialysis patients. For these patients, other forms of supplementation, such as enteral (including oral protein, amino acids, and energy supplementations, nasogastric tubes, percutaneous endoscopic gastroscopy, or jujunostomy tubes) and entradialytic parenteral nutrition (IDPN) must be considered. Several recents reports have recommended use of IDPN in malnourished chronic dialysis patients if enteral nutritional supplementation has not been effective. The early studies by Heidland and Kult, as well as several

subsequent studies, reported positive effects of intradialytic infusion of nutrients on several nutrition al parameters [46].

2. 6. Vital Functions of healthy kidneys

1) Kidneys play an important role in homeostasis as they maintain the normal environment of the body.
2) The waste products produced in various metabolic activities are excreted through kidneys.
3) Water and electrolyte balance in the body is also maintained by the healthy kidneys.
4) Kidneys secrete various hormones like erythropoietin, renin, thrombopoietin, prostaglandins etc.

These hormones regulate the blood pressure and calcium level in the body. In case of any renal disease, kidneys are unable to perform these normal functions and would result in water and sodium retention in the body. Also kidney failure may lead to accumulation of harmful/ toxic waste substances in the body. These may result in increased blood pressure and decreased RBCs production by the bone marrow due to inhibition of erythropoietin release by diseased kidney. Thus pathology of the kidney would require appropriate treatment [48].

2. 7. Hemodialysis

Hemodialysis is a method by which toxic/ metabolic waste substances like impurities are removed from the body when the kidneys are unable to perform their normal function[49]. The word dialysis is derived from the Greek word “dialusis” which means dissolution, “dia” meaning through, and “lusis” mean loosening [50].

2. 7. 1. Dialysis machines

Are artificial kidneys that perform most, but not all, kidney functions for patients who have permanent or temporary renal failure. The machines use hemodialysis to cleanse the blood and balance its constituents. With this process, the patient's blood is circulated through the machine where it is filtered and balanced for electrolytes, pH, and fluid concentration before being returned to the patient shown in figure (2-2).

One common problem with renal failure is water retention, so it is common for the process to remove several pints of fluid from the patient's blood. There are two basic classes of dialysis machines: clinical units, which are commonly cabinet-size machines operated by trained technicians; and home-use dialysis machines, which are smaller and sometimes portable. Normally, patients with complete loss of kidney function would need to visit the clinic at least three times per week and spend about four hours connected to the machine. With home-use machines, patients have more flexibility in scheduling dialysis, and they can dialyze for longer periods and more frequently. Thus, home-use machines are growing in popularity because they offer greater convenience and better clinical outcomes [51].

Figure (2-2) Show Dialysis Machine [51]

2. 7. 2. Principles of Hemodialysis

Hemodialysis is a technique which uses a special filter or semi-permeable membrane that allows the blood to pass through it. The filter then removes the extra water, body waste and toxic products from the blood. This procedure thus cleans the blood, maintains the homeostatic environment of the body and regulates the normal blood Pressure through maintaining the proper fluid and electrolyte balance. Hemodialysis therapy requires dedication as patients must go to the dialysis centre every alternate days and each session requires several hours. However flexibility may be offered to the patient by the medical staff in selecting the shift amongst morning, afternoon or evening hours. The shift selection may depend upon the availability of patient or health care team and also upon capacity at the dialysis unit. Hemodialysis a procedure which actually removes all the waste products of metabolic reaction, electrolytes [52].

Extra water from the blood when the kidney does not perform its normal function e.g. in renal failure. Hemodialysis replaces the filtration function of kidney in case of renal dysfunction. Accumulation of different waste substances from the body is toxic in renal disease and serious abnormalities and even death may occur [53]. Although hemodialysis does not monitor normal body functions as it is not a constant process [54].

It still maintain the homeostatic environment of the body. The principle behind hemodialysis is simple diffusion through a semi-permeable membrane. Counter current flow mechanism allows the blood and dialysate to flow in opposite directions through which concentration gradient is established and efficiency of dialysis is increased [55].

2. 7. 3. Preparation for Hemodialysis

Preparation for hemodialysis starts several weeks to months before first procedure. To allow for easy access to bloodstream, a surgeon will create a vascular access. The access provides a mechanism for a small amount of blood to be safely removed from circulation and then returned in order for the hemodialysis process to work. The surgical access needs time to heal before begin hemodialysis treatments.

- **There are three types of accesses:**

1) **Arteriovenous (AV) fistula.** surgically created AV fistula is a connection between an artery and a vein, usually in the arm use less often. This is the preferred type of access because of effectiveness and safety.

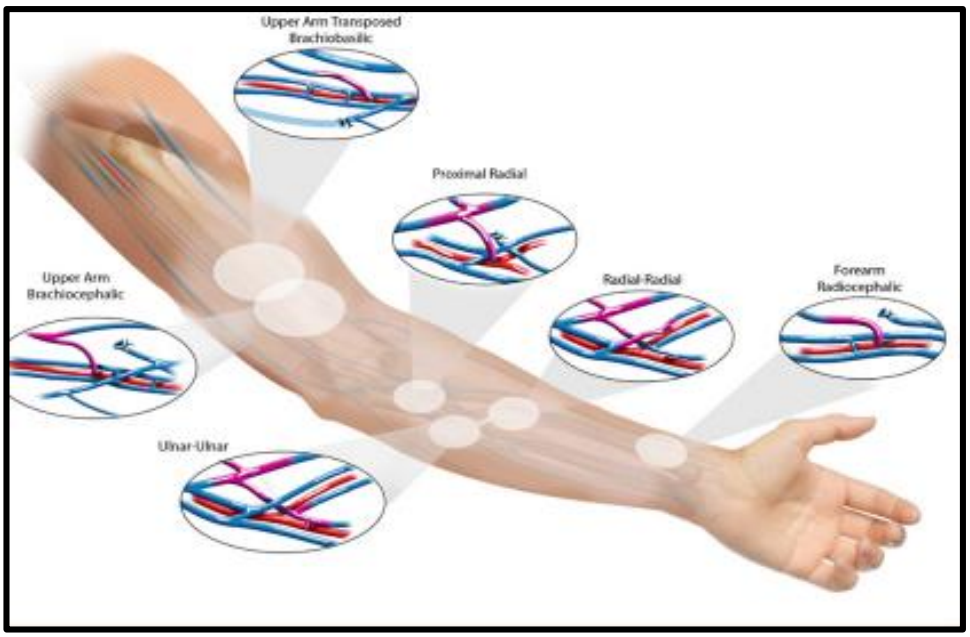

Figure (2-3) Show Arteriovenous Fistula Access Creation Sites [56]

2) **AV graft.** If blood vessels are too small to form an AV fistula, the surgeon may instead create a path between an artery and a vein using a flexible, synthetic tube called a graft.

