

**Deanship Of Graduate Studies**  
**Al-Quds University**



**Quality of life and Depression among Children with End  
Stage Renal Disease attending Hemodialysis units in  
Gaza Governorates**

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**Quality of life and Depression among Children with End  
Stage Renal Disease attending Hemodialysis units in  
Gaza Governorates**

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Disease attending Hemodialysis units in Gaza Governorates**

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**Jerusalem – Palestine**

**1436 / 2015**

## **Declaration**

I certify that this thesis submitted for the degree of Master, is the result of my own research, except where otherwise acknowledged, and this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.

**Signed:**

Jomaa W.Younis

/ /

## **Dedication**

To the soul of my father and mother, who demonstrated greatest faithfulness and endless love and encouragement, I will never be able to thank him enough.

To my lovely sisters and brothers for their kind help and support.

To my dear wife. Thank you for giving me the support, I needed.

To my sweet friend Mahmoud Al-Madhoun for his help and support.

To my uncle Ibrahim Younis for his encouragement, help and support.

To all friends and to everyone who contributed to get this study done.

To the end stage renal disease patient.

Thank you

Jomaa Waleed Younis

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**Jomaa W. Younis**

## **Abstract**

**Background** *The Quality of life and the depression among End Stage Renal Disease children and the NON –ESRD children, an important health problem with higher incidence and clinical severity, gain its importance from defining the quality of life and depression among these groups and from the way, they react in the case of ESRD. Since more children with ESRD are reaching adult age, the best care in the pediatric nephrology units requires attention to the psychosocial and developmental factors with the intention to support the successful transition of pediatric patients to adulthood.*

**Aim:** *the aim of this study was to compare the quality of life (QOL) and depression among children with end stage renal disease attending to hemodialysis in Gaza governorates.*

**Methodology:** *The design of this study was case control study to compare the quality of life and depression among children, study sample consists 47(cases) 95(control).This design was to describe the quality of life and depression in children with ESRD in compare with the children have other chronic disease at five hospital of the ministry of health, Data collection instrument (demographic sheet and Quality of life questionnaire and Birlesone Depression scale) face to face interview.*

**Results:** *The results showed that the mean of depression in case was 20.13% and for control was 12.63%. There were statistically significant differences in depression between the two groups toward End Stage Renal failure. The mean of the total quality of life for End Stage Renal failure was 48.98% compared to 52.75% in control group. There were statistically significant in quality of life toward control group. Physical functioning mean for End Stage Renal failure was 14.02% and for control was 21.24%. There were statistically significant in Physical functioning toward case group. Emotional functioning for End Stage Renal failure was 14.04% and control mean was 9.68%. There were statistically significant in emotional functioning toward control group. Social functioning mean in End Stage Renal failure was 9.96% and 8.32% for control group. There were statistically significant in social functioning toward End Stage Renal failure. School functioning mean in End Stage Renal failure was 11.38% and 12.77 %for control group. There were statistically significant in school functioning toward control group.*

**Conclusion:** *the findings showed that end-stage renal disease children have positive perceptions about their quality of life (emotional, social), negative perception of (physical, school), compared to control group who have positive perception (physical, school) about their quality of life and negative perception of (social, emotional), and confirm high level of depression among ESRD than control group.*

**Key words:** *End-Stage Renal Disease, Depression, Children, Quality Of Life.*

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## **Abbreviation:**

|        |   |
|--------|---|
| ADHD   | Attention Deficit Hyperactivity Disorder.                           |
| ANOVA  | Analysis Of Variance.   |
| ASN    | American Society Of Nephrology.                                     |
| CDC    | Center For Disease And Control And Prevention.                      |
| CKD    | Chronic Kidney Disease.   |
| CRF    | Chronic Renal Failure   |
| ESRD   | End Stage Renal Disease.  |
| GFR    | Glomerular Filtration Rate.   |
| GG     | Gaza Governorate.   |
| GS     | Gaza Strip.   |
| HD     | Hemodialysis.   |
| HRQOL  | Health Related Quality Of Life.                                     |
| KT     | Kidney Transplantation.   |
| MOH    | Ministry Of Health.   |
| NGO    | Nongovernmental Organization.                                       |
| NIS    | New Israeli Shekels   |
| PD     | Peritoneal Dialysis.  |
| QOL    | Quality Of Life.  |
| RRT    | Renal Replacement Therapy.  |
| SPSS   | Statistical Package Of Social Science.                              |
| UNRWA  | United Nations Relief And Works Agency For Palestinian              |
| USRDS  | United States Renal Data System.                                    |
| WB     | West Bank.  |
| WHO    | World Health Organization   |
| WHOQOL | World Health Organization Quality Of Life                           |
| Dsm5   | Diagnostic And Statistical Manual Of Mental Disorders Fifth Edition |

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# Chapter One

## 1. Introduction

### 1.1 Background

Chronic kidney disease (CKD) which affected 5-10% of the world population, has become global public health problem according to report presented at the 40th annual meeting of American society of nephrology (American society of nephrology, 2007)

Chronic kidney disease (CKD) is an important health problem for adult as well as pediatric and adolescent populations. Nowadays, the ideas hypothesized that frequently use of conventional concepts such as morbidity, mortality, and life expectancy for the measurement of public health is not sufficient to assess the state of health and well-being are gaining importance. In place of these concepts, measurement of QOL was proposed as a more correct approach for the evaluation of health care services (Finkelstein & Finkelstein, 1999). Health-related quality of life (HQOL) focuses only on the well-being of an individual, and refers to an individual's satisfaction with his/her own present health state (Armaly, et, 2012).

Comparisons of QOL and depression among ESRD children and NON –ESRD children, which is an important health problem with its higher incidence and clinical severity, gain importance in defining the quality of life and depression among these groups and how they react in the case of ESRD. Since more children with ESRD are reaching adult age, the best care in the pediatric nephrology units requires attention to the psychosocial and developmental factors with the intention to support the successful transition of pediatric patients to adulthood.

Unfortunately, Depression is the most common psychological problem encountered in patients with end-stage renal disease (Finkelstein & Finkelstein, 1999; Kimmel et al., 2000).

Hemodialysis is the most prevalent form of renal replacement therapy, with over 75% of ESRD patients treated using this modality (Collins et al., 2010; Foley & Collins, 2007) . Hemodialysis is a method used to achieve the extracorporeal removal of waste products such as creatinine and urea and free water from the blood when the kidneys are in a state of renal failure. Hemodialysis is one of three renal replacement therapies (the other two being renal transplant and peritoneal dialysis).

Hemodialysis drastically and negatively affects the quality of life and life expectancy, with both physical and psychological effects (Kimmel, 2001; Reiss, 1990). The experience of multiple losses, including kidney function, the global influence on family roles, work competence, sexual function, time, and mobility, significantly and negatively impact the lives of sufferers(Kimmel, 2002). Further stressors, including medication effects(Kimmel, 2002) dietary constraints, fear of death, and dependency upon treatment (De-Nour, Shaltiel, & Czaczkes, 1968) may affect quality of life and exacerbate feelings of a loss of control. Depression is widely believed to be the most common psychopathological condition among patients with ESRD (Kimmel,ect, 2002)

The prevalence of major depression in the general population is approximately 1.1%–15% for men and 1.8%–23% for women(Drayer et al., 2006; Kimmel, 2001). However, the prevalence of major depression among ESRD patients is approximately 20%–30%, and it may be as high as 47% (Drayer et al., 2006; Kimmel et al., 1993). Some studies have indicated that moderate depressive syndromes are common in approximately 25% of ESRD patients, and that major depression is common in 5%–22% of ESRD patients (Herrmann-Lingen, Klemme, & Meyer, 2001).

## **1.2 Research problem**

End stage renal disease may cause stress, with might lead to depression that will affect the quality of life of the patient. End stage renal disease has been facing problems: such as nature

of the disease, shortage of medical supply, drugs, parents' lack of awareness about the impending death of their children, the Israeli's siege that prevents patients from receiving care.

Although many studies have been conducted in pediatric and adolescent populations, limited number of investigations are related to comparisons between end stage renal disease and control groups in terms of QOL and depression of the children.

### **1.3 Justifications of the study**

From my experience in my work in hemodialysis department in Al-Rantisy hospital in Gaza Strip, I have faced many problems with the patients of end stage renal disease attending to hemodialysis affect for the QOL and the daily lifestyle for the patient and their family, and the effect of Israel siege for the patient of end stage renal disease. In addition, the shortage of drug and supply is very dangerous on patients; therefore, the aim of this study is to examine quality of life and depression experience these patients experience compared to other chronic patients.

I selected this topic because there is no previous study on children in the Gaza strip, no mental health centers specialized in working with chronic patients and end stage renal disease and lack of training the staff of mental health to dealing with chronic patient.

### **1.4 General objective**

To compare the quality of life (QOL) and depression among children with End Stage Renal Failure attending to hemodialysis and control group in Gaza governorates.

## **1.5 Specific objective**

1. To compare the quality of life among ESRD children and non –ESRD children (control group) in the Gaza Strip Hospitals.
2. To identify level of depression among ESRD children and non –ESRD children (control group) in the Gaza Strip Hospitals.
3. To examine relationship between the QOL and depression among ESRD children and non –ESRD children (control group) in relation to socio-demographic variables such as (age, gender, family income, place of residence ...etc.) in the Gaza Strip Hospitals.
4. To conclude with recommendations for the policy-makers to help the target group.

## **1.6 Research questions**

1. Are there any differences between the means of depression among ESRD children and NOT- ESRD children?
2. Are there any significant differences between the cut-off points of depression scale among ESRD and NOT -ESRD children?
3. What are the most common depression symptoms among ESRD children and NOT -ESRD children?
4. Is there significant differences between the means of QOL scale dimensions among ESRD children and NOT -ESRD children?
5. Is there any differences between the means of QOL scale among ESRD children related to sex?
6. Is there any differences between the means of QOL scale among ESRD children related to age?

7. Is there an association between depression and QOL scale dimensions among ESRD children?
8. Is there an association between depression and QOL scale dimensions among NOT -ESRD children?

## **1.7 Context of the study**

### **1.7.1 Demographic context**

The State of Palestine consists of two geographically separated areas West Bank (WB) and the Gaza Strip (GS). GS is a narrow zone of land bounded on the south by Egypt, on the west by the Mediterranean Sea, and on the east and north by the occupied territories in 1948. GS has a total area of 365 sq. km with 46 kilometers long and 5–12 kilometers wide and represent 6.1% of the total area of the Palestinian state. The population during of the year 2011 was 1.588.691 that represents 38 percent of the total population of the Palestinian state. GS is considered as one of the most overcrowded areas in the world with a population density of 4.353 inhabitants/sq.km. According to the United Nations Relief and Works Agency (UNRWA) statistics in 2010, the total number of registered Refugees in GS constitutes about 72.8% from the total population. Gaza strip consists of four cities, fourteen villages and eight refugees' camps and administratively divided into the following main five governorates:

**North-Gaza governorate** with an area of 61 sq. km constitutes 16.7% of the total area of GS and 1.0% of the total Palestinian territory. The total number of population lived in North-Gaza governorate during 2011 was 309.434 individuals with 5073 inhabitants/sq.

**Gaza governorate** with an area of 74 sq. km, constitutes 20.3% of the total areas of GS and 1.2% of the total Palestinian territory. The total number of population lived in Gaza governorate during 2011 was 551.832 individuals with 7457 inhabitants/sq. km.

Mid-Zone governorate with an area of 58 sq. km, constitutes 15.9% of the total area of GS

and 1.0% of the total Palestinian territory. The total number of population lived in Mid Zone governorate during 2011 was 230.689 individuals with 3977 inhabitants/sq. km.

**Khan-Younes governorate** with an area of 108 sq. km, constitutes 29.6% of the total area of GS and 1.8% of the total Palestinian territory. The total number of population lived in Khan-Younes governorate during 2011 was 301.138 individuals with 2788 inhabitants/sq. km.

