Iraq- Kurdistan Region

Ministry of Higher Education and

Scientific Research

University of Sulaimani

College of Medicine

CHANGE IN QUALITY OF LIFE IN RENAL TRANSPLANTATION PATIENTS WITH END STAGE RENAL DISEASE IN SULAIMANI CITY

A Dissertation

SUBMITTED TO THE COLLEGE OF MEDICAL SCIENCE UNIVERSITY OF SULAIMANI IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTORATE OF PHILOSOPHY IN ADULT NURSING

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سورة المجادلة (الآية 11)

CERTIFICATION

I certify that this dissertation ***(Change in Quality Of Life in Renal Transplantation Patients with End-Stage Renal Disease in Sulaimani city)*** *was prepared under my supervision at the College of Medical Science, university of Sulaimani in partial fulfillment of the requirements for the degree of Doctorate of philosophy in Adult Nursing.*

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/ /2019

COMMITTEE CERTIFICATION

*We, the members of the examining committee certify that, after reading this dissertation (**Change in Quality of Life in Renal Transplantation patients with End-Stage Renal Disease in Sulaimani City**) and examining the student (**Niyan Hakem Ismael**) in its contents, it is adequate in partial fulfillment for the award of the Degree of Doctorate of Philosophy in Nursing.*

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This Dissertation is dedicated to:

All My Family Members with love and admiration

ACKNOWLEDGEMENT

Before all, great thanks to God**,** the most gracious and most merciful.

I would like to express my deepest and grateful thanks to my academic advisor Dr. Aso O. Rasheed for his constructive suggestion, unending support, guidance, and encouragement throughout the study.

Then I would like to express my sincere thanks to Dr. Zhian Salah Ramzi, Dean of the college of Nursing /university of Sulaimani for her support and encouragement.

I would like to presents my appreciation to all experts for their cooperation and assistance in preparing the questionnaire and for their scientific advice.

I am grateful to the University of Sulaimani for its financial support, I would like to thank Assistant Professor Dr. Muhammad Rashid Amen for their advice.

My deepest and grateful thanks to all library staff in the College of Nursing / University of Sulaimani for their assistance.

Also grateful thanks and appreciation to all nurses at the Dialysis Center of Shar Hospital for their assistance. Special thanks to all patients who had participated in this study.

I would like to express my warmest thanks to all friends for the encouragement and support, and everyone who helped me by word or action.

Finally, I greatly thank Dr. Shaho for his kind help in statistical analysis.

Abstract

Background: Quality of Life (QoL) measurement in end-stage renal disease is becoming increasingly important to evaluate patient quality of life and to assess quality of different medical care. The care components of QoL are physical, functional, psychological and familial aspects. The objectives of this study is to measure the QoL of patients with ESRD pre and post renal transplantation and to compare QoL of those patient with that of general population.

Methodology: A Quantitative design descriptive study (case-control) study was carried out in Sulaimani Shar hospital, from August 2016 up to October 2019, to assess the quality of life of patients before and after renal transplantation. To reach the objectives of the study a non-probability (purposive) sample of (50) patients with end-stage renal disease, and (100) controls, who accompanied their patient to Shar hospital person. A questionnaire was designed with demographic data composed of eleven items and Quality of life index (pre-transplant) composed of (68) items, it includes how much it is satisfied and importance with thirty four items for each one. Quality of life indexes post-transplantation composed of seventy items, it includes how much it is satisfied and importance with thirty five items for each one.

Results: There are a significant association between socio-demographic data with majorities are male, adult, illiterate, married, barely sufficient and patients with chronic disease are not significant. In terms of demographic characteristic with regard to chronic diseases there are a significant different between cases and control (p=0.0001). Regarding important and satisfaction domains between patients and controls there are significant association between them with Quality of life.

Conclusion: End-Stage Renal Disease has low functional capacity and high emotional affection. It involves mainly adult, male, married, illiterate person co-existing medical morbidity. Their QoL is significantly different from healthy people. They show significant improvement after effective treatments. Therefor renal transplantation should be considered for well-being and health adjusted QoL in ESRD patients.

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List of Abbreviation

ACER	Acetylecholin recepter
ADH	Antidiuretic Hormone
ANOVA	Analysis of Variance
ATII	Angiotension II
AV	Artery Vein
BD	Brain Dead
BUN	Blood Urea Nitrogen
CAS	Carotid Artery Stenting
CKD	Chronic Kidney Disease
ESRD	End Stage Renal Disease
FDH	Fiber Distribution Hub (fiber optic enclosure)
FGF	Fibroblast Growth Factor
GFR	Glomular Filtration Rate
HRQOL	Health Related Quality of Life
JGA	Juxta Glomular Apparatus

MBD	**Mineral Blood Disorder**
QoL	**Quality Of Life**
RI	**Receive Index**
RTP	**Renal Transplant Recipients**
SD	**Standard Deviation**
SPSS	**Statistical Package Social Science**
USA	**United Status American**
USRDS	**United Status Renal Data System**
WHO	**Word Health Organization**
X^2	**Chi-square**
%	**Percentage**

Chapter One

Introduction

1. INTRODUCTION

1.1. Introduction

Chronic kidney disease (CKD), also known as chronic renal disease, is a progressive loss in renal function over a period of months or years. The symptoms of worsening kidney function are not specific, and might include feeling generally unwell and experiencing a reduced appetite (Nettina, 2006).

Chronic kidney disease is diagnosed as a result of screening of people known to be at risk of kidney problems, such as those with high blood pressure or diabetes. This disease may also be identified when it leads to one of its recognized complications, such as cardiovascular disease, anemia, or pericarditis (Jaber & Madias, 2005).

Symptoms of kidney failure affect all body systems; initially, salt-wasting that leads to hyponatremia produce hypertension, dry mouth, loss of skin turgor, fatigue and nausea, in later stages, irritability and confusion. Further loss of functioning nephrons reduces the kidneys' ability to excrete sodium, resulting in salt and water retention leading to fluid overload. Furthermore, accumulation of potassium causes muscle irritability and weakness as the potassium level continues to raise cardiac arrhythmias and possible cardiac arrest can occur (Springhouse, 2007).

It is differentiated from acute kidney disease in that the reduction in kidney function must be present for over 3 months. CKD is identified by a blood test for creatinine, which is a breakdown product of muscle metabolism. Higher levels of creatinine indicate a lower glomerular filtration rate and as a result a decreased capability of the kidneys to excrete waste products. Creatinine levels may be normal in the early stages of CKD, and the condition is discovered if urinalysis (testing of a urine sample) shows the kidney is allowing the loss of protein or red blood cells into the urine. To fully investigate the underlying cause of kidney damage, various forms of medical imaging, blood tests, and sometimes a renal biopsy are employed to find out if a reversible cause for the kidney malfunction is present (Dijkers, 2005)

Recent professional guidelines classify the severity of CKD in five stages, with stage 1 being the mildest and usually causing few symptoms and stage 5 being a severe illness with poor life expectancy if untreated. Stage 5 CKD is often called end stage kidney disease and usually means the patient requires renal replacement therapy, which may involve a form of dialysis, but ideally constitutes a kidney transplant. No specific treatment has been unequivocally shown to slow the worsening of CKD. If an underlying cause of CKD, such as vasulities, or obstructive nephropathy is found, it may be treated directly to slow the damage. In more advanced stages, treatments may be required for anemia and renal bone disease (also called renal osteodystrophy, secondary hyperparathyroidism or chronic kidney disease - mineral bone disorder (CKD-MBD)) (Veenhoven, 2000)

Chronic Kidney disease is initially without specific symptoms reported that increase in serum creatinine or protein in the urine. As the kidney function decreases, blood pressure will rise due to fluid overload and production of vasoactive substances created by the kidney via the renin-angiotensin system it will lead to increasing risk of developing hypertension and or suffering from congestive heart failure Urea accumulates leading to azotemia and ultimately uremia (symptoms ranging from lethargy to pericarditis and encephalopathy) Due to its high systemic concentration, urea is excreted in the sweat at high concentrations and crystallizes on skin as the sweat evaporates ("uremic frost") (Schalock, 2004).

Hyperkalemia usually does not develop until the glomerular filtration rate falls to less than 20-25 ml/min/1.73 ml, at which point the kidneys have decreased ability to excrete potassium. Hyperkalemia in CKD can be exacerbated by acidemia (which leads to extracellular shift of potassium) and from increase of insulin (Wyss, 2000**)**

Erythropoietin synthesis is decreased causing anemia, Fluid volume overload symptoms may range from mild edema to life-threatening pulmonary edema. Hypophosphatemia, due to reduced phosphate excretion, follows the decrease in glomerular filtration. Hypophosphatemia is associated with increased

cardiovascular risk, being a direct stimulus to vascular calcification. Hypocalcaemia, due to 1,25 dihydroxy vitamin D3 deficiency, Osteocytes are responsible for the increased production of FGF23, which is a potent inhibitor of the enzyme 1-alpha-hydroxylase (responsible for the conversion of 25-hydroxycholecalciferol into 1,25 dihydroxyvitamin D3) (Wl, 2001).

Late this progresses to secondary hyperparathyroidism, renal osteodystrophy, and vascular calcification that further impairs cardiac function. Metabolic acidosis (due to accumulation of sulfates, phosphates, uric acid etc.) may cause altered enzyme activity by excess acid acting on enzymes; and also increased excitability of cardiac and neuronal membranes by the promotion of hyperkalemia due to excess acid (acidemia) Acidosis is also due to decreased capacity to generate enough ammonia from the cells of the proximal tubule (Welch, 2001).

Anemia, which increases in prevalence as kidney function decreases, is especially prevalent in those requiring haemodialysis. It is multifactor in cause, but includes increased inflammation, reduction in erythropoietin, and hyperuricemia leading to bone marrow suppression. People with CKD suffer from accelerated atherosclerosis and are more like to develop cardiovascular disease than the general population. Patients with CKD and cardiovascular disease tend to have significantly worse prognoses than those suffering only from the latter (Unruh, 2004)

Sexual dysfunction is very common in both men and women with CKD. A majority of men have a reduced sex drive, difficulty obtaining erection, and reaching orgasm, and the problems get worse with age. A majority of women have trouble with sexual arousal, and painful amenorrhea and problems with performing and enjoying sex are common (Thomas, 2002).

Normal range of GFR is 90 and above All individuals with a glomerular filtration rate (GFR) <60 ml/min/1.73 m2 for 3 months are classified as having chronic

kidney disease, irrespective of the presence or absence of kidney damage. The rationale for including these individuals is that reduction in kidney function to this level or lower represents loss of half or more of the adult level of normal kidney function, which may be associated with a number of complications such as the development of cardiovascular disease (Sterky, E., 2005).

The loss of protein in the urine is regarded as an independent marker for worsening of renal function and cardiovascular disease. Hence, British guidelines append the letter "P" to the stage of chronic kidney disease if protein loss is significant (Eknoyan, 2004)

Stage 1 slightly diminished function, kidney damage with normal or relatively high GFR (≥90 ml/min/1.73 m2), Kidney damage is defined as pathological abnormalities or markers of damage, including abnormalities in blood or urine tests or imaging studies.

Stage 2 Mild reductions in GFR (60–89 ml/min/1.73 m2) with kidney damage. Kidney damage is defined as pathological abnormalities or markers of damage, including abnormalities in blood or urine tests or imaging studies.

Stage 3 Moderate reduction in GFR (30–59 ml/min/1.73 m2) British guidelines distinguish between stage 3A (GFR 45–59) and stage 3B (GFR 30–44) for purposes of screening and referral.

Stage 4 Severe reductions in GFR (15–29 ml/min/1.73 m2) Preparation for renal replacement therapy.

Stage 5 Established kidney failure (GFR <15 ml/min/1.73 m2), permanent renal replacement therapy, or end-stage kidney disease.

The term no Dialysis Dependent CKD (NDD-CKD) is a designation used to encompass the status of those persons with an established CKD who do not yet require the life-supporting treatments for renal failure known as renal replacement therapy (RRT, including maintenance dialysis or renal transplantation).

The condition of individuals with CKD, who require either of the two types of renal replacement therapy (dialysis or transplant), is referred to as the end-stage renal disease (ESRD). Hence, the start of the ESRD is practically the irreversible conclusion of the NDD-CKD. Even though the NDD-CKD status refers to the status of persons with earlier stages of CKD (stages 1 to 4), patients with advanced stage of CKD (stage 5), who have not yet started renal replacement therapy, are also referred to as NDD-CKD (Bauer, 2008).

Quality of life (QoL) is an important parameter that needs to be considered when evaluating the experience and outcome of patients receiving healthcare. This is especially the case for patients with long term chronic diseases, since complete cure from their illness is often impossible (Macduff, 2000).

Patients may not develop symptoms until after more than 75% of glomerular filtration is lost; then the functions of the remaining nephrons deteriorate causing worsening symptoms (Springhouse, 2005).

Dialysis is one of the treatment options for people with kidney failure in addition to kidney transplantation the life of patients treated with dialysis is characterized by many losses and restrictions. Patients need to restrict their food and fluid intake and avoid exerting jobs. In addition, patients need to comply with a difficult medication regime that includes taking many drugs. Some of these drugs should be taken with food, others after food or before food. Advancement in medical technology has extended the average life of patients with chronic illnesses (Goyen & Debatin, 2009).

Dialysis is accompanied by significant morbidity and mortality. Many physical and psychological symptoms occur in patients on chronic dialysis longer life expectancy for people with chronic health conditions can lead to poor QoL (Graham, 2009).

The literature on QoL in dialysis patients reveals that their QoL is highly affected as they are exposed to major physical, psychosocial and financial stresses. These

include diet and fluid intake restrictions, potential losses and lifestyle changes, permanent invasive procedures like insertion of central venous lines and creation of multiple vascular accesses. They also have poor survival rates, weight loss, poor skin integrity, diminished muscle tone, edema, pallor and constant fatigue, marital strain and sexual dysfunction, uncertainty, decreased self-confidence, reversal in family roles and loss of dignity. Some of them experience depression; life dissatisfaction, altered self-image, family responsibilities and social lives, financial dependence and unemployment. The dialysis schedule can also significantly obstruct both professional and personal lifestyle, these factors may contribute to the impaired QoL reported by patients on maintenance dialysis. Nurses need to be aware of the QoL perceived by dialysis patients, all the above factors can influence the QoL of dialysis patients, and can also affect the family members (Neto, J.F, 2000).

1.2. Importance of the study

Quality of life (QOL) is an important parameter that needs to be considered when evaluating the experience and outcome of patients receiving healthcare. This is especially the case for patients with long term chronic diseases, since complete cure from their illness is often impossible (Macduff, 2000).

Patients with chronic kidney failure have to receive dialysis therapy routinely for survival. Living on dialysis creates uncertainty about the future. These patients have to deal not only with treatment-related complications such as left ventricular hypertrophy, arthrosclerosis and hyperparathyroidism but also with changes in their concept of self and self-confidence, and sometimes a reversal in family roles (Drueke & Eckardt, 2002)

The major psychological and physiological stressors experienced by dialysis patients are pain, restriction of fluids, itching, discomfort, limitations in physical activity, fatigue, weaknesses, paying for the care, feelings of inadequacy and negative moods (Welch & Austin, 2001).

To identify the patients quality of life in chronic kidney disease, to diagnosis of the complications of chronic kidney disease, to see the patients compliance for different diagnosis, changes that occurs during and after treatment, to notify these information's for national health center, to reduce the patients and health program financial burden, to important the quality of patients care in health system and to raise the level of nurse care awareness about chronic kidney disease manifestations.

1.3. Objectives of the study

1. General objective

To determine change in quality of life among patients with end-stage renal disease after kidney transplantation.

2. Specific objectives

1. To identify change in quality of life of patients with end-stage renal disease, pre and post kidney transplant.
2. To identify quality of life of normal people.
3. To compare quality of life among patients with end-stage renal disease on hemodialysis with normal population.

Chapter Two

Review of Literature

2. REVIEW OF LITERATURE

2.1. History of the Concept of Health-related Quality of Life

In the 1980s and the 1990s, definitions of QoL were broken down into a series of dimensions and this trend continues today (George and Bearon 1980) defined QOL in terms of four underlying dimensions.

Two objective dimensions are general health or functional status, and socioeconomic status and two subjective dimensions that reflect the personal judgment of the individual are life satisfaction and related measures self-esteem.

Define which stated that QOL was not only functional ability, level of activity, mental state, and longevity but also included the concepts of privacy, freedom, and respect for the individual, freedom of choice emotional well-being, and maintenance of dignity. Dimensional definitions are useful for empirical work and easier to operationalize (Clark and Bowlingís 1989).

defined QOL as a personal perception or sense of well-being that stems from satisfaction or dissatisfaction with the areas of life that are important to him or her. This model includes four domains: health and functioning, psychological / spiritual, socioeconomic, and family (Ferrans and Power 1985).

There are several major differences between QOL and HRQOL. Quality of life represents a broad range of human experiences including many domains, such as community, education, family life, friendships, health, housing, marriage, nation, neighborhood, self, standard of living, and work (Campbell, Converse, & Rodgers, 1976).

Quality of life is used in sociology, economy, political science, and psychology. HRQOL focuses on health and is often used in the healthcare field. In healthcare research, HRQOL describes what the person has experienced from the result of medical care. It assesses the differences between what the person expected from the treatment and what the reality was. QOL of renal transplant patients with different immunosuppressive regimens also has been tested (Moons et al., 2002; Oberbauer et al., 2003).

For example Patients treated with sirolimus alone demonstrated better QOL in fatigue, appearance, and vitality dimensions than patients with the treatment combination of sirolimus and cyclosporine A (Oberbauer et al., 2003).

The World Health Organization defines health related quality of life (HRQoL) as individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns (Reimer et al., 2002).

Health-related quality of life encompasses an individual's perception of physical and mental health, as well as his/her capacity to react to variables in the environment Negative quality of life is equivalent to loss of health and a positive life quality is equivalent to a greater range of categories such as activity, income, social life and relationship with the family, categories which differed from one to another (Gerich, 2010).

Therefore, HRQoL includes the following dimensions: Physical functional status, mental health/ cognitive status, spiritual and social functioning. Health-related quality of life is an important outcome measure in renal transplantation. Understanding factors associated with poor HRQoL among renal transplant recipients (RTRs) may allow transplant healthcare providers to better target resources and interventions to improve HRQOL (Meyer, 2001).

2.2. Physiology of kidney

Kidney transformed with 1700 liters of blood passing through it per day, about 1 liter of highly concentrated urine. However, they perform the following functions Participate in maintaining consistency and osmolality of the extracellular fluid concentrations of various electrolytes in it (Na \ K +, Ca +, etc.), Excrete metabolic products and many exogenous compounds, Regulate systemic arterial pressure, It regulates the acid-base status, maintaining the consistency buffer bases plasma and H +, Secrete erythropoietin, which stimulates erythropoiesis, form the active form of vitaminD3 (Johnson, 2011).

It adjusted the concentration of electrolytes, blood volume, blood pressure, fluid overload and dehydration. It help in maintenance and regulate electrolytes like CL^-, K^+, Ca^+, mg and PO4 ions (Bacchetta, 2012).

A key role in this process is played by the juxtaglomerular apparatus (JGA) of the nephron. By the juxtaglomerular apparatus include the following types of cells:
Tight spot cell - sensors sodium ion concentration in the urine of the distal convoluted tubule; while reducing the concentration of sodium ions, they secrete more renin;
Granular (juxtaglomerular) cells covering the afferent arterioles - pressure sensors in the afferent arterioles; with a decrease in her blood pressure granule cells secrete more renin; - Mesangial glomerular cells, forming a kind of "mesentery" for glomerular capillaries, evenly distributing the hydrostatic pressure of the blood along the entire length of the capillary glomerulus, which is necessary for unidirectional fluid flow from the capillaries into the Bowman's capsule (Longo, 2003).

Filtration rate at blood pressures from 75 to 160 mm Hg. Systolic. Constriction of the arterioles of the systemic circulation and enhances the secretion of aldosterone from the glomerular zone of the adrenal cortex. Steroid hormone aldosterone, in turn, acts on cells of the distal tubules and collecting ducts of the nephron, increasing the reabsorption of sodium in exchange for potassium and hydrogen ions excretion (Vacchio, 2010).

The kidneys play an important role in the long-term mechanisms of systemic blood pressure regulation through the amount of water and sodium, the renin-angiotensin-aldosterone system, the change in the concentration of sodium ions in the distal convoluted tubule (Redmon, 2014).