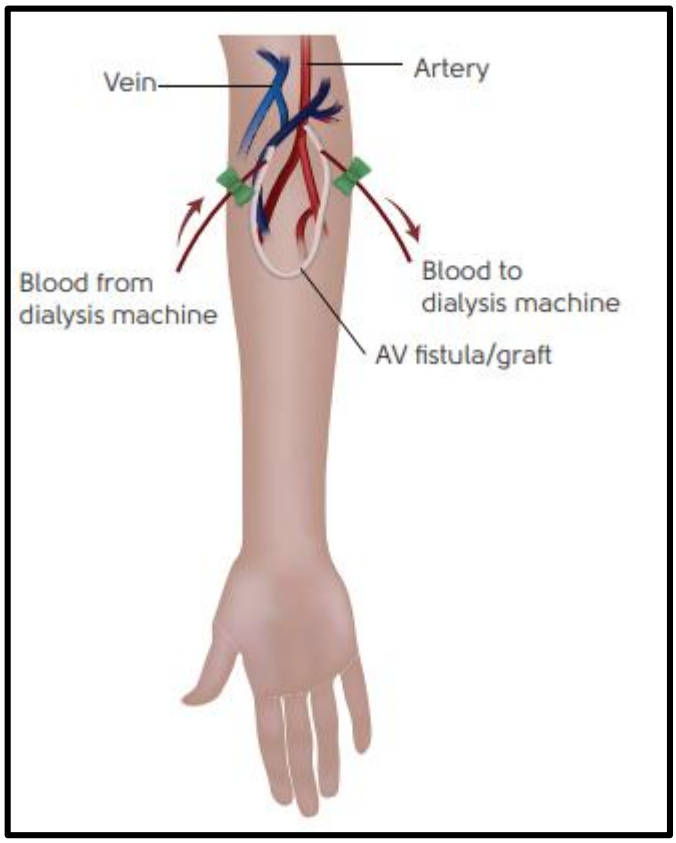

Figure (2-4) Show Arteriovenous Graft Access Creation Sites [57]

3) **Central venous catheter.** If need emergency hemodialysis, a plastic tube (catheter) may be inserted into a large vein in neck. The catheter is temporary.

It's extremely important to take care of access site to reduce the possibility of infection and other complications. Follow health care team's instructions about caring for access site [58].

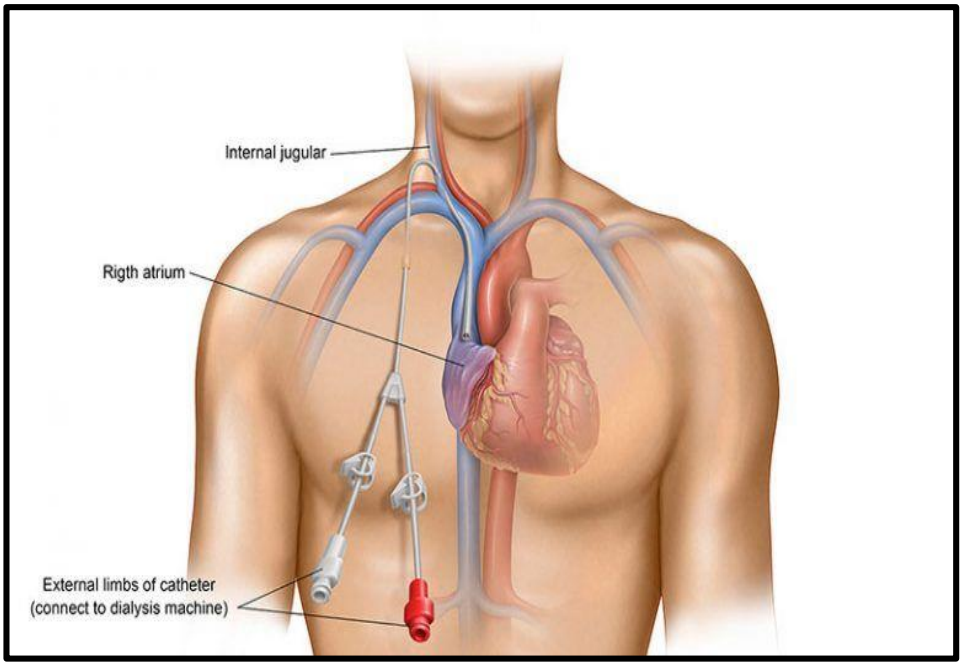

Figure (2-5) Show Central Venous Catheter (59)

2. 7. 4. What are possible problems from hemodialysis?

You could have a problem with vascular access, which is the most common reason someone on hemodialysis needs to go to the hospital. Any type of vascular access may

1) Become infected.
2) Have poor blood flow or blockage from a blood clot or scar.

These problems can keep treatments from working. May need to have more procedures to replace or repair access for it to work properly.

Sudden changes in body's water and chemical balance during treatment can cause additional problems, such as

1) Muscle cramps.

2) A sudden drop in blood pressure, called hypotension. Hypotension can make feel weak, dizzy, or sick to stomach.

Doctor can change dialysis solution to help avoid these problems. The longer and more frequent treatments of home hemodialysis are less likely to cause muscle cramps or rapid changes in blood pressure than standard in-center dialysis.

Can lose blood if a needle comes out of your access or a tube comes out of the dialyzer. To prevent blood loss, dialysis machines have a blood leak detector that sets off an alarm. If this problem occurs at the clinic, a nurse or technician will be on hand to act. If you're using home dialysis, your training will prepare you and your partner to fix the problem.

May need a few months to adjust to hemodialysis. Always report problems to your health care team, who often can treat side effects quickly and easily. You can avoid many side effects by following an eating plan you develop with your dietitian, limiting liquid intake, and taking your medicines as directed [60].

2. 6. 5. Dialysis Modalities and Availability

Dialysis modalities **include**

1) In-center.
2) Satellite or self-care, where dialysis is undertaken with access to support staff to aid in the dialytic procedure.
3) Home hemodialysis.
4) as well as continuous ambulatory and automated peritoneal dialysis.

Prescription patterns can be categorized as conventional, incremental, intensive (short daily or nocturnal), trial-based, and palliative. Availability

of modalities and prescription patterns is usually more a function of local resources, reimbursement policies, and infrastructure than informed patient preferences. In some parts of the world, in-center hemodialysis is the predominant modality, whereas a "peritoneal dialysis first" approach is taken in a number of jurisdictions with excellent outcomes. In industrialized countries, peritoneal dialysis is often more cost-effective than hemodialysis, yet the opposite may be true for countries with no local manufacturing of peritoneal dialysis fluids or with tariffs on importing peritoneal dialysis supplies [61,62,63].