**Rafah governorate** with an area of 64 sq. km constitutes 17.5% of the total area of GS and 1.1% of the total Palestinian territory. The total number of population lived in Rafah governorate during 2011 was 195.598 individuals with 3056 inhabitants/sq. km. According to the distribution of the population by governorates during the year 2011, the most populated governorate was Gaza governorate with 34.7% of the total GS population, followed by North-Gaza governorate with 19.4%. On the other hand, Rafah governorate has the lowest rate of population of 12.5%. The percentage of population under 15 years old was 43.8% of the total population in GS. (MOH, 2011)

### **1.7.2 Health care system**

Gaza is a vital part of the Palestinian entity and identity, and its place in the middle of the Palestinian territory makes it a prominent focus of global politics. In August 2005, the Israel withdrawn from the occupied GS, including all existing Israeli settlements and all military installations, which redeployed outside the GS. In reality, the Israeli unilateral disengagement imposed huge prison for the Palestinian people introduced by Israeli government for the first time in modern world. This is the newest and most dangerous reoccupation of people with disavowal from their rights and the entitled to live with self-determination in their occupied land. In addition, all these Israeli activities violate the United Nations (UN) human rights conventions and UN decisions. Since 2006, a strict siege was began on Gaza resulted in severe restriction of population movement, increased health risks

and impede the delivery of health and social services. On 27 December 2008, Israeli army launched a devastating War on Gaza and lasted about 23 days. By 18 January 2009, when unilateral ceasefires were announced by both Israel and Hamas, some 1400 Palestinians had been killed, including some 300 children and hundreds of other unarmed civilians, and large areas of GS had been razed to the ground, leaving many thousands homeless and the already dire economy in ruins. Economically, the Gaza Strip continues to be very dependent on the Israeli Occupation State, which is considered as its primary trading partner. As a result, unemployment increased and people were induced to migrate for work and create conditions conducive to alcohol and drug use, which have expanded rapidly in GS in recent years. Israeli policy of limiting the daily amount of fuel and electricity to Gaza has not only made healthcare unreliable and inadequate but also leaves entire health care centers without electricity for 8 to 12 hours per day. Water and sewage plants cannot function without power, leaving an estimated 25-30% of Gazans without running water, while 40-50 million liters of sewage floods untreated into the sea each day. Moreover, the accessibility of the modern facilities of transportation have a great role in facilitating the transmission of communicable diseases from person to person and spreading the diseases from place to another. The above-mentioned factors make GS susceptible for frequent outbreaks of communicable diseases from time to time. Therefore, the Ministry of Health realizes this fact and provides continuous support to epidemiology department in order to conduct more efforts to prevent and control communicable diseases. On other hand, this situation has led to adopt a changeable strategy according to the situation on the ground in order to guarantee the continuity of services. Besides that, the health system of Gaza Strip has many strengths. These include a relatively healthy population; a high societal value placed on health; many highly qualified, experienced health professionals, national plans for health system development; and a strong base of governmental and non-governmental institutions. At the

same time, there are important areas of concern include poor coordination and implementation of policies and programs across geographic areas and between the governmental and nongovernmental (NGOs) sectors of the health system; many under qualified health care providers; and weak systems for continuing education (MOH, 2011)

### **1.7.3 Dialysis machine**

Dialysis machines with feedback-control systems currently allow for computer-controlled, real-time adjustments in the critical components of dialysis, such as the ultra filtration rate. An automated control of dialysate temperature helps maintain a constant body temperature during dialysis, which may reduce the incidence of intradialytic hypotension. Although studies in small groups of patients have suggested possible benefits from in-line monitoring or feedback-control systems, evidence of improved outcomes in large, rigorously controlled trials is lacking (Klang, 1999)

At Ministry of health hospital, there are present five centers of dialysis and 107machins of hemodialysis distributed to five centers, Al-Shifa hospital (40), Nasser hospital (21), Al-Aqsa hospital (15), Al-Najjar hospital (21) and Al-Rantisi pediatric hospitals (10).

#### **1.7.4 Dialysis centers in the Gaza strip**

There are four major centers to manage the care of adult patients with ESRD, being Al-Shifa hospital (Gaza city), Al-Aqsa hospital (Middle Zone), Nasser hospital (Khanyounis), and Al-Najjar hospital (Rafah).and one center to manage children age of twelve years, Patients with ESRD are managed in the geographically closest hospital. Patients in Northern Zone are managed in Al-Shifa hospital, and children under the age of twelve years old receive care in the al-Rantisi pediatric hospital in Gaza City.

##### **1.7.4.1 Al-Shifa hospital**

It is the largest and oldest health institution in the Gaza Strip (GS), where it was established in 1946 on an area of 42,000 m<sup>2</sup>. It is located in the central west of GazaCity, at the crossroads intersection of Izz El-Din Al-Qassam Street. The hospital contained 500 hospitalization beds, distributed into three hospitals. These hospitals are surgical hospital, Medical hospital and Obstetrics hospital. Each hospital has its own administrative teams. Al-Shifa hospital provides services as orthopedics, pediatrics, coronary care unit, intensive care unit, burn department and dialysis center. The numbers of dialysis machines in dialysis centers were 33 machines serving 180 ESRD patients, three session per week (MoH, 2011). Al-Shifa hospital provides HD services for Gaza city and North-Zone ESRD patients.

##### **1.7.4.2 Nasser hospital**

It's the second largest governmental medical institution in the GS. It was established in 1957 on the area of 50000 m<sup>2</sup> containing 258 beds. It provides secondary services that included medical, surgical services and obstetric and maternity care. The Nasser hospital provides services as orthopedics, pediatrics, coronary care unit, intensive care unit and dialysis department. The numbers of dialysis machines in dialysis center was 15 machines serving 71 ESRD patients, with an average of 2.5 sessions per week (MoH, 2011b).

#### **1.7.4.3 Al-Najjar hospital**

Is the only government hospital that serves the province of Rafah, It was established in 2000 on an area of 4000 m<sup>2</sup>. It is located in Eljenaina-El-Aboor Street. The hospital provides secondary services that include pediatric, medical, surgical services and has a dialysis unit. The number of dialysis machines at dialysis center is 17 machines serving 52 ESRD patients, with an average of two session per week (MoH, 2011b).

#### **1.7.4.4 Al-Aqsa hospital**

It is one of the governmental hospitals, which was established in 2001 in Middle Zone. It provides secondary services to the province of Deir Al-Balah including Pediatric, medical, surgical, Obstetrics services and dialysis unit.

The number of dialysis machines in dialysis center is 12 machines serving 60 ESRD patients, with an average of three session per week (MoH, 2011)

#### **1.7.4.5 Al-Rantisy hospital**

It is one of the governmental hospital, which was established in 2009 in Gaza governorate provides tertiary service to the pediatric service and dialysis unit.

The number of dialysis machines in dialysis center were 10machines serving 22 ESRD patient, with an average of three session per week (MOH, 2011).

### **1.8 Operational definition**

**Child:** according to the convention on the right of child in article one, a child means every human being below the age of 18 years unless under the law applicable to the child, majority is attained earlier (UNICEF, 2014)

**Quality of life:** It is a measurement of the level of physical activity and emotional performance and social participation and academic achievement and its interaction with others around him, through the quality of life scale of the World Health Organization for children in order to determine the level of performance of children.

Individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns, It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment (WHO, 1994)

**Depression** It is the presence of symptoms of depression in children not to talk with others, love to sit on their own, lack of movement, lack of social interaction, nervousness, based on the symptoms Birleson scale was used to assess for depression symptoms.

Is a common mental disorder that presents with depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration Moreover, depression often comes with symptoms of anxiety. These problems can become chronic or recurrent and lead to substantial impairments in an individual's ability to take care of his or her everyday responsibilities. At its worst, depression can lead to suicide. Almost 1 million lives are lost yearly due to suicide, which translates to 3000 suicide deaths every day. For every person who completes a suicide, 20 or more may attempt to end his or her life (Marina , et al, 2012) the researcher adopt birleson scale with simple iteams.

### **Chronic renal failure:**

Children diagnosed with ESRD and follow up on ministry of health hospital.

Abnormalities of kidney structure or function, present for > 3 months, with implications for health, GFR < 60 ml/min/1.73 m<sup>2</sup> (KDIGO, 2013)

**Hemodialysis:** Considered one, which used for treatment of ESRD. During HD, blood flows into the machine on one side of a semi-permeable membrane while dialysis fluid flows in the opposite direction on the other side. During its process, ultra filtration removed excess fluid by creating veterans membrane pressure (Longmore, et al., 2007)

**End-Stage Renal Disease:** Total and permanent kidney failure. When the kidneys fail, the body retains fluid and harmful wastes build up. A person with ESRD needs treatment to replace the work of the failed kidneys (CDC, 2010)

**Non-End Stage Renal Disease:** Each patient has suffered a chronic ill except Renal Disease such as diabetes, neurological problem, Gastric problem, cardiac problem.

## **Chapter Two**

### **Conceptual framework and Literature review**

#### **2. Literature review**

This chapter review the literature concerning the quality of life and depression among children undergoing hemodialysis compare with children who have chronic illness in five hospitals of the Gaza governorate, this chapter explains the study of quality of life in Palestine and in the world.

#### **2.1 Conceptual framework**

Conceptual framework is the basic frame of all steps of application of the research from proposal beginning with research title, study objective, literature review, methodology, and result and finishing with the conclusion and recommendation of the study.

The following frame presented a list of variable developing of ESRD the study, quality of life domain and depression among these variable, The main boxes explain socio demographic information variables ,which include age, sex, living area, citizenship, education, family monthly income, box of medical history of family history of chronic disease ,and life style variable physical activity ,stress ,social relation ,environmental health.

Conceptual Framework Diagram

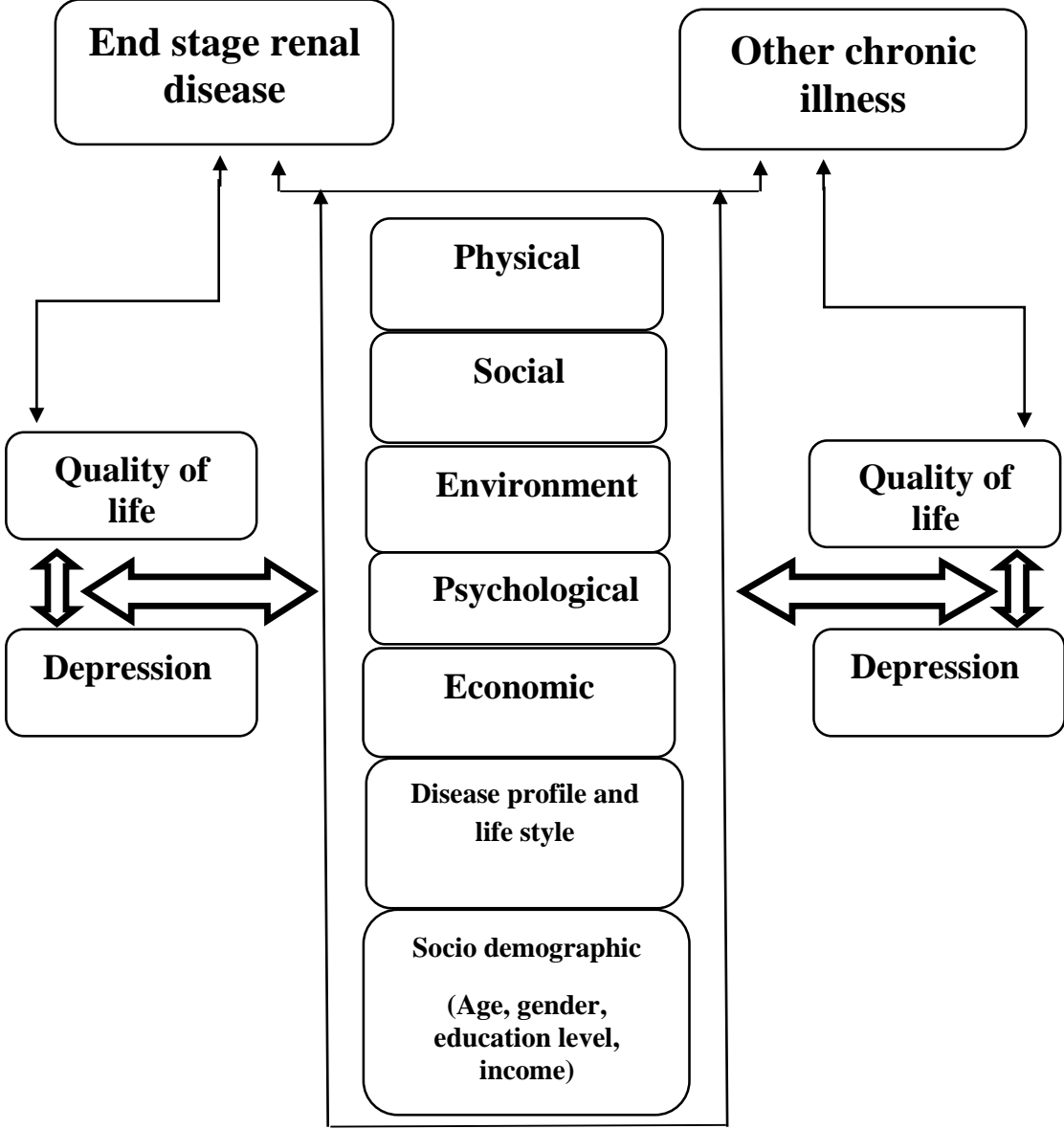


Figure 2.1: Conceptual Framework Diagram

## **2.2 Literature review:**

The literature review reported statistically significant differences in QoL between the healthy general population and ESRD patients, and statistically significant difference in QoL toward control group, and showed high level of depression among ESRD patient as follow:

The cross-sectional study included patients attending a hemodialysis program, Depression was diagnosed using Beck's Depression Inventory. Excessive daytime sleepiness was evaluated using the Epworth Sleepiness Scale. A total of 96 patients were enrolled (55 males, age  $48 \pm 14$  years). Depression and excessive daytime sleepiness were observed in 42.7% and 49% of the patients, respectively. When comparing variables among the three-dialysis shifts, there were no differences in age, dialysis vintage, employment status, excessive daytime sleepiness, hemoglobin, phosphorus levels, or albumin levels. Patients in the morning shift were more likely to live in rural areas ( $p < 0.0001$ ), although patients in rural areas did not have a higher prevalence of depression ( $p = 0.30$ ). Patients with depression were more likely to be dialyzed during the morning shift ( $p = 0.008$ ). Independent risk factors for depression were age ( $p < 0.03$ ), lower levels of hemoglobin ( $p < 0.01$ ) and phosphorus ( $p < 0.01$ ), and dialysis during the morning shift ( $p = 0.0009$ ). The hospitalization risk of depressive patients was 4.5 times higher than that of no depressive patients ( $p < 0.008$ ) (Teles, et, al, 2014)

Although, chronic hemodialysis, is an established treatment of end stage renal disease, which maintains the lives of individuals who otherwise would have succumbed to a uremic death. However, this method of treatment raises certain psychological, social and ethical issues, anxiety and aggression are the most common disorders, this study included 20 children with CKD on regular hemodialysis, and 20 children with ADHD, and they were selected from hemodialysis unit and psychiatric departments of AL –zahraa hospital, Al-Azher University. Also the study

included 20 healthy children age and sex matched as a control group. Aggression and anxiety scores were assessed for all the participated groups, the result show the mean aggression scores showed higher degrees in children with ADHD and CKD patients compared to the control group. Anxiety score was higher in CKD patients on regular hemodialysis compared to children with ADHD and the control group. Aggression and anxiety has been found in 100% of CKD patients. Significant positive correlations between the presence of aggression and anxiety and the duration of hemodialysis (El Sadek, 2013)

However, study examined the quality of life among the end stage renal disease patient undergoing hemodialysis in Gaza governorate, the design of this study is descriptive, analytical cross sectional design to measure the quality of life among end stage renal disease patient, study targeted 210 adult end stage renal disease patient undergoing hemodialysis at four dialysis centers at ministry of health hospital, Data was collected through administered questionnaire (WHOQOL-BRIFE questionnaire) with response rate 97%. The result show that 55% study participants revealed negatively about their quality of life positively (17.6% very bad and 37.3% bad), where 20% of participant rated their quality of life (16.2% good and 3.4% very good). Moreover, 57% of total samples were satisfied with their health (52.9% satisfied and 4.4% very satisfied), where 23% of patient were dissatisfied (7.4% very dissatisfied and 15.7% dissatisfied) with their health. The result indicated that, the environmental domain gets the highest score with relative weight equals 67.97%. moreover, the social domain was 60.66% the psychological domain was 60.06% and the lowest domain of physical with relative weight was 55% Findings also showed that, there were statistical significantly difference between social, environmental and educational level, these difference were in favor of mostly university level in comparison with illiterate and primary level of patient.