Blood pressure increase leads to a certain increase in the glomerular filtration rate (GFR) This reduces the reabsorption rate of the cells of the proximal convoluted tubule and the loop of Henle of sodium ions. As a result, the distal convoluted tubule sodium concentration is increased. It is recognized by the cells and release tight spots vasoconstrictors (endothelia), causing a spasm of afferent arterioles, leading to normalization of pressure in the capillaries of the glomerulus and the glomerular filtration rate (Orantes, 2014).

Rising blood pressure to critical level of 160 mm Hg. at the feed is not accompanied by a further spasm of afferent arterioles. This increasing pressure in the glomerular capillaries. Associate with increase in glomerular filtration rate, leading to an increased excretion of water and sodium (Qassem, 2013).

Regulation of erythropoiesis associated with the production of erythropoietin by the kidneys in response to a chronic lack of oxygen in the kidney tissue, the formation of vitamin D3. Kidneys inactive vitamin D is converted into the active form - vitamin D3 (1,25-dihydroxycholecalciferol hormone), which promotes absorption of calcium and phosphate ions in the intestines and their incorporation into the bone (promotes bone mineralization). Gluconeogenesis is carried out in the kidneys through synthesis of glucose from amino-acids and other non-sugar products (Lewis, 2001).

2.3. Causes of kidney disease

The evaluation of various forms of renal disease produced by the nature of their causes origin and level of implementation of the preferential action, The nature of the causative factors of renal disease may be infectious (e.g., bacteria, viruses, rickettsia) and noninfectious, Among the non-infectious causes distinguish the chemical, physical and biological factors Chemical (e.g., lead compounds, mercuric chloride, mercury, arsenic, some antibiotics, diuretics), Physical (e.g. penetrating radiation, radioactive decay products, low temperature, kidney injury), Biological(e.g. antinephroticAB, NK- cells, macrophages, immune complexes, allergens, excess or deficiency of catecholamines, endoperoxides, PG, PTH and other biologically active substances (Francisco, 2006).

By origin distinguish primary (hereditary and congenital) and secondary (acquired) factors, primary factors constitute a disease caused by mutations in genes in the kidney and renal morphogenesis numerous defects. For diseases in this group include fermentopathy, polycystic membranopathy, dysplasia, nephrogenic diabetes insipidus Pseudohypoaldosteronism, aminoaciduria, phosphaturia and others.
Secondary (Acquired) diseases account for most of the kidney disease (Groothoff, 2005).

In terms of pre-emptive effects of causal factors distinguish pre Renal, and post renal reasons, pre-renal causes, Neuropsychiatric disorders: prolonged stress, trauma, state, combined with severe pain (such as pain reflex anuria), Endocrinopathies (e.g. excess or deficiency of ADH, aldosterone, thyroid hormone, insulin, catecholamines), disorders of blood circulation in the form of a hypotensive and hypertensive states
Renal reasons, direct damage to the parenchyma, vascular, renal extracellular matrix component factors of infectious or non-infectious, circulatory disorders in the kidneys in the form of ischemia, venous congestion, stasis, Mutations in genes in the kidney (Giri, 2004).

Post renal reasons, Disruption of urine flow from urinary tract, this is accompanied by an increase in intracranial pressure (under stones and urinary tract tumors, their edema, prostate adenoma, ureter excesses) (Giri, 2004).

Disorders of urine formation is the result of partial or, more often, combined filtration disorders (formation of primary urine in the kidney cells), reabsorption (ion transport, liquids, proteins, amino acids, glucose and other substances from the lumen of the renal tubules into the lumen of the capillaries of the secondary network) secretion (Transport ions, liquids and other substances in the tubule lumen) (Pierratos, 2005).

In the early stages of renal damage typically activation of any one of the below-described pathogenesis occur other connected with the development of the pathological process. That is why in clinical nephrology it is difficult to identify any specific characteristic only of one disease mechanisms and clinical manifestations, many of renal syndromes and symptoms observed in varying degrees of severity and in different combinations in a variety of diseases and lesions of the kidney (Appel, 2008).

2.4. Disorders of glomerular filtration

Violations of glomerular filtration rate accompanied by a decrease or an increase in filtrate volume Reducing the volume of glomerular filtrate, lowering the effective filtration pressure in hypertensive states (arterial hypotension, collapse, etc.), renal ischemia (renal), hypovolemic states, reduced glomerular filtrate area, There necrosis in renal of multiple myeloma, chronic glomerular nephritis, and other conditions. (Tangri, 2013).

Reduction in permeability of the filtration barrier due to thickening of the basement membrane reorganization or other changes in there is a chronic glomerulonephritis, diabetes, amyloidosis, and other diseases, improving the efficiency of the filtration pressure by increasing the tone of the smooth muscle cell efferent arterioles or decreased tone smooth muscle cell bringing arteriole And also of the blood hypotonic (for example, liver failure , starvation, prolonged proteinuria) Increase filtration barrier permeability (perazella, 2006).

2.5. Disorders of tubular reabsorption

Reduced efficacy of tubular reabsorption occurs due to various defects and enzymopathies systems transepithelial transport of substances (e.g., amino acids, albumin, glucose, lactate, bicarbonate) epithelium and the basal membrane of the renal tubules it is important that the preferential damage proximal nephron broken reabsorption organic compounds (glucose, amino acids, protein, urea, lactate) and bicarbonates, phosphates, Cl, K, for faults distal tubule upset processes reabsorption of Na +, K + , Mg2 +, Ca2 +, water (Rocal, 2014).

2.6. Manifestations of renal disease

Disorders of renal function are shown changes in blood and urine parameters

Polyuria is characterized by the increase in the volume of daily urine output of more than 2500ml regardless of the amount of fluid you drink. In the mechanism of the role played by polyuria increased glomerular filtration of blood plasma, and (or) a decrease in the tubule fluid reabsorption. The latter can be seen at the polyuria stage acute and chronic renal failure, as well as at the termination of the secretion of ADH. In a healthy person may be a temporary polyuria resulting in increased water load or into the blood and then a large number of glomerular filtrate somatically active substances (salts, etc., and glucose.). Polyuria observed in newborns due to the inability to carry out tubule epithelial reabsorption of water in the normal size (Chavkin, 2011).

Oliguria is characterized by a decrease in the daily urine output of up to < 500ml. The reasons for this may be the decrease in the volume of glomerular filtrate, increased water reabsorption in the kidney tubules or urinary outflow obstruction. In a healthy person oliguria occurs by limiting fluid intake.

Anuria is characterized by the cessation of urination or urine output of less than 100ml / day. On the mechanism of development distinguish prerenal anuria, renal and post renal. An example is the termination of pre-renal anuria urination due to reflex inhibition of renal function in severe pain. Injury, illness of one kidney or ureteral compression can cause anuria. In the mechanism of reflex anuria play the role of a

spasm of afferent arterioles and glomeruli stimulate ADH secretion. Renal anuria occurs at a certain stage of acute renal failure due to a sharp decline in glomerular filtration and tubular obstruction. Post renal anuria occurs when there is an obstruction to the flow of urine at any level of the urinary tract, as well as the paralysis of the bladder (Chavkin, 2011).

Changes in the composition of urine is characterized by the appearance of its protein (proteinuria), glucose (glycosuria), amino acids (aminoaciduria), blood (hematuria), leukocytes (leucocyturia), cylinders (cylindruria), epithelial cells of the renal tubules or urinary tract crystals of various salts or amino acids (crystalluria), microorganisms (bacteriuria) (Wagenlehner, 2006).

Proteinuria. Normally, the penetration of plasma proteins into glomerular filtrate inhibit glomerular filter (endothelium, the basement membrane, podocyte) and these structures electrostatic charge that repels the negatively charged molecules including albumin molecule. The charge of the Glomular filter due to the presence in it sialoglicoprotein and glycosaminoglycans (Kawai, 2014).

In a healthy human plasma in the glomeruli of filtered 0.5 g of protein per day (mainly albumin). A large part of incoming protein in the glomerular filtrate is reabsorbed in the proximal tubules by means of pinocytosis. Some of the incoming protein in the urine is formed in the epithelium of Henle's loop and the distal tubule - a uroprotein Tamm-Horsfall is a complex glycoprotein. The total amount of protein released from the daily urine, normally about 50 mg, and cannot be detected by conventional laboratory methods. Urinary excretion of more than 50 mg of protein per day called proteinuria. On the mechanism of development distinguish glomerular and tubula rproteinuria (Scandling,2008).

Glomerular proteinuria is associated with increased permeability of the glomerular filter, tubular - in violation of the protein reabsorption in the proximal tubule epithelium due to lack of function or reduce the outflow of lymph from the kidney tissue. In the latter case, the protein accumulates in the interstitial tissue and causes renal parenchymal edema (Leventhal, 2014).

There is selective and nonselective Proteinuria. Development of Proteinuria is associated with selective loss of glomerular filter ability to repel negatively charged protein molecules and thereby inhibit their passage into the ultrafiltration therefore, the filter pore diameter (70 nm) is greater than the size of molecules of albumin and transferrin and these proteins are freely unloaded through a filter and developed massive proteinuria. It is observed in the nephrotic syndrome with minimal changes, which are expressed in the loss of subtle intertwining legs podocytes islands, Nonselective Proteinuria occurs when the loss of glomerular filter's ability to regulate the passage of the protein molecules according to their size. In this regard, the ultrafiltration coming not only albumin and transferring, but coarser plasma proteins such as immune globulin and lipoproteins (Degeest, 2005).

There are functional and pathological proteinuria. Functional Proteinuria is observed in people with healthy kidneys. There are several varieties of functional Proteinuria: orthostatic Proteinuria, fever, and congestive heart failure. Orthostatic Proteinuria occurs in some people (often at a young age) with prolonged standing or walking; by changing the position of the body on the horizontal it disappears (Habwe, 2006).

Proteinuria is observed in approximately 20% of healthy people after heavy physical exertion. The fever Proteinuria occurs more frequently in children and the elderly disappears with normalization of body tempreture. Congestive Proteinuria observed in congestive heart failure. Idiopathic Proteinuria sometimes found in healthy people with a medical examination, it is transient. It should also be borne in mind the possibility of proteinuria in healthy women (Habwe, 2006).

A common feature of all types of functional proteinuria is its small size; usually less than 1 gram protein per day, Pathological Proteinuria is related to various diseases. It is divided into pre renal, renal and post renal (Molnar, 2011).

Prerenal Proteinuria (or overload) occurs at elevated levels in blood plasma of low molecular weight proteins, such as immunoglobulin light chains (Bench Jones protein), myoglobin, hemoglobin, lysozyme. These proteins are easily pass through the glomerular filter, but not completely reabsorbed tubular epithelium. This form of

proteinuria develops in multiple myeloma, monocyte leukemia, intravascular hemolysis and others prerenal proteinuria can reach 20 grams of protein per day (Ortega, 2013).

2.7. Renal Insufficiency

Renal insufficiency a syndrome that develops as a result of a significant reduction or termination of the excretory functions, as well as violations of other processes in the kidney, renal failure is characterized by a progressive increase in blood products of nitrogen metabolism (azotemia) and growing disorder organs, Depending on the rate of occurrence and the development of further distinguish acute and chronic renal failure (Train, 2002).

Acute renal failure occurs "suddenly" and progresses rapidly. This condition is potentially reversible. Often, however, acute renal failure leading to death of patients causes. There are prerenal, renal and post renal causes of acute renal failure prerenal they cause a significant decrease in renal blood flow, The most frequent causes of prerenal acute renal failure: a massive blood loss, collapse, shock, congestive heart failure, renal artery thrombosis, The functions of the kidneys themselves under the influence of these causes in the initial stages of acute renal failure stored. However, they cannot be realized mainly in connection with a significant decrease in blood flow to the kidneys. In terms of their effective hypoperfusion reduced glomerular filtration pressure on the products accumulate in the blood (including toxic), normally removed from the body, kidney involvement (Train, 2002).

Factors of this kind have a direct damaging effect on renal tissue. These include, Necronephrosis there are approximately 2/3 of the patients with acute renal failure. Often develops after kidney surgery, acute significant local or total ischemia of the kidney, Nephrotoxic agents (e.g.Carbon tetrachloride, certain antibiotics, sulfonamides, organic solvents, cytostatics), Sharply current pathological processes affecting the kidney tissue: acute glomerulonephritis, vasulities, pyelonephritis. Such conditions lead to acute renal failure in approximately 20% of patients (Train, 2002).

Post renal. Lead to the violation (until the end) the outflow of urine for urinary tract. The most common are, Obstruction of the urinary tract (kidney stones, tumors, foreign bodies [e.g., long located in the ureteral catheters], blood clots, inflammatory edema), Compression of the urinary tract (e.g. tumors of the abdominal organs, enlarged uterus, prostate adenoma tissue, ascites), Ureter inflection (for example, when migrating the kidney, its excess length).

A significant and rapidly growing volume reduction in glomerular filtration. Causes, Glomerular hypoperfusion resulting in ischemia of both kidneys prerenal origin (blood pressure is considered a critical level in the afferent arterioles of 40-60 mm Hg), Constriction of the renal arterioles, which develops due to hypotension and hypoperfusion of the kidneys, Microthrombi and / or aggregation of blood cells in the microvessels of kidney (at least the most recently observed in various types of shock, accompanied by the formation of excess blood coagulation factors) (Rubenstein, 2001)

The narrowing or obstruction of a large number of kidney tubules Causes, the accumulation of damaged cells in hydrophilic Ca2 +, edema and swelling of the epithelium. This reduces the lumen of the tubules, Closure of the lumen of the tubular cell detritus (due to damage and loss of epithelium) or cylinders composed of protein (with the development of inflammation and increase the glomerular filter permeability), myoglobin (in patients with muscle injuries), Hb (in patients with hemolysis of red blood cell) (Rubenstein,2001).

Suppression of excretion and secretion processes in the epithelium of tubules nephrotoxic factors under the action (phosphorus preparations salts of heavy metals, phenols, arsenic compounds and others.). The severity of acute renal failure is largely caused by the degree of alteration of the tubules and reduce glomerular filtration rate (Rubenstein, 2001)

Additional (to the action of the above-mentioned mechanisms) damage to the glomeruli, tubules, interstitial tissue in connection with the development of inflammatory reactions and immune allergic response to the direct damage to these structures. This mechanism often results in a transition of acute renal failure in chronic (Rubenstein, 2001).

Chronic kidney disease (CKD), also known as chronic renal disease, is a progressive loss in renal function over a period of months or years. The symptoms of worsening kidney function are not specific, and might include feeling generally unwell and experiencing a reduced appetite. Often, chronic kidney disease is diagnosed as a result of screening of people known to be at risk of kidney problems, such as those with high blood pressure or diabetes. This disease may also be identified when it leads to one of its recognized complications, such as cardiovascular disease, anemia, or pericarditis it is differentiated from acute kidney disease in that the reduction in kidney function must be present for over 3 months.

Chronic kidney disease is identified by a blood test for creatinine, which is a breakdown product of muscle metabolism. Higher levels of creatinine indicate a lower glomerular filtration rate and as a result a decreased capability of the kidneys to excrete waste products. Creatinine levels may be normal in the early stages of CKD, and the condition is discovered if urinalysis (testing of a urine sample) shows the kidney is allowing the loss of protein or red blood cells into the urine. To fully investigate the underlying cause of kidney damage, various forms of medical imaging, blood tests, and sometimes a renal biopsy are employed to find out if a reversible cause for the kidney malfunction is present (Nestle,2014).

Recent professional guidelines classify the severity of CKD in five stages, with stage 1 being the mildest and usually causing few symptoms and stage 5 being a severe illness with poor life expectancy if untreated. Stage 5 often called end stage end stage renal disease, or end-stage kidney failure, and is largely synonymous with the now outdated terms chronic renal failure or chronic kidney failure and usually means the patient requires renal replacement therapy, which may involve a form of dialysis, but ideally constitutes a kidney transplant (Kidney disease 2010).

No specific treatment has been unequivocally shown to slow the worsening of CKD. If an underlying cause of CKD, such as vasulities, or obstructive nephropathy (blockage to the drainage system of the kidneys) is found, it may be treated directly to slow the damage. In more advanced stages, treatments may be required for anemia and renal bone disease (Nestle, 2014).

2.8. Clinical manifestations of Chronic Kidney Disease

Chronic Kidney Disease is initially without specific symptoms and is generally only detected as an increase in serum creatinine or protein in the urine. As the kidney function decrease Blood pressure is increased due to fluid overload and production of vasoactive hormones created by the kidney via the renin-angiotensin system, increasing one's risk of developing hypertension and/or suffering from congestive heart failure (Charlson, 2002).

Urea accumulates, leading to azotemia and ultimately uremia (symptoms ranging from lethargy to pericarditis and encephalopathy). Due to its high systemic circulation, urea is excreted in ermine sweat at high concentrations and crystallizes on skin as the sweat evaporates ("uremic frost") Potassium accumulates in the blood (hyperkalemia with a range of symptoms including malaise and potentially fatal cardiac arrhythmias). Hyperkalemia usually does not develop until the glomerular filtration rate falls to less than 20- 25 ml/min/1.73 m2, at which point the kidneys have decreased ability to excrete potassium. Hyperkalemia in CKD can be exacerbated by academia (which leads to extracellular shift of potassium) and from lack of insulin (Charlson, 2002).

Erythropoietin synthesis is decreased causing anemia, Fluid volume overload symptoms may range from mild edema to life-threatening pulmonary edema, hypophosphatemia, due to reduced phosphate excretion, follows the decrease in glomerular filtration. Hypophosphatemia is associated with increased cardiovascular risk, being a direct stimulus to vascular calcification, Hypocalcaemia, due to 1,25 dihydroxyvitamin D3 deficiency, is caused by stimulation of fibroblast growth factor-23. Osteocytes are responsible for the increased production of FGF23, which is a

potent inhibitor of the enzyme 1- alpha-hydroxylase (responsiblefortheconversion of 25- hydroxycholecalciferol into 1,25 dihydroxyvitamin D3). Later, this progresses to secondary hyperparathyroidism, renal osteodystrophy, and vascular calcification that further impair cardiac function (Charlson, 2002).

Metabolic acidosis (due to accumulation of sulfates, phosphates, uric acid) may cause altered enzyme activity by excess acid acting on enzymes; and also increased excitability of cardiac and neuronal membranes by the promotion of hyperkalemia due to excess acid (acidemia). Acidosis is also due to decreased capacity to generate enough ammonia from the cells of the proximal tubule, iron deficiency anemia, which increases in prevalence as kidney function decreases, is especially common in those requiring hemodialysis. It is multifactor in cause, but includes increased inflammation, reduction in erythropoietin, and hyperuricemia leading to bone marrow suppression, people with CKD suffer from accelerated atherosclerosis and are more likely to develop cardiovascular disease than the general population. Patients afflicted with CKD and cardiovascular disease tend to have significantly worse prognoses than those suffering only from the latter (Burrp, 2006).

Sexual dysfunction is very common in both men and women with CKD. A majority of men have a reduced sex drive, difficulty obtaining an erection, and reaching orgasm, and the problems get worse with age. A majority of women have trouble with sexual arousal, and painful menstruation and problems with performing and enjoying sex are common (Burrp, 2006).

The most common recognized cause of CKD is diabetes mellitus. Others include idiopathic (i.e. unknown cause, often associated with small kidneys on renal ultrasound), hypertension, and glomerulonephritis together, these cause about 75% of all adult cases, Historically, kidney disease has been classified according to the part of the renal anatomy involved (Davison, 2006).

Vascular disease includes large vessel disease such as bilateral renal artery stenosis and small vessel disease such as ischemic nephropathy, hemolytic- uremic syndrome, and vasulities, Glomerular disease comprises a diverse group and is classified into, Primary glomerular disease such as focal segmental glomerular

sclerosis and IgA nephropathy (or nephritis), Secondary glomerular disease such as diabetic nephropathy and lupus nephritis Congenital disease such as polycystic kidney disease, Tubulointerstitial disease includes drug- and toxin-induced chronic tubule interstitial nephritis, and reflux nephropathy Obstructive nephropathy is exemplified by bilateral kidney stones and diseases of the prostate, On rare cases, pinworms infecting the kidney can also cause nephropathy, Nontraditional causes of CKD are denoted if the common causes of CKD are not present.