Factors that have been independently associated with a lower likelihood of use of peritoneal dialysis are diabetes as the cause of end-stage kidney disease (ESKD), higher health care expenditure as a percent of gross domestic product, a larger number of private, for-profit hemodialysis facilities, and greater cost of peritoneal dialysis consumables relative to staffing. Early mortality (death within the first 90 days of starting dialysis) disproportionately affects patients receiving in-center hemodialysis. This is likely due, at least in part, to selection bias because patients with acute kidney injury complicating chronic kidney failure or those with poorer health status are more likely to use in-center hemodialysis than peritoneal dialysis [64].

Strategies to reduce early mortality are not well studied. The only absolute contraindication for maintenance hemodialysis is the absence of possible vascular access or prohibitive cardiovascular instability. Peritoneal dialysis is contraindicated if the peritoneal cavity is obliterated, the membrane is not functional, or catheter access is not possible. Anuria is not a contraindication for peritoneal dialysis. All other health conditions are relative contraindications, and therefore the selection of dialysis modality needs to reflect informed patient choice with decision support appropriate to

the health care system. Patients and caregivers need to be informed of the challenges, considerations, and trade-offs of the different dialysis modalities so that modality selection can be tailored to their health and social circumstances. In multiple countries it has been reported that men more commonly receive dialysis than do women [65, 66].

Further investigation is needed to clarify whether and where disparities exist, and whether disparities result from biological differences or sociocultural biases. Conference participants recognized that preserving residual kidney function is important and should be a goal for all clinicians and dialysis patients. Yet residual kidney function should not be the sole consideration in selecting the initial dialysis modality, because the quality of evidence comparing decline in residual kidney function across modalities is based on small, mostly single-center, observational studies from more than 2 decades ago [67].

As such, available data are not robust enough to suggest one modality is favorable over another. Similarly, although there is evidence that some patients may benefit from incremental versus thrice-weekly hemodialysis in terms of preserving residual kidney function [68]

2. 7. 6. Urgent Versus Nonurgent and Planned Versus Unplanned Starts

Urgent starts are defined as those in which dialysis must be initiated imminently or in less than 48 hours after presentation to correct life-threatening manifestations. Nonurgent starts are those in which dialysis initiation can be more than 48 hours after presentation. A planned approach is one in which the modality has been chosen prior to the need for dialysis and there is an access ready for use at the initiation of dialysis. An unplanned start is dialysis initiation when access is not ready for use or requires hospitalization or when dialysis is initiated with a modality that is not the

patient's choice. Hemodialysis or peritoneal dialysis is possible in both planned or unplanned and urgent or nonurgent start situations. However, patients who require urgent dialysis in the setting of hyperkalemia, volume overload, or marked uremia are not good candidates for urgent-start peritoneal dialysis. The following are 5 key elements to a successful urgent start in patients in whom peritoneal dialysis is considered by the physician and patient as optimal therapy.

1) Ability to place a peritoneal catheter within 48 hours.
2) Staff education regarding use of catheter immediately after placement
3) Administrative support in inpatient and outpatient settings.
4) Identification of appropriate candidates for urgent-start peritoneal dialysis.

Utilization of protocols in every step of the urgent-start process (from patient selection for peritoneal dialysis through appropriate post-discharge follow-up) The major barriers to an urgent-start peritoneal dialysis program are lack of operators who can place a peritoneal dialysis catheter within the urgent start time frame (i.e., 48 hours) and limited capacity of the health care facility to support peritoneal dialysis treatment for urgent-start patients and train patients on short notice. Where technical expertise in PD catheter placement is lacking, this can generally be addressed by increasing access for training in interventional nephrology by nephrologists and/or radiologists. When critical illness, time, or capacity to offer hemodialysis and peritoneal dialysis limit the initial choice, patients need to subsequently be provided with support to enable transition to their preferred modality when feasible [(69)].

2. 7. 7. Patient Education and Support Preparation For Dialysis

Education and decision aids are essential in helping patients to better understand kidney failure, weigh available treatments, maintain a feeling of control, and share information with family members and/or carers [70].

Additionally, early education is associated with lower mortality after dialysis is initiated [71]. Effective education is usually offered to patients as they approach CKD G4 [72]. Education materials may include tours or videos with interviews of patients using the different modalities. In the absence of patient or system specific contraindications to a form of dialytic therapy, all options should be equally represented.

Comprehensive education may also be available in the inpatient setting and for those who did not have regular follow-up with a nephrologist or access to dialysis education prior to starting dialysis. The dialysis modality is ideally chosen with timely and shared decision-making among the health care team, patients, and their carers. Discussions about options and implications of various dialysis modalities need to include persons who start dialysis in an unplanned fashion. The approach for choosing modality is ideally person-centered, engaging the patient in choosing the dialysis modality in the context of their goals for care, local resources, out-of-pocket costs, capacities of regional health care facilities, and medical feasibility Patients do perceive that home dialysis (peritoneal dialysis or hemodialysis) offers the opportunity to thrive; improves freedom, flexibility and well-being; and strengthens relationships [73]. With appropriate adequate predialysis support and training, it is estimated that up to 50% of patients with ESKD will attain self-care dialysis [74].

2. 7. 8. Supporting patients during dialysis

After a patient starts dialysis, the health care team needs to provide ongoing support to optimize the health benefits of the selected modality.

Support may be needed most in the period immediately after initiation and may decrease over time. Early attrition from peritoneal dialysis or home hemodialysis may result from catheter or mechanical problems, infection, management in a small center, or delayed referral to nephrologists or for CKD care [75].

2. 7. 9 Dialysis Frequency

Increasing the thrice-weekly frequency of dialysis sessions to >4 times may support better management of fluid removal [76]. and lower systolic blood pressure, as well as improve Quality Of Life QOL [77].

Alternately, a shorter but increased frequency of dialysis provided by six HD sessions two-hourly per week may benefit toward greater removal of uremic solutes, as shown in patients with lower trends in pre-dialysis serum levels of creatinine, urea, uric acid, and protein-bound solutes such as indole-3-acetic acid and indoxyl sulfate. However, serum albumin levels and post-dialysis weight did not improve for these patients [78].

In contrast, Rashidi et al. (2011) observed improved weight, BMI, and serum albumin status along with decreased serum CRP in patients converting to four HD sessions four-hourly per week from the standard dialysis regime by six weeks [79].

Dietary intake also improved albeit non-significantly. This may perhaps be explained by improved appetite occurring with greater removal of uremic compounds through more frequent dialysis [80].

2. 7. 10. Dialysis Duration

Increasing the dialysis duration results in greater removal of small and large uremic solutes compared to the standard HD regime [81]. Patients dialyzing for 8 h using a high-flux dialyzer membrane have shown greater total solute removal, dialyzer extraction ratios, and total cleared

volumes for urea, creatinine, phosphorus, and 2-microglobulin compared to patients on standard dialysis, and this occurs without acting dialysis adequacy.