Moreover, family size statistically significant affected environmental domain and total quality of life scores. These differences were in favor of medium family size. Regarding the duration of disease, it shown that patients with duration less than 4year have better means of following quality of life domain (Al-Nahal, 2013)

The quality of life of children and adolescents in various stages of their chronic kidney disease (CKD) who were managed with different treatment modalities to that of children and adolescent is without any chronic disease. The study included 18 renal transplant and 21 dialysis patients (8 on hemodialysis, 13 on peritoneal dialysis) and 16 patients who did not yet require renal replacement therapy. The control group consisted of 37 children without any chronic disease. Psychosocial Health Summary scores, There were no differences in self-reported scores on the Pediatric Quality of Life scale scores between treatment groups; however, parents of the transplant patients had reported higher (more favorable) Physical Health Summary scores than those of the dialysis patients. Reports of parents and their children differed only in Physical Health Summary scores in the dialysis group; self-reports of the children were more favorable. These findings show that children and adolescents with CKD experience impaired quality of life on the physical and psychosocial functioning domains in comparison with healthy controls ( Muslum Kull ,2013)

Therefore, the study is to evaluate the quality of Life in children (ages between 3- 16 years) receiving permanent renal dialysis in Gaza strip. The design of this study is case-control. All cases in the Gaza strip were included in the study (15cases) and compared with the control group (45 individuals without the disease).The study revealed statistically significant difference between cases and control in all study domains except the environmental health domain. The educational achievement deteriorated significantly because of impairment of physical health, psychological health and social relationships. In addition, the study revealed

that the altered levels of serum electrolytes secondary to renal failure and dialysis are responsible for signs and symptoms that the patients experience. The study domains did not show statistically significant difference when compared by sex, age, living places, monthly income and the relationship between parents (Al-jeesh, Y. Alkariri, N. Abusalem, S, 2013)

However, the Quality of Life (QOL) has emerged as an important parameter for Evaluating the quality of health care for patients with renal failure. The QOL of dialysis patients in the United Arab Emirates (UAE) has not previously been studied. This research examined the cultural relevancy of two QOL tools and compared the QOL between dialysis patients and a sample from the community in UAE. A descriptive comparative survey design was used to study the QOL of 161 dialysis patients and 350 participants from the community. Dialysis patients completed the SF-36 and the QOL Index dialysis version tool. Participants from the community completed the SF-36 and QOL Index generic version tool. The overall QOL for dialysis patients was rated lower when self-assessed using the SF-36 compared with the community sample (58.92 vs. 75.02,  $p = <0.0001$ ). Furthermore, the overall QOL for dialysis patients was rated almost the same when self-assessed using the QOL Index compared with the community sample (77.2 vs. 78.6,  $p = 0.421$ ). Moreover, the total scores of both tools were higher in the community sample (75.02 vs. 78.6). The comparison between the statistically significant variables for both samples revealed contradictory results with the two tools ( Ayoub, 2012)

In other hand, it aimed to evaluate the effect of a supportive self-care educational intervention on QOL among ESRD patients undergoing hemodialysis. It was hypothesized that ESRD patients undergoing hemodialysis who were subjected to a supportive self-care educational intervention would improve their QOL, Participants were 50 patients receiving maintenance hemodialysis, This study was conducted in the dialysis unit of King Khaled University Hospital, Arrayed, - Kingdom of Saudi Arabia. A quasi- experimental research

design was utilized in this study. The design was implemented before and after applying a supportive self-care educational intervention on one group of ESRD patients to evaluate their QOL during undergoing hemodialysis using an instructional Arabic booklet. Two tools were used to collect data: (1) demographic data sheets, (2) a structured interview questionnaire of the Kidney Disease Quality of Life scale short form KDQOL-SF"-1.3. Results of the present study indicated that there was significant improvement revealed in the scores of all domains of QOL (general health, social and emotional status, illness impact, financial and medical satisfaction)  $p < 0.001$ , except the physical domain. As well statistically significant associations were found between pre-post-intervention improvements in the total QOL scores. The statistically significant independent predictors of QOL improvement were supportive self-care educational intervention constant attendance, dialysis duration and marital status. The study concluded that implementation of the supportive self-care educational intervention was associated with significant improvement in all domains of QOL, except the physical domain. The study findings implied the necessity of developing supportive self-care educational intervention for HD patients to be implemented on a wider scale and evaluated for further improvement (Al-Fouly, 2010)

Although, the health-related quality of life (HRQoL) of children with chronic kidney disease (CKD) with healthy children; to evaluate the association between CKD severity and HRQoL; and to identify demographic, socioeconomic, and health-status variables that are associated with impairment in HRQoL in children with mild to moderate CKD. This was a cross-sectional assessment of HRQoL in children who were aged 2 to 16 and had mild to moderate CKD using the Pediatric Inventory of Quality of Life Core Scales (PedsQL). Overall HRQoL and PedsQL domain means for parents and youth were compared with previously published norms by using independent sample ttests. Study participants were categorized by kidney disease stage (measured by iohexol-based glomerular filtration rate

[iGFR]), and group differences in HRQoL were evaluated by using analysis of variance and Cuzick trend tests. The association between hypothesized predictors of HRQoL and PedsQL scores was evaluated with linear and logistic regression analyses. The study sample comprised 402 participants (mean age: 11 years, 60% male, 70% white, median iGFR: 42.5 mL/min per 1.73 m<sup>2</sup>, median CKD duration: 7 years). Youth with CKD had significantly lower physical, school, emotional and social domain scores than healthy youth. iGFR was not associated with HRQoL. Longer disease duration and older age were associated with higher PedsQL scores in the domains of physical, emotional, and social functioning. Older age was associated with lower school domain scores. Maternal education 16 years was associated with higher PedsQL scores in the domains of physical, school, and social functioning. Short stature was associated with lower scores in the physical functioning domain. Children with mild to moderate CKD, in comparison with healthy children, reported poorer overall HRQoL and poorer physical, school, emotional, and social functioning. Early intervention to improve linear growth and to address school functioning difficulties is recommended (Arlene, 2010)

However, found that the proper measures for assessing quality of life (QOL) in patients with chronic kidney disease (CKD) remain unclear. QOL measures are subjective or objective, functional or satisfaction-based, and generic or disease-specific. Treatment of end-stage renal disease with transplantation and treatment of anemia with erythropoietin in patients with CKD have been associated with dramatic improvements of QOL. Other factors such as age, ethnic or national background, stage of CKD, modality of dialytic therapy, exercise interventions, sleep disturbances, pain, erectile dysfunction, patient satisfaction with care, depressive affect, symptom burden, and perception of intrusiveness of illness may be associated with differential perception of QOL. Recent studies showed an association between assessment of QOL and morbidity and mortality in end-stage renal disease patients,

suggesting the measures do matter. Further studies are necessary in patients with early stages of CKD and in children. QOL measures should include validated psychosocial measures of depressive affect, perception of burden of illness, and social support. The challenge for the next decade will be to continue to devise interventions that meaningfully increase the QOL of patients with CKD at all stages (Patel, 2006)

Therefore, in this study I found that it a common psychological problem among the Palestinian end stage renal population ,The coexistence of psychiatric illness in-patient with end stage renal disease who requires specialized medical regimen represents a challenge to nephrologists in diagnosis and treatment, Disparities between levels of depression among end stage renal disease patients compared with other chronically ill population finding revealed high level of depression in hospitalization chronically ill patient especially end stage renal disease patient treated with hemodialysis where as52% are suffer from severe depression .higher level of depression have been found in patient with ESRD compared with other chronically ill population as revealed by BDI scale .(52.5% versus 45%). (Safi, 2003)

**The researcher concluded from literature review:**

The literature review confirms selection of the topic, Researcher combined between a study conducted in quality of life among ESRD and study was conducted in depression, the combination between the two variables provides sufficient information and reference to work with ESRD.

In addition, study design concluded from previous study, some of study was descriptive and other case -control study, the researcher was used case –control study to compare the quality of life and depression among ESRD children and control group.

In addition, selection of study instrument concluded from previous study, the researcher was used quality of life for depression and Birlson depression scale.

In addition, the researcher concluded from previous study selection of cases and control group, all of study cases ESRD patient, but control group some of study selection healthy children and other was used illness group, the researcher was used illness group for control receive to chronic illness except chronic kidney disease.

However, previous study helped researcher to draw a plan to apply the study through observing the methodology of previous study.

In addition, previous study focused on the quality of life among ESRD, The result showed negative perception about ESRD quality of life, and negative perception of domain of quality of life.

However, according to patient's health profile, previous study showed high level of depression among ESRD, and severity of disease, etc.

## **2.3 Anatomy and function of the kidney**

The master organ in the renal system is kidneys, which is located in the upper abdominal cavity in the retro-peritoneum on each side of the vertebral column on each side of the spine at the lowest level of the rib cage (Scanlon, 2007)

Both upper portions of the kidneys settle on the lower surface of the diaphragm. The front part of the basin is divided into three sections the first section called renal cortex, which contains the parts of the nephron, the middle section is renal medulla consists of wedge-shaped pieces called renal pyramids and the third section called the renal pelvis (Kumar, 2009). Through the kidney the urine flows from the pyramids into the calyces, then to the renal pelvis, and finally into the urethra (Scanlon, 2007)

The major function of the kidneys is to maintain homeostasis between the internal fluid volume in the body in which a large volume of blood – 25% of cardiac output or approximately 1300 ml per minute—passes through the two million glomeruli, electrolytes and environmental influences and remove metabolic waste. There are also plays an important role as control of blood pressure, When blood pressure is high, the kidney get rid of excess salt and water and when low the kidney saves salt and water, also it is producing hormones such as rennin which affect protein in the blood stream which helps raise blood pressure. Other functions of the kidneys are a synthesis of red blood cell and bone metabolism (Kumar, 2009). If the kidney is damaged or failed due to disease or injury, extra fluid and waste can accumulate in the body and make you ill (NKF, 2009)

### **2.3.1 Acute renal failure**

A sudden or rapid decline in renal function, irrespective of urine output. (Kanwal Kher, 2007)

### **2.3.2 Classification of acute renal failure**

ARF may be classified as:

- Pre renal azotemia, or functional response of structurally normal kidneys to hypo perfusion
- Intrinsic ARF, resulting from structural damage to the renal parenchyma from prolonged ischemia, nephron toxins, or glomerulonephritis
- Post renal ARF, arising from urinary tract obstruction. Intrinsic ARF is morphologically associated with acute tubular necrosis (ATN). Consequently, it is common in clinical practice to interchangeably use the terms intrinsic ARF and ATN. Intrinsic ARF is frequently multifactorial in its origin, with concomitant ischemic, nephrotoxic, and septic components, and with overlapping pathogenic mechanisms. (Kanwal Kher, 2007)

### **2.3.3 Definition of chronic renal failure**

A reduction in kidney function prior to needing dialysis. Although the threshold of GFR reduction where CRF or CRI begins is a matter of opinion, many registries have operationally defined this as a GFR below 75ml/min/1.73 m<sup>2</sup>. (Kanwal Kher, 2007)

### **2.3.4 Glomerular filtration rate**

Glomerular filtration rate (GFR) is the most accurate measurement of level of renal function when the serum urea or creatinine is within the normal range. It varies according to age, sex and body size and also affected by normal physiological status that affect single nephron such as pregnancy or protein intake GFR level is the excellent measure of CKD as well as the risk of complications of CKD, but it involves considerable effort, cost, and time. Low or decreasing GFR is a good indicator of CKD. The sum of filtration rate of individual's nephron is equal to the total kidney GFR, which used as an index of functioning renal mass. The stage that precedes kidney failure in all forms of progressive kidney disease is a decrease in GFR. Therefore, GFR monitoring is important for delineating progression GFR (KDOQI,

2002). In young adult, GFR is approximately 120 to 130 ml/min/1.73 m<sup>2</sup> and declines with age, while in 25% of old age equal to 70 years or above, the GFR is less than 60 ml/min/1.73 m<sup>2</sup>. Regardless the age, when GFR level less than 60 ml/min/1.73 m<sup>2</sup> in the elderly indicate for developing CKD (Kumar, 2009)

### **2.3.5 Classification of chronic renal failure**

Kidney disease determined by five stages based on the presence of the kidney damage and (GFR). It is a measure of kidney function level and considered the best way to determine how the kidneys work. In addition, treatment depends on its stages of kidney disease (NKF-KDOQI, 2007).