Diagnosis of CKD is largely based on the clinical picture combined with the measurement of the serum creatinine level, in many CKD patients, previous renal disease or other underlying diseases are already known, a significant number present with CKD of unknown cause. In these patients, a cause is occasionally identified retrospectively (Davison, 2006).

It is important to differentiate CKD from acute kidney injury (AKI) because AKI can be reversible. Abdominal ultrasound, in which the size of the kidneys is measured, is commonly performed. Kidneys with CKD are usually smaller (≤ 9 cm) than normal kidneys, with notable exceptions such as in early diabetic nephropathy and polycystic kidney disease. Another diagnostic clue that helps differentiate CKD from AKI is a gradual rise in serum creatinine (over several months or years) as opposed to a sudden increase in the serum creatinine (several days to weeks). If these levels are unavailable (because the patient has been well and has had no blood tests), it is occasionally necessary to treat a patient briefly as having AKI until the renal impairment has been established to be irreversible (Frank, 2014).

In Chronic Kidney Disease numerous uremic toxins accumulate in the blood. Even when ESKD (largely synonymous with CKD5) is treated with dialysis, the toxin levels do not go back to normal as dialysis is not that efficient. Similarly, after a renal transplant, the levels may not go back to normal as the transplanted kidney may not work 100%. If it does, the creatinine level is often normal. The toxins show various cytotoxic activities in the serum and have different molecular weights, and some of them are bound to other proteins, primarily to albumin.

The term no dialysis dependent CKD (NDD-CKD) is a designation used to encompass the status of those persons with an established CKD who do not yet require the life-supporting treatments for renal failure known as renal replacement therapy (RRT, including maintenance dialysis or renal transplantation). The condition of individuals with CKD, who require either of the two types of renal replacement therapy (dialysis or transplant), is referred to as the end-stage renal disease (ESRD). Hence, the start of the ESRD is practically the irreversible conclusion of the NDD-CKD, even though the NDD-CKD status refers to the status of persons with earlier stages of CKD (stages 1 to 4), patients with advanced stage of CKD (stage 5), who have not yet started renal replacement therapy, are also referred to as NDD-CKD (Frei, 2006).

The presence of CKD confers a markedly increased risk of cardiovascular disease, and people with CKD often have other risk factors for heart disease, such as high blood lipids. The most common cause of death in people with CKD is cardiovascular disease rather than renal failure. Aggressive treatment of hyperlipidemia is warranted (Frei, 2006).

Apart from controlling other risk factors, the goal of therapy is to slow down or halt the progression of CKD to stage 5. Control of blood pressure and treatment of the original disease, whenever feasible, are the broad principles of management. Generally, angiotensin converting enzyme inhibitors (ACEIs) or angiotensin II receptor antagonists (ARA) are used, as they have been found to slow the progression of CKD in forms of the disease with increased levels of protein in the urine (Gonzales, 2011)

Replacement of erythropoietin and calcitriol, two hormones processed by the kidney, is often necessary in people with advanced disease. Guidelines recommend treatment with parenteral iron prior to treatment with erythropoietin. A target hemoglobin level of 9–12 g/dl is recommended, the normalization of hemoglobin has not been found to be of benefit, It is unclear if androgens help with anemia, Phosphate binders are also used to control the serum phosphate levels, which are usually elevated in advanced chronic kidney disease. Although the evidence for

them is limited, phosphodiesterase-5 inhibitors and zinc show potential for helping men with sexual dysfunction, At stage 5 CKD, renal replacement therapy is usually required, in the form of either dialysis or a transplant (Gonzales, 2011).

Dialysis cleanses the body of waste products in the body by use of filter systems. There are two types of dialysis, hemodialysis, and peritoneal dialysis; Hemodialysis uses a machine filter called a dialyzer or artificial kidney to remove excess water and salt, to balance the other electrolytes in the body, and to remove waste products of metabolism. Blood is removed from the body and flows through tubing into the machine, where it passes next to a filter membrane. A specialized chemical solution (dialysate) flows on the other side of the membrane (Hyphantist, 2010).

The dialysate is formulated to draw impurities from the blood through the filter membrane. Blood and dialysate never touch in the artificial kidney machine, for this type of dialysis, access to the blood vessels needs to be surgically created so that large amounts of blood can flow into the machine and back to the body. Surgeons can build a fistula, a connection between a large artery and vein in the body, usually in the arm, that allows a large amount of blood flow into the vein. This makes the vein swell or dilate, and its walls become thicker so that it can tolerate repeated needle sticks to attach tubing from the body to the machine (Hyphantist, 2010).

Since it takes many weeks or months for a fistula to mature enough to be used, significant planning is required if hemodialysis is to be considered as an option, If the kidney failure happens acutely and there is no time to build a fistula, special catheters may be inserted into the larger blood vessels of the arm, leg, or chest. These catheters may be left in place for weeks. In some diseases, the need for dialysis will be temporary, but if the expectation is that dialysis will continue for a prolonged period of time, these catheters act as a bridge until a fistula can be planned, placed, and matured (Hyphantist, 2010).

Dialysis treatments normally occur three times a week and last a few hours at a time. Most commonly, patients travel to an outpatient center to have dialysis, but home dialysis therapy is becoming an option for some. Outpatient dialysis is available on some cruise chips. They are equipped with dialysis machines with trained health care professionals ready to care for those with kidney failure while traveling, peritoneal dialysis uses the lining of the abdominal cavity as the dialysis filter to rid the body of waste and to balance electrolyte levels. A catheter is placed in the abdominal cavity through the abdominal wall by a surgeon, and it is expected to remain in place for the long-term. The dialysis solution is then dripped in through the catheter and left in the abdominal cavity for a few hours after which it is drained out. During that time, waste products from the blood flowing through the lining of the abdomen (peritoneum), and attach themselves to the fluid that has been instilled by the catheters. Often, patients instill the dialysate fluid before bedtime, and drain it in the morning (Jager, 2009).

There are benefits and complications for each type of dialysis. Not every patient can choose which type he or she would prefer. The treatment decision depends on the patient's illness and their past medical history along with other issues. Usually, the nephrologists (kidney specialist) will have a long discussion with the patient and family to decide what will be the best option available (Jager, 2009).

Dialysis is lifesaving. Without it, patients whose kidneys no longer function would die relatively quickly due to electrolyte abnormalities and the buildup of toxins in the blood stream. Patients may live many years with dialysis but other underlying and associated illnesses often are the cause of death. Dialysis definition and facts Kidney dialysis is a procedure that is a substitute for many of the normal functions of the kidneys, Dialysis allows people with kidney failure (renal failure) a chance to live productive lives, When kidney function decreases to a critical level or complications arise, a person may need to start dialysis (Jager, 2009).

Hemodialysis uses a machine and a filter to remove waste products and water from the blood, Peritoneal dialysis uses a fluid (dialysate) that is placed into the patient's abdominal cavity to remove waste products and fluid from the body, Each type of dialysis has advantages and disadvantages, People often can choose which type of long term dialysis that best matches their needs, Dialysis gives some people an extended life, and in others, it provides additional time to locate an appropriate donor kidney for a kidney transplant (renal transplant) (Kuming, 2014).

The kidneys are responsible for filtering waste products from the blood. Dialysis is a procedure that is a substitute for many of the normal functions of the kidneys. The paired kidneys located on either side in the back of the abdominal cavity. Dialysis can allow individuals to live productive and useful lives, even though their kidneys no longer work adequately. Statistics from 2015, U.S. Renal Data System Annual Data Report (USRDS), showed approximately 468,000 patients were receiving dialysis in the United States. More than an additional 193,000 patients had a functioning kidney transplant for end stage renal disease. (Kuming, 2014).

The outlook for kidney failure depends upon the underlying condition that caused it. Kidney function may return to normal, especially if it is due to an acute obstruction and that obstruction is relieved. Other causes of decreased kidney function leading to kidney failure are due to underlying disease and occur slowly over time (Asif, 2014).

Prevention is the best chance to maintain kidney function, and controlling high blood pressure and diabetes over a lifetime can decrease the potential for progressive kidney damage. Chronic kidney failure may be managed by help to monitor electrolyte and waste product levels in the bloodstream. Major abnormalities can be life threatening, and treatment options may be limited to dialysis or transplant the patient needs dialysis, Also uses other indicators of the patient's status to decide about the need for dialysis. If the patient is experiencing a major inability to rid the body of excess water, or is complaining of problems with the heart, lungs, or stomach, or difficulties with taste or sensation in their legs, dialysis may be indicated even though the creatinine clearance has not fallen to the 10 cc/minute level (Yoo, 2001).

Hemodialysis uses an external machine and a special type of filter to remove excess waste products and water from the blood, during hemodialysis, blood passes from the patient's body to the dialysis machine through sterile tubing and into a filter, called a dialysis membrane. For this procedure, the patient has a specialized vascular tube placed between an artery and a vein in the arm or leg (called a gortex graft). Sometimes, a direct connection is made between an artery and a vein in the arm. This procedure is called fistula, Needles are then placed in the graft or fistula, and blood passes to the dialysis machine, through the filter, and back to the patient. If the patient requires dialysis before a graft or a fistula is placed, a large diameter catheter (hemodialysis catheter) is placed directly into a large vein in the neck or leg in order to perform dialysis. In the dialysis machine, a solution on the other side of the filter receives the waste products from the patient (Tublin, 2003).

The most common reason to start hemodialysis is kidney failure. The body normally has two kidneys that have several jobs: getting rid of waste and unneeded fluid, keeping salt and acid in the blood at the right levels, and getting rid of toxic chemicals in the blood (Tublin, 2003),

The kidneys can stop working for of a number of reasons. Even if the kidneys still make some urine, they may not be doing their other tasks as well as is needed. This is called kidney (or renal) failure. If a person does not get hemodialysis when the kidneys fail, waste and toxins build up and poison the body. The person in kidney failure can fall into a deep sleep or coma and/ or the heart can stop. Removal of waste and excess fluid from the body helps maintain one’s life until the kidneys can recover or a kidney transplant is done. In addition, sometimes hemodialysis is used to clear excessive medication or an overdosed drug from the body. Sometimes dialysis needs to be started in the hospital as with an acute illness other people who have had kidney disease for some time may be started on dialysis as an outpatient (Mcarthur, 2011).

A person is hooked up to the dialysis machine by tubing that is attached to a central venous catheter. This tube that is placed in a large vein in the body the central venous catheter is left in place between times that dialysis is being done. The risks of having a central venous catheter apply with hemodialysis as well. This catheter may be called a dialysis catheter, A person is usually connected to the dialysis machine for 3-4 hours each day or every other day. Sometimes, dialysis must be done more slowly.

Different medical centers offer longer and occasionally continuous dialysis. Patients needing long term treatment can undergo dialysis in a dialysis center, but some hospitals provide dialysis in the patient's own room. Blood tests tell the team how well dialysis is working and how often it is needed, Depending on the cause, acute (sudden) kidney failure may be temporary: Most people need hemodialysis for days or weeks, until their own kidney function improves. Some people require dialysis for a few months. In some diseases or with severe kidney injury, failure is permanent. Those patients with permanent failure will need dialysis for life. Although doctors can sometimes make a good guess about the chances that a person's kidneys will recover, it is almost never possible to say this with complete certainty (Loock, 2010).

If the kidneys never recover good function, a person will need dialysis for the rest of his or her life. If chronic (long term) dialysis is needed, a surgery is done to create access to your blood vessels usually in your arm. This artery-vein (AV) access may be in the form of a fistula (surgery is done to connect an artery and vein) or a graft (a tube is placed between an artery and vein). This fistula or graft can continue to be used once you go home. Once a person leaves the hospital, usually he or she will go to a dialysis center three times a week and have hemodialysis for 3-4 hours each time. Some people are switched from hemodialysis to a different form of dialysis that uses fluid in the abdomen called peritoneal dialysis (Sharfuddin, 2014).

Health care provider can give you more information on this if you are a candidate. Some people who need chronic dialysis are candidates for a kidney transplant. This is not an option for everyone with kidney failure. Your health care provider can discuss whether you may be a candidate and how you would get evaluated by a kidney (renal) transplant center (Aghouri, 2005).

During hemodialysis, usually you are not uncomfortable. Symptoms like cramps, headaches, nausea or dizziness can occur but are not common. If have symptoms, there are things that can be done to help: Slow down your fluid removal, which could increase your dialysis time. Adjust blood pressure medications used to prevent low blood pressure or treat high blood pressure. Adjust your target weight goal (this is called dry weight) (George, 2015).

Make adjustments to the dialysis fluid being used. Often with kidney failure you are given a special diet and limits on the fluid you can drink. The need to remove too much fluid during dialysis is one of the things that may make you feel uncomfortable during your treatment (George, 2015).

A person with hemodialysis is monitored all the time and dialysis is done by trained health professionals. However, there are risks and people on dialysis often are already very ill and have other health issues. Some of the risks of hemodialysis include: Low blood pressure (called hypotension) a person can have low blood pressure during hemodialysis. This is more common in a person who is already very ill. Such drops in blood pressure can be life threatening. Low blood pressure can be a reason not to do hemodialysis or stop it early before it is completed. For some critically ill people, the risk of death from low blood pressure may be greater than the benefits of washing waste products from the blood. Abnormal Heartbeat While washing waste products from the blood in dialysis, the heart may develop an abnormal heartbeat or rhythm. Abnormal heart rhythms can be life threatening.

Infection—It is possible to develop an infection in the blood or catheter site while on dialysis. People who are very ill often are at higher risk of infection. Special care is needed to prevent infection of the catheter. Maintenance of life—Dialysis is a form of life support (Akbar SA., 2005)

Although dialysis is effective at replacing sick kidneys, it is only one factor in whether a person recovers from a serious, sudden illness. Very often, doctors cannot tell if the use of hemodialysis will lead to a successful recovery. If a person is very sick, adding life-support therapies like dialysis may make the dying process longer and more uncomfortable. When a person is not showing any recovery or is continuing

to get worse, a decision about whether to stop hemodialysis may come up. For chronic kidney disease, patients and their healthcare providers may choose to continue dialysis for as long as it is needed and is working. They can also consider its benefits and burden on quality of life. If a person's health and/or quality of life changes, a decision may be made together with the healthcare team to stop dialysis (Moreno, 2016)

Treatment for hemodialysis usually takes place in a hemodialysis unit, This is a special building that is equipped with machines that perform the dialysis treatment. The dialysis unit is also the place where patients can receive dietary counseling and help with social needs, Patients generally go to the dialysis unit three times a week for treatment. For example, the schedule is either Monday, Wednesday, and Friday or Tuesday, Thursday, and Saturday. Before treatment, patients weigh themselves so that excess fluid accumulated since the last dialysis session can be measured. Patients then go to assigned chairs that are like lounge chairs. The area of the graft or fistula (the connection between the artery and vein), is cleaned thoroughly. Two needles are then inserted into the graft or fistula (Naesens, 2013).

One takes the blood to the machine where it is cleaned. The other needle allows blood that is returning to the patient to go back into the patient's body. Treatments last from 2 ½ to 4 ½ hours. During this time, the dialysis staff checks the patient's blood pressure frequently and adjusts the dialysis machine to ensure that the proper amount of fluid is being removed from the patient's body. Patients can read, watch television, sleep, or do other work during treatment (Radermacher, 2003).

Peritoneal dialysis uses a fluid that is placed into the patient's abdominal cavity through a plastic tube (peritoneal dialysis catheter) to remove excess waste products and fluid from the body, Peritoneal dialysis uses the patient's own body tissues inside of the belly (abdominal cavity) to act as the filter. The abdominal cavity is lined with a special membrane called the peritoneal membrane. A plastic tube called a peritoneal dialysis catheter is placed through the abdominal wall into the abdominal cavity. A special fluid called dialysate is then flushed into the abdominal cavity and washes around the intestines. The peritoneal membrane acts as a filter between this fluid and the blood stream (Hand, 2013).

Peritoneal dialysis requires the patient to play a more active role in their dialysis treatment. Of primary importance is the patient's responsibility for maintaining a clean surface on the abdomen and catheter, where treatment is administered, in order to prevent infection (Hand, 2013).

During this process, the patient weighs herself/himself to determine the strength of fluid to be used. The patient then puts on a mask and cleans the peritoneal catheter site fluid that has been allowed to stay in the peritoneal cavity while the peritoneal membrane filters waste into the fluid. The fluid and waste are is then drained back into the plastic bag that originally contained the fluid. The patient then disconnects this bag containing waste in the fluid and connects a new bag of solution that is allowed to drain into the peritoneal cavity. Once the fluid is in the body, the new bag is rolled up and placed in the patient's underwear until the next treatment (Ikizler, 2014).

As an alternative to this treatment, some patients on peritoneal dialysis use a machine called a "cycler." This cycle is used every night, Five to six bags of dialysis fluid are used on the cycler and the machine automatically changes the fluid while the patient sleeps (Vendrely, 2003).

Each of the two types of dialysis, hemodialysis and peritoneal dialysis, has advantages and disadvantages. It is up to the patient and there nephrologist to decide which of these procedures is best by considering her/his life style, other medical conditions, support systems, and how much responsibility and participation in the treatment program he/she desires. The patient must realize that because of their specific medical condition, they may not be a candidate for one or the other type of dialysis. Each patient must view the two types of dialysis procedures from her/his own perspective (Pance, 2012).

Regardless of which type of dialysis is chosen, patients have certain responsibilities such as following a diet program, watching their fluid intake, taking special vitamins, and other medicines to control blood pressure and calcium and phosphorus balance (Acaray, 2005).

For many patients, the major advantage of hemodialysis is minimal participation in the treatment. However, patients are required to adhere to a specific schedule and travel to the dialysis unit three times a week. Hemodialysis also requires stricter diet control and fluid control than peritoneal dialysis (Addington, 2001).

For those patients preferring more independence, peritoneal dialysis allows for more flexible scheduling and can be performed at home. The patient must undergo a certain amount of dialysis each day, but can alter the exact timing of the dialysis procedure. The patient has a plastic tube that goes from the peritoneal cavity to the outside of the body and this is a potential site for the entry of bacteria into the body. Great emphasis is placed on cleanliness and technique during the training sessions (Adib, 2004).

The expected lifespan of a patient receiving dialysis in the United States Renal Data System (USRDS) report was approximately 8 years for dialysis patients 40 to 44 years of age and approximately 4.5 years for those 60 to 64 years of age. This is a highly variable range that is dependent on many factors such as: race, age of patient, quality of dialysis treatment, other medical issues in the patient (comorbidities), quality of pre-dialysis treatment, control of potassium levels, and overall compliance of the patient Some patients do dialysis as a bridge (time to locate an appropriate donor kidney) to getting a kidney transplant (renal transplant). If a patient is successful in getting a transplant and is able to stop dialysis, their survival prognosis increases greatly, as a patient approaches dialysis, there are numerous sources of information(Altintepe, 2006).

2.9. Kidney transplantation

If kidney failure occurs and is non-reversible, kidney transplantation is an alternative option to dialysis. If the patient is an appropriate candidate, the healthcare professional and nephrologists will contact an organ transplant center to arrange evaluation to see whether the patient is suitable for this treatment. If so, the search for a donor begins (Apolone, 2004).

Sometimes, family members have compatible tissue types and, if they are willing, may donate a kidney. Otherwise, the patient will be placed on the organ transplant list that is maintained by the United Network of Organ Sharing, Not all hospitals are capable of performing kidney transplants. The patient may have to travel to undergo their operation. The most successful programs are those that do many transplants every year (Apolone, 2004).

While kidney transplants have become more routine, they still carry some risk. The patient will need to take anti-rejection medications that reduce the ability of the immune system to fight infection. The body can try to reject the kidney or the transplanted kidney may fail to work. As with any operation, there is a risk of bleeding and infection (Barhem, 2009).

Kidney transplants may provide better quality of life than dialysis. After one year, 95% of transplanted kidneys are still functioning and after five years, the number is 80%. It seems that the longer a patient is on dialysis, the shorter the life of the transplanted kidney (Beanlands, 2005).

If the transplanted kidney fails, the alternative is another kidney transplant or a return to dialysis. When you get a kidney transplant, a healthy kidney is placed inside the body to do the work your own kidneys can no longer do, On the plus side, there are fewer limits on what you can eat and drink, but you should follow a heart-healthy diet. Your health and energy should improve. In fact, a successful kidney transplant may allow you to live the kind of life you were living before you got kidney disease. Studies show that people with kidney transplants live longer than those who remain on dialysis (Braveman, 2006).