Lower post-dialysis levels of the uremic toxin indoxyl sulfate have been observed in patients dialyzing for 8 h compared to the standard 4 h regime (17.2 _ 3.6 vs. 27.5 _ 3.2 g/mL, p = 0.049), despite both patient groups having similar pre-dialysis levels [82].

2. 8. Previous Studies

First Study:

Freitas et al, 2014, study about **" Prevalence of malnutrition and associated factors in hemodialysis patients ".**

The study aims to assess the prevalence of malnutrition and associated factors in hemodialysis patients. A cross-sectional study of 344 hemodialysis patients from *Goiânia*, *Goiás* aged 18 years or more. Results mild or moderate malnutrition was found in 22.4% of the patients. malnutrition: age between 19 and 29 years (PR=1.23, 95%CI=1.06-1.43), family income less than 2 minimum salaries [82].

Second study:

Rezeq et al, 2018, about "Prevalence of malnutrition in hemodialysis patients: A single-center study in Palestine".

The aim of this study was to determine the nutritional status and prevalence of malnutrition and its predictors among HD patients at An-Najah National University Hospital, Nablus, Palestine. A cross-sectional study was carried out on HD patients in this hospital. Seven-Point Subjective Global Assessment (7-point SGA) was used to assess the

nutritional state of HD patients. Biochemical tests were obtained during the study period from medical files of the studied patients. A total of 106 HD patients were recruited for this study and assessed for nutritional status. More than half (60, 56.6%) of the recruited patients were males.

The majority of the patients (86.8%) were above 45 years of age. Hypertension (65, 61.3%) was the most common comorbid conditions followed by diabetes mellitus (51, 48.1%).

The median SGA score was 5.57 (5–6). More than half of the HD patients (56; 52.8%) were well-nourished while the remaining (50, 47.2%) had mild-to-moderate malnourishment. Univariate analysis indicated that SGA score was significantly higher in HD patients with college education, and those with current occupation ($P = 0.025$). No significant correlation [11].

Third Study:

Zaki et al, 2019, study about "**Assessment of malnutrition status in hemodialysis patients".**

The purpose of this study was to estimate the prevalence of malnutrition among adult HD patients in Cairo, Egypt and to investigate the possible factors correlating with malnutrition in those patients. was a prospective cross-sectional observational study that conducted at 2 dialysis

units in Cairo, Egypt. Patients were evaluated for the nutritional status by using modified subjective global assessment (mSGA). Biochemical and hematological parameters were collected pre-dialysis.

A total of 100 patients with ESRD on regular HD for more than 6 months (64% males and 36% females) were included in the study. Their mean age was 50.2 ± 12.5 years and the primary cause of ESRD was hypertension in 45% and diabetes in 34%. The prevalence of malnutrition was 67% according to the reference standard mSGA; either mildly-moderately malnourished (50%) or severely malnourished (17%). The mSGA score was positively correlated to age, duration of HD, and CRP and negatively correlated with albumin in HD patients [(83)].

Fourth study:

Mousa et al, 2020, about **"Nutritional status of Iraqi adults on maintenance hemodialysis: A multicenter study.**

The objective is to assess the prevalence of malnutrition and its associated factors in adult patients on hemodialysis (HD). A total of 271 participants (149 males and 122 females) from four major dialysis units were included in this descriptive cross‐sectional study conducted from October 2020 to March 2021. Nutritional status was measured using a subjective global assessment tool. The overall prevalence of estimated nutritional status was as follows: 50.2% were well‐nourished, 42.4% were mildly/moderately malnourished, and 7.4% were severely malnourished.

No significant association was detected with regard to age, sex, residence, marital status, occupation, and cause of kidney disease ($P > 0.05$). Higher educational level, lower BMI, and serum albumin were significantly associated with malnutrition ($P < 0.02$, <0.005, and <0.02, respectively) [(84)].

Fifth study:

Ghorbani A, etal, 2020, study about "The prevalence of malnutrition in hemodialysis patients".

To assess the prevalence of malnutrition and associated factors in hemodialysis patients. A cross-sectional study was conducted on 239 hemodialysis patients (162 males and 77 females) referred to three dialysis centers in Ahvaz, Iran in 2018. The nutritional status was measured using subjective global assessment (SGA) tool. (18.8%) patients including 32 males and 13 females had mild to moderate malnutrition while 26 (10.9%) patients consisting of 11 men and 15 women had severe malnutrition.

Found a significant association between patients' gender and malnutrition status ($P = 0.013$). In addition, a significant association was seen between age ($P = 0.024$), BMI ($P = 0.0001$), BMI, patient's gender were the significant predictors of severe malnutrition in hemodialysis patients ($P < 0.05$) [85].

Chapter Three

Methodology

Chapter Three

Methodology

In this chapter, the researcher describes the methods of the study, which include the design of the study, administrative arrangements, ethical considerations, setting of the study, a sample of the study, study instrument, pilot study, data collection, and data analysis.

3. 1. Design of the Study

Descriptive Cross-Sectional study design, is carried throughout the present study about (Assessement of Malnutrition among Patients Undegone Hemodialysis in Al-Basrah Teaching Hospital) from the period of 17th November, 2021 to 10 th April, 2022.

3. 2. Administrative Arrangements

The researcher presented a detailed description of the study protocol including a statement of the problem, goals, and a questionnaire to the Basrah Health Directorate (Human Development and Training Center), (Appendix A1) to obtain official permission to conduct the study. Subsequently, a dialysis center at Al-Basrah Tearching Hospital was approached with approval to obtain an arrangement and cooperation in order to collect study sample (Appendix A2).

3. 3. Ethical Consideration

Before data collection, the researcher met with patients by face-to-face interview. The researcher discussed the aims of the study with patients before participating and obtained oral consent from every patient before data collection.

The patients informed that the study would assess nutritional status, also informed them, that the study did not cause any actual or potential harm to them.

3. 4. Setting of the Study

The study was done at dialysis unit of Basrah Teaching Hospital. This unit serves about 200 patients, providing an average of 3 dialysis sessions per week for each patient, free of charge.

The researcher had chosen this center due to availability of study sample, easily accessible and the collaboration of staff.

3. 5. Population of the Study

Overall study sample composed of (100) patients who visit dialysis unit in Al- Basrah Teaching Hospital. The participants met the study criteria and were included in the study.

3. 6. Sample of the Study

The sample was a purposive, non-probability, includes (100) patients with End Stage Renal Disease ESRD, who were attained to dialysis unit of Basrah Teaching Hospital. The Participants were composed of (51) males and (49) females.

1. Inclusion Criteria

- The study includes patients:
- 18 years of age or older.
- From both sex (Males and females).
- They're able to participate in the study.

2. Exclusion Criteria

- The study excludes patients:

- Newly diagnosed patients with chronic renal failure.
- Patients with peritoneal dialysis.
- They are refusing to participate.
- Those suffering from any psychological illness or unable to care for themselves.