### **2.3.6 Chronic kidney disease stages**

**Stage one:** It is described by kidney damage, which mean presence protein in the urine with GFR 90 or above (NKF-KDOQI, 2007)

**Stage two:** It is described by kidney damage with mild decrease in GFR 60 to 89 ml/min/1.73 m<sup>2</sup> (NKF-KDOQI, 2007)

**Stage three:** It is described by kidney damage with a moderate decrease in GFR 30 to 59 ml/min/1.73 m<sup>2</sup> (NKF-KDOQI, 2007)

**Stage four:** It is described by kidney damage, with a severe decrease in GFR 15 to 29 ml/min/1.73 m<sup>2</sup> (NKF-KDOQI, 2007)

**Stage five:** It is described by kidney failure, GFR less than 15 ml/min/1.73m<sup>2</sup> (NKF-KDOQI, 2007)

### **2.3.7 Symptoms of kidney disease**

Kidney disease symptoms appear when the serum urea concentration is above 720 mg/dl. But uremia symptoms may appear in the patients at lower levels of serum Urea such as, malaise, loss of appetite, polyuria, nocturnal, itching, gastrointestinal Disturbance, bone pain, teatny due to hypocalcaemia, peripheral or pulmonary edema Due to salt and water retention, amenorrhea in women; erectile dysfunction in men (Kumar & Clark, 2009). Most people will face some symptoms of kidney failure when there is a severe disruption of kidney function and reach 15% of normal Function or lower (RRC, 2010). Central nervous system symptoms such as, mental Slowing, clouding of consciousness, and seizures occur in more advanced when Serum urea concentration above than 50-60 mmol/L (Kumar and Clark, 2009). Other Signs may appear such as difficult breathing, anemia, eyes swelling, foot or ankle Swelling, muscle cramp and weight loss (National Kideny Foundation, 2009).

### **2.3.8 Kidney investigation**

Test of renal function is very important for all age groups of patients because patients with kidney problems develop few signs and symptoms early in the disease course, So Laboratory tests are the best way of detecting kidney abnormalities early to allow Corrective therapy, dosing of medications and measuring renal disease progression and efficacy of therapies (Rosner & Bolton, 2006). However, we must remember that physician review of medical history as physical examination because patients who have chronic kidney disease may develop ESRF. Physical examination included all procedure done by physician, in addition tests to determine kidney function well-being. The following are the most procedure done to investigate kidney function.

## **Urinalysis & urine culture**

Urinalysis and urine culture are two clinical tests that provide important detail on Kidney function. Urine culture is important to investigate if bacteria are present in the Urine, as well as their strains and concentration and also to identify the antimicrobial therapy that is best suited for the particular strains identified, taking into Consideration the antibiotics that have the best rate of resolution in that particular Geographic area (Smeltzer & Bare, 2004) Urinalysis is the most important useful, simple, and widely available method of Screening renal and urological disease and it provides valid information regarding a Kidney problem (Kreder & Williams, 2008) and the most appropriate test that Detects protein in the urine, which is a guide, that kidney impairment (Goldsmith , Jayewardene, & Ackland , 2007) It must evaluate of any abnormality can help in detecting serious disease. When urine Examines must include the following:

- Urine color
- Urine clarity and odor
- Urine pH and specific gravity
- Tests to detect protein, glucose, and ketone bodies in the urine
- Microscopic examination of the urine sediment after centrifuging to detect red blood cells, white blood cells, casts, crystals, pus and bacteria (Smeltzer & Bare, 2004)

## **Blood urea nitrogen test**

Urea nitrogen is a waste product from the breakdown of protein from the foods you eat and from your body metabolism that disposed by the kidneys. Nitrogen is a product of urea, and will eradicate by the kidneys. When kidney function reduced, may be high blood urea nitrogen (National Kidney Foundation, 2012).

### **X-ray film and other imaging test**

CT scan, magnetic resonance imaging or a type of x-ray called intravenous Pyelography performed to detect kidney abnormalities (Goldsmith, et al. 2007).

Abdominal x ray may be done to delineate the size, shape, and position of the kidneys and to define any abnormalities, such as stone in the kidneys or urinary tract, Distention of the pelvis of the kidney, cysts, tumors, or kidney displacement by Abnormalities in surrounding tissues (Smeltzer, et al. 2004). It is useful to identify any possible blockages in the urinary tract (Goldsmith , Jayewardene, & Ackland , 2007)

### **Ultrasound**

Ultrasound is a noninvasive step that its wave sound waves passed into the body through A transducer to detect abnormalities of internal tissues and organs (Smeltzer & Bare, 2004).

Ultrasound is a way normally used to picture the urinary tract. It has many Advantages, including a lack of invasive, cost, resolution, and the lack of contrast agent administration and kidneys. It is also easy on the performance of children of the population, in contrast to other cross-sectional techniques, because it does not need to freeze the child. Gray scale ultrasound in the e current era provides perfect detail and resolution, and the advent of Doppler examination permitted assessment of the flow of blood vessels. Spite of it has limitations and non-factor in the end adopts, Ultrasound is a perfect tool for the selected picture areas in the urinary tract (Wein, Kavoussi, Partin, & Peters, 2007).

## **Renal biopsy**

Kidney biopsy was the most effective role in the development of our understanding of various types of histopathological abnormalities in the kidney, which contribute to The defects of the urinary sediment. (Israni & Kasiske, 2007)

### **2.3.9 Complications of End Stage Renal Disease**

As kidney function deteriorates, loss of excretory, regulatory, and endocrine functions takes place, thus and complications develop virtually with every organ system (Parera P. Sagahey M, 2005).

As kidney function deteriorates, loss of excretory, regulatory, and endocrine functions takes place, and complications develop in virtually every organ system (Parera P. Sagahey M, 2005).

The onset of uremia is slow and dangerous, starting with rather nonspecific symptoms such as malaise, weakness, insomnia, and a general feeling of being unwell. Patients may lose their appetite and complain of morning nausea and vomiting (Hasslacher C, 1999). Systematic complications encompass the following:

**2.3.9.1 Gastrointestinal complications:** is a common problem in ESRD patients, and nutritional support is important (Gastrointestinal disturbances include anorexia, nausea, vomiting, and hiccups). Peptic ulcer disease and symptomatic diverticular disease are common in patients with CRF. These symptoms usually are developed with dialysis (Etimad, 1998).

**2.3.9.2 Cardiovascular complications:** The most common cause of death in patients with ESRD is cardiovascular disease. Volume overload may cause chronic heart failure and pulmonary edema. Hypertension contributes to cardiovascular disease. Dyslipidemia is a

primary risk factor for cardiovascular disease and a common complication of ESRD (Preston, 1998).

**2.3.9.3 Hematological complications:** Anemia is inevitable in CKD because of loss of Erythropoietin production. Abnormalities in white cell and platelet functions lead to increased susceptibility to infection and easy bruising. It occurs mainly because of erythropoietin deficiency and, to a lesser degree from hemolysis, presence of uremic inhibitors, blood loss, and deficiency in iron, folate, or vitamin B12 (Cohen g, 1997)

**2.3.9.4 Dermatologic signs:** Pruritus is a common dermatologic complication assumed secondary to accumulation of toxic pigments in the dermis (Cohen g, 1997).

**2.3.9.5 Bone disease:** Metabolism of calcium and phosphorus is abnormal in patients with ESRD and is associated with the development of bone disease. Phosphate retention occurs as GFR declines. Both hypophosphatemia and reduction in the active form of vitamin D lead to hypocalcaemia (Hruska KA, 1995)

**2.3.9.6 Neuralgic complications:** Both the central and peripheral nervous systems are affected by ESRD. Early symptoms that affect the central nervous system include decreased ability to concentrate or think abstractly. Later symptoms include apathy, lethargy, and insomnia. Severe symptoms include increased deep tendon reflexes, decreased coordination, coma and death may follow when the Blood Urea Nitrogen (BUN) level rises to 150 to 200 mg/dl.

Psychological features that may follow during the course of ESRD include delusions, depression, mania, and euphoria. The cause of the central nervous system symptoms are not clear but may be due to a toxic increase in parathyroid hormone or a decrease in brain metabolism secondary to impaired neurotransmission and inhibition of various enzymes (Evans & Forsyth , 2004)

**2.3.9.7 Vascular signs:** Vascular access complications are similar to those seen in any patient with a vascular surgical procedure as (bleeding, intravascular infections, vessel occlusion) (Hasslacher C, 1999).

**2.3.9.8 Sexual impairment:** One problem common is still harder to diagnose and treating in patients suffering from ESRD is an erectile dysfunction. Erectile dysfunction is often the result of multiple system illness involving pituitary gland axis of gonads, and the provision of blood vessels and penile damage tissue from any inflammation or trauma. Psychological factors such as tiredness, stress, and are resulting from chronic diseases and increase its contribution to the loss of the patient's erection (Ayub, 2000).

A cross sectional study carried to determine the spread weak erection in a population of patients in HD program. This study informs that 60.3% of patients in HD program have erectile dysfunction (Messina, 2007).

### **2.3.10 Management of End Stage Renal Disease:**

#### **Dialysis:**

Dialysis is one of the treatments of ESRD. Its removes uremic waste and excess fluid from the blood when the kidneys cannot do so sufficiently. In addition, it is used on patients with edema who do not respond to treatment, hepatic coma, hyperkalemia, hypocalcaemia, HTN, and uremia (Bare, 2003) There are two major types of dialysis-including HD and various forms of PD.

#### **2.3.10.1 Hemodialysis:**

HD considered one, which used for treatment of ESRD. Among HD, blood flows into the machine on one side of a semi-permeable membrane while dialysis fluid flows in the opposite direction on the other side. During this process, ultra filtration removed excess fluid by creating veterans membrane pressure (Longmore, et al., 2007)

Duration of HD depends on the patient's body weight and BUN, and prescribed blood flow rate, which is documented before each session. Duration of HD, average time of blood flow, and total ultrafiltration volume are documented at the end of each session (Schiffl, 2002). HD can be performed at home or in a dialysis center. The center may be located in the hospital or in a separated center (NKF, 2009). In GG, the five-dialysis centers or units of MoH are not separated but they are located at the hospitals as departments of the hospital.

**The primary goal of HD** is to restore the intracellular and extra cellular fluid environment that is characteristic of normal kidney function. This is accomplished by the transport of solutes such as urea from the blood into the dialysate and by the transport of solutes such as bicarbonate from the dialysate into the blood. Solute concentration and molecular weight are the primary determinants of diffusion rates. Small molecules, such as urea, diffuse quickly, whereas compartmentalized and larger molecules, such as phosphate,  $\beta_2$ -microglobulin, and albumin, and protein-bound solutes, such as p-cresol, diffuse much more slowly. In addition to diffusion, solutes may pass through pores in the membrane by means of a convective process driven by hydrostatic or osmotic pressure gradients - a process called ultrafiltration. During ultrafiltration, there is no change in solute concentrations; its primary purpose is the removal of excess total body water.

#### **2.3.10.2 Peritoneal dialysis**

PD is the second major type of dialysis, which is used to for treatment of ESRD that removes wastes, chemicals, and extra water from your body by using lining in the abdominal cavity to filter blood. Its procedure done by dissolving sugar and mixture of minerals called dialysis solution and traveled through the lining of the abdomen. Dextrose draws wastes and extra water from the peritoneal membrane to dialysis solution. Several hours later, solution, which used in the process taking waste from the blood, drained from the abdomen through the tube.

Then the abdomen is refilled with new solution, and the process repeated until the blood becomes free from waste (USRDS, 2007).

There are currently 5 patients who use peritoneal dialysis in Gaza, each of whom live in the Khanyounis area, and other two patient live in Gaza. Physicians in Gaza do not manage their PD care. Instead, they go to (Israel) monthly for outpatient appointments, and travel back to Gaza with their PD fluids and supplies.

### **2.3.10.3 Kidney transplantation**

Is the surgical procedure that places a healthy kidney from another person into the body (NKUDC, 2015) it is the best and optimal treatment of ESRD patients. These treatments increase life expectancy, QoL and reduce medical expenditures more than dialysis treatment (Einollahi, B; Taheri, S, 2008).

During the 60th in 1967, transplantation was started in Shiraz, Iran by KT in the middle-east (Einollahi, 2004), In our time, the KT become more and more popular and active in most countries in the middle-east including Saudi Arabia, Lebanon, Kuwait, Jordan, Syria, Libya, Egypt, Sudan, Qatar, Oman, Turkey and Iran and more limitedly in Yemen, Algeria, Tunisia, and Bahrain.