There are the risks of surgery will also need to take anti- rejection medicines for as long as new kidney are working, which can have side effects will have a higher risk for infections and certain types of cancer. Although most transplants are successful and last for many years, how long they last can vary from one person to the next many people will need more than one kidney transplant during a lifetime (Brazier, 2004).

Preemptive" or "early" transplant getting a transplant before need to start dialysis is called a preemptive transplant. It allows to avoid dialysis altogether. Getting shortly after renal failure (but with some time on dialysis) is referred to as an early transplant. Both have benefits. Some research shows that a pre-emptive or early transplant, with little or no time spent on dialysis, can lead to better long-term health. It may also allow keeping working, save time and money, and having a better quality of life (Castta, 2009).

Uremic (ESRD) patients of all ages from children to seniors can get a transplant must be healthy enough to have the operation, must also be free from cancer and infection. Every person being considered for transplant will get a full medical and psychosocial evaluation to make sure they are a good candidate for transplant. The evaluation helps find any problems, so they can be corrected before transplant. For most people, getting a transplant can be a good treatment choice (Carr, 2001).

2.9.1. History about Kidney transplant

One of the earliest mentions about the real possibility of a kidney transplant was by American medical researcher Simon Flexner, who declared in a reading of his paper on "Tendencies in Pathology" in the University of Chicago in 1907 that it would be possible in the then-future for diseased human organs to be substituted for healthy ones by surgery, including arteries, stomach, kidneys and the heart (Carqeiraj, 2002).

In 1933, surgeon Dr. Yuriy Voroniy from Kherson in the then Soviet Union, attempted the first human kidney transplant, using a kidney removed six hours earlier from a deceased donor, to be Re-inplanted into the thigh. He measured kidney function by using a connection between the kidney and the skin. His first patient died two days later, because the graft was incompatible with the recipient's blood group

and was thus rejected when a successful transplant could be performed on Ruth Tucker, a 44-year-old woman who had polycystic kidney disease, by Dr. Richard Lawler, at Little Company of Mary Hospital in Evergreen Park, Illinois. Although the donated kidney was rejected 10 months later because no immunosuppressive therapy was available at the time -- the development of effective anti-rejection drugs was years away. However, the intervening time provided enough time for Tucker's remaining kidney to recover, resulting in her living an additional five years (Cherry,2010).

The first kidney transplants between living patients were performed in 1952 at the Necker hospital in Paris France, by Dr. Jean Hamburger. Unfortunately, the kidney transplant failed after only three weeks of satisfactory function and later in 1954 in Boston Massachusetts. The Boston transplantation, which was performed on December 23, 1954, at Brigham Hospital, was performed by Drs. Joseph Murray, J. Hartwell Harrison, John P. Merrill and others. The procedure was conducted between identical twins Ronald and Richard Herrick, in order to eliminate any problems of an immune reaction for this and later work, Dr. Murray received the Nobel Prize for Medicine in 1990. The recipient, Richard Herrick, died eight years after the transplantation procedure (Cleany, 2005).

In 1955, Charles Rob, William James "Jim" Dempster (St. Marys and Hammersmith, London UK) carried out the first deceased donor transplant in the United Kingdom, which was unsuccessful. In July 1959, "Fred" Peter Raper (Leeds) performed the first successful (eight months) deceased donor transplant in the UK. One year later, in 1960, the first successful living kidney transplant in the UK occurred, when Dr. Michael Woodruff performed one between identical twins in Edinburgh, Until the routine use of medications to prevent and treat acute rejection that were introduced in 1964, deceased donor transplantation was not performed. The kidney was considered to be the easiest organ to transplant, because: Tissue typing was simple, the organ was relatively easy to remove and implant, live donors could be used without difficulty, and in the event of failure, kidney dialysis was available from the 1940's onward, but not widely available for several decades. Tissue typing was acknowledged to be essential to the success, as early attempts in the 1950s on

sufferers from Bright's disease had been very unsuccessful (Coellho., 2006).

The major barrier to organ transplantation between genetically nonidentical patients lay in the recipient's immune system, which would treat a transplanted kidney as a "nonself" or foreign body to be attacked, and immediately or chronically reject it. Thus, having medications to suppress the immune system was essential. However, suppressing an individual's immune system places that individual at greater risk of infection and cancer (particularly skin cancer and lymphoma), in addition to the very difficult side effects of the medications (Covic, 2004).

The basis for most immunosuppressive regimens is prednisolone, a corticosteroid. Prednisolone suppresses the immune system, but its long-term use at high dose causes a multitude of side effects, including glucose intolerance and diabetes, substantial weight gain, osteoporosis, muscle, weakness, hypercholesterolemia and cataract formation, Prednisolone alone is usually inadequate to prevent rejection of a transplanted kidney. Thus other, no steroid immunosuppressive agents are needed, which also allow lower doses of prednisolone (Cukor, 2007).

The indication for kidney transplantation is end-stage renal disease (ESRD), regardless of the primary cause. This is defined as a glomerular filtration rate of < 15 ml/min/1.73 m2. Common diseases leading to ESRD include malignant hypertension, infections, diabetes mellitus, and focal segmental glomerulosclerosis. The genetic causes include polycystic kidney disease, a number of inborn errors of metabolism, plus autoimmune conditions such as lupus (Davis, 2005).

Diabetes is the most common known cause of kidney transplantation, accounting for approximately 25% of those in the US. The majority of renal transplant recipients are maintained on dialysis (peritoneal dialysis or hemodialysis) at the time of transplantation. However, individuals with chronic kidney disease who have a living donor available may undergo pre-emptive transplantation before dialysis is needed, while the odds of success are still favorable. If a patient is placed on the waiting list for a deceased donor transplant early enough, they may also be transplanted pre-dialysis (Dijkers, 2003).

Kidney transplant requirements vary from program to program and country to country. Many transplant programs place limits on age (e.g. the person must be under a certain age, in order to be added to the waiting list), and require that one must be in good health (aside from the kidney disease). Significant cardiovascular disease, incurable terminal infectious diseases and cancer are often considered to be transplant exclusion criteria. In addition, transplant candidates are typically screened to determine if they will be compliant with their medications, which is essential for survival of the transplant. Patients who have mental illness and/or significant on-going substance abuse issues may often be excluded (Dwyer, 2002).

HIV was at one point considered to be a complete contraindication to transplantation. There was fear that immune suppressing someone with a depleted immune system would result in the progression of the disease. However, some research seem to suggest that immunosuppressive drugs and anti-retroviral may work synergistically to help both HIV viral loads/CD4 cell counts and prevent active rejection (Eady, 2008).

Since medication to prevent rejection is so effective, donors do not need to be completely similar to their recipient. Most donated kidneys are procured from deceased donors. However, the use of living donors in the United States has been rising in recent years. In 2006, 47% of donated kidneys were from living Donors, This varies by country: for example, only 3% of kidneys transplanted during 2006 in Spain came from living donors, unless they explicitly opt out during their lifetime, but this is not the case in the US and many other countries worldwide (Fayer, 2002).

In general, the donor and recipient should be in the ABO blood group and cross match (human leukocyte antigen -- HLA) compatible. If a potential living donor is incompatible with his/her recipient, the donor could be exchanged for a compatible kidney. Kidney exchange, also known as "kidney paired donation" or "chains," have recently gained in popularity (Hicks, 2004)

In an effort to reduce the risk of rejection during incompatible transplantation, ABO-incompatible and desensitization protocols using intravenous immunoglobulin (IVIG) have been developed, with the aim to reduce ABO and HLA antibodies that the recipient may have to the donor (Hsieh, 2010).

In the 1980's, experimental protocols were developed for ABO- incompatible transplant succeed increased immune suppression and plasmapheresis.

Through the 1990's these techniques were improved, and an important study of long-term outcomes in Japan was published, Now a number of programs around the world are routinely performing ABO-incompatible transplants (Hsieh, 2010).

The level of sensitization to donor HLA antigens is determined by performing a panel reactive antibody test on the potential recipient. In the US, up to 17% of all deceased donor kidney transplants have no HLA mismatch. However, HLA matching is a relatively minor predictor of transplant outcomes. In fact, living nonrelated donors are now almost as common as living (genetically)-related donors (Lliscue, 2003).

In most cases, the barely functioning existing kidneys are not removed, as removal has been shown to increase the rates of surgical morbidity. Therefore, the kidney is usually placed in a location different from the original kidney. Often this is in the iliac fossa, so it is often necessary to use a different blood supply:

The renal artery of the new kidney, previously branching from the aorta in the donor, is often connected to the external iliac artery in the recipient, the renal vein of the new kidney, previously draining to the inferior vena cava in the donor, is often connected to the external iliac vein in the recipient there is disagreement in surgical textbooks regarding which side of the recipient’s pelvis to use in receiving the transplant. Campbell's Urology (2002) recommends placing the donor kidney in the recipient’s contra lateral side (i.e. a left- sided kidney would be transplanted in the recipient's right side) to ensure the renal pelvis and ureter are anterior, in the event that future surgeries are required. In an instance where there is doubt over whether there is enough space in the recipient’s pelvis for the donor's kidney, the textbook recommends using the right side, because the right side has a wider choice of arteries and veins for reconstruction (Jaber. 2005).

States that either side of the recipient's pelvis is acceptable; however, the right vessels are "more horizontal" with respect to each other and are therefore easier to use in the anastomoses. It is unclear what is meant by the words "more horizontal." Glen's Urological Surgery (2004) recommends placing the kidney in the contra lateral side in all circumstances. No reason is explicitly put forth; however, one can assume the rationale is similar to that of Campbell, i.e., to ensure that the renal pelvis and ureter are most anterior, in the event that future surgical correction becomes necessary. (Smith's Urology, 2004).

Regarding who receives a donated organ, "The organs are distributed locally first, and if no match is found they are then offered regionally, and then nationally, until a recipient is found. Every attempt is made to place donor organs," explains the United Network for Organ Sharing, which contracts to administer the US organ donation procedures at all transplant and procurement centers (Kao, 2009).

The transplant surgery typically takes about three hours, the donor kidney will be placed in the lower abdomen, and its blood vessels are connected to arteries and veins in the recipient's body. When this process is complete, blood will be allowed to flow through the kidney again. The final step is connecting the ureter from the donor kidney to the bladder. In most cases, the kidney will soon start producing urine, and often instantaneously, according to surgeons, depending on its quality (Kimmel, 2002)

Living donor kidneys normally require 3–5 days to reach normal functioning levels, while cadaveric donations stretch that interval to 7-15 days. Hospital stay for 4-10 days. If complications arise, additional medications (diuretics) may be administered, in order to help the kidney produce urine (KO, 2007).

Immunosuppressant drugs are used to suppress (block) the immune system from rejecting the donor kidney. These medicines must be taken for the rest of the recipient's life (Kutner, 2004).

Cyclosporine, which was considered to be a major breakthrough immunosuppressive when first discovered in the 1980s, ironically causes nephrotoxicity. That can result in iatrogenic damage to the newly transplanted kidney. Tacrolimus, which is a similar drug, also causes nephrotoxicity. Blood levels of both must be monitored closely. Thus, if the recipient seems to be experiencing declining renal function or protein urea, a biopsy may be necessary to determine whether this is due to rejection or cyclosporine or tacrolimus intoxication (Lee, 2005).

Post-operatively, kidneys are periodically imaged by ultrasound, in order to assess the physiologic changes that often accompany transplant rejection. Imaging also allows the evaluation of supportive structures such as the anastomosed transplant artery, vein and ureter, so as to ensure they are stable in appearance; the major sonographic scale in quantitative ultrasound assessment is with a multipoint assessment of the resistive index (RI), beginning at the main renal artery and vein, and then ending at the accurate vessels. It is calculated as follows:

RI = (peak systolic velocity – end diastolic velocity) / peak systolic velocity The normal value is ≈ 0.60, with 0.70 being the upper limits of normal.

Kidney transplant recipients are discouraged from consuming grapefruit, pomegranate and green tea products. These food products are known to interact with the transplant medications, specifically tacrolimus, cyclosporin and sirolimus; the blood levels of these drugs may be increased, potentially leading to an overdose (Levy, 2004).

Infections due to the immunosuppressant drugs used in people with kidney transplants most commonly occur in mucocutaneous areas (41%), the urinary tract (17%) and respiratory tract (14%), The most common infective agents are bacterial(46%), viral (41%), fungal (13%) and protozoan (1%). Of the viral illnesses, the most common agents are human cytomegalovirus (31.5%), herpes simplex (23.4%) and herpes zoster (23.4%). BK virus is now being increasingly recognized. Infection is the cause of death in about one third of patients who received renal transplants, while pneumonias account for 50% of the patient deaths from infection (Mangione, 2002).

Prognosis of Kidney transplantation is a life-extending procedure; the typical patient will routinely live at least 10-15 years longer with a kidney transplant than if kept on dialysis, The increase in longevity is greater for younger patients, but even 75-year-old recipients (the oldest group for which there is data) gain an average of at least four more years of life. The transplant recipients are generally considered to have more energy, have to follow a less restricted diet, and experience fewer complications with a kidney transplant than if they remain on conventional dialysis (Merriam, 2009)

Some studies seem to suggest that the longer a patient remains on dialysis before the transplant, the less time the kidney will last, or the less opportunity there will be to receive a transplant. It is not clear why this occurs, but it underscores the need for rapid referral to a transplant program. Ideally, a kidney transplant should be pre-empties, i.e., take place before the patient begins dialysis. The reason why kidneys fail over time after transplantation has been elucidated in recent years. Apart from recurrence of the original kidney disease, also rejection (mainly antibody-mediated rejection) and progressive scarring (multifactorial) play a decisive role, avoiding rejection by strict medication adherence is of utmost importance to avoid failure of the kidney transplant (Oman, 2003).

Chapter Three

Methodology

3. METHODOLOGY

This chapter presents the methods that are used in this study. It includes the design of the study, the administrative arrangement, setting of the study, sample of study, tools and methods of data collection, rating scale and scores, reliability of instrument, validity of the study instrument, pilot study and finally the statistical data analysis.

3.1. Design of the study

Quantitative design (Interventional study) carried out to measure change in quality of life for renal transplantation patients with end stage renal disease at Shar hospital in Sulaimani city, using a case control study, used for the approach of assessment and evaluation for the study sample and conducted on (questionnaire on patients file) in dialysis center of Shar hospital, for the period of August 2016, to October 2019 to assess quality of life of patients with renal transplantations.

3.2. Administrative arrangement

After an approval was issued for the of the study, an official permission was granted from the College of Medicine / Sulaimani - Iraq (Appendix D1), another approach was issued from health directorate of Sulaimani and an official permission was granted from Shar hospital (Appendix D2).

A meeting was held between the researcher and the manager of Hospital as well as the head nurse to ensure the permission for conducting the present study.

3.3. Setting of the study

The present study was conducted at Shar Hospital was established in 28/3/2013 in Sulaimani-province- Iraq. (As study group) Shar hospital divided in to 5 parts.

Dialysis center and Transplantation word, medical ward, surgical ward and Intensive care unit, operation rooms and emergency department, which receive number of patients with renal transplantation from Sulaimani city.

3.4. The sample of the study

Phase 1: Assessment phase:

Anon-probability (purposive sample) of 50 cases who are definitely diagnosed with end-stage renal failure, (100) controls selected out of the community from the people who accompanied their patients to Shar hospital, and they were free from obvious renal disorders, according to the following criteria.

Criteria of the sample include cases and control were pair matched relative to their age, gender, marital status occupation and chronic health problem.

Cases were adult, male and female who are definitely diagnosed as having end-stage renal failure.

Phase 2: Evaluation phase by 2 tools

Information related patients and health related quality of life score questionnaire: by intervening with (50) patients, pre and post transplantation.

Two groups were selected by researcher as a target population:

1. Study group

   The researcher include all target (accessible) sample in dialysis center of Shar hospital with end-stage renal disease, and the number were (50) cases.

2. Control group

   According to the objectives of the study, another group was selected from the community from the people who accompanied their patients to Shar hospital, and they were free of any renal disorders, as a control group. Includes (100) healthy person.

The inclusion criteria for sample selection

Patients:

1. Both gender (male and female), who were admitted in dialysis center of Shar Hospital with diagnosis end-stage renal disease.
2. All ages who are definitely diagnosed with end-stage renal disease.

Controls:

1. Both genders (male and female).
2. Controls were selected from the people who accompanied their patients to Shar hospital, and they were free of any renal disorders.

3.5. Tools of data collection

The participants in both case and control groups have been assessed at the beginning of the study and the participants in the case group assessed three months after kidney transplant to let them return to normal daily activity and functions. A questionnaire was valid with some modification by the researcher for the purpose of the present study, mainly used to determine quality of life change of renal transplantation patients with end stage renal disease, the construction of items of questionnaire is based on the following, through extensive review of relevant literature and World Health Organization (WHO). Over all items are included in the questionnaire which were (149) items (Appendix B) The questionnaire consists of three parts which are

Part I: Sociodemographic data

It is composed of (11) items that represent the socio demographic data of patients with end-stage renal failure, such as age, gender, level of education, marital status, number of children, occupation, socioeconomic, how long been dialysis, chronic health problem, current living arrangement and major life events.

Part II: information related to satisfaction and importance tool of Quality of life index (pre-transplantation)

This part consists of (68) items include How satisfied are you with and How important do you with each of them consist of (34) items measured by (6) Likert scale.

Scale of satisfaction:

(1) Very Dissatisfaction
(2) Moderately Dissatisfaction
(3) Slightly Dissatisfaction
(4) Slightly satisfied
(5) Moderately satisfied
(6) Very satisfied

Scale of important

(1) Very unimportant
(2) Moderately unimportant
(3) Slightly unimportant
(4) Slightly important
(5) Moderately important
(6) Very important

Part III: Quality of life index (Post Transplantation)

This part composed of (70) items include How satisfied are you with and How important do you with each of them consist of (35) items.

All items were measured by (6) levels of Likert scale and rating as,

Scale of satisfaction:

(1) Very Dissatisfied
(2) Moderately Dissatisfied
(3) Slightly Dissatisfied
(4) Slightly Satisfied

(5) Moderately Satisfied

(6) Very Satisfied

Scale of important:

(1) Very Unimportant

(2)Moderately Unimportant

(3) Slightly Unimportant

(4) Slightly Important

(5) Moderately Important

(6)Very Important

3.6. Validity of the questionnaire

The content validity of the questionnaire was determined through a panel of (11) experts, their means of experiences are (20) years (Appendix A), their opinions and suggestions were taken in to consideration to investigate the clarity and adequacy of items, eight from college of Medicine, one from college of Nursing and two from teaching hospital.

3.7. Pilot study

A pilot study was conducted on (5) purposive sample of patients with end-stage renal failure, male and female at Shar hospital.

The study was carried out through the November to December 2016.

The study aimed to:

1. Confirm the clarity of the instruments structure throughout the subjects understanding to determine required modifications.
2. Estimate the average time consumed for the data collection of each subject.
3. Enhance the validity of the questionnaire.
4. Determine the reliability of the questionnaire.

3.8. Reliability of the questionnaire

Stability and reliability refers to the reproducibility of the finding i.e., whether a measure produces similar results in a given situation, it is a major criteria for assessing the instrument quality and adequacy (Polit and Hungler. 1999).

Reliability of the questionnaire was determined through the use of test-retest Approach, (Stability) the person correlation coefficient (r) was used for the determination of the reliability of the study instrument, Test-retest correlation coefficient of reliability (r=0.92).

The inter-rater-reliability on (3 cases) by interview the researcher, whom they collected data, Alpha correlation coefficient was computed to calculate coefficient of the instrument showed to be (r=0.087, 0.86 and 0.91) when tested.

3.9. Method of data collection

The data were collected through the utilization of constructed questionnaire, interview technique with the patients and control, the data collection process was performed from the period of 1st November 2016 up to the end of November 2017, interviewing by the use of the questionnaire took (30) minutes for each subject, in two groups patients with end-stage renal failure, and normal people (control).

Procedure:

Kidney transplantation recording tool were developed and extensive review of literatures and relevant previous studies were conducted. A tool developed by the researcher for the purpose of the present study was mainly used to determine changes quality of life of renal transplantation patients with end-stage renal disease, consists of:

1. Demographic data It is composed of (11) items that represent the demographic data of patients with end-stage renal failure, such as age, gender, level of education, marital status, number of children, occupation,

socioeconomic, how long been dialysis, chronic health problem, current living arrangement and major life events.