3. 7. Study Instrument

To achieve the study goals. The study instrument consists of two parts (Appendix B1, B2) including:

Part I: Patients Socio-Demographic Data

This part is concerned with the collection of demographic data obtained from the patients by interview questionnaire sheet and consists of (8) variables including (age, weight (kg), Length (cm), gender, marital status, leducational level, Profession, and residence).

Part II: Assessment of Malnutrition:

This part contain the tool was used in the study, available free for researchers, Mini Nutritional Assessment (MNA®). is a screening tool to help identify elderly persons who are malnourished or at risk of malnutrition. Mini nutritional assessment (MNA) contains 16 items and it evaluates four different aspects; anthropometric measurements (BMI, weight loss, mid-arm and mid-calf circumferences); general assessment (lifestyle, medications, mobility and signs of depression); short dietary assessment (number of meals, food and fluid intake) and subjective assessment (self-perception of food and nutrition). Patients were divided into three groups according to the

score. Scores less than 17 out of 30 are considered malnourished, 17-23.5 are at the risk of malnutrition, 24 and above are considered normal [86].

Statistical Analyses were performed by using Statistical Package for the social science (SPSS) program version 24**.**

3. 8. Validity of the Instrument

Content validity of the study instrument is obtained through a panel of (7) experts (Appendix C). These experts are faculty members at the College of Nursing in University of Basrah.

The researcher introduce, a copy of study instrument to those experts and asked them to evaluate content clarity and adequacy. Their responses suggested that the the study instrument are clear and adequate, but need some changes to be more accurate to examine what needs to be tested.

3. 9. Reliability of the Instrument and Pilot Study

To assess the reliability of study instrument, a pilot study was conducted on (10) patients. Participants of the pilot study had the same characteristics as the study sample.

The reliability of the research instrument had been evaluated through the Statistical Package for the social science (SPSS) program version 24, by applying Cronbach's alpha for each axis of the third part of study instrument.

Cronbach's alpha is computed on responses of (10) patients with ESRD through the period of 1 st to 9 th, December 2021.

3. 9. 1. Pilot Study Conclusions

The pilot study concludes:

- The research instrument items have been clear and recognized.
- Each patients test time ranged from (5-10) minutes.

Table (3-1) Reliability of the Study Instrument

Parts of Questionnaire	Cronbach's Alpha	Items	N
Mini Nutritional Assessment	**0. 917**	18	10

Table (3-1) Shows that study instrument is excellent to use in the study depend on Cronbach's alpha value, 0.917. so that the instrument is reliable to test research phenomenon.

3. 10. Statistical Analysis

a. Descriptive Data Analysis:

- Tables (frequencies, percentages, and mean of scores).
- Statistical figures.
- Cronbach's Alpha to determine the reliability of the study instrument.

b. Inferential Data Analysis:

- **Correlation:** To determine the correlation of malnutrition scores with some demographic data.

c. Rating and Scoring:

- Mini nutritional assessment (MNA) contains 18 items.
- Patients were divided into three groups according to the score.

- Scores less than 17 out of 30 are **considered malnourished.**
- 17-23.5 are at **the risk of malnutrition.**
- 24 and above are **considered normal**.

Chapter Four

Results of The Study

Chapter Four

Results of the Study

Table (4-1): Participants Socio-Demographic Characteristics

Demographic Variables	Rating and Intervals	Frequency N=100	Percent (%) N=100
1- Age	20-30 years	13	12.3
	31-40 years	22	20.8
	41-50 years	17	16.0
	51-60 years	**27**	**25.5**
	61-70 years	21	19.8
2- Gender	Female	49	46.2
	Male	**51**	**48.1**
3- Weight (Kg)	37-57	29	29.0
	57-77	**48**	**48.0**
	77-97	23	23.0
4- Lenght (cm)	143-153	11	11.0
	153-163	**43**	**43.0**
	163-173	23	23.0
	173-183	23	23.0
5- Educational Level	**Elementary**	**58**	**54.7**
	Secondary	22	20.8
	Institue	7	6.6
	College	6	5.7
	Post graduate	7	6.6
6- Marital status	**Married**	**83**	**78.3**
	Single	17	16.0
7- Profession	Employee	7	6.6
	Freelancer	**33**	**31.1**
	Housewife	**33**	**31.1**
	Retired	27	25.5
8- Residence	**City center**	**55**	**51.9**
	Outskirts of the city	45	42.5

Table (4-1) shows that participants age group at a level (51-60 years) were (25.5.%). According to the gender (48.1%) were males.

About body weight highest rate at a level (57-77kg) were (48.0 %), but patients lenght (153-163 cm) were (43.0 %). According to the level of education (54.7%) have elementary education.

Relative to marital status participants were married (78.3%). According to the profession (31.1%) were freelancers and housewife. The residence shows that (51.9%) were from city center.

Table (4-2) Assessment of Nutritional level among Patients Undegone Hemodialysis

Nutritional level	Frequency N=100	Percent N=100
Malnutrition State	25	25.0
Risk for Malnutrition	**70**	**70.0**
Normal Nutrition	5	5.0
Total	100	100.0

Table (4-2) Shows that the majority of study participants were at risk of malnutrition (70.0%), but the lowest perecent normal nutritional state were (5.0%).