### **2.3.11 Kidney transplantation in the Gaza strip**

In GG, MoH celebrated the first two KT completed successfully at Al-Shifa hospital in late January 2013. A surgical team from Liverpool University from United Kingdom performed both transplants, with assistance from local surgeons. Moreover, the same team has continued that project by performing three successfully KT operations else in June 2013. Immunosuppressant medications for transplant recipients (mycophenolatemofetil and tacrolimus / prograf) are guaranteed supply through the MoH (Sultan & Thomson, 2013)

The Liverpool team performed the tissue cross matching and typing, as well as the majority of the donor and recipient assessments. The Liverpool team has provided a two to three year program to train local surgeons in KT, with a long-term plan for GG physicians to perform the KT surgery independently. There are currently no trained urologists in GG to perform KT. There are no nephrologists with additional training in KT. The laboratory services in GS are unable to perform tissue typing and cross match (Health, 2012b)

## **2.4 Definition of Quality of life**

There is no consensus regarding the definition of QoL in the literature. Some argue that there is more disagreement on what QoL means than on any other concept in medical, social, and psychological research (Dijkers, 2005) (Veenhoven, 2000). Despite the literature that has been dedicated to the measurement of QoL, there is also no one-way of constructing and measuring QoL (Gill, 2008).

(Dijkers, 2005) Proposed a comprehensive definition when he considered that each person has bio-psycho-socio-cultural needs, desires, priorities, and standards. When people to their personal situation compare these needs, desires, and priorities, reactions can range from positive to negative and be reflected in people assessment of their morale and life satisfaction. These reactions comprise one (but perhaps the most complete) definition of QoL: “the sum total of the cognitive and emotional reactions that people experience when they compare what they have and do in life with their aspirations, needs and other expectation (Caiman, 1984).See annex (4)

WHO Quality of life-BREF: an individual’s perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations and standards and concerns. It is a broad ranging concept affected in a complex way by the

person's physical health, psychological state, and level of independence, social relationships, and their relationship to their environment (WHO, 2006)

For further definition of quality of life. See annex (3).

## **2.4.1 Domain of quality of life**

### **1-Physical health**

Energy and fatigue, Pain and discomfort, Sleep and rest. (WHO, 1994)

### **2-Psychological health**

Bodily image and appearance, Negative feelings, Positive feelings, Self-esteem, Thinking, learning, memory and concentration. (WHO, 1994)

### **3-Level of Independence**

Mobility, Activities of daily living, Dependence on medicinal substances and medical aids, Work Capacity. (WHO, 1994)

### **4-Social relationships**

Personal relationships, Social support, Sexual activity.

### **5-Environment**

Financial resources, freedom, physical safety and security, health and social care accessibility and quality home environment Opportunities for acquiring new information and Skills Participation in and opportunities for recreation/leisure Physical environment (pollution/noise/traffic/climate) Transport. (WHO, 1994)

## **6-Spirituality/Religion/Personal beliefs**

Religion /Spirituality/Personal beliefs (WHO, 1994).See annex (5)

### **2.5 Definition of Depression**

Depression indicates lack of tonicity, loss of energy, feelings of weakness, of powerlessness, unhappiness, self-punishment, and the whole range of negative feelings, Depression involves more than the subject's structures, its feelings of being and the radical call into question of its being in the world. It appears, then, as an absolute threat to the life of the individual, not as an inhibition of such or such function. Depression may usually be easily detected: not only can the general practitioner or the family make the diagnosis, but also the patient himself. However, depression may sometimes remain hidden, invisible, even for specialists, such as in the case of essential depression in psychosomatic diseases (cancer) Psychosomatic diseases, which represent manifestations of depression, are characterized by what is called an operative thought (an affective and expressive deterioration of thoughts which are reduced to pure nominalism), in which depressive symptoms can hardly be detected, except by a highly skilled and experienced clinical practitioner ( Barroso, 2003)

#### **2.5.1 Etiology**

The etiology of depression can be:

##### **a) Biological and genetic, resulting from**

-Hormonal regulation and neurotransmission

-Intoxication

-Psychosomatic illnesses

-Neurological diseases

-Genetic factors: we find depressive families with a genetic or unconsciously transmitted predisposition ( Barroso, 2003)

**b) Psychogenetic, resulting from**

-Loss of the object relation;

-Loss of a certain image of self;

-Losses or disillusionments as far as ideals are concerned;

-Losses concerning certainties and beliefs.

**2.5.2 Therapeutics**

From experience of Bare, 2003 in Paris, characterized depression with antidepressant medication, with or without psychotherapy. Antidepressants are effective in 70% of cases, which means that 70% of depressive patients can be “cured” (disappearance of symptoms, suppressive therapy).

Recurrence is variable, and for some of my patients I am obliged to prescribe an antidepressant permanently. If I do not, depression recurs. In the case of bipolar psychosis, I prescribe lithium for life. Without fail, symptoms disappear and patients recover their enjoyment in living and working. Their efficiency is so great that psychiatrists prescribe antidepressants as a general practitioner prescribes antibiotics, worrying only about the effects on the patient’s symptomatology. Psychotherapists, on the contrary, try to find psychological causes and work at this level to reduce the symptomatology, in a developmental, personality-transforming framework. In my practice, it seems to me that the combination of psychopharmacological and psychological Treatments is the most suited for these patients. Yet, generally, patients will seek a pharmacological treatments more than a

psychological one. A psychological treatment implies dealing with their personal history. Often, when the most severe symptoms have disappeared, they quit psychotherapy. The psychopathological obliges them to deepen their knowledge of them-selves, to grapple with traumatic situations. In cases that are treated psychologically, by analytical means and others, the patient must face archaic and traumatic anxieties. Besides that, the natural dynamics of traumatism are very often characterized by the disavowal of trauma, a rejection of a possible trauma representation, and possibly the construction of a defensive mechanism against the trauma (Bare, 2003)

**The defensive mechanisms may be:**

-Escaping forward

-Mania

-Toxic maniac excitement

-Nymphomania

-Workaholics ( Barroso, 2003)

Diagnostic criteria for depression in annex (13)

## **Chapter Three**

### **Methodology**

#### **3. Methodology:**

This chapter explain the methodology, the study design and the sitting of the study in five hospitals in Gaza governorates where hemodialysis services provided, target population, sample of study, data collection and eligibility criteria instrument, which was used in the study, finally that statistical analysis and ethical consideration.

#### **3.1 Study design and method:**

The design of this study is case-control study to measure the quality of life and depression among children, This design describes the quality of life and depression in children with ESRD compared to other children with chronic disease(gastric problem, neurological, cardiac problem etc.) at five hospitals of the ministry of health which provide the hemodialysis services .

#### **3.2 Study setting:**

This study focuses on the children with end stage renal disease it is centered at five centers of hemodialysis service in Gaza governorates (Al-shifa hospital and Al-Rantisy hospital and Al al-Aqsa hospital and Nasser hospital and al-Najjar hospital) compared to other children with chronic disease in these hospitals.

**3.3 Period of study:** The research consumed seven months, from September 2014 to March 2015. See annex (10)

### 3.4 Study population:

In this study, the study population considers all children with end stage renal disease under the age of 18years who receive to hemodialysis at Gaza governorate hospitals.

The number of patients in five centers in Gaza governorate during study conducting was of ESRD 47 compared to 95 of the children with chronic diseases.

### 3.5 Study sample and sampling technique:

The study targets all children attending hemodialysis centers in the Gaza governorate who have medical records registered in hospitals of Ministry of Health, and receiving regular hemodialysis sessions during the study conducting, compared to children with chronic diseases at the same hospital.

Sample size selected both sexes according to present cases at the time of study from four hospitals and will select one case and two control, The subject which will have the chance to be selected in the study will meet eligibility criteria.

**Table 3.1: Distribution of sample for each hospital related to end stage renal disease patients and control group.**

| <b>Hospital</b> | <b>Cases</b> | <b>Control</b> |
|-----------------|--------------|----------------|
| Al-Rantisya     | 25           | 51             |
| Al-Shifa        | 15           | 30             |
| Al-Qusa         | 3            | 6              |
| Nasser          | 4            | 8              |
| <b>Total</b>    | <b>47</b>    | <b>95</b>      |

### **3.6 Eligibility criteria:**

#### **3.6.1 Inclusion criteria:**

##### **For case:**

- Every patient confirm diagnosis of end stage renal disease
- Oriented and ability to communicate with other.
- Age under 18years old of both sexes.

##### **For control:**

Patients with chronic diseases who admitted to their hospital and patient from outpatient clinic of chronic diseases. Two patients for all each case is similar in all different characteristics except has not been exposed to end stage renal disease.

#### **3.6.2 Exclusion criteria:**

- Patients over 18years old were excluded.
- Patients under 6years old.
- Patients who have communication impairment.
- Any hospital not including the target group.

### **3.7 Study instrument:**

A Face to face interviewed questionnaire used in this study, The following area included in questionnaire.

**First part,** Socio demographic information variable including age, sex, educational level, living area, family income. See annex (7)

**Second part,** The Pediatric Quality of Life Inventory generic core (version 4.0) scale Arabic versions (Thabet, et al., 2009)

It is a brief, 23-item multidimensional instrument designed by (Varni, Seid, & Kurtin, 2001) for measuring pediatric health-related quality of life. The Pediatric Quality of Life Inventory consists of 4 generic core scales: (1) Physical Functioning, (2) Emotional Functioning, (3) Social Functioning, and (4) School Functioning. For this study, the parent proxy-report format was used. The instructions ask how much of a problem each item has posed over the past month. The response scale uses a 5-point Likert-type format, ranging from 0 (never a problem) to 4 (almost always a problem). The raw score for each item is reverse-scored and transformed to a scale from 0 to 100 (0 - 100, 1 -75, 2 -50, 3 -25, and 4 - 0), with higher scores indicating better health-related quality of life to create the total scale score, the mean is computed as the sum of the items divided by the number of items answered on all scales. To determine the Psychosocial Health Summary score, the sum of items divided by the number of items answered on the Social, Emotional, and School Functioning scales is computed. (Massad, et al., 2012) The Arabic version was used in the Gaza Strip and had showed high reliability. (Translated by Thabet, et al., 2009)

The parent was asked about how much of a problem a specific function has been for their child in the past 4 weeks. The response to each item is based on a five-point Likert category, ranging from “never”, “almost never”, “sometimes”, “often”, and “almost always” having a problem. Per user’s guides, we imputed a subject’s missing item value of a specific domain using a mean score of the rest of items, which do not contain missing values. If more than 50% of the items in the domain are missing, the domain scores of this particular subject will not be computed (Varni JW, 1999). We calculated the domain score by summing the item scores of the corresponding domain, dividing the summated item score by the number of items used in the domain. We then linearly transformed the domain scores to a 0–100 scale. We referred 0 to the lowest HRQOL and 100 to the highest HRQOL. See annex (8)

### **Third, Depression Self-Rating Scale for Children**

The DSRS-C is simple to use. It is brief and only takes a child a few minutes to complete. Children with poor reading skills or short-term auditory memory difficulties may require help in understanding the longer items, but the scoring patterns of younger children have been found to be very similar to those of their elder peers (Birleson, 1987). Children are usually pleased to describe their experience through completing the scale and this communication or sense of being understood may facilitate a therapeutic relationship. Children are asked to consider their experience during the previous week and to tick how each item has applied to them. Explain that there is no right or wrong answer and that the important thing is to say how they have really felt. They are asked to choose whether the statement applied to them "most of the time", "sometimes" or "never". Item responses are simply scored in the direction of disturbance, i.e. depressive items score 2, "sometimes" items score 1, and non-depressive items score 0. For items 1, 2, 4, 7, 8, 9, 11, 12, 13 and 16 'mostly' scores 0, 'sometimes' scores 1 and 'never' scores 2. For items 3, 5, 6, 10, 14, 15, 17 and 18 'mostly' scores 2, 'sometimes' scores 1 and 'never' scores 0. The item scores are summed to give the total score. The reliability of our Arabic version of the depression scale in this study was  $\alpha = .89$ ; split half  $\alpha = .81$ . Translated by Thabet .See annex (9)

### **3.8 Data collection:**

Data collection instrument (demographic sheet and quality of life questionnaire and Birlesone scale for depression) face-to-face interview with all children and his/her parent of children, the average of time to filling questionnaire was 15-20minites.

### **3.9 Statistical analysis:**

Statistical Package the Social Science (Spss Program, version20) was used, the stages of data analysis included coding the questionnaire, data entry, data cleaning, constructing

frequency table for all the study variables, frequencies and percentages were calculate to compare between the end stage renal failure among children and control group independent t-test was done. For association between depression and quality of life –Pearson correlation coefficient test was done.

### **3.10 Ethical consideration:**

- An official letter of approval to conduct the research to be obtained from Helsinki committee –Gaza strip.
- An official letter of approval from ministry of health to collect data from hospital.
- Informed consent from each participant.

### **3.11 Limitation of the study:**

- Study has not included control group that does not have any disease.
- No compare of age and sex between the group.

## **Chapter Four**

### **Result & Discussion**

#### **4. Result & Discussion**

##### **Introduction**

This chapter aimed to describe and analyze the main socio-demographic, economic variables, and prevalence of depression and quality of life related to the study. The researcher will pose the methods utilized to finding the results of the study.

The results of current study are presented by description of the socio-demographic characteristics of the study sample, using the descriptive, statistics, frequencies, percentages, means and standard deviation. Analysis of the relationship between sex and categories of the psychiatric disorder (depression) and between the End Stage Renal failure of kidney dialysis and the control group, and used ANOVA test in statistical analysis.