2. Quality of life index (pre transplantation) this part composed of (68) items include How satisfied are you with and How important do you with each of them it consist of (34) items in each part.

3 .Quality of life index (Kidney Transplantation)

This part composed of (70) items include How satisfied are you with and How important do you with each of them it consist of (35) items in each part

3.10. Statistical analysis

After data collection and prior to data entry and analysis, the questions of study were coded. Data entry performed via using an excel spreadsheet then the statistical analysis was performed by SPSS program, version 21 (IBM SPSS Statistical Package for the Social Sciences).

The data presented in tabular forms showing the frequency and percentage distribution of different socio-demographic characteristics of both groups of study participants (patients and controls). Chi-square tests were used to compare the matching of the cases with the health controls in respect to certain variables. The mean score of satisfaction and importance of their health and their life before transplant were compared by the double number of healthy controls by using independent t test, as well as the total satisfaction and total importance. The total satisfaction and total importance were grouped into three different categorize based on the score levels, then the comparison of these groups between cases and controls were performed by using chi-square test. The satisfaction and importance of patients health status prior to the transplant was compared with their situation after the performance of transplantation were compared by using paired t test, P values of 0.05 were used as a cut off point for significance of statistical tests.

Chapter Four

Results

4. RESULT

This chapter presented the results of the data analysis in systematically driven presentation, and also it discuss as the findings of the study and communicates it logically, in addition the researcher will high light what is actually observed in relation to the specific question and objectives of the study.

The data in this study were arranged in five sections. The first section was about the Demographic data of study population. The second sections have Association between Sociodemographic variables and quality of life (case, control) study, the third section has Sociodemographic variables and quality of life (pre and post kidney transplantation. The fourth section have association between Sociodemographic characteristics with quality of life and the fifth section have Association between Sociodemographic with domains of quality of life (satisfaction and important) variables.

4.1 Description of study sample

4.1.1 Demographic characteristics of study population

The results obtained from the participants' demographic characteristics revealed that their mean age was 41.03 (±15.004). Most of the participants in both case and control groups belonged to the age groups 21-40 and 41-60 years (82% of the cases and 86% of the controls). Regarding their gender, most of the case (62%) and controls (60%) were males. In terms of their education level, the percentages of the cases and controls were illiterate (28% vs. 22%) or finished primary school (28% vs. 25%), secondary school (26% vs. 30%), and institute or college (18% vs. 23%).

Regarding their marital status, most of the cases (66%) and controls (72%) were married. With regard to their financial status, most of the cases (62%) and controls (61%) had barely sufficient financial status. The cases and control were not significantly different in terms of the abovementioned demographic characteristics; therefore, they were homogenous in terms of their demographics. With regard to having chronic diseases, there was a significant difference between the cases and

controls (p=0.0001), such that most of the cases (88%) had chronic disease, while more than half of the controls (57%) did not have chronic disease (See Table 1).

Table (1) distribution of participants' characteristics.

Characteristics	Case		Control		Chi-Square	p-value
	Frequency	%	Frequency	%		
Age Group						
≤ 20	5	10	4	4	3.173	0.366
21 - 40	20	40	50	50		
41 - 60	21	42	36	36		
> 60	4	8	10	10		
Age Mean ± SD	41.03 ± 15.004					
Gender						
Female	19	38	40	40	0.056	0.813
Male	31	62	60	60		
Education Levels						
Illiterate	14	28	22	22	1.192	0.755
Primary school	14	28	25	25		
Secondary school	13	26	30	30		
Institute or College	9	18	23	23		
Marital Status						
Single	13	26	21	21	0.585	0.747
Married	33	66	72	72		
Widowed/separated	4	8	7	7		
Financial status						
Sufficient	2	4	4	4	0.015	0.993
Barely sufficient	31	62	61	61		
Insufficient	17	34	35	35		
Chronic Disease						
No	6	12	57	57	27.71	0.0001
Yes	44	88	43	43		
Total	50	100	100	100		

4.2.1. Distribution of the mean scores of participants' satisfaction and important domains.

Comparing the cases and controls regarding different important domains and satisfaction with them, the results showed that the two groups were significantly different in terms of their health and functioning, family and friends, social life, and psychological/spiritual state and their satisfaction with such domains (p=0.0001). These results demonstrated that the level of satisfaction with these domains was significantly higher in the controls compared to the cases (See Table 2&3).

Table (2) distribution of the mean scores of participants' satisfaction domains.

QoL	Case		Control		t-Test	p-value
	Mean	SD	Mean	SD		
Satisfactions' Domain						
Health & Functioning	44.40	10.12	65.35	6.11	-15.75	0.0001
Family & Friend	44.40	14.97	70.27	8.47	-13.51	0.0001
Social life	45.92	11.02	62.04	6.79	-11.02	0.0001
Psychological / Spiritual	53.71	8.54	71.00	5.39	-15.12	0.0001
Total satisfaction	47.11	9.41	67.16	5.05	-17.00	0.0001

Table (3) distribution of the mean scores of participants' important domains.

QoL	Case		Control		t-test	p-value
	Mean	SD	Mean	SD		
Important Domains						
Health & Functioning	43.83	9.55	66.00	4.99	-18.70	0.0001
Family & Friend	42.27	12.57	66.73	7.99	-14.49	0.0001
Social life	45.17	9.78	63.38	9.78	-13.03	0.0001
Psychological / Spiritual	50.33	8.09	69.090	6.01	-16.69	0.0001
Total Important	45.40	8.75	66.50	4.54	-19.49	0.0001

Figure 1 indicates the participants' satisfaction with significant domains of their lives. As seen in this figure, the controls were remarkably more satisfied than the cases with their health and functioning (44% vs. 66%), family (43% vs. 69%), social and economic status (45% vs. 63%), and psychological and spiritual functioning (52% vs. 70%). Perception of their overall QoL satisfaction in the cases and the controls was respectively46% and 67% (See Fig. 1).

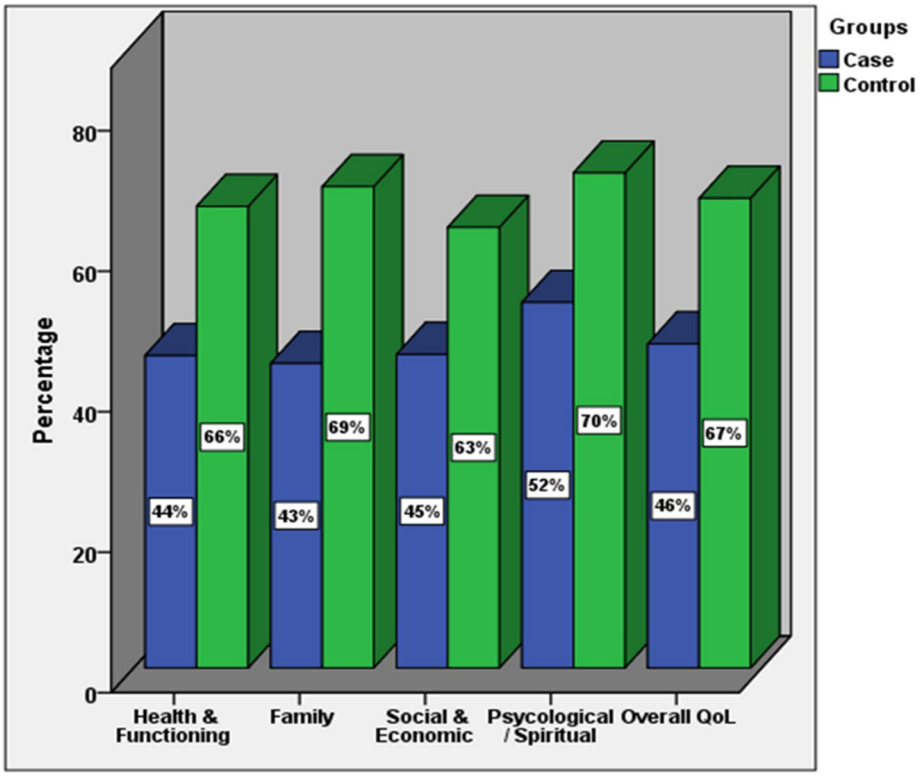

Figure (1) Dimension and overall QoL

Comparing the cases and controls in terms of their difference of means scores of QoL domains showed that the two groups were significantly different at a p-value of 0.0001 regarding health and functioning, family, social functioning, and psychological functioning (See Table 4).

Table (4) Distribution of differences in mean scores of QoLs' domains in case and control.

Variables	Mean Difference	Std. Error Difference	95% CI of the Difference		t	p
			Lower	Upper		
Health & Functioning	-21.22	1.155	-23.50	-18.94	-18.37	0.0001
Family Friend %	-25.167	1.517	-28.17	-22.17	-16.59	0.0001
Social life %	-18.10	1.271	-20.62	-15.59	-14.25	0.0001
QoL Psychological %	-18.43	0.975	-20.36	-16.50	-18.90	0.0001
QoL Overall %	-20.73	1.031	-22.77	-18.69	-20.11	0.0001

Regarding the relationship between the patients' demographic characteristics and their overall quality of life, the results of the present study showed that their overall quality of life was not significantly correlated with their age (p=0.437), gender (p=0.84), educational level (p=0.16), marital status (p=0.91), or financial status (p=0.18). However, a highly significant correlation was observed between their overall quality of life and presence of chronic diseases at a p-value of 0.0001 (See Table 5).

Table (5) Distribution of differences in mean scores of QoL according to patients' characteristics.

Characteristics	Overall QoL	F (p)
Age Croup	Mean ± SD	
≤ 20	51.0 ± 9.6	0.923 (0.437)
21- 40	44.6 ± 9.3	
41- 60	46.8 ± 8.1	
> 60	43.8 ± 1.9	
Gender		
Female	45.8 ± 6.3	0.04 (0.84)
Male	46.3 ± 9.7	
Educational level		
Illiterate	41.9 ± 3.8	1.8 (0.16)
Primary school	46.9 ± 9.9	
Secondary school	47.7 ± 6.9	
Institute or college	49.1 ± 11.8	
Marital Status		
Single	46.7 ± 12.5	0.9 (0.91)
Married	46.1 ± 7.1	
Divorced	44.6 ± 2.3	
Financial Status		
Sufficient	44.5 ± 2.7	1.8 (0.18)
Barely sufficient	47.8 ± 9.8	
Insufficient	43.2 ± 4.8	
Chronic Disease		
No	61.9 ± 11.9	6.7 (0.0001)
Yes	43.9 ± 5.1	

4.3.2. Distribution of the mean of scores of patient's satisfaction and Important Domains.

Relating the pre and post transplantation regarding different satisfaction domains with them, the results showed that the two groups were highly significantly different in terms of their health and functioning, family and friends, social life, and psychological/spiritual state and their satisfaction with such domains (p=0.0001). These results demonstrated that the level of satisfaction with these domains was significantly higher in the pre-transplant compared to the post-transplant (See Table 6).

Table (6) Distribution of the mean scores of patients Satisfaction Domains.

QoL	Pre-transplant		Post-transplant		Differences		t-test	P-value
Satisfactions Domain	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		
Health & Functioning	44.4	10.1	73.1	7.5	- 28.7	12.5	-16.24	0.0001
Family & Friend	44.4	15.0	70.7	14.2	- 26.3	15.2	-12.23	0.0001
Social life	45.9	11.1	89.7	10.1	- 43.7	13.0	-23.71	0.0001
Psychological /Spiritual	53.7	8.5	93.2	8.2	- 39.5	11.2	-25.03	0.0001
Total Satisfaction	47.1	9.4	76.0	7.2	- 28.5	10.8	-18.8	0.0001

Concerning the pre and post-transplant regarding different important domains with them, the results showed that the two groups were highly significantly different in terms of their health and functioning, family and friends, social life, and psychological/spiritual state and their satisfaction with such domains (p=0.0001). These results demonstrated that the level of important with these domains was significantly higher in the pre-transplant compared to the post-transplant (See Table 7).

Table (7) Distribution of the mean scores of patients important domains (pre and post transplantation).

QoL	Pre-transplant		Post-transplant		Differences		t-test	P-value
Important Domains	Mean	SD	Mean	SD	Mean	SD		
Health & Functioning	43.8	9.5	70.7	3.5	-26.9	10.7	-17.8	0.0001
Family & Friend	42.9	12.7	70.5	14.1	-27.6	17.5	-11.1	0.0001
Social life	45.1	9.8	79.7	3.7	-31.5	9.9	-22.5	0.0001
Psychological/Spiritual	50.3	8.1	77.2	5.9	-26.9	9.7	-20.8	0.0001
Total Important	45.5	8.9	75.6	3.5	-30.0	9.7	-22.0	0.0001

Comparing the pre and post-transplant in terms of their means scores of QoL domains showed that the two groups were significantly different at a p-value of 0.0001, regarding health and functioning, family, social life functioning, and psychological functioning (See Table 8).

Table (8) Distribution of differences in mean scores of QoL domains in pre and post transplantation.

QoL Domains	Pre-transplant		Post-transplant		Differences		t-test	P-value
	Mean	SD	Mean	SD	Mean	SD		
Health & Functioning	44.1	8.2	71.9	4.7	- 27.7	10.4	-18.9	0.0001
Family & Friend	43.6	12.1	69.4	14.1	- 25.7	14.2	-12.8	0.0001
Social	45.5	9.6	75.7	4.8	- 30.1	9.5	-22.6	0.0001
Psychological / spiritual	52.0	7.5	77.5	5.1	- 25.4	8.2	-21.2	0.0001
Over all QoL	46.3	8.5	75.8	4.7	- 29.5	9.2	-22.7	0.0001

4.4. Association between Social demographic characteristics and Quality of life.

Table 10 shows that there is no significant association between age and total score of quality of life (p-value= 0.46) for satisfaction before transplantation, and perceived (0.73) importance before transplantation, (0.29) satisfaction after transplant and (0.15) importance after transplant (see Table 9).

Table (9) Association between age and quality of life

Age	N.	Mean ± SD			
		Satisfaction before Transplant	Importance before transplant	Satisfaction after transplant	Importance after transplant
≥ 20 years	13	91.5 ± 17.3	93.0 ± 19.7	151.4 ± 11.1	155.3 ± 8.7
21 - 40 years	12	92.7 ± 20.1	95.9 ± 22.3	155.5 ± 11.8	158.6 ± 8.2
41 - 55 years	17	101.2 ± 22.5	91.9 ± 17.5	160.2 ± 9.2	160.4 ± 5.5
56 - 70 years	8	92.4 ± 6.0	86.6 ± 3.6	150.1 ± 27.6	161.6 ± 2.2
P-Value		0.46	0.73	0.29	0.15

Table 10 shows that there is no significant association between gender and quality of life, satisfaction variables before transplantation (p-value=0.15), importance variable before transplantation (p-value=0.37), satisfaction variable after transplantation (p-value=0.35) and importance variable after transplantation(p-value=0.25).

Table (10) Association between gender and quality of life

	Total scores (before and after) / Gender	Female	Male	P value
Satisfaction before transplant	Totally non satisfied (60 - 90)	8	19	0.15*
	Partially satisfied (91 - 120)	10	8	
	Intermediate satisfaction (121 - 150)	1	4	
	Mean Score ± SD	95.0 ± 13.9	95.4 ± 21.5	0.95**
Important before transplant	Totally non important (60 - 90)	11	20	0.37@
	Partially important (91 - 120)	7	9	
	Intermediate important (121 - 150)	1	0	
	Great important (151 - 180)	0	2	
	Mean Score ± SD	92.5 ± 14.2	92.2 ± 19.9	0.95**
Satisfaction after transplant	Totally non satisfied (60 - 90)	0	1	0.35@
	Intermediate satisfaction (121 - 150)	6	5	
	Great satisfaction (151 - 180)	13	25	
	Mean Score ± SD	152.6 ± 10.6	156.7 ± 16.6	0.34**
Important after transplant	Intermediate important (121 - 150)	4	3	0.25
	Great important (151 - 180)	15	28	
	Mean Score ± SD	157.8 ± 10.6	159.5 ± 6.9	0.42**

@ Fisher Exact test
*** Chi-Square**
**** t-test**

Table 11 indicate that there is significant association between educational level and total score (satisfaction before transplant, importance before transplant and important after transplant) of quality of life, also there is no significant association between satisfaction after transplant with total score of educational level.

Table (11) Association between educational level and quality of life

Total scores (before and after) Education		Illiterate or Primary	Secondary	Institute or College	P value
Satisfaction Before transplant	Totally non satisfied (60 - 90)	20	5	2	**0.28***
	Partially satisfied (91 - 120)	11	5	2	
	Intermediate satisfaction (121 - 150)	2	1	2	
	Mean Score ± SD	92.0 ± 17.1	96.4 ± 16.2	110.7 ± 26.6	**0.04***
Important before transplant	Totally non important (60 - 90)	22	5	4	**0.23***
	Partially important (91 - 120)	10	5	1	
	Intermediate important (121 - 150)	0	1	0	
	Great important (151 - 180)	1	0	1	
	Mean Score ± SD	89.0 ± 15.1	97.0 ± 16.6	101.8 ± 29.5	**0.01***
Satisfaction after transplant	Totally non satisfied (60 - 90)	1	0	0	**0.71***
	Intermediate satisfaction (121 - 150)	6	4	1	
	Great satisfaction (151 - 180)	26	7	5	
	Mean Score ± SD	155.9 ± 16.2	149.7 ± 9.8	161.2 ± 10.8	**0.28***
Important after transplant	Intermediate important (121 - 150)	3	4	0	**0.04***
	Great important (151 - 180)	30	7	6	
	Mean Score ± SD	160.0 ± 6.7	154.0 ± 7.9	161.5 ± 2.7	**0.03***

* **chi-square**

Table 12 indicate that there is no significant association between marital status and total score (satisfaction before transplant and importance before transplant) of quality of life, also there is no significant association between satisfaction after transplant with marital status but there is significant association between importance after transplant.

Table (12) Association between marital status and quality of life

Total scores (before and after) marital status		Single	Married	Separated	P value
Satisfaction before transplant	Totally non satisfied (60 - 90)	7	19	1	0.5
	Partially satisfied (91 - 120)	4	11	3	
	Intermediate satisfaction(121-150)	2	3	0	
	Mean Score ± SD	94.3 ± 24.3	95.1 ± 17.4	99.5 ± 13.9	0.89
Important before transplant	Totally non important (60 - 90)	8	19	4	0.35
	Partially important (91 - 120)	3	13	0	
	Intermediate important (121 - 150)	1	0	0	
	Great important (151 - 180)	1	1	0	
	Mean Score ± SD	95.2 ± 27.3	91.6 ± 14.1	88.5 ± 1.0	0.76
Satisfaction after transplant	Totally non satisfied (60 - 90)	0	1	0	0.04
	Intermediate satisfaction (121 - 150)	6	3	2	
	Great satisfaction (151 - 180)	7	29	2	
	Mean Score ± SD	151.2 ± 12.1	157.4 ± 15.9	150.0 ± 9.1	0.34
Important after transplant	Intermediate important (121 - 150)	5	1	1	0.01
	Great important (151 - 180)	8	32	3	
	Mean Score ± SD	154.6 ± 8.7	160.6 ± 5.6	158.5 ± 7.9	0.03

Tables 13 indicate that there is no significant association between socio-economic status and total score (satisfaction before transplant and importance before transplant) of quality of life, also there is no significant association between satisfaction after transplant with socio-economic status and importance after transplant.

Table (13) Association between economic status and quality of life

Total scores (before and after) Socio-economic status		Low	Middle	High	P value
Satisfaction before transplant	Totally non satisfied (60 - 90)	0	15	12	0.21
	Partially satisfied (91 - 120)	1	12	5	
	Intermediate satisfaction (121 - 150)	0	5	0	
	Mean Score ± SD	103.0 ±	98.4 ± 21.8	88.7 ± 9.5	0.21
Importance before transplant	Totally non important (60 - 90)	1	18	12	0.85
	Partially important (91 - 120)	0	11	5	
	Intermediate important (121 - 150)	0	1	0	
	Great important (151 - 180)	0	2	0	
	Mean Score ± SD	87.0 ±	95.1 ± 20.7	87.4 ± 10.1	0.35
Satisfaction after transplant	Totally non satisfied (60 - 90)	0	1	0	0.86
	Intermediate satisfaction (121 - 150)	0	8	3	
	Great satisfaction (151 - 180)	1	23	14	
	Mean Score ± SD	164.0 ±	153.7 ± 17.1	157.4 ± 8.9	0.59
Importance after transplant	Intermediate important (121 - 150)	0	9	3	0.86
	Great important (151 - 180)	1	23	14	
	Mean Score ± SD	163.0 ±	158.0 ± 7.4	160.2 ± 6.5	0.50

Table 14 indicate that there is significant association between occupation and total score satisfaction before transplant of quality of life, also there is no significant association between occupation and importance before transplantation, satisfaction, importance after transplant.