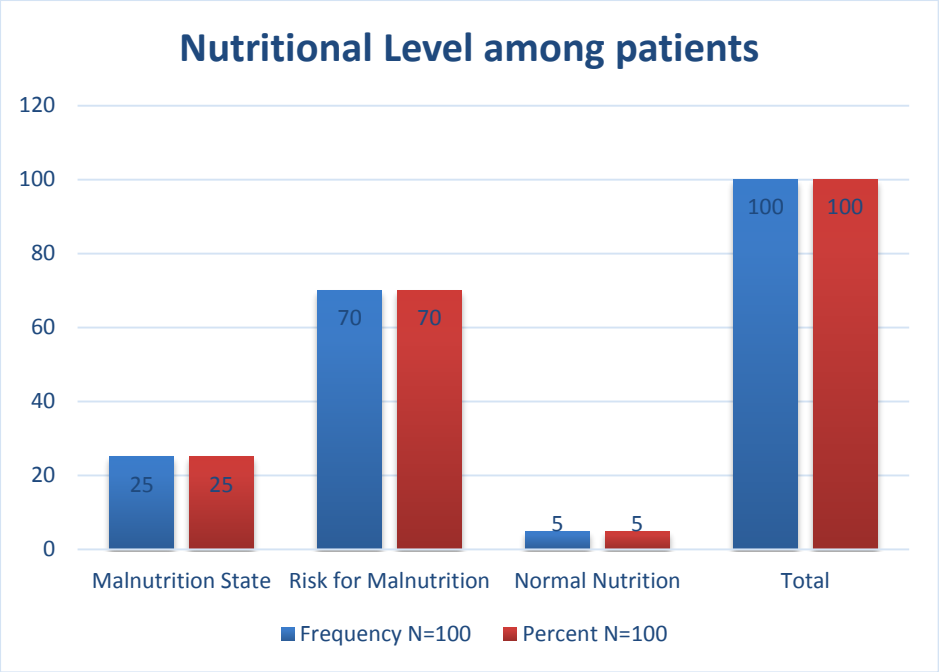

Figure (4-2): Show Malnutrition among hemodialysis Patients

Table (4-3) Relationship between malnutrition scores and sociodemographic data

		score	Age	Sex	Marital status	Educationl level	Profession	Residence
score	Pearson Correlation	1	.120	.008	-.031-	.087	-.193-	-.079-
	Sig. (2-tailed)		.236	.938	.757	.390	.055	.436
Age	Pearson Correlation	.120	1	-.204-*	-.467-**	.102	.188	-.037-
	Sig. (2-tailed)	.236		.042	.000	.311	.061	.717
Sex	Pearson Correlation	.008	-.204-*	1	.071	.216*	-.367-**	.082
	Sig. (2-tailed)	.938	.042		.484	.031	.000	.415
Marital Status	Pearson Correlation	-.031-	-.467-**	.071	1	-.130-	-.076-	.019
	Sig. (2-tailed)	.757	.000	.484		.199	.455	.853
Educational level	Pearson Correlation	.087	.102	.216*	-.130-	1	-.041-	-.410-**
	Sig. (2-tailed)	.390	.311	.031	.199		.684	.000
Profession	Pearson Correlation	-.193-	.188	-.367-**	-.076-	-.041-	1	-.110-
	Sig. (2-tailed)	.055	.061	.000	.455	.684		.277
Residence	Pearson Correlation	-.079-	-.037-	.082	.019	-.410-**	-.110-	1
	Sig. (2-tailed)	.436	.717	.415	.853	.000	.277	

*Correlation is significant at the 0.05 level (2-tailed)

.**Correlation is significant at the 0.01 level (2-tailed)

N=100

Table (4 -3): Shows that, the relationship between malnutrition scores and sociodemographic data is insignificant.

Chapter Five

Discussion of The Results

Chapter Five

Discussion of the Results

This chapter highlights the main points raised in chapter four (Results). Findings were interpreted in a systematic and organized manner with a reasonable discussion that is supported by most related previous studies.

Part I: Discussion of Participants Socio-Demographic Characteristics

Age and Gendedr

Regarding the patients socio-demographic characteristics, the highest percent age ranging between (51-60 years) were (25.5%), and less than half of participants were males (48.1%).

This result agrees with a study conducted by **Zaki et al, 2019** showed that (64% males and 36% females) were included in the study. Their mean age was 50.2 ± 12.5 years.

The researcher explains that the reason behind this findings were due to the target population only adult patients more thn 20 years**.**

Body Mass Index (BMI) (Weight/ Height ^{2})

Regarding body weight, highest rate (48.0 %) were at a level (57-77 kg). According to participants length, highest percentage (43.0%) were 153-163 cm, which is reflect to result in higher percentage for BMI equal or greater 23 49.0%. This result is agree with study conducted by **Ghorbani A, etal, 2020**, showed that MBI (18.5-24.9) were 119 (49.8%). This is not only indicate for healthy body weight but can due to fluid accumulation.

Marital Status

Married participants are dominant more tha half percentage (78.3). This outcome is similar to the study by **Rezeq et al, 2018** who showed that most of the participants were married (69.8%).

The researcher believes that this outcome is consistent with the traditional ideals of the Iraqi culture, which promotes young people to marry and to form a family.

Profession and Educational level and residence

According to the profession (31.1%) were freelancers and housewife. IN regard to educational level more than half of them (54.7 %) had elementary school education.

According to the residence more than half of them (51.9%) were from city center. This is disagree with a study conducted by **Rezeq et al, 2018**, showed that suburbs were more than half (62.3%) of study participants.

Discussion Assessment of Nutritional level among Patients Undegone Hemodialysis Table (4-2)

Regarding nutritional level, majority of the hemodialysis patients ticipants were at risk of malnutrition (70.0%), but the lowest perecent were normal nutritional state (5.0%). This result may be similar to the study conducted by **Zaki et al, 2019** was showed that the prevalence of malnutrition was 67% according to the reference standard mSGA; either mildly-moderately malnourished (50%) or severely malnourished (17%).

Discussion Relationship between malnutrition scores and some demographic data Table (4-3)

The relationship between malnutrition scores and sociodemographic data is insignificant. This outcome disagree with a study by **Zaki et al, 2019** showed that The malnutrition score was positively correlated to age, duration of HD, and CRP and negatively correlated with albumin in HD patients.

According to the researchers point of view the nutritional status of hemodialysis patients affected by hemodialysis sessions and patients adherence with the schedule.

Chapter Six

Conclusions and Recommendations

Chapter Six

Conclusions and Recommendations

This chapter addresses the outcome of the research, focusing on discussion and a detailed analysis of the study results and suggestions relating to these findings.

6. 1. Conclusions:

1. The highest percent age ranging between (51-60 years) were (25.5%), and less than half of participants were males (48.1%). body weight (48.0 %) were at a level (57-77 kg). highest percentage of length (43.0%) were 153-163 cm, which is reflect to result in higher percentage for BMI equal or greater 23 were (49.0%).

   Married participants are dominant more tha half percentage (78.3).

2. According to the profession (31.1%) were freelancers and housewife. more than half of them (54.7 %) had elementary school education.
3. more than half of them (51.9%) were from city center.
4. Majority of the hemodialysis patients were at risk of malnutrition (70.0%), but the lowest perecent were normal nutritional state (5.0%).
5. The relationship between malnutrition scores and sociodemographic data is insignificant
6. The nutritional status of hemodialysis patients affected by hemodialysis sessions and patients adherence with the schedule.

6. **2. Recommendations:**

1. Improving knowledge and practice of patients with ESRD about importance of nutrition.

2. Assessment of nutritional status among HD patients is an important issue and needs to be followed up by health-care team in HD centers. The use of a valid tool and easy scale such as MNA may provide a quick and valid picture on the nutritional status of HD patients.

3. A larger sample is needed in future research will enhance the generalization of the findings of future studies.

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Appendices

Administrative Arrangement

Appendix (A1)

وزارة الصحة
دائرة صحة البصرة
مركز التدريب والتنمية البشرية
لجنة البحوث

رقم القرار ٢٠٢١/١٣٤
تاريخ القرار ٢٠٢١/١٢/٢٠

قرار لجنة البحوث

درست لجنة البحوث في دائرة صحة البصرة مشروع البحث ذي الرقم(٥٠٤) المعنون:
(تقييم سوء التغذية بين المرضى الذين يخضعون لغسيل الكلى في مستشفى البصرة التعليمي) والمقدم من الباحثين(مصطفى معشر -علاء ضياء -رافد عبد الرزاق) دراسات اولية -كلية التمريض - جامعة البصرة
بتاريخ ٢٠٢١/١٢/٢٠ وقررت:

"الموافقة على تنفيذ مشروع البحث بصيغته المقدمة ولامانع من تنفيذه في مؤسسات الدائرة."