##### **4.1 Socio demographic characteristics of the study sample**

As shown in table (4.1), the total number of children selected for the current study was 142 children 47 from End Stage Renal failure of children with kidney dialysis, 28 children were male (19.7%) and 19 were females (13.4%). While 47 of the control group were boys (33.1%) and 48 were girls (33.8%).

**Table 4.1: Distribution of the sample according to sex**

| Sex    |      | Case(ESRD) | Control | Total |
|--------|------|------------|---------|-------|
|        | Male | No.        | 28      | 47    |
| %      |      | 19.7       | 33.1    | 52.8  |
| Female | No.  | 19         | 48      | 67    |
|        | %    | 13.4       | 33.8    | 47.2  |
| Total  | No.  | 47         | 95      | 142   |
|        | %    | 33.1       | 66.9    | 100   |

#### 4.2 Distribution of the sample according to age

As shown in table (4.2), the distribution of the sample according to age, the 15.5% of End Stage Renal failure age ranged from 6-12 years, 11.3% age ranged from 13-15, and 6.3% aged ranged from 16-18 years. While, the 43.7% of control age ranged from 6-12 years, 14.1% age ranged from 13-15, and 9.2% aged ranged from 16-18 years.

**Table 4.2: Distribution of the sample according to age**

| Age         | Case(ESRD) |       | Control |       |
|-------------|------------|-------|---------|-------|
|             | No.        | %     | No.     | %     |
| 6-12 years  | 22         | 15.50 | 62      | 43.70 |
| 13-15 years | 16         | 11.30 | 20      | 14.10 |
| 16-18 years | 9          | 6.30  | 13      | 9.20  |

### 4.3 Distribution of the sample according to place of residence

As shown in table (4.3), According to place of residence 11.3% of control and 7.1% of End Stage Renal failure were from north Gaza, 41.1% of control and 11.3% of End Stage Renal failure from Gaza, 7.1% of the control middle area and 3.5% were from middle area, 5% of control and 8.5% of End Stage Renal failure were from Khan Younis, and 2.1% of control and 2.8% of End Stage Renal failure were from Rafah. There were significant differences toward control from Gaza ( $t = 14.26$ ,  $p = 0.006$ ).

**Table 4.3 Distribution of the sample according to place of residence**

| Place of residence |     | Case(ESRD) | Control | $\chi^2$ | P     |
|--------------------|-----|------------|---------|----------|-------|
| North Gaza         | No. | 10         | 16      | 14.26    | 0.006 |
|                    | %   | 7.10       | 11.30   |          |       |
| Gaza               | No. | 16         | 59      |          |       |
|                    | %   | 11.30      | 41.50   |          |       |
| Middle             | No. | 5          | 10      |          |       |
|                    | %   | 3.50       | 7.10    |          |       |
| Khan Younis        | No. | 12         | 7       |          |       |
|                    | %   | 8.50       | 5.00    |          |       |
| Rafah              | No. | 4          | 3       |          |       |
|                    | %   | 2.80       | 2.10    |          |       |

### 4.4 Distribution of the sample according to type of residence

As shown in table (4.4)The distribution of the sample according to type of residence, the 19% of End Stage Renal failure live in city, 10.6% live in village, and 23.9% live in camp. While, 46.5% of control live in city, 3.5% live in village, and 7% live in camp.

**Table 4.4: Distribution of the sample according to type of residence**

| Type of residence |     | Case(ESRD) | Control | Total |
|-------------------|-----|------------|---------|-------|
| City              | No. | 27         | 66      | 93    |
|                   | %   | 19.0%      | 46.5%   | 65.5% |
| Village           | No. | 10         | 5       | 15    |
|                   | %   | 7.0%       | 3.5%    | 10.6% |
| Camp              | No. | 10         | 24      | 34    |
|                   | %   | 7.0%       | 16.9%   | 23.9% |

**4.5 Distribution of the sample according to number of siblings**

As shown in table (4.5), the distribution of the sample according to number of siblings, 14.1% of End Stage Renal failure had 4 and less siblings, 12.7% had 5-7 siblings, and 6.3% had 8 and more siblings. While, the 19.7% of control age had 4 and less siblings, 33.1% had 5-7 siblings, and 14.1% had 8 and more siblings. There were significant differences toward control in having 5-7 siblings ( $t = 23.29$ ,  $p = 0.04$ ).

**Table 4.5: Distribution of the sample according to number of siblings**

| Number of siblings | Case(ESRD) | Control | Total |
|--------------------|------------|---------|-------|
| 4 and less         | 20         | 28      | 48    |
|                    | 14.1%      | 19.7%   | 33.8% |
| 5-7 siblings       | 18         | 47      | 65    |
|                    | 12.7%      | 33.1%   | 45.8% |
| 8 and more         | 9          | 20      | 29    |
|                    | 6.3%       | 14.1%   | 20.4% |
| Total              | 47         | 95      | 142   |
|                    | 33.1       | 66.9    | 100%  |

**4.6 Distribution of the sample according to family monthly income**

As shown in table (4.6), the distribution of the sample according to family monthly income, 20.4% of End Stage Renal failure had family income less than 1200NIS, 4.2% had 1201-2000 NIS, 5.6% had 2010-3000 NIS, and 2.8% had more than 3010 NIS. While, 29.6% of

control had family income less than 1200NIS, 23.2% had 1201-2000 NIS, 7.2% had 2010-3000 NIS, and 6.3% had more than 3010 NIS.

**Table 4.6: Distribution of the sample according to family monthly income**

| Family monthly income |    | Case(ESRD) | Control | Total |
|-----------------------|----|------------|---------|-------|
| Less than 1200 NIS    | No | 29         | 42      | 71    |
|                       | %  | 20.40      | 29.60   | 50.00 |
| 1201-2000 NIS         | No | 6          | 33      | 39    |
|                       | %  | 4.20       | 23.20   | 27.50 |
| 2010-3000 NIS         | No | 8          | 11      | 19    |
|                       | %  | 5.60       | 7.70    | 13.40 |
| More than 3010 NIS    | No | 4          | 9       | 13    |
|                       | %  | 2.80       | 6.30    | 9.20  |

#### 4.7 Distribution of the sample according to mother's job

As shown in table (4.7), the distribution of sample according to mother job, 31.7% of end stage renal disease motherhouse wife, 1.4% of ESRD mother employee, while, the 60.6% of control mother had house wife, 6.3% of control mother employee.

**Table 4.7: Distribution of the sample according to mother's job**

| Mother job |     | Case(ESRD) | Control | Total |
|------------|-----|------------|---------|-------|
| House wife | No. | 45         | 86      | 131   |
|            | %   | 31.7       | 60.6    | 92.3  |
| Employee   | No. | 2          | 9       | 11    |
|            | %   | 1.4        | 6.3     | 7.7   |
| Total      | No. | 47         | 95      | 142   |
|            | %   | 33.1       | 66.9    | 100.0 |

#### 4.8 Distribution of the sample according to father's job

As shown in table (4.8) the distribution of sample according to father job, 7.7% of end stage renal disease father are not working, 7.7% of ESRD father had Craftsmanship, 14.8%employee, 2.8% had other work, while, the 12.7% of control father are not working,

12.0% of control father had Craftsmanship, 35.2% of control employee, 7.0% of control father had other job.

**Table 4.8: Distribution of the sample according to father's job**

| <b>Father work</b> |    | <b>Case(ESRD)</b> | <b>Control</b> | <b>Total</b> |
|--------------------|----|-------------------|----------------|--------------|
| Not working        | No | 11                | 18             | 29           |
|                    |    | 7.7               | 12.7           | 20.4         |
| Craftsmanship      | No | 11                | 17             | 28           |
|                    |    | 7.7               | 12.0           | 19.7         |
| Employee           | No | 21                | 50             | 71           |
|                    |    | 14.8              | 35.2           | 50.0         |
| Others             | No | 4                 | 10             | 14           |
|                    |    | 2.8               | 7.0            | 9.9          |
| Total              | No | 47                | 95             | 142          |
|                    |    | 33.1              | 66.9           | 100.0        |

#### **4.9 Medical characteristics of the kidney dialysis End Stage Renal failure**

As shown in table (4.9), medical characteristic of end stage renal disease, table show 59.6% had Consanguineous relationship between father and mother, while 40.4% no consanguinity, and 95.7% of cases had renal failure, 4.3% of cases had renal failure and other disease, while previous family history of current disease (NO=85.1%, Yes=14.9%), A number of the family member were affected by other diseases (less than 2=31.9%, less than 4=6.4%, Non=61.7%), and the nature of other diseases were handicap 2.1% , thalassemia 2.1%, diabetes 4.2%, Cancer 2.1% , Neurological problem 2.1%, liver cirrhosis 2.1%, Gastric problems 2.1%, renal failure 8.5%, kidney stones 2.1%, and Nothing 72.3% .

Also, weekly dialysis time distributed on 42.6% of patients with less than three sessions a week, and 57.4% of patient with less than five session a week , and dialysis hour from study show 10.6% had session less than three hour, and 89.4% had dialysis session in less than five hours.

The table also shows place of pediatric dialysis, 29.2% at Al-shifa hospital, 53.2% at Al-Rantis hospital, 8.5% at Al-Aqusa hospital, 8.5% at Nasser hospital.

#### 4.9 Medical characteristic of End Stage Renal disease to children with dialysis

| Variable  | No | %    |
|---|----|------|
| Relationship                                    | 28 | 59.6 |
| No Relationship                                 | 19 | 40.4 |
| <b>Current diseases</b>                         |    |      |
| Renal Failure                                   | 45 | 95.7 |
| Renal Failure & other disease                   | 2  | 4.3  |
| <b>Previous family history of renal disease</b> |    |      |
| No  | 40 | 85.1 |
| Yes   | 7  | 14.9 |
| <b>Number of other diseases in family</b>       |    |      |
| Less than 2                                     | 15 | 31.9 |
| Less than 4                                     | 3  | 6.4  |
| Non   | 29 | 61.7 |
| <b>Type of other diseases</b>                   |    |      |
| Handicap  | 1  | 2.1  |
| Thalassemia                                     | 1  | 2.1  |
| Diabetes  | 2  | 4.2  |
| Cancer  | 1  | 2.1  |
| Neurological                                    | 1  | 2.1  |
| Liver cirrhosis                                 | 1  | 2.1  |
| Gastric problems                                | 1  | 2.1  |
| Renal failure                                   | 4  | 8.5  |
| Kidney Stone                                    | 1  | 2.1  |
| Nothing   | 34 | 72.3 |
| <b>Weekly dialysis</b>                          |    |      |
| Less than 3 times                               | 20 | 42.6 |
| Less than 5 times                               | 27 | 57.4 |
| <b>Dialysis Hours</b>                           |    |      |
| Less than 3 Hours                               | 5  | 10.6 |
| Less than 5 hours                               | 42 | 89.4 |
| <b>Place of dialysis</b>                        |    |      |
| Shifa Hospital                                  | 14 | 29.8 |
| Rantisi Hospital                                | 25 | 53.2 |
| Al Aqsa Hospital                                | 4  | 8.5  |
| Naser Hospital                                  | 4  | 8.5  |
| <b>Total</b>                                    | 47 | 100  |

#### 4.10 Prevalence of depression disorder

##### Means and standard deviation of depression between two groups.

In order to find differences in mean depression between the two groups, the results showed that mean depression in control was 12.63 (SD =6.16), and for ESRD was 20.13 (SD =7.67). There were statistically significant differences in depression between the two groups toward cases ( $t = -7.50$ ,  $p = 0.05$ ).

**Table 4.10: Means and standard deviation of depression of cases and control group**

|                  | N  | Mean  | Std. D | Std. Error Mean | MD    | t     | P     |
|------------------|----|-------|--------|-----------------|-------|-------|-------|
| Case(ESRD) group | 47 | 20.13 | 7.67   | 1.12            | -6.28 | -7.50 | 0.001 |
| Control group    | 95 | 12.63 | 6.16   | 0.63            |       |       |       |

#### 4.11 Differences in depression between children with End Stage Renal disease and control group

As shown in table (4.11) Using cut-off points of Depression scale of 18 and more as depression, Depression in children with renal failure and under dialysis was 21.1% compared to 12% among other control group. There were statistically significant differences in depression toward End Stage Renal failure ( $\chi^2 = 29.81$ ,  $p = 0.001$ ).

**Table 4.11: Differences in depression between children with cases and control**

|                  | No depression |      | Depression |       | $\chi^2$ | P     |
|------------------|---------------|------|------------|-------|----------|-------|
| Case(ESRD) group | No.           | 17   | 30         | 47    | 29.81    | 0.001 |
|                  | %             | 12.0 | 21.1       | 33.1  |          |       |
| Control group    | No.           | 78   | 17         | 95    |          |       |
|                  | %             | 54.9 | 12.0       | 66.9  |          |       |
| Total            | No.           | 95   | 47         | 142   |          |       |
|                  | %             | 66.9 | 33.1       | 100.0 |          |       |

#### 4.12 Depression symptoms children with Cases (ESRD)

Table (4.12) shows the most common depression symptoms of end stage renal disease as follow: 69.5%, I feel so sad I can hardly stand it. 68.4%, I feel like running away. 65.3 I feel very lonely.