Table (14) Association between occupation and quality of life

Occupation Mean total Scores		Number	Mean ± SD			
			Satisfaction before transplant	Importance before transplant	Satisfaction after transplant	Importance after transplant
Occupation	Unemployed	16	87.3 ± 10.7	87.3 ± 9.2	156.0 ± 10.4	158.0 ± 8.9
	Employed	12	102.5 ± 27.4	99.8 ± 29.2	158.3 ± 24.2	161.8 ± 3.1
	Retired	3	95.7 ± 14.5	92.3 ± 11.0	154.0 ± 8.9	158.0 ± 4.6
	Student	3	110.3 ± 21.0	108.3 ± 31.0	146.3 ± 11.6	155.7 ± 11.6
	Housewife	15	91.9 ± 11.1	88.7 ± 7.0	153.1 ± 10.4	158.0 ± 7.0
	Other	1	138 ±	89 ±	164 ±	161 ±
	P Value		0.02	0.26	0.81	0.67

4.5. Difference of mean quality of life for case (post) kidney transplantation Patients and control.

Table (15) shows the difference in QoL mean scores between post kidney transplant and control, the scores were greater among patients post kidney transplant than control, as presented in table 15.

Table (15) Mean Difference of quality of life for post kidney transplant and control.

Items	Case (post)	Control	Mean Difference
	Mean ± SD	Mean ± SD	Mean ± SD
Health &functioning	71.9± 4.7	65.5 ±4.7	6.4± 5.9
Family & friend	69.4 ±14.1	68.5± 6.5	1.9 ± 16.6
Social life	75.7± 4.8	62.7 ±5.6	13 ± 6.5
Psychological /spiritual	77.5± 5.1	70.5± 4.4	7 ± 6.2
QoL Overall	**75.8± 4.7**	**66.8 ±4.2**	**9 ± 5.8**

Chapter Five

Discussion

5. DISCUSSION

5.1. Sociodemographic data of study sample

5.1.1 Study sample according to the socio-demographic characteristics.

Patients with end-stage renal disease (ESRD) are usually at a high risk of poor survival and adverse clinical outcomes, causing their health-related quality of life (HRQOL) to undergo remarkable decrease (Lowrie, 2003).

This regard the present study was carried out in order to compare the demographic characteristics and different domains of quality of life (QoL) in patients with ESRD so as to take into account those parameters and come up with higher quality of life among such patients (Mittal, 2001).

The results demonstrated that mean age of the ESRD patients is (20.05) 41 and 60 years. Almost the present finding, (Hochman et al., 2007) who studied prevalence and incidence of end-stage renal disease in patient's ≥ 18 reported that ESRD is more prevalent among individuals over the age of 45 compared to those below this age (Farias et al, 2009).

Moreover, as shown by the results, end-stage renal disease is more prevalent among the male patients. In line with this finding, Stats (2017) pointed out that men are 62% more likely to develop ESRD than women (Khatib et al, 2018).

As revealed by the results of the current study, the patients with end-stage renal disease were not significantly different in terms of parameters such as age, gender, education level, marital status, and financial status ($p>0.05$). Therefore, none of these can be considered as significantly decisive risk factors for ESRD; however, it was observed that a larger number of male and older individuals developed ESRD, such that ESRD was seen in 62% of males, while 38% of the females had it. Also, individuals aged between 41-60 years were more afflicted by the disease than younger ones. In line with this study, other studies have shown that older age and male sex are risk factors for end-stage renal disease (Gentile et al, 2013).

As revealed by the results, the patients with ESRD were significantly different from the healthy individuals in terms of having chronic disease ($p<0.05$). This finding is in good agreement with the results of the studied carried out by (Wu et al., 2018) and (Narres et al., 2016) there is a significant association between presence of end- stage renal disease and developing diabetes (Wupp, 2018) (Narres, 2016). Similarly, (Alalawi et al., 2017) have also reported that 57% and 12.4% of the end-stage renal disease (ESRD) cases resulted from diabetic nephropathy and hypertension (Marinho et al , 2010). It has also been reported that anxiety and depression are associated with ESRD (Valcanti et al, 2012).

5.1.2. Means scores of participant's satisfaction and important domains.

The healthy subjects were compared with the patients with ESRD in terms of their important domains of life and their satisfaction with them. These domains included health and functioning, family and friends, social life functioning, and psychological and spiritual functioning. The results revealed that the two groups were significantly different in all these domains (p-value=0.0001).

In other words, it was observed that the ESRD patients had remarkably lower level of satisfaction with these important domains of their lives, indicating that they had significantly a lower level of QoL. In line with this finding, (Kutner, 2017) reported that patients with ESRD have a high level of functional impairment (Davison et al, 2010).

Also (Gerogianni et al, 2016) stated that ESRD patients who had undergone hemodialysis were less satisfied with their relationships with their family and friends, such that they felt they were a burden to them (Costa et al, 2016).

The results regarding the low satisfaction of the patients with their social functioning and mental/spiritual functioning, it had been supported by the study carried out by (Rostami et al., 2013) A reporter showed a poor level of social and mental functioning in ESRD patients undergoing hemodialysis (Zalai et al, 2012).

Regarding this study have suggested that social and familial support can raise the overall quality of life in patients with end-stage renal disease (Joshi et al, 2013).

5.1.3. Differences in mean scores of Quality of Life according to patients characteristics.

The relationship between the ESRD patients' demographics and their overall quality of life (QoL) was compared, and the results showed that none of the demographic characteristics (i.e. age, gender, educational level, marital status, and financial status) was significantly associated with their overall QoL ($p>0.05$).

Despite of insignificant relationship between overall QoL and age, it was noticed that the ESRD patients' overall QoL dropped with an increase age, such that patients under the age of 20 had the highest overall QoL, while those aged over 60 years had the lowest. In line with this result, (Cruz et al., 2011) concluded that quality of life is remarkably lower in older ESRD patients.

Particularly regarding their physical functioning (Gruz, 2011) the patients' gender did not have a significant effect on their overall QoL. In this regard, the literature has revealed contradictory results, stated that QoL is better in men than women (Rostami, 2013) while (Bayoumi et al., 2013) reported that women had a higher level of QoL than men (Bayoumi, 2013).

However, (Peng, 2013) have claimed that since women undergo deeper psychological disorders as a result of end-stage renal disease, they have a lower level of overall QoL (Peng, 2013). In line with the results of the present study, reported that factors like financial status, marital status, and dialysis methods do not have a significant effect of scores of QoL (Zhou, 2017).

According to the results of the present study the chronic diseases associated with end-stage renal disease had a significant effect of the patients' overall QoL ($p=0.0001$). Chronic diseases, no matter what other diseases they are associated with, have been reported to have a remarkable effect on the patients' quality of life.

This finding is in line with the results of the study carried out by (Megari, 2013) who reported confirmed that chronic diseases remarkably affect the patients' QoL; therefore, nurses and social workers are highly recommended to provide such patients with sufficient support in order to enhance their HRQOL (Megari, 2013). Similar findings have also been reported by (Pengpid and Peltzer, 2018).

5.2. Sociodemographic data.

5.2.1. Sociodemographic data in pre and post- transplantation.

Farias (2009) compared pre and post-transplantation QOL among kidney disease patients and concluded that approximately 80% of those who had undergone kidney transplantation were able to return to their professional activities 3 months after transplantation, while the index for patients who remained in dialysis treatment was less than 30% (Teo et al, 2010).

The results of the present study also indicated that some variables including male gender, young adult age, married, Illiterate, middle economic and unemployment were associated with lower QoL scores. Similar findings were reported by previous studies (Cavelconte, 2013), (Farias, 2009).

According to the results of the present study, Sociodemographic factors did not impact the perception of overall pre-and post-transplantation QoL among the patients. This finding is in line with that of the study carried out by (Soza et.al., 2013) who reported that Sociodemographic factors and QoL after renal transplantation were not significantly correlated**.**

According to study that compared the mean scores of QoL variables before and after renal transplantation, significant improvement was observed in general QoL. This data was based on the study by (Kovacs et.al, 2011) that carried out a study to compare quality of life among kidney transplant recipients and wait listed patients (Gentile, 2013)

In their Study, (Bohlke et al, 2009) assessed health-related QoL issues in 262 renal transplant recipients, and they concluded that the physical component of QoL was affected by presence hypertension and diabetes, factors such as levels of creatinine and hematocrit, which improved after the transplantation (Souza, 2013). Their finding was consistent to this present study.

Social relation domain assesses the patients' degree of satisfaction with their relationship and the time they spend with their family and friends and the support given by them.

The results of the present study revealed that the average score of this domain underwent a `Moreover, according to the psychological domain, the results of transplantation are reflected as the patients' emotions and fears which demonstrate perceptions of coping strategies in situations of distress (Marinho, 2010).

In addition, the emotional aspects should be regarded as important indices of health and QoL in patients with chronic kidney diseases (Valcanti, 2012), Since patients, daily activities might be limited by the changes in lifestyle imposed by the disease, treatment and progression of symptoms the patients, perception of QoL will be affected negatively (Davison, 2010), (Costa, 2016).

Other researchers have reported that transplantation can lead to improvement in psychological factors (Zalai, 2012).

Although lowest score was observed in environment domain compared to other QoL domains, a significant difference was observed between pre-and post- transplantation states; which indicates improvements in this aspect.

This result can be explained part by the safety and property conditions after transplantation these results indicated that patients who had undergone renal transplantation had improvements in all dimensions of quality of life, which were evaluated using WHQOL-BREFF compared to before transplantation, which was also reported by other studies (Joshi, 2013).

5.2.2. Mean scores of patient's satisfaction and important domains.

These subjects compare patients with ESRD in terms of their important domains of life and their satisfaction with them. These domains included health and functioning, family and friends, social life functioning, and psychological and spiritual functioning.

The results revealed that the two groups were significantly different in all these domains (p-value=0.0001). In other words, it was observed that the ESRD patients had remarkably lower level of satisfaction with these important domains of their lives, indicating that they had significantly a lower level of QoL; this findings reported that

patients with ESRD have a high level of functional impairment (Kutner, 2017). Also, (Gerogianni et al., 2016).

Stated that ESRD patients who had undergone hemodialysis were less satisfied with their relationships with their family and friends, in a way they felt they were a burden to them (Gerogianni, 2016).

The results regarding the low satisfaction of the patients with their social functioning and mental/spiritual functioning have been supported by the study carried out by (Rostami et al., 2013) who reported a poor level of social and mental functioning in ESRD patients undergoing hemodialysis (Rostami, 2013) There are Studies have suggested that social and familial support can raise the overall quality of life in patients with end-stage renal disease (Vonholder, 2017), (Tel, 2011).

5.3. The relationship between the socio-demographic variables and the total scores of quality of life:

The comparison of the findings between the demographic variables and the total scores of quality of life.

5.3.1. Association between Age and Quality of Life.

The finding that age did not have any statistically significant correlation with the total scores of the QoL sample is contradicting the finding by (Bohlke et al., 2008) who found that higher QoL scores were associated with younger groups. Advanced age has been linked with the deterioration of physical activity and consequently had lower QoL total scores in patients. In contrast (Valderrábano, Jofre and López-Gómez , 2001).

Reported that older patients were more satisfied with their life on dialysis and accept their limitations better than younger patients. The finding that age did not have any statistically significant correlation with the total scores of the QOL Index for the dialysis sample differs from the finding by (Greene, 2005) that used the same tool and found that some of the QOL Index scores increased as age increased. They suggested

that older chronically ill patients tend to exhibit a greater level of comfort with their health and social status.

The finding that age variable had a statistically significant positive correlation with the total scores of QoL is similar to the finding in the QOL Index. The possible explanation for these two results can be related to the fact that as people grow older some of them achieve what they want in life, such as owning a house, having a well-established job, more financial security and family. In contrast, people at a younger age are still in the process of achieving their objectives in life and building their future.

The QOL Index captures the ability to take care of family responsibilities and usefulness to others. Older people sometimes have a decline in their abilities to look after themselves and mainly are dependent on for their others everyday activities.

8.3.2. Association between Gender and Quality of Life.

The finding that gender variable did not show any statistically significant relationship with the total scores of QoL in the dialysis sample was unexpected but is similar to a USA study done by (Kalantar-Zadeh et al., 2001) who studied 339 hemodialysis outpatients, including 181 men, who were aged 54.7±14.5 years.

Their samples were selected randomly from seven dialysis units in Los Angeles South/East Bay area. Other studies (Covic et al., 2004) (Kutner et al., 2005) (Morsch et al., 2006) found that male dialysis patients had higher QoL scores. The reason for this gender difference in different studies remains speculative. Possible explanations could include biological factors and biases in the provision of care according to gender (Mustard, Kuafert, & Kozyrskyj, 1998). Other explanations could be attributed to the effect of differences in clinicians' attitudes toward female patients (Safran, Rogers, Tarlov, McHorney, & Ware, 1997).

This study found that male respondents in the community sample had statistically significantly higher QoL scores compared with female respondents**.** The higher scores in males from the community sample most probably reflect the differences in men's

perceptions of life. It is the researcher's observation that men in the UAE as in other Middle Eastern countries have fewer social restrictions and socialize differently from women. In Middle Eastern culture men are taught to be independent and self-controlled whereas women are brought up to be emotionally expressive and dependent on male members of their families, The finding that gender variable did not show any statistically significant relationship with the total scores of QOL Index.

These findings contradict the presumptions in the conceptual framework that male gender in both groups were expected to have better QOL than females due to the cultural factors that restrict women in the UAE such as not being able to live alone, and not having fully independent life. There is no readily available explanation for these findings except that both tools measures QOL differently and therefore gives different results.

8.3.3. Association between Educational level and Quality of Life.

The finding that educational level variable have significant association between satisfaction before transplant, importance before transplant and important after transplant but satisfaction after transplant did not have bearing on the total scores of the QoL in both samples was not expected and differs from the findings from other studies. Other studies have linked higher educational level with better QOL (Kao et al., 2009) (Lopes et al., 2007) (Manns et al., 2003) (Moreno et al., 1996).

Furthermore, (Acaray and Pinar, 2005) reported that most of QOL dimensions increased as educational status increased. Also, the above findings were confirmed by (Suet-Ching, 2001) who studied the QOL in 164 Hong Kong dialysis patients using Chinese Dialysis QOL Scale.

Furthermore (Moreno et al., 1996) reported the same findings when studying QOL in 1013 randomly selected stable Spanish dialysis patients in multicenter study using the Karnofsky Scale and the Sickness Impact Profile. It was expected that higher levels of education would positively promote healthy behaviors, and highly educated dialysis

patients may volunteer to take some responsibilities of their own health and learn some strategies to cope with their disease and its symptoms, resulting in better QOL (Moreno&Neto, 2000). It was expected that educated UAE dialysis patients were having more information about their illness and might have better coping skills. However, chronic kidney failure impacts on all aspects of life and education level is just one of them.

The finding that the education variable did not have any statistically significant influence on the total scores of the QOL Index in both samples is supported by (Mozes, Shabtai and Zucker, 1997) who studied the differences in QOL among 680 patients receiving dialysis replacement therapy at seven medical centers in USA using the QOL Index tool linked higher educational level and acquired skill used at work with the ability to adjust to physical incapability.

8.3.4. Association between Marital status and Quality of Life.

The findings of the present study indicated that there are no statistically significant differences in marital status and the total scores of the QoL also significant association between importances after transplant with marital status in samples is similar to other studies that have measured the QOL of dialysis patients using the QoL (Bohlke et al., 2008) (Kao et al., 2009) (Merkus et al., 1999).

In contrast, this finding differs from (Morgan, 2009) who found that the quality of marital relationship is a strong predictor of health outcomes than just being married alone, especially when people face great life challenges due to disease complications and associated physical and psychological stressors.

Zarifian (1994) found that dialysis patient had a marked deterioration in their sexual drive and performance. Sexual dysfunction can change the dynamics in a marriage (Palmer, 2003). It can impact negatively on their marital relationship as well as their QOL.

The development of a long term condition may place strain on usual family roles and might change patient's ability to work. The amount of support dialysis patients receive from their spouses and the quality of marital relationships is very important in

determining how people cope with their illnesses and how they deal with the stressors that accompany living with that long term condition (Cukor et al., 2007).

The degree of support received within the family environment has been described as an important predictor of the QOL among dialysis patients (Maor et al., 2001).

The finding that marital status did not have any statistically significant influence on the total scores of the QOL Index in the dialysis sample and had a statistically significant influence in the community favoring married respondents. Possible explanation for the differences in the QOL Index findings and the QoL it was not sensitive in capturing the relationship between marital status and QOL.

This finding has not been reported in the literature; therefore further research is needed to explore the impact of marital status on the QOL using the QOL Index in dialysis and samples.

5.3.5. Association between Occupational status and Quality of Life.

The present study showed that; having full-time employment makes statistically significant positive influence on the QoL total scores in both The finding that the dialysis respondents who were disabled or retired lower than those who were employed in full-time jobs and the unemployed higher than the retired and disabled patients is likely related to the difference in the severity of illness as measured by the time on dialysis. Those in the retired and disabled group have been on dialysis compared with those in the unemployed group who had been on dialysis. The retired and disabled dialysis respondents were on average three years younger than the unemployed respondents.

Another factor that may contribute to unemployment is the access to dialysis services. In the UAE almost all facilities offer dialysis treatments during the daytime only, making it difficult for hemodialysis patients to maintain a normal working hours. Employers are usually reluctant to employ workers on dialysis due to frequent absences from work in order to go for a medical follow-up. Even patients who were employed had been forced to take either lower paid jobs or lose their jobs after going on dialysis

Ferrans & Powers (1993) (Kao, 2009) reported that work status was associated with higher QOL scores. In contrast, (Bohlke, 2008) reported lower scores on the SF-36 among dialysis patients who were employed. The financial hardship resulting from losing jobs can mean patients have to change their life style and such changes can affect their ability to maintain social relationships (Ferrans, & Powers; Wingate, 1995).

Full-time employment in dialysis patients may add physical and emotional stress as it requires extra strength and stamina, which some dialysis patients may not have. Studies have found that factors such as dialysis duration (van Manen et al., 2001), employment, physical functioning ability, and co morbidities were associated with the work status of patients undergoing dialysis treatment (Molsted et al., 2004).

The finding that employment did not significantly impact on the total scores of the QOL Index in the dialysis sample contrasts with the findings in the community sample. The community sample who worked full-time had statistically significantly higher scores compared with other samples on the QOL Index of the dialysis sample had full-time employment compared with the community sample. This is the first known study that compares the employment status of dialysis patients and a community sample using the QOL Index.

Interestingly, the QoL post kidney transplant was similar and slightly better than healthy people in health and functioning, family and friend, social life, psychological/ spiritual and overall quality of life.

Chapter Six

Conclusion & Recommendation

6. CONCLUSION AND RECOMMENDATION

6.1. Conclusion

- Comparing the cases and controls regarding different important domains and satisfaction with them, the results was found that the two groups were significantly different in terms of their health and functioning, family and friends, social life, psychological/spiritual state and their satisfaction with such domains. These results demonstrated that the level of satisfaction with these domains was significantly higher in the controls compared to the cases.
- Regarding the relationship between the patients' demographic characteristics and their overall quality of life, the results of the present study found that their overall quality of life was not significantly related with their (age, gender educational level marital status and financial status) However, a highly significant correlation was observed between their overall quality of life and presence of chronic diseases.
- There was no significant association between the patients, demographic characteristics such as (gender, age, marital status, level of education and socioeconomic status) and their perception of general QOL pre and post transplantation and their perception of general QOL. However, significant improvement was observed in occupation pre-transplant and marital status post-transplantation.
- Significant association was found between educational level and total score of quality of life (satisfied before transplantation, important before and after transplantation).
- Statistically there is no significant association between marital status and total score (satisfaction before transplant and importance before transplant) of quality of life, also there is no significant association between satisfaction after transplant with marital status but there is significant association between importance after transplant.