دائرة صحة البصرة
مكتب المدير العام
مركز التدريب والتنمية البشرية

الطبيب الاختصاص
د. علي كاظم قاسم
مقرر لجنة البحوث / دائرة صحة البصرة
٢٠٢١ /١٢ /٢٠

دائرة صحة البصرة
مركز التدريب والتنمية البشرية
لجنة البحوث

المرفقات :
لا يوجد

الملاحظات:
- تم تخويل رئيس لجنة البحوث او مقرر اللجنة للتوقيع على هذا القرار استنادا الى النظام الداخلي للجنة البحوث.
- الموافقة تعني ان مشروع البحث قد استوفى المعايير الأخلاقية والعلمية لإجراء بحث والمعتمدة في وزارة الصحة. اما التنفيذ فيعتمد على التزام الباحث بتعليمات المؤسسة الصحية التي سينفذ فيها البحث. وعلى الباحث التواصل مع مسئول البحوث في المؤسسة الصحية التي يجرى بها البحث واطلاعه على مجريات البحث بشكل دوري ولحين انتهاء البحث.

Administrative Arrangement

Appendix (A2)

جمهورية العراق
وزارة الصحة
دائرة صحة البصرة
مكتب المدير العام
مركز التدريب والتنمية البشرية
شعبة ادارة المعرفة/البحوث

العدد: ٩٦
التاريخ: ٢٠٢١/١٢/٢٠

الى/م. البصرة التعليمي/ مركز غسل الكلى

م/ تسهيل مهمة

عقدت لجنة البحوث في دائرة صحة البصرة اجتماعها في يوم ٢٠٢١/١٢/٢٠ وتم دراسة مشروع البحث ذي الرقم (١٣٤ /٢٠٢١) المعنون:

(تقييم سوء التغذية بين المرضى الذين يخضعون لغسيل الكلى في مستشفى البصرة التعليمي) والمقدم من الباحثان(مصطفى مطشر –علاء ضياء –رافد عبد الرزاق) دراسات اولية -كلية التمريض –جامعة البصرة بتاريخ ٢٠٢١/١٢/٢٠ وقررت:

"الموافقة على تنفيذ مشروع البحث بصيغته المقدمة ولامانع من تنفيذه في مؤسسات الدائرة."

لتفضلكم بالاطلاع وتسهيل مهمة الباحث لا جراء بحثة مع التقدير....

المرفقات:
قرار لجنة البحوث المرقم ١٣٤/ ٢٠٢١

دائرة صحة البصرة
مكتب المدير العام
مركز التدريب والتنمية البشرية

د. علي كاظم الربيعي

الطبيبة الاختصاصية
د. رجاء احمد محمود
مديرة مركز التدريب والتنمية البشرية
٢٠٢١/ ١٢ /

صورة منه الى:
مركز التدريب والتنمية البشرية لجميع الاوقيات

Appendix (B1)

استمارة الاستبانة

الجزء الأول: المعلومات الديموغرافية:

١- العمـــــــــــر : .....سنة

٢- الوزن (كغم) : .....

٣- الطول (سم) : .....

٤- الجنـــــــــــس : O انثى

O ذكر

٥- الحالة الاجتماعية:O متزوج/ة

O اعزب/عزباء

٦- التحصيل الدراسي: O ابتدائية O متوسطة O اعدادية

O معهد O كلية O دراسات عليا

٧- المهنة: O موظف/ة

O اعمال حرة

O ربة بيت

O متقاعد

٨- السكن

O مركز المدينة

O اطراف المدينة

الجزء الثاني – تقييم سوء التغذيه

١- هل نقص تناول الطعام خلال الثلاثة أشهر الماضية نتيجة لفقدان الشهية أو مشاكل في الهضم أو صعوبات في المضغ أو البلع؟

O فقدان شديد للشهية O فقدان متوسط للشهية O لا يوجد فقدان للشهية

٢- مدى فقدان الوزن خلال الأشهر الثلاثة الأخيرة

O فقدان الوزن أكثر من ٣ كغم O غير معروف

O فقدان الوزن من ١ إلى ٣ كغم O لا يوجد فقدان في الوزن

٣- القدرة على الحركة

O ملازم للفراش أو للكرسي O قادر على القيام من الفراش / الكرس ولكنه غير قادر على مغادرة المنزل O قادر على مغادرة المنزل

٤- أي إصابة بضغط نفسي أو مرض حاد في الأشهر الثلاثة الماضية

O نعم O لا

٥- أي إصابات عصبية ونفسية

O خرف شيخوخة شديد أو إكتئاب O خرف شيخوخة خفيف

Oغير مصاب بأمراض

٦- معدل كتلة الجسم (الوزن بالكيلوجرام (÷) (الطول بالمتر ٢)

○ معدل كتلة الجسم من ١١إلى أقل من ٢١

○ معدل كتلة الجسم من ٢١ إلى أقل من ٢٣

○ معدل كتلة الجسم أكثر من أو يساوى٢٣

٧- يعيش مستقل ليس في دار رعاية أو مستشفى O نعم O لا

٨- يتناول أكثر من ثلاث أدوية موصوفة يوميا ؟ O نعم O لا

٩- يعاني من قرح الفراش أو قرح جلدية؟ O نعم O لا

١٠-كم وجبة كاملة يتناولها المريض يوميا؟

O وجبة واحدة O وجبتان O ثلاث وجبات

١١-معدل تناول البروتينات

على الأقل حصة واحدة من منتجات الألبان ا(لحليب،الجبن،الزبادي) ☐ نعم ☐

حصتان أو اكثر من الحبوب أو البيض في الأسبوع ☐ نعم ☐

حصة من اللحوم / السمك / الدواجن الطيور(يوميا) ☐ نعم ☐

١٢- يستهلك حصتين أو أكثر من الفواكه أو الخضروات يوميا Oلا O نعم

١٣- ما هي كمية السوائل (مياه، عصير، قهوة، شاي، حليب).....
المستهلكة يوميا ؟ O أقل من ٣ أكواب O٣ إلى ٥ أكواب

١٤- أسلوب تناول الطعام:
O غير قادر على الأكل بدون مساعدة O يطعم نفسه مع بعض الصعوبة
O يطعم نفسه بدون أي مشكلة

١٥- الرؤيا الذاتيه لحالة التغذيه
O يرى أن لديه سوء تغذية
O غير متأكد من حالة التغذية
O يرى أنه ليس لديه مشكلة في التغذية

١٦- المقارنة بالأشخاص الآخرين من نفس العمر، كيف ينظر المريض الى حالته الصحية
O ليست بنفس الجودة
O لا يعرف
O بنفس الجودة
O أحسن

Appendix B2

Quastionaire of the Study in English

Part One: Demographic Data:

1- Age : ……

2- Weight (kg) : ……....