**Table 4.12: Depression symptoms children with end stage renal disease**

| <b>ESRF group</b>                             | <b>Most of the time</b> | <b>Sometimes</b> | <b>Never</b> |
|---|-------------------------|------------------|--------------|
| I look forward to things as much as I used to | 38.9                    | 48.4             | 12.6         |
| I sleep very well                             | 34.7                    | 52.6             | 12.6         |
| I feel like crying                            | 32.6                    | 53.7             | 13.7         |
| I like to go out to play                      | 38.9                    | 27.4             | 33.7         |
| I feel like running away                      | 68.4                    | 23.2             | 8.4          |
| I get tummy aches                             | 49.5                    | 31.6             | 18.9         |
| I have lots of energy                         | 36.8                    | 46.3             | 16.8         |
| I enjoy my food                               | 30.5                    | 44.2             | 25.3         |
| I can stick up for myself                     | 40.0                    | 8.4              | 1.1          |
| I think life isn't worth living               | 43.2                    | 42.1             | 14.7         |
| I am good at the things I do                  | 36.8                    | 52.6             | 10.5         |
| I enjoy the things I do as much as I used to  | 26.3                    | 57.9             | 15.8         |
| I like talking with my family                 | 53.7                    | 35.8             | 10.5         |
| I have bad dreams                             | 42.1                    | 47.4             | 10.5         |
| I feel very lonely                            | 65.3                    | 28.4             | 6.3          |
| I am easily cheered up                        | 40.0                    | 51.6             | 8.4          |
| I feel so sad I can hardly stand it           | 69.5                    | 27.4             | 3.2          |
| I feel very bored                             | 33.7                    | 52.6             | 13.7         |

#### 4.13 Depression symptoms children with control group

Table (4.13) shows, the most common symptoms in children with control group as follows:

52.2%, I feel like crying. 45.7%, I feel very lonely. 45.7%, I am easily cheered up. 43.5%, I feel like running away. 42.2%, I feel so sad I can hardly stand it.

**Table 4.13: Depression symptoms children with control group**

| <b>Control</b>                                | <b>Most of the time</b> | <b>Sometimes</b> | <b>Never</b> |
|---|-------------------------|------------------|--------------|
| I look forward to things as much as I used to | 15.2                    | 26.1             | 58.7         |
| I sleep very well                             | 26.1                    | 41.3             | 32.6         |
| I feel like crying                            | 10.9                    | 52.2             | 37.0         |
| I like to go out to play                      | 41.3                    | 19.6             | 39.1         |
| I feel like running away                      | 43.5                    | 32.6             | 23.9         |
| I get tummy aches                             | 30.4                    | 23.9             | 45.7         |
| I have lots of energy                         | 13.0                    | 30.4             | 56.5         |
| I enjoy my food                               | 21.7                    | 43.5             | 34.8         |
| I can stick up for myself                     | 17.4                    | 37.0             | 45.7         |
| I think life isn't worth living               | 23.9                    | 39.1             | 37.0         |
| I am good at the things I do                  | 17.4                    | 45.7             | 37.0         |
| I enjoy the things I do as much as I used to  | 2.2                     | 21.7             | 76.1         |
| I like talking with my family                 | 67.4                    | 28.3             | 4.3          |
| I have bad dreams                             | 19.6                    | 30.4             | 50.0         |
| I feel very lonely                            | 45.7                    | 32.6             | 21.7         |
| I am easily cheered up                        | 26.1                    | 45.7             | 28.3         |
| I feel so sad I can hardly stand it           | 17.5                    | 42.2             | 81.3         |
| I feel very bored                             | 8.7                     | 30.4             | 60.9         |

#### 4.14 Means and Standard deviation of QOL and subscale

As shown in table (4.14), the study showed that mean total quality of life for End Stage Renal failure was 48.98 (SD =10.88) compared to 52.75 (SD =10.15) in control group. There were statistically significant in quality of life toward control group ( $t = 2.03, p = 0.04$ ). Physical functioning mean for End Stage Renal failure was 14.02 (SD = 5.98) and for control was 21.24 (SD =5.77). There were statistically significant in Physical functioning toward case group ( $t = 6.94, p = 0.001$ ) because the nature of disease and disease profile. Emotional functioning for End Stage Renal failure was 14.04 (SD =4.32), and control mean was 9.68 (SD =4.21). There were statistically significant in emotional functioning toward cases group ( $t = 6.94, p = 0.001$ ) because the cases received better care, and family and social support. Social functioning mean in End Stage Renal failure was 9.96 (SD =3.93) and 8.32 (SD =3.69) for control group. There were statistically significant in social functioning toward End Stage Renal failure ( $t = 2.44, p = 0.02$ ). School functioning mean in End Stage Renal failure was 11.38 (SD =3.61) and 12.77 (SD =2.68) for control group. There were statistically significant in school functioning toward control group ( $t = 2.56, p = 0.01$ ).

**Table 4.14: Means and Standard deviation of QOL and subscales**

| QOL Dimensions          | Group   | N  | Mean  | SD    | SE   | MD    | t     | P    |
|-------------------------|---------|----|-------|-------|------|-------|-------|------|
| QOL                     | Cases   | 47 | 48.98 | 10.88 | 1.59 | 3.77  | 2.03  | .04  |
|                         | Control | 95 | 52.75 | 10.15 | 1.04 |       |       |      |
| Physical functioning    | Cases   | 47 | 14.02 | 5.98  | .87  | 7.22  | 6.94  | .001 |
|                         | Control | 95 | 21.24 | 5.77  | .59  |       |       |      |
| Emotional functioning   | Cases   | 47 | 14.04 | 4.32  | .63  | -4.36 | -5.76 | .001 |
|                         | Control | 95 | 9.68  | 4.21  | .43  |       |       |      |
| Social functioning (SF) | Cases   | 47 | 9.96  | 3.93  | .57  | -1.64 | -2.44 | .02  |
|                         | Control | 95 | 8.32  | 3.69  | .38  |       |       |      |
| School functioning (SC) | Cases   | 47 | 11.38 | 3.61  | .53  | 1.39  | 2.57  | .01  |
|                         | Control | 95 | 12.77 | 2.68  | .28  |       |       |      |

#### 4.15 Quality of life of End Stage Renal failure and socio-demographic variables

As shown in table (4.15), the next analysis was done for End Stage Renal failure in which we selected the End Stage Renal failure and compared the quality of life with sex, age, number of siblings and family monthly income.

The differences in quality of life according to sex of children, t independent test was conducted in which sex were independent variable and subscales of quality of life as dependent variables. There were no statistically significant differences in quality of life and sex of children with ESRD.

**Table 4.15: Means and Standard deviation of QOL of kidney End Stage Renal failure and sex of children**

|                       | Sex    | N  | Mean  | SD    | Mean Difference | t     | P    |
|-----------------------|--------|----|-------|-------|-----------------|-------|------|
| QOL                   | Male   | 28 | 48.21 | 9.84  | -1.89           | -.58  | .565 |
|                       | Female | 19 | 50.11 | 12.46 |                 |       |      |
| Physical functioning  | Male   | 28 | 13.86 | 5.58  | -.41            | -.22  | .822 |
|                       | Female | 19 | 14.26 | 6.67  |                 |       |      |
| Emotional functioning | Male   | 28 | 13.96 | 3.93  | -.19            | -.14  | .882 |
|                       | Female | 19 | 14.16 | 4.96  |                 |       |      |
| Social functioning    | Male   | 28 | 10.00 | 3.03  | .11             | .08   | .929 |
|                       | Female | 19 | 9.89  | 5.08  |                 |       |      |
| School functioning    | Male   | 28 | 10.86 | 2.69  | -1.30           | -1.21 | .230 |
|                       | Female | 19 | 12.16 | 4.63  |                 |       |      |

#### 4.16 Differences in quality of life rated by children and age of children

As shown in table (4.16), In order to find differences in quality of life of children, children age was recoded into three categories (6-12 years, 13-15 years, and 16 and above years). One-Way ANOVA test was conducted in which age of children was entered as independent variable, whereas quality of life and subscales were dependent variables. there were no

statistically significant differences between quality of life and age groups of End Stage Renal failure children.

**Table 4.16: One way ANOVA test for differences in quality of life rated by children and age of children**

| Age                   | Source of variance | Sum of Squares | df | Mean Square | F     | Sig. |
|-----------------------|--------------------|----------------|----|-------------|-------|------|
| QOL                   | Between Groups     | 145.552        | 2  | 72.776      | .604  | .551 |
|                       | Within Groups      | 5303.427       | 44 | 120.532     |       |      |
|                       | Total              | 5448.979       | 46 |             |       |      |
| Physical functioning  | Between Groups     | 19.061         | 2  | 9.531       | .258  | .774 |
|                       | Within Groups      | 1623.917       | 44 | 36.907      |       |      |
|                       | Total              | 1642.979       | 46 |             |       |      |
| Emotional functioning | Between Groups     | 47.892         | 2  | 23.946      | 1.298 | .283 |
|                       | Within Groups      | 812.023        | 44 | 18.455      |       |      |
|                       | Total              | 859.915        | 46 |             |       |      |
| Social functioning    | Between Groups     | 31.523         | 2  | 15.761      | 1.019 | .369 |
|                       | Within Groups      | 680.392        | 44 | 15.463      |       |      |
|                       | Total              | 711.915        | 46 |             |       |      |
| School functioning    | Between Groups     | 1.634          | 2  | .817        | .060  | .942 |
|                       | Within Groups      | 599.472        | 44 | 13.624      |       |      |
|                       | Total              | 601.106        | 46 |             |       |      |

#### 4.17 Quality of life rated by ESRF children

The most **physical disturbance** in cases 50.5 % Walking more than one block, 37.9% Running, 31.6% Participating in sports activity or exercise 15.8% Lifting heavy things, 47.4% Taking a bath or shower by his or herself, 42.1% doing chores, like picking up his or her toys, 36.8% having hurts or aches, 35.8% low energy level, The result show low physical activity because of the disease profile and the nature of disease.

**Emotional functioning** level the most common answer was 30.5% Feeling afraid or scared, 31.6% feeling sad or blue, 34.7% feeling angry, 35.8% trouble sleeping, 35.8% worrying about what will happen to them.

**Social Functioning** level showed, 37.9% getting along with other children, 50.5% other children refuse to befriend them, 36.8% getting teased by other children, 30.5% not able to do things that other children of the same age can do, 29.5% keeping up when playing with other children.

**School Functioning** level showed, 44.2% Paying attention in class, 30.5% Forgetting things, 36.8% Keeping up with school activities, 37.9% Missing school because of not feeling well, 34.7% Missing school to go to the doctor or hospital.

**Table 4.17: Quality of life rated by ESRD children**

| ESRF   | Never | Almost Never | Some-times | Often | Almost Always |
|--|-------|--------------|------------|-------|---------------|
| <b>Physical Functioning</b>  |       |              |            |       |               |
| 1. Walking more than one block                                     | 7.4   | 1.1          | 14.7       | 26.3  | 50.5          |
| 2. Running   | 9.5   | 6.3          | 15.8       | 30.5  | 37.9          |
| 3. Participating in sports activity or exercise                    | 10.5  | 14.7         | 17.9       | 25.3  | 31.6          |
| 4. Lifting something heavy   | 16.8  | 14.7         | 30.5       | 22.1  | 15.8          |
| 5. Taking a bath or shower by him or herself                       | 7.4   | 3.2          | 15.8       | 26.3  | 47.4          |
| 6. Doing chores, like picking up his or her toys                   | 4.2   | 3.2          | 20.0       | 30.5  | 42.1          |
| 7. Having hurts or aches   | 6.3   | 5.3          | 36.8       | 25.3  | 26.3          |
| 8. Low energy level  | 11.6  | 17.9         | 35.8       | 21.1  | 13.7          |
| <b>Emotional Functioning</b>                                       |       |              |            |       |               |
| 1. Feeling afraid or scared  | 20.0  | 10.5         | 30.5       | 20.0  | 18.9          |
| 2. Feeling sad or blue   | 21.1  | 12.6         | 31.6       | 23.2  | 11.6          |
| 3. Feeling angry   | 14.7  | 27.4         | 34.7       | 12.6  | 10.5          |
| 4. Trouble sleeping  | 17.9  | 15.8         | 35.8       | 23.2  | 7.4           |
| 5. Worrying about what will happen to him or her                   | 9.5   | 18.9         | 35.8       | 27.4  | 8.4           |
| <b>Social Functioning</b>  |       |              |            |       |               |
| 1. Getting along with other children                               | 9.5   | 3.2          | 23.2       | 26.3  | 37.9          |
| 2. other children refuse to befriend them                          | 50.5  | 24.2         | 10.5       | 10.5  | 4.2           |
| 3. Getting teased by other children                                | 36.8  | 20.0         | 24.2       | 8.4   | 10.5          |
| 4. Not able to do things that other children his or her age can do | 30.5  | 14.7         | 30.5       | 11.6  | 12.6          |
| 5. Keeping up when playing with other children                     | 8.4   | 15.8         | 27.4       | 29.5  | 18.9          |
| <b>School Functioning</b>  |       |              |            |       |               |
| 1. Paying attention in class                                       | 4.2   | 7.4          | 21.1       | 23.2  | 44.2          |

|   |      |      |      |      |      |
|---|------|------|------|------|------|
| 2. Forgetting things                              | 20.0 | 24.2 | 30.5 | 13.7 | 11.6 |
| 3. Keeping up with school activities              | 7.4  | 8.4  | 23.2 | 36.8 | 24.2 |
| 4. Missing school because of not feeling well     | 3.2  | 12.6 | 29.5 | 37.9 | 16.8 |
| 5. Missing school to go to the doctor or hospital | 0.0  | 2.1  | 32.6 | 34.7 | 30.5 |

#### **4.18 Quality of life rated by control group children**

The most common answer among control group of **physical functioning** level, 31.9%

Walking more than one block, 61.7% running, 61.7% Participating in sports activity or exercise, 80.9% Lifting heavy things, 46.8 Taking a bath or shower by alone, 48.9% Having hurts or aches, 42.6% Low energy level .