- ❖ Significantly there is no significant association between socio-economic status and total score (satisfaction before transplant and importance before transplant) of quality of life, also there is no significant association between satisfaction after transplant with socio-economic status and importance after transplant.
- ❖ Significant association between occupation and total score (satisfaction before transplant) of quality of life, also there is no significant association between occupation and importance before transplantation, satisfaction, importance after transplant.

6.2. Recommendations: -

- ❖ Early detection of the disease to prevent worsing of their QoL.
- ❖ Early patients diagnosed to provide support for their quality of health care procedures of teaching, financial and labor support.
- ❖ Maintenance patient jobs in relation to daily time the type of duty.
- ❖ Community support for those patients to prevent frustration.
- ❖ Regular health advice, communication to prevent compliance which affects their QoL.
- ❖ Easy access for dialysis in the environment to be followed by transplantation and its requirement.
- ❖ Determine QoL for each patient individually especially the youngest who need major support.
- ❖ Media advisement for program about this issue.
- ❖ Important of health system for patient with lifelong support.
- ❖ Starting a donation center for body organ.
- ❖ Educational of the community about donation of body organs after life threatening accident and brain death.
- ❖ Advice end stage renal disease patients to do renal transplant.

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Appendixes

Appendix (A)

List of Expertise's

No.	Name of Expertise	Scientific Title	Place of Job
1	Dr. Esmael Hama Amin	professor	College of Medicine/ university of Sulaimani
2	Dr. Kamal Ahmad Saed	Professor	College of Medicine/ university of Sulaimani
3	Dr. Dyar Hamid Bajalan	Assistant professor	College of Medicine/ university of Sulaimani
4	Dr. Kawa Hussein Amen	Assistant professor	College of Medicine/ university of Sulaimani
5	Dr. Muhammad Rashid Amin	Assistant professor	College of Nursing/ university of Sulaimani
6	Dr. Sarwar Nuri Mahmmud	Assistant professor	College of Medicine/ university of Sulaimani
7	Dr. Ali Kamal Mahmmud	Assistant professor	College of Medicine/ university of Sulaimani
8	Dr. Dana Ahmad Sharif	Assistant professor	College of Medicine/ university of Sulaimani
9	Dr. Shaho Abdulrahman Ezzaddi	Lecturer	College of Medicine/ university of Sulaimani
10	Dr. Muhammad Abdulkazem	Consultant	Teaching hospital in Sulaimani
11	Dr. Saman Salih Faxradin	Urologist	Teaching hospital in Sulaimani

Appendix B

Questionnaire

Change in Quality of Life in renal transplantation patients with end stage Renal disease in Shar Hospital in Sulaimani city

Part One:-

ID ……..

Demographic Data

1. **Age**
2. **Gender Male…….. Female…….**
3. **Level of education**

- **No read and No write**
- **Primary Certificate**
- **Secondary Certificate**
- **Diploma**
- **University Degree**

4. **Marital status**

- **Single**
- **Married**
- **Divorce**
- **Widow/er**

5. **Occupational**

- **Unemployed**
- **Employed**
- **Retired**
- **Disabled**
- **Student**
- **Keeping house**
- **Other**

6. Socioeconomic status

- **Sufficient**
- **Barely sufficient**
- **Insufficient**

8. Do you suffer from any chronic health problems other than kidney failure such as?

- **HTN**
- **DM**
- **HD**

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DIALYSIS VERSION - III

PART 1. For each of the following, please choose the answer that best describes how ***satisfied*** you are with that area of your life. Please mark your answer by circling the number. There are no right or wrong answers.

HOW *SATISFIED* ARE YOU WITH:	Very Dissatisfied	Moderately Dissatisfied	Slightly Dissatisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied
1. Your health?	1	2	3	4	5	6
2. Your health care?	1	2	3	4	5	6
3. The amount of energy you have for everyday activities?	1	2	3	4	5	6
4. Your ability to take care of yourself without help?	1	2	3	4	5	6
5. The likelihood you will get a kidney transplant?	1	2	3	4	5	6
6. The changes you have had to make in your life because of kidney failure (such as diet and need for dialysis)?	1	2	3	4	5	6
7. The amount of control you have over your life?	1	2	3	4	5	6
8. Your chances of living as long as you would like?	1	2	3	4	5	6
9. Your family's health?	1	2	3	4	5	6
10. Your children?	1	2	3	4	5	6
11. Your family's happiness?	1	2	3	4	5	6
12. Your sex life?	1	2	3	4	5	6
13. Your spouse, lover, or partner?	1	2	3	4	5	6
14. The emotional support you get from your family?	1	2	3	4	5	6
15. Your friends?	1	2	3	4	5	6

HOW *SATISFIED* ARE YOU WITH:	Very Dissatisfied	Moderately Dissatisfied	Slightly Dissatisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied
16. The emotional support you get from people other than your family?	1	2	3	4	5	6
17. Your ability to take care of family responsibilities?	1	2	3	4	5	6
18. How useful you are to others?	1	2	3	4	5	6
19. The amount of worries in your life?	1	2	3	4	5	6
20. Your neighborhood?	1	2	3	4	5	6
21. Your home, apartment, or place where you live?	1	2	3	4	5	6
22. Your job (if employed)?	1	2	3	4	5	6
23. Not having a job (if unemployed, retired, or disabled)?	1	2	3	4	5	6
24. Your education?	1	2	3	4	5	6
25. How well you can take care of your financial needs?	1	2	3	4	5	6
26. The things you do for fun?	1	2	3	4	5	6
27. Your chances for a happy future?	1	2	3	4	5	6
28. Your peace of mind?	1	2	3	4	5	6
29. Your faith in God?	1	2	3	4	5	6
30. Your achievement of personal goals?	1	2	3	4	5	6
31. Your happiness in general?	1	2	3	4	5	6
32. Your life in general?	1	2	3	4	5	6
33. Your personal appearance?	1	2	3	4	5	6
34. Yourself in general?	1	2	3	4	5	6

PART 2. For each of the following, please choose the answer that best describes how ***important*** that area of your life is to you. Please mark your answer by circling the number. There are no right or wrong answers.

HOW *IMPORTANT* TO YOU IS:	Very Unimportant	Moderately Unimportant	Slightly Unimportant	Slightly Important	Moderately Important	Very Important
1. Your health?	1	2	3	4	5	6
2. Your health care?	1	2	3	4	5	6
3. Having enough energy for everyday activities?	1	2	3	4	5	6
4. Taking care of yourself without help?	1	2	3	4	5	6
5. Getting a kidney transplant?	1	2	3	4	5	6
6. The changes you have had to make in your life because of kidney failure (such as diet and need for dialysis)?	1	2	3	4	5	6
7. Having control over your life?	1	2	3	4	5	6
8. Living as long as you would like?	1	2	3	4	5	6
9. Your family's health?	1	2	3	4	5	6
10. Your children?	1	2	3	4	5	6
11. Your family's happiness?	1	2	3	4	5	6
12. Your sex life?	1	2	3	4	5	6
13. Your spouse, lover, or partner?	1	2	3	4	5	6
14. The emotional support you get from your family?	1	2	3	4	5	6
15. Your friends?	1	2	3	4	5	6
16. The emotional support you get from people other than your family?	1	2	3	4	5	6

HOW *IMPORTANT* TO YOU IS:	Very Unimportant	Moderately Unimportant	Slightly Unimportant	Slightly Important	Moderately Important	Very Important
17. Taking care of family responsibilities?	1	2	3	4	5	6
18. Being useful to others?	1	2	3	4	5	6
19. Having a career?	1	2	3	4	5	6

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QUALITY OF LIFE INDEX©
KIDNEY TRANSPLANT VERSION - III

PART 1. For each of the following, please choose the answer that best describes how ***satisfied*** you are with that area of your life. Please mark your answer by circling the number. There are no right or wrong answers.

HOW *SATISFIED* ARE YOU WITH:	Very Dissatisfied	Moderately Dissatisfied	Slightly Dissatisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied
1. Your health?	1	2	3	4	5	6
2. Your health care?	1	2	3	4	5	6
3. The amount of pain that you have?	1	2	3	4	5	6
4. Your transplanted kidney?	1	2	3	4	5	6
5. The amount of energy you have for everyday activities?	1	2	3	4	5	6
6. Your ability to take care of yourself without help?	1	2	3	4	5	6
7. The amount of control you have over your life?	1	2	3	4	5	6
8. Your chances of living as long as your would like?	1	2	3	4	5	6
9. Your family's health?	1	2	3	4	5	6
10. Your children?	1	2	3	4	5	6
11. Your family's happiness?		1	2	3	4	56
12. Your sex life?	1	2	3	4	5	6
13. Your spouse, lover, or partner?	1	2	3	4	5	6
14. Your friends?	1	2	3	4	5	6
15. The emotional support you get from your family?	1	2	3	4	5	6

HOW *SATISFIED* ARE YOU WITH:	Very Dissatisfied	Moderately Dissatisfied	Slightly Dissatisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied
16. The emotional support you get from people other than your family?	1	2	3	4	5	6
17. Your ability to take care of family responsibilities?	1	2	3	4	5	6
18. How useful you are to others?	1	2	3	4	5	6
19. The amount of worries in your life?	1	2	3	4	5	6
20. Your neighborhood?	1	2	3	4	5	6
21. Your home, apartment, or place where you live?	1	2	3	4	5	6
22. Your job (if employed)?	1	2	3	4	5	6
23. Not having a job (if unemployed, retired, or disabled)?	1	2	3	4	5	6
24. Your education?	1	2	3	4	5	6
25. How well you can take care of your financial needs?	1	2	3	4	5	6
26. The things you do for fun?	1	2	3	4	5	6
27. Your chances for a happy future?	1	2	3	4	5	6
28. Your peace of mind?	1	2	3	4	5	6
29. Your faith in God?	1	2	3	4	5	6
30. Your achievement of personal goals?	1	2	3	4	5	6
31. Your happiness in general?	1	2	3	4	5	6
32. Your life in general?	1	2	3	4	5	6
33. Your personal appearance?	1	2	3	4	5	6
34. Yourself in general?	1	2	3	4	5	6
35. The changes in your life that you have had to make because of your kidney transplant?	1	2	3	4	5	6

PART 2. For each of the following, please choose the answer that best describes how ***important*** that area of your life is to you. Please mark your answer by circling the number. There are no right or wrong answers.

HOW *IMPORTANT* TO YOU IS:	Very Unimportant	Moderately Unimportant	Slightly Unimportant	Slightly Important	Moderately Important	Very Important
1. Your health?	1	2	3	4	5	6
2. Your health care?	1	2	3	4	5	6
3. Having no pain?	1	2	3	4	5	6
4. Having your transplanted kidney?	1	2	3	4	5	6
5. Having enough energy for everyday activities?	1	2	3	4	5	6
6. Taking care of yourself without help?	1	2	3	4	5	6
7. Having control over your life?	1	2	3	4	5	6
8. Living as long as you would like?		1	2	3	4	56
9. Your family's health?	1	2	3	4	5	6
10. Your children?	1	2	3	4	5	6
11. Your family's happiness?		1	2	3	4	56
12. Your sex life?	1	2	3	4	5	6
13. Your spouse, lover, or partner?	1	2	3	4	5	6
14. Your friends?	1	2	3	4	5	6
15. The emotional support you get from your family?	1	2	3	4	5	6
16. The emotional support you get from people other than your family?	1	2	3	4	5	6
17. Taking care of family responsibilities?	1	2	3	4	5	6

HOW *IMPORTANT* TO YOU IS:	Very Unimportant	Moderately Unimportant	Slightly Unimportant	Slightly Important	Moderately Important	Very Important
18. Being useful to others?	1	2	3	4	5	6
19. Having no worries?	1	2	3	4	5	6
20. Your neighborhood?	1	2	3	4	5	6
21. Your home, apartment, or place where you live?	1	2	3	4	5	6
22. Your job (if employed)?	1	2	3	4	5	6
23. Having a job (if unemployed, retired, or disabled)?	1	2	3	4	5	6
24. Your education?	1	2	3	4	5	6
25. Being able to take care of your financial needs?	1	2	3	4	5	6
26. Doing things for fun?	1	2	3	4	5	6
27. Having a happy future?	1	2	3	4	5	6
28. Peace of mind?	1	2	3	4	5	6
29. Your faith in God?	1	2	3	4	5	6
30. Achieving your personal goals?	1	2	3	4	5	6
31. Your happiness in general?	1	2	3	4	5	6
32. Being satisfied with life?	1	2	3	4	5	6
33. Your personal appearance?	1	2	3	4	5	6
34. Are you to yourself?	1	2	3	4	5	6
35. The changes in your life that you have had to make because of your kidney transplant?	1	2	3	4	5	6

Appendix C

Questionnaire

جۆری گۆرانکاری لە ژیانی ئەو نەخۆشانەی کە چاندنی گورچیکلەیان بۆ دەکرێت لە کۆتا قۆناغی نەخۆشی گورچیلە لە شاری سلێمانی

ڕاپرسی:

بەشی یەکەم:-

ناسنامە

زانیاری دانیشتوان

١-تەمەن

٢-ڕەگەز نێر.... مێ .....

٣-ئاستی خوێندن

- **نەخوێندەوار**
- **بڕوانامەی سەرەتایی**
- **بڕوانامەی ناوەندی**
- **بڕوانامەی دبلۆم**
- **بڕوانامەی زانکۆ**

٤-باری خێزانی

- **سەڵت**
- **خێزاندار**
- **تەڵاقدراو/جیابوەوە**
- **بێوەژن /بێوەپیاو**

٥-پیشە

- **دانەمەزراو**
- **دامەزراو**
- **خانەنشین**
- **کەم ئەندام**
- **خوێندکار**
- **ماڵداری/کەیبانو**
- **هیتر**

٧-باری ئابوری کۆمەڵایەتی

- **باش**
- **مامناوەند**
- **خراپ**

٨-ماوەی چەند شۆردنی گشتیت ئەنجام داوە؟..... ساڵ ..... مانگ

٩-ئایا دەنائێنیت بەدەست کێشەیەکی تەندروستی درێژخایەن بێجگە لە سستی گورچیلە وەکو

- **شەکرە**
- **نەخۆشی دڵ**
- **تەنگەنەفەسی**
- **شێرپەنجە**
- **ڕۆماتیزما (هەوکردنی جومگەکان)**

بەشی یەکەم . بۆ هەریەکە لەمانەی خوارەوە ، تکایە وەڵامێک هەڵبژێرە کە بە باشترین شێوە وەسفی ئەوە بکات چەندێک قایلیت بەو ڕێڕەوەی ژیانت ، تکایە وەڵامەکە دەستنیشان بکە بە کێشانی بازنەیەک بەدەوری ژمارەکەدا. وەڵامی ڕاست و هەڵەی تێدا نیە.
تاچەندێک قایلیت لەگەڵ ئەمانەدا؛

	زۆرقایل نیم	مامناوند قایل نیم	کەمێک قایل نیم	مامناوند قایلم	کەمێک قایلم	زۆرقایلم
١-تەندروستیت؟	١	٢	٣	٤	٥	٦
٢-چاودێری تەندروستیت؟	١	٢	٣	٤	٥	٦
٣-بڕی ئەو وزەیەی هەتە بۆ چالاکیەکانی ڕۆژانە؟	١	٢	٣	٤	٥	٦
٤-توانای خۆت بۆ چاودێری خۆت بەبێ یارمەتی؟	١	٢	٣	٤	٥	٦
٥-بوونی ئەگەری ئەنجامدانی چاندنی گورچیلە بۆت.	١	٢	٣	٤	٥	٦
٦-ئەو گۆڕانکاری کە ئەبوایە بتکردایە لەژیانتدا لەبەر سستی گورچیلە (سیستەمی خۆراکی و پێویستی شتنی گورچیلە؟	١	٢	٣	٤	٥	٦
٧-بڕی ئەو کۆنترۆلەی کە هەتە بەسەر ژیانتدا؟	١	٢	٣	٤	٥	٦
٨-چانسەکان ژیانت ئەوەندەی کە حەزت پێیەتی؟	١	٢	٣	٤	٥	٦
٩-تەندروستی خێزانت؟	١	٢	٣	٤	٥	٦
١٠-منداڵەکانت ؟	١	٢	٣	٤	٥	٦
١١-ئاسوودەیی خێزانت؟	١	٢	٣	٤	٥	٦
١٢-ژیانی سێکسیت؟	١	٢	٣	٤	٥	٦
١٣-هاوسەرت، خۆشەویستت، یان هاوبەشت؟	١	٢	٣	٤	٥	٦
١٤-هاوکاری سۆزداری کە لە خێزانەکەتەوە وەری دەگریت؟	١	٢	٣	٤	٥	٦
١٥-هاوڕێکانت ؟	١	٢	٣	٤	٥	٦
١٦-هاوکاری سۆزداری کە بێجگە لە خێزانەکەتەوە وەری دەگریت ؟	١	٢	٣	٤	٥	٦
١٧-توانات بۆ چاودێری کردنی لێپرسراوێتیی خێزان؟	١	٢	٣	٤	٥	٦
١٨-تۆ چەند سودبەخشیت بۆ خەڵکانی تر؟	١	٢	٣	٤	٥	٦
١٩-بڕی نیگەرانیەکانت لە ژیانتدا؟	١	٢	٣	٤	٥	٦
٢٠-دراوسێت؟	١	٢	٣	٤	٥	٦
٢١-ماڵەکەت،شوقەکەت، یان ئەو شوێنەی کە لێی دەژیت؟	١	٢	٣	٤	٥	٦
٢٢-کارەکەت(ئەگەر دامەزراویت)؟	١	٢	٣	٤	٥	٦

٢٣-نەبوونی کار (ئەگەر دانەمەزراویت، خانەنشینیت، یان کەم ئەندامیت) ؟	١	٢	٣	٤	٥	٦
٢٤-خوێندنەکەت؟	١	٢	٣	٤	٥	٦
٢٥- تاچەند ئەتوانی پێویستیە داراییەکانت بەدەست بێنی؟	١	٢	٣	٤	٥	٦
٢٦-ئەوشتانەی بۆ خۆشی دەیکەیت؟	١	٢	٣	٤	٥	٦
٢٧-چانسەکانت بۆ داهاتوویەکی ئاسوودە؟	١	٢	٣	٤	٥	٦
٢٨-سەرسوکیت؟	١	٢	٣	٤	٥	٦
٢٩-باوەڕت بە خودا؟	١	٢	٣	٤	٥	٦
٣٠-دەستکەوتی ئامانجە کەسیەکانت؟	١	٢	٣	٤	٥	٦
٣١-ئاسوودەیت بە گشتی؟	١	٢	٣	٤	٥	٦
٣٢-ژیانت بە گشتی؟	١	٢	٣	٤	٥	٦
٣٣-ڕوخساری شەخسیت؟	١	٢	٣	٤	٥	٦
٣٤-خۆت بەگشتی؟	١	٢	٣	٤	٥	٦

بەشی دووەم . بۆ هەریەکە لەمانەی خوارەوە ، تکایە وەڵامێک هەڵبژێرە کە بە باشترین شێوە وەسفی ئەوە بکات چەندێک گرنگە ئەو ڕێڕەوی ژیانت ، تکایە وەڵامەکە دەستنیشان بکە بە کێشانی بازنەیەک بەدەوری ژمارەکەدا. وەڵامی ڕاست و هەڵەی تێدا نیە.