3- Height (cm) : ……...

4- Gender : O female

O male

5- Marital status : O Married

O single/single

6- Academic achievement: O Elementary O Intermediate

O Preparatory O Institute

O College O Postgraduate Studies

7- Profession : O employee

O free business

O Housewife

O Retired

8- Residence: O City center

O Outskirts of the city

Part Two - Malnutrition Assessment

1- Was the lack of food intake during the past 3 months a result of loss of appetite, problems with digestion , or difficulties in chewing or swallowing ?

O Severe loss of appetite O Moderate loss of appetite O No appetite loss

2- The extent of weight loss during the last three months

O Weight loss of more than 3 kg O Not known

O Weight loss from 1 to 3 kg O No weight loss

3- The ability to move:

O Committed to bed or chair

O Able to get out of bed/chair but unable to leave the house

O Able to leave the house

4- Any emotional stress or acute illness in the past three months :

O yes O no

5- Any neurological or psychological injuries :

O Severe senile dementia or depression O Mild senile dementia

O not infected with diseases

6- Average body mass (weight in kilograms (÷) (height in meters ^{2})

O BMI from 11 to less than 21

O BMI from 21 to less than 23

O BMI greater than or equal to 23

7- Lives independently not in a nursing home or hospital O Yes O No

8- Takes more than three prescribed medicines per day? O Yes O No

9- Suffering from bed sores or skin ulcers? O Yes O No

10- How many full meals does the patient eat per day ?

O One meal O Two meals O Three meals

11- Protein intake rate:

At least one serving of dairy products (milk, cheese, yoghurt) O Yes O No

Two or more servings of cereal or eggs per week O Yes O No

A portion of meat / fish / poultry (daily) O Yes O No

12- Consuming two or more servings of fruits or vegetables daily ?

O No O Yes

13- What is the amount of fluids (water, juice, coffee, tea, milk) ..... consumed daily?

O less than 3 cups O 3 to 5 cups

14- Eating style :

O Unable to eat without help O Feeds himself with some difficulty

O Feeds himself without any problem

15- Self-vision of the state of nutrition :

O sees that he has malnutrition

O Not sure about feeding status

O sees that he has no problem with feeding

16- Comparing with other people of the same age, how does the patient view his health condition :

O is not the same quality

O does not know

O the same quality

O better

Appendix (C)

Panel of Experts
خبراء الاستبانة

ت	اسم الخبير	اللقب العلمي	مكان العمل	الاختصاص الدقيق
1	د. محفوظ فالح حسن	استاذ	جامعة البصرة/ كلية التمريض	فسلجه
2	د. وصفي ظاهر عبدعلي	استاذ	جامعة البصرة/ كلية التمريض	فسلجه
3	د.عبدالكريم سلمان	استاذ	جامعة البصرة/ كلية التمريض	تمريض بالغين
4	سندس باقر داوود	استاذ	جامعة البصرة/ كلية التمريض	دكتوراه تمريض الام والوليد
5	د.هشام حسين عبدالرؤوف	مدرس	جامعة البصرة/ كلية التمريض	دكتوراه في الاشعه التشخيصيه
6	افكار فاضل كريم	مدرس	جامعة البصرة/ كلية التمريض	تمريض صحه نفسيه وعقليه
7	دعاء محمد باجي	مدرس مساعد	جامعة البصرة/ كلية التمريض	تمريض صحه نفسيه وعقليه

الخلاصة

الخلفية : سوء التغذية هو مشكلة شائعة في المرضى الذين يعانون من مرض كلوي في المرحلة النهائية (ESRD) يخضعون للأنفاذ الدموي (HD) المرتبط بزيادة المراضة والوفيات.

الأهداف: تقييم سوء التغذية بين المرضى الذين يخضعون لغسيل الكلى ومعرفة العلاقة بين سوء التغذية وبعض العوامل الديموغرافية.

المنهجية: تصميم دراسة وصفية مقطعية، شارك في الدراسة (١٠٠) مريض. ويتألف استبيان التقرير الذاتي من جزأين هما: الجزء الأول من البيانات الديموغرافية، والجزء الثاني، التقييم التغذوي المصغر®. هي أداة فحص تم التحقق من صحتها تحدد كبار السن الذين يعانون من سوء التغذية أو المعرضين لخطر سوء التغذية. تم تحليل البيانات باستخدام نهجين إحصائيين: الإحصاء الوصفي والاستدلالي.

النتائج: كانت النسبة المئوية للعمر بين (٥١-٦٠ سنة) (٢٥,٥٪)، وأقل من نصف المشاركين من الذكور (٤٨,١٪). كان وزن الجسم (٤٨,٠ ٪) عند مستوى (٥٧-٧٧ كجم). كان مرضى غسيل الكلى معرضين لخطر سوء التغذية (٧٠,٠٪) ، ولكن الحالة الغذائية الطبيعية (٥,٠٪).

الاستنتاج: وخلصت الدراسة إلى أن غالبية مرضى غسيل الكلى كانوا معرضين لخطر سوء التغذية (٧٠,٠٪) ، ولكن أدنى مستوى من المرضى كان حالة غذائية طبيعية (٥,٠٪). العلاقة بين درجات سوء التغذية والبيانات الاجتماعية الديموغرافية ضئيلة.

التوصيات: تحسين معرفة وممارسة المرضى الذين يعانون من عجز الكليتين النهائي حول أهمية التغذية. ويعد تقييم الحالة التغذوية بين مرضى الانفاذ الدموي قضية مهمة وتحتاج إلى متابعة من قبل فريق الرعاية الصحية في مراكز الانفاذ الدموي. قد يوفر استخدام مقياس صالح وسهل مثل التقييم التغذوي المصغر صورة سريعة وصالحة عن الحالة الغذائية لمرضى الانفاذ الدموي. كما أن هناك حاجة إلى عينة أكبر في البحوث المستقبلية ستعزز تعميم نتائج الدراسات المستقبلية.

الكلمات المفتاحية: تقييم، سوء التغذية، غسيل الكلى.

جامعة البصرة

كلية التمريض

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كجزء من متطلبات نيل شهادة البكالوريوس في علوم التمريض

الى كلية التمريض / جامعة البصرة

مشروع مقدم من

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اشراف

م. م. سجى كريم جاسم

رمضان/ ١٤٤٣هـ

نيسان/ ٢٠٢٢ م