	زۆرگرنگ نیە	ماماوەند گرنگ نیە	گرنگ نیە	تۆزێک گرنگە	ماماوەند گرنگە	زۆر گرنگە
١-تەندروستیت؟	١	٢	٣	٤	٥	٦
٢-چاودێری تەندروستیت؟	١	٢	٣	٤	٥	٦
٣-بوونی بڕی وزەی تەواو بۆ چالاکیەکانی ڕۆژانە؟	١	٢	٣	٤	٥	٦
٤-چاودێریکردنی خۆت بەبێ یارمەتی؟	١	٢	٣	٤	٥	٦
٥- چاندنی گورچیلە؟	١	٢	٣	٤	٥	٦
٦- ئەو گۆڕانکاری کە ئەبوایە بتکردایە لەژیانتدا لەبەر سستی گورچیلە (سیستەمی خۆراکی و پێوبستی شتنی گورچیلە؟	١	٢	٣	٤	٥	٦
٧- بوونی کۆنترۆڵکردنی ژیانی خۆت؟	١	٢	٣	٤	٥	٦
٨-ژیان تا ئەوەندەی حەزت پێیەتی؟	١	٢	٣	٤	٥	٦
٩-تەندروستی خێزانت؟	١	٢	٣	٤	٥	٦
١٠-منداڵەکانت ؟	١	٢	٣	٤	٥	٦
١١-ئاسوودەی خێزانت؟	١	٢	٣	٤	٥	٦
١٢-ژیانی سێکسیت؟	١	٢	٣	٤	٥	٦
١٣-هاوسەرت، خۆشەویستت، یان هاوبەشت؟	١	٢	٣	٤	٥	٦
١٤-هاوکاری سۆزداری کە لە خێزانەکەتەوە وەری دەگریت ؟	١	٢	٣	٤	٥	٦
١٥-هاوڕێکانت ؟	١	٢	٣	٤	٥	٦
١٦-هاوکاری سۆزداری بێجگە لە خێزانەکەتەوە وەری دەگریت ؟	١	٢	٣	٤	٥	٦
١٧- چاودێریکردنی لیپرسراوێتی خێزانت؟	١	٢	٣	٤	٥	٦
١٨-بەسود بیت بۆ دەوروبەرت؟	١	٢	٣	٤	٥	٦
١٩-نیگەرانیت نەبێت؟	١	٢	٣	٤	٥	٦
٢٠-دراوسێکانت؟	١	٢	٣	٤	٥	٦
٢١-ماڵەکەت،شوقەکەت، یان ئەو شوێنەی کە لێی دەژیت؟	١	٢	٣	٤	٥	٦
٢٢-کارەکەت(ئەگەر دامەزراویت)؟	١	٢	٣	٤	٥	٦
٢٣-بوونی کار (ئەگەر دانەمەزراویت، خانەنشینیت، یان کەم ئەندامیت) ؟	١	٢	٣	٤	٥	٦

٢٤-خوێندنەکەت؟	١	٢	٣	٤	٥	٦
٢٥- بتوانی چاودێری پێویستیە داراییەکانت بیت	١	٢	٣	٤	٥	٦
٢٦-کردنی شت بۆ خۆشی؟	١	٢	٣	٤	٥	٦
٢٧-بوونی داهاتوویەکی ئاسوودە؟	١	٢	٣	٤	٥	٦
٢٨-سەرسوکیت ؟	١	٢	٣	٤	٥	٦
٢٩-باوەڕت بە خودا؟	١	٢	٣	٤	٥	٦
٣٠-بەدەستهێنانی ئامانجە کەسیەکانت؟	١	٢	٣	٤	٥	٦
٣١-ئاسوودەیت بە گشتی؟	١	٢	٣	٤	٥	٦
٣٢-قایل بوون بە ژیانت؟	١	٢	٣	٤	٥	٦
٣٣-ڕوخساری کەسیت؟	١	٢	٣	٤	٥	٦
٣٤-بۆ خۆت ئەژیت؟	١	٢	٣	٤	٥	٦

بەشی یەکەم . بۆ هەریەکە لەمانەی خوارەوە ، تکایە وەڵامێک هەڵبژێرە کە بە باشترین شێوە وەسفی ئەوە بکات چەندێک قایلیت بەو ڕێڕەوەی ژیانت ، تکایە وەڵامەکە دەستنیشان بکە بە کێشانی بازنەیەک بەدەوری ژمارەکەدا. وەڵامی ڕاست و هەڵەی تێدا نیە.

تاچەندێک قایلیت لەگەڵ ئەمانەدا؛

	زۆرقایل نیم	مامناوەند قایل نیم	کەمێک قایل نیم	مامناوەند قایلم	کەمێک قایلم	زۆرقایلم
١-تەندروستیت؟	١	٢	٣	٤	٥	٦
٢-چاودێری تەندروستیت؟	١	٢	٣	٤	٥	٦
٣-بڕی ئەو ئازارەی هەتە؟	١	٢	٣	٤	٥	٦
٤-گورچیلە گوازراوەکەت؟	١	٢	٣	٤	٥	٦
٥-بڕی ئەو وزەیەی کە بۆ چالاکیەکانی ڕۆژانە هەتە.	١	٢	٣	٤	٥	٦
٦-توانات بۆ چاودێریکردنی خۆت بێ یارماتی؟	١	٢	٣	٤	٥	٦
٧-بڕی ئەو کۆنترۆلەی کە هەتە بەسەر ژیانتدا؟	١	٢	٣	٤	٥	٦
٨-چانسەکان ژیانت ئەوەندەی کە حەزت پێیەتی؟	١	٢	٣	٤	٥	٦
٩-تەندروستی خێزانت؟	١	٢	٣	٤	٥	٦
١٠-منداڵەکانت ؟	١	٢	٣	٤	٥	٦
١١-ئاسوودەیی خێزانت؟	١	٢	٣	٤	٥	٦
١٢-ژیانی سێکسیت؟	١	٢	٣	٤	٥	٦
١٣-هاوسەرت، خۆشەویستت، یان هاوبەشت؟	١	٢	٣	٤	٥	٦
١٤- هاوڕێکانت ؟	١	٢	٣	٤	٥	٦
١٥- هاوکاری سۆزداری کە لە خێزانەکەتەوە وەری دەگریت ؟	١	٢	٣	٤	٥	٦
١٦-هاوکاری سۆزداری کە بێجگە لە خێزانەکەتەوە وەری دەگریت ؟	١	٢	٣	٤	٥	٦
١٧-توانات بۆ چاودێری کردنی لێپرسراوێتیی خێزان؟	١	٢	٣	٤	٥	٦
١٨-تۆ چەند سودبەخشیت بۆ خەڵکانی تر؟	١	٢	٣	٤	٥	٦
١٩-بڕی نیگەرانیەکانت لە ژیانتدا؟	١	٢	٣	٤	٥	٦
٢٠-دراوسێت؟	١	٢	٣	٤	٥	٦
٢١-ماڵەکەت،شوقەکەت، یان ئەو شوێنەی کە لێی دەژیت؟	١	٢	٣	٤	٥	٦
٢٢-کارەکەت(ئەگەر دامەزراویت)؟	١	٢	٣	٤	٥	٦
٢٣-نەبوونی کار (ئەگەر دانەمەزراویت، خانەنشینیت، یان کەم ئەندامیت) ؟	١	٢	٣	٤	٥	٦

٢٤-خوێندنەکەت؟	١	٢	٣	٤	٥	٦
٢٥- تاچەند ئەتوانی پێویستیە داراییەکانت بەدەست بێنی؟	١	٢	٣	٤	٥	٦
٢٦-ئەوشتانەی بۆ خۆشی دەیکەیت؟	١	٢	٣	٤	٥	٦
٢٧-چانسەکانت بۆ داهاتووەیەکی ئاسوودە؟	١	٢	٣	٤	٥	٦
٢٨-سەرسوکیت؟	١	٢	٣	٤	٥	٦
٢٩-باوەڕت بە خودا؟	١	٢	٣	٤	٥	٦
٣٠-دەستکەوتی ئامانجە کەسیەکانت؟	١	٢	٣	٤	٥	٦
٣١-ئاسوودەیت بە گشتی؟	١	٢	٣	٤	٥	٦
٣٢-ژیانت بە گشتی؟	١	٢	٣	٤	٥	٦
٣٣-ڕوخساری شەخسیت؟	١	٢	٣	٤	٥	٦
٣٤-خۆت بەگشتی؟	١	٢	٣	٤	٥	٦
٣٥-ئەو گۆڕانکاریانەی کەلە ژیانتدا کردوتە، لەبەر چاندنی گورچیلەت؟	١	٢	٣	٤	٥	٦

بەشی دووەم . بۆ هەریەکە لەمانەی خوارەوە ، تکایە وەڵامێک هەڵبژێرە کە بە باشترین شێوە وەسفی ئەوە بکات چەندێک گرنگە ئەو ڕێڕەوی ژیانت ، تکایە وەڵامەکە دەستنیشان بکە بە کێشانی بازنەیەک بەدەوری ژمارەکەدا. وەڵامی ڕاست و هەڵەی تێدا نیە.

	زۆرگرنگ نیە	ماماناوند گرنگ نیە	گرنگ نیە	تەزنک گرنگە	ماماناوند گرنگە	زۆر گرنگە
١-تەندروستیت؟	١	٢	٣	٤	٥	٦
٢-چاودێری تەندروستیت؟	١	٢	٣	٤	٥	٦
٣-نەبوونی ئازار؟	١	٢	٣	٤	٥	٦
٤-بوونی چاندنی گورچیلە؟	١	٢	٣	٤	٥	٦
٥- بوونی وزەی تەواو بۆ چالاکیەکانی ڕۆژانە؟	١	٢	٣	٤	٥	٦
٦- چاودێری کردنی خۆت بێ یارمەتی؟	١	٢	٣	٤	٥	٦
٧- بوونی کۆنترۆڵکردنی ژیانی خۆت؟	١	٢	٣	٤	٥	٦
٨-ژیان تا ئەوەندەی حەزت پێیەتی؟	١	٢	٣	٤	٥	٦
٩-تەندروستی خێزانت؟	١	٢	٣	٤	٥	٦
١٠-منداڵەکانت ؟	١	٢	٣	٤	٥	٦
١١-ئاسوودەی خێزانت؟	١	٢	٣	٤	٥	٦
١٢-ژیانی سێکسیت؟	١	٢	٣	٤	٥	٦
١٣-هاوسەرت، خۆشەویستت، یان هاوبەشت؟	١	٢	٣	٤	٥	٦
١٤- هاوڕێکانت ؟	١	٢	٣	٤	٥	٦
١٥- هاوکاری سۆزداری کە لە خێزانەکەتەوە وەری دەگریت؟	١	٢	٣	٤	٥	٦
١٦-هاوکاری سۆزداری بێجگە لە خێزانەکەتەوە وەری دەگریت ؟	١	٢	٣	٤	٥	٦
١٧- چاودێریکردنی لیپرسراوێتی خێزانت؟	١	٢	٣	٤	٥	٦
١٨-بەسود بیت بۆ دەوروبەرت؟	١	٢	٣	٤	٥	٦
١٩-نیگەرانیت نەبێت؟	١	٢	٣	٤	٥	٦
٢٠-دراوسێکانت؟	١	٢	٣	٤	٥	٦
٢١-ماڵەکەت،شوقەکەت، یان ئەو شوێنەی کە لێی دەژیت؟	١	٢	٣	٤	٥	٦
٢٢-کارەکەت(ئەگەر دامەزراویت)؟	١	٢	٣	٤	٥	٦
٢٣-بوونی کار (ئەگەر دانەمەزراویت، خانەنشینیت، یان کەم ئەندامیت) ؟	١	٢	٣	٤	٥	٦
٢٤-خوێندنەکەت؟	١	٢	٣	٤	٥	٦
٢٥- بتوانی چاودێری پێویستیە داراییەکانت بیت	١	٢	٣	٤	٥	٦

٢٦-کردنی شت بۆ خۆشی؟	١	٢	٣	٤	٥	٦
٢٧-بوونی داهاتوویەکی ئاسوودە؟	١	٢	٣	٤	٥	٦
٢٨-سەرسوکیت؟	١	٢	٣	٤	٥	٦
٢٩-باوەڕت بە خودا؟	١	٢	٣	٤	٥	٦
٣٠-بەدەستهێنانی ئامانجە کەسیەکانت؟	١	٢	٣	٤	٥	٦
٣١-ئاسوودەیت بە گشتی؟	١	٢	٣	٤	٥	٦
٣٢-قایل بوون بە ژیانت؟	١	٢	٣	٤	٥	٦
٣٣-ڕوخساری کەسیت؟	١	٢	٣	٤	٥	٦
٣٤-بۆ خۆت ئەژیت؟	١	٢	٣	٤	٥	٦
٣٥-ئەو گۆڕانکاریانەی کەلە ژیانتدا کردوتە، لەبەر چاندنی گورچیلەت؟	١	٢	٣	٤	٥	٦

Appendix D1

KURDISTAN REGIONAL GOVERNMENT
Council Of Ministers
Ministry of Higher Education & Scientific Research
University of Sulaimani
Faculty of Medical sciences
School of Medicine

حکومەتی هەرێمی کوردستان
سەرۆکایەتی ئەنجوومەنی وەزیران
وەزارەتی خوێندنی باڵاو توێژینەوەی زانستی

سەرۆکایەتی زانکۆی سلێمانی
فاکەڵتی زانستە پزیشکیەکان
سکوڵی پزیشکی
هۆبەی خوێندنی باڵا و کاروباری زانستی و دڵنیایی جۆری و فیترکردن

ژمارە : ١٧١٣ / ٥٩ / ٧
ڕێکەوت: ١٥ / ٨ / ٢٠١٩ ز
کوردی / /

No:
Date : /

بۆ / بەڕێوەبەرایەتی گشتی تەندروستی سلێمانی

بابەت/ پشتگیری

دوای ڕێزو سڵاو.....

داواکارین لە بەڕێزتان ڕەزامەندی بفەرموون بە هاوکاریکردن و پێدانی نووسراوێك بە بەڕێز (نیان حکیم اسماعیل) خوێندکاری خوێندنی باڵای دکتۆرا بەشی (تەندروستی پێگەیشتوان) لە فاکەڵتیەکەمان بە مەبەستی کۆکردنەوەی زانیاری و داتا بۆ توێژینەوەکەی لە (نەخۆشخانەی شار)

لەگەڵ ڕێزدا...

هاوپێچ/ دەقی داواکاری.

پرۆفیسۆری یاریدەدەر
د.کۆسار محمد علی مراد
ڕاگری فاکەڵتی زانستە پزیشکییەکان بە وەکالەت
سەرۆکی سکوڵی پزیشکی

زانکۆی سلێمانی
فاکەڵتی زانستە پزیشکیەکان
سکوڵی پزیشکی
دەرچوو / الصادرة
ژمارە
بەروار

وێنەیەك بۆ/
-یەکەی خوێندنی باڵا.
-دۆسیەی دەرچوو.

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Appendix D2

هەرێمی کوردستان-عیراق
نەخۆجومەنی وەزیران
وەزارەتی تەندروستی
بەڕێوەبەرایەتی گشتی تەندروستی سلێمانی
خۆیەتی

Kurdistan Regional Government
Council of Ministers
Ministry of Health

اقليم كوردستان-العراق
مجلس الوزراء
وزارة الصحة
المديريه العامه لصحه السليمانيه
الدائيره

ژمارە/ ٧٨٤٠
No
رێکەوت/ ٢٠١٦/٨/٢
Date / ٢٠١٦/٨/٢

پێشمەرگە پارێزەری ناشتی و خاکە بەپشتیوانی پێشمەرگە ئارامی دەپارێزرێت

بۆ/ نەخۆشخانەی شار
ب / هاوکاری

تکایە هاوکاری خوێندکاری خوێندنی باڵا(نیان حکیم اسماعیل) بەشی(تەندروستی پێگەیشتوان)بکەن لەکاتی سەردانی بۆلاتان بەمەبەستی وەرگرتنی زانیاری و داتا بۆ توێژینەوەکەی.

نەخۆشخانەی شار
خۆیەتی/ هاوبەش
٢٠١٦/٨/٢

فاضل عبدالرحمن حسین
بەڕێوەبەری کارگێڕی

٢٠١٦/ /

وێنەیەک بۆ/

- خۆیەتی/باڵا/لەگەڵ بەڕایەکان.
- سەرۆکایەتی زانکۆی سلێمانی/نوسراوتان ژمارە ١٢١٣/٢٩/٨ لە ٢٠١٦/٨/١٥.

خۆیەتی/ باڵا

عبدالله
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پوختە

پێوانەکردنی جۆری ژیانی ئەو کەسانەی کە لە کۆتا قۆناغی نەخۆشی پەککەوتنی گورچیلەدان و بەرەو زیاتر ئەڕوات، گرنگە هەڵسەنگاندن نرخاندنی جۆری چاودێری پزیشکی بۆ ئەو نەخۆشانە بکرێت لەلایەن جەستەیی و فرمانی و دەروونی و خێزانیەوە، ئامانجە سەرەکیەکانی ئەم توێژینەوەیە بریتی یە لە پێوانەکردنی جۆری ژیانی ئەو نەخۆشخانەی کە لە کۆتا پلەی نەخۆشی گورچیلەدان لە پێش و پاش نەشتەرگەی چاندنی گورچیلە و بەراوردکردنیان بە کەسانی تەندروست.

ڕێگای کارکردن: توێژینەوەیەکی پێوانەیی وەسفی یە لە ئۆگەستی ٢٠١٦ بۆ ئۆکتۆبەری ٢٠١٩ ئەنجامدرا لە نەخۆشخانەی شار لە شاری سلێمانی، بۆ نرخاندنی جۆری ژیانی نەخۆش لەپێش و دوای نەشتەرگەری چاندنی گورچیلە، ئەم توێژینەوەیە لەسەر (٥٠) نەخۆشی پەککەوتووی گورچیلە و (١٠٠) کەسی تەندروست ئەنجامدرا، کە بریتی بوون لەو کەسانەی کە هاتبوون بۆ نەخۆشخانەی شار، و فۆڕمی ڕاپرسیان بۆکرا بۆ کۆکردنەوەی زانیاری باری کەسایەتییان کە پێکهاتبوو لە (١١) بەش.

هەروەها بەشێکی تریان بریتی بوو لە جۆری ژیان پێش نەشتەرگەری کە پێك هاتبوو لە (٦٨) بەش، کە پرسیار بوو لەوەی تا چەند ڕازیت و تاچەند گرنگە کە هەریەکەیان لە (٣٤) بەش پێك هاتبوو، وە هەروەها پێوانەی جۆری ژیان لەدوای نەشتەرگەری چاندنی گورچیلە کە پێك هاتبوو لەوەی تا چەند ڕازیت و تاچەند گرنگە کە هەریەکەیان لە (٣٥) بەش پێك هاتووە.

ئەنجامەکان: پەیوەندی هەیە لەنێوان زانیاری بواری کەسێتی و جۆری ژیانیان زۆرینەیان لە ڕەگەزی نێر و پێگەیشتوو ، نەخوێندەوار و خێزاندار باری ئابووریان مام ناوەند بوون، پەیوەندی هەیە لەنێوان ئەو کەسانەی نەخۆشی درێژخایەنیان هەیە لەگەڵ تا چەند ڕازیت و تاچەند گرنگە جۆری ژیان.

دەرئەنجام: بەرزکردنەوەی توانای و فرمانی و سۆزداری لەو نەخۆشانەی کە لە کۆتا پلەی نەخۆشی پەککەوتنی گورچیلەدان، دەبێت زیاتر گرنگی بدرێت بە کەسانی پێگەیشتوو، ڕەگەزی نێر، خێزاندار، نەخوێندەوار.

پیشاندانی پەیوەندیەکی باش لەنێوان چارەسەرکردن چاك بوونەوەی نەخۆشەکان. هەروەها ڕەچاوکردنی چاودێری ئەو کەسانەی کە نەشتەرگەری چاندنی گورچیلەیان بۆ کراوە بەشێوەیەکی باش و تەندروست و ئەو نەخۆشانەی کە لە کۆتا پلەی نەخۆشی پەککەوتنی گورچیلەدان.

حکومەتی هەرێمی کوردستان - عێراق
وەزارەتی خوێندنی باڵا وتوێژینەوەی زانستی
زانکۆی سلێمانی
کۆلێژی پزیشکی

گۆڕانکاریی لە شێوازی ژیانی ئەو نەخۆشانەی کە سست بوونی گورچیلەیان هەیەو وە چاندنی گورچیلەیان بۆ ئەنجام دراوە لە نەخۆشخانەی شار لە شاری سلێمانی

نامەیەکە

پێشکەش کراوە بە کۆلێژی پزیشکی زانکۆی سلێمانی وەک بەشێک لە پڕ کردنەوەی پێداویستییەکانی وەرگرتنی بڕوانامەی دکتۆرا لە پەرستاری پێگەیشتوان

لەلایەن

نیان حکیم إسماعیل أمین

بەسەرپەرشتی

پڕۆفیسۆری یاریدەدەر د. ئاسۆ عمر رشید

تشرینی دووەم / ٢٠١٩ ز ربیع الاول/ ١٤٤١ سەرماوەز/٢٧١٩ ك