**Emotional functioning** level showed, 42.6% Feeling afraid or scared, 40.4% Feeling sad or blue, 36.2% Feeling angry, 31.9% Trouble sleeping, 42.6% Worrying about what will happen to them.

**Social Functioning** level showed, 40.4% Getting along with other children, 44.7% Other children refuse to befriend them, 42.6% Getting teased by other children, 46.8% Not able to do things that other children his or her age can do, 38.3% Keeping up when playing with other children.

**School Functioning** level showed, 51.1% Paying attention in class, 27.7% Forgetting things, 63.8% Keeping up with school activities, 78.7% Missing school because of not feeling well, 83% Missing school to go to the doctor or hospital.

**Table 4.18: QOL rated by control group children**

| <b>Physical Functioning   control group</b>                        | <b>Never</b> | <b>Almost Never</b> | <b>Some-times</b> | <b>Often</b> | <b>Almost Always</b> |
|--|--------------|---------------------|-------------------|--------------|----------------------|
| 1. Walking more than one block                                     | 19.1         | 8.5                 | 12.8              | 27.7         | 31.9                 |
| 2. Running   | 61.7         | 8.5                 | 8.5               | 10.6         | 10.6                 |
| 3. Participating in sports activity or exercise                    | 61.7         | 8.5                 | 17.0              | 10.6         | 2.1                  |
| 4. Lifting something heavy   | 80.9         | 4.3                 | 8.5               | 4.3          | 2.1                  |
| 5. Taking a bath or shower by him or herself                       | 46.8         | 8.5                 | 21.3              | 14.9         | 8.5                  |
| 6. Doing chores, like picking up his or her toys                   | 12.8         | 12.8                | 14.9              | 40.4         | 19.1                 |
| 7. Having hurts or aches   | 8.5          | 6.4                 | 12.8              | 23.4         | 48.9                 |
| 8. Low energy level  | 10.6         | 10.6                | 25.5              | 10.6         | 42.6                 |
| <b>Emotional Functioning</b>                                       |              |                     |                   |              |                      |
| 1. Feeling afraid or scared  | 8.5          | 4.3                 | 23.4              | 21.3         | 42.6                 |
| 2. Feeling sad or blue   | 8.5          | 4.3                 | 40.4              | 14.9         | 31.9                 |
| 3. Feeling angry   | 4.3          | 2.1                 | 21.3              | 36.2         | 36.2                 |
| 4. Trouble sleeping  | 12.8         | 10.6                | 14.9              | 31.9         | 29.8                 |
| 5. Worrying about what will happen to him or her                   | 4.3          | 6.4                 | 8.5               | 38.3         | 42.6                 |
| <b>Social Functioning</b>  |              |                     |                   |              |                      |
| 1. Getting along with other children                               | 6.4          | 8.5                 | 21.3              | 40.4         | 23.4                 |
| 2. Other kids not wanting to be his or her friend                  | 44.7         | 17.0                | 19.1              | 10.6         | 8.5                  |
| 3. Getting teased by other children                                | 42.6         | 14.9                | 14.9              | 14.9         | 12.8                 |
| 4. Not able to do things that other children his or her age can do | 23.4         | 0.0                 | 14.9              | 14.9         | 46.8                 |
| 5. Keeping up when playing with other children                     | 38.3         | 14.9                | 14.9              | 8.5          | 23.4                 |
| <b>School Functioning</b>  |              |                     |                   |              |                      |
| 1. Paying attention in class                                       | 51.1         | 4.3                 | 14.9              | 19.1         | 10.6                 |
| 2. Forgetting things   | 25.5         | 10.6                | 19.1              | 17.0         | 27.7                 |
| 3. Keeping up with school activities                               | 63.8         | 12.8                | 6.4               | 12.8         | 4.3                  |
| 4. Missing school because of not feeling well                      | 4.3          | 4.3                 | 8.5               | 4.3          | 78.7                 |
| 5. Missing school to go to the doctor or hospital                  | 4.3          | 0.0                 | 6.4               | 6.4          | 83.0                 |

#### 4.19 Relationship between depression and quality of life the number of session per week of children with End Stage Renal Failure

Table 4.19 showed the mean of depression and QOL related to dialysis sessions per week, there are no statistically differences between depression and QOL and the number of dialysis sessions

| Dialysis sessions per week |            | N  | Mean  | Std. Deviation | t     | P    |
|----------------------------|------------|----|-------|----------------|-------|------|
| Depression                 | 3 and less | 20 | 17.90 | 2.31           | 1.74  | 0.09 |
|                            | 5 and less | 27 | 16.70 | 2.33           |       |      |
| QOL                        | 3 and less | 20 | 48.10 | 9.95           | -0.47 | 0.64 |
|                            | 5 and less | 27 | 49.63 | 11.67          |       |      |
| Physical functioning       | 3 and less | 20 | 14.25 | 6.15           | 0.22  | 0.82 |
|                            | 5 and less | 27 | 13.85 | 5.95           |       |      |
| Emotional functioning      | 3 and less | 20 | 13.75 | 3.68           | -0.40 | 0.69 |
|                            | 5 and less | 27 | 14.26 | 4.80           |       |      |
| Social functioning (SF)    | 3 and less | 20 | 8.75  | 3.43           | -1.86 | 0.07 |
|                            | 5 and less | 27 | 10.85 | 4.10           |       |      |
| School functioning (SC)    | 3 and less | 20 | 11.50 | 3.78           | 0.19  | 0.85 |
|                            | 5 and less | 27 | 11.30 | 3.56           |       |      |

#### 4.20 Relationship between depression and quality of life of the children with End Stage Renal Failure

Pearson correlation test shows that there were statistically significant positive relationship between total depression due to the emotional functioning ( $r=0.53$ ,  $p < 0.001$ ) and negative relationship with school functioning ( $r = -0.36$ ,  $p < 0.001$ ). These findings mean that there were very strong risk factor of having depression, which will increase emotional functioning and decrease school functioning of children with End Renal Stage failure.

**Table 4.20: Pearson correlation coefficient test of the study variables in children with ESRF**

|                          | Depression | QOL   | Physical functioning | Emotional functioning | Social functioning |
|--------------------------|------------|-------|----------------------|-----------------------|--------------------|
| 1. Depression            | 1.00       |       |                      |                       |                    |
| 2. QOL                   | .07        |       |                      |                       |                    |
| 3. Physical functioning  | -.21-      | .75** |                      |                       |                    |
| 4. Emotional functioning | .53**      | .43** | -.03-                |                       |                    |
| 5. Social functioning    | .34*       | .52** | .03                  | .55**                 |                    |
| 6. School functioning    | -.36-*     | .40** | .39**                | -.27-                 | -.11-              |

#### **4.21 Relationship between depression and quality of life of Children of control group**

Pearson correlation test showed that there were statistically significant positive relationship between total depression and social functioning ( $r = 0.27$ ,  $p < 0.001$ ) and negative relationship with physical functioning ( $r = -0.29$ ,  $p < 0.001$ ). These findings mean that there were very strong risk factor of having depression, which will the decrease physical functioning and increase the social functioning of control.

**Table 4.21: Pearson correlation coefficient test of the study variables in control group children**

|                       | Depression | QOL   | Physical functioning | Emotional functioning | Social functioning |
|-----------------------|------------|-------|----------------------|-----------------------|--------------------|
| Depression            | 1.00       |       |                      |                       |                    |
| QOL                   | -.07-      |       |                      |                       |                    |
| Physical functioning  | -.29-**    | .61** |                      |                       |                    |
| Emotional functioning | .20        | .55** | -.07-                |                       |                    |
| Social functioning    | .27**      | .59** | .02                  | .53**                 |                    |
| School functioning    | -.04-      | .59** | .15                  | .27**                 | .29**              |

#### **4.22 Discussion:**

Regarding to literature review (Tele, 2014) of examining the depression level among ESRD, the result showed that 42.7% of the children from ESRD suffer high level of depression, It is coordinated with this study, the level of depression among ESRD and control group (20.13% vs.12%).

In study, (ELsadek,2013) regarded to examine the level of aggression and anxiety scores compared sample, 100% of anxiety and aggression among ESRD, anxiety and depression had comorbid, this result commensurate with the current study high level of depression.

(Al Nahal, 2013) study regarding to examined quality of life of ESRD in the Gaza strip, 20% of participant reveled their QOL negatively, 57% were satisfied with their health , 23% of patient were dissatisfied and showed QOL domain, social domain 60.66%, psychological domain 60.6% ,the lowest domain 55%, this result commensurate with the current study ESRD have quality of life for End Stage Renal failure of 48.98% compared to 52.75% in control group, Physical functioning mean for End Stage Renal failure was 14.02% and for control was 21.24% . There were statistically significant in Physical functioning toward case group ( $t = 6.94, p = 0.001$ ). Emotional functioning for End Stage Renal failure was 14.04% and control mean was 9.68%. There were statistically significant in emotional functioning toward control group ( $t = 6.94, p = 0.001$ ). Social functioning mean in End Stage Renal failure was 9.96% and 8.32% for control group. There were statistically significant in social functioning toward End Stage Renal failure ( $t = 2.44, p = 0.02$ ). School functioning mean in End Stage Renal failure was 11.38% and 12.77% for control group. There were statistically significant in school functioning toward control group ( $t = 2.56, p = 0.01$ ).

(Muslum, 2013) Examine QOL of children and adolescent compared to children from other target study shown impaired QOL on physical and psychosocial compared with control. This

result commensurate with the current study impaired in physical and social domain among ESRD compared to control which have good QOL.

(ALjeesh, 2013) case control study among children examined QOL, there are statistically significant difference between target group in all domain except environmental domain and socio demographic information This result commensurate with the current study that is different in physical and school functioning than control group.

In addition, there is no difference between socio demographic information and there QOL.

(Ayoub, 2012) Examined QOL among ESRD result shown decrees level of QOL (77% vs. 78%) in all domain of QOL(physical, social, emotional, school)functioning, this result commensurate with the current study in physical and school functioning, and does not commensurate in emotional and social functioning.

(Alfouly,2010) effective of supportive self-care educational intervention on QOL among ESRD due to study show decrees level of QOL among ESRD and lead to improve the quality of life domain among target group except physical domain . This result commensurate with the current study impaired in physical domain 14.02 (SD = 5.98) and for control was 21.24 (SD =5.77). There were statistically significant in Physical functioning toward case group ( $t = 6.94, p = 0.001$ ).

(Arlene, 2013) (Patel, 2006) health related quality of life of chronic kidney disease compare healthy children was examined association between CKD and HRQOL.

Patients with CKD had significant lower physical, social, emotional, school, than healthy children, This result commensurate with the current study in lowest level of physical domain and school domain and doesn't commensurate with emotional and social functioning, This

results because of quality of health service as groups of youths visit the patient in their hospital and perform some activity with the patient.

(Safi, 2003) was examined psychological problem were examined among ESRD patient, result showed high level of depression among ESRD (52.5% vs. 45%), this result commensurate with the current study in depression in control was 12.63 (SD =3.6) and for End Stage Renal failure was 20.13 (SD =2.37). There were statistically significant differences in depression between the two groups toward End Stage Renal failure ( $t = -7.50$ ,  $p = 0.05$ ). Using cut-off points of Depression scale of 18 and more as depression, depression in children with renal failure and under dialysis was 21.1% compared to 12% among other control group. There were statistically significant differences in depression toward End Stage Renal failure ( $\chi^2 = 29.81$ ,  $p = 0.001$ ).

## Chapter Five

### Conclusion&Recommendation

#### 5. Conclusion

##### 5.1 The main results:

- The mean of the total quality of life for End Stage Renal failure was 48.98 (SD =10.88) compared to 52.75% in control group. There were statistically significant in quality of life toward control group ( $t = 2.03, p = 0.04$ ). Physical functioning mean for End Stage Renal failure was 14.02% and for control was 21.24%. There were statistically significant in Physical functioning toward case group ( $t = 6.94, p = 0.001$ ). Emotional functioning for End Stage Renal failure was 14.04% and control mean was 9.68%. There were statistically significant in emotional functioning toward control group ( $t = 6.94, p = 0.001$ ). Social functioning mean in End Stage Renal failure was 9.96% and 8.32% for control group. There were statistically significant in social functioning toward End Stage Renal failure ( $t = 2.44, p = 0.02$ ). School functioning mean in End Stage Renal failure was 11.38% and 12.77% for control group. There were statistically significant in school functioning toward control group ( $t = 2.56, p = 0.01$ ).
- Medical characteristic of end stage renal disease, 59.6% had Consanguineous relationship between father and mother, while 40.4% no consanguinity, and 95.7% of cases had renal failure, 4.3% of cases had renal failure and other disease, while previous family history of ESRD (NO=85.1%, Yes=14.9%), and number of family member affected by other diseases (less than 2=31.9%, less than 4=6.4%, Non=61.7%), and The nature of other diseases handicap 2.1% , thalassemia 2.1%,

diabetes 4.2%, Cancer 2.1% , Neurological problem 2.1%, liver cirrhosis 2.1%, Gastric problems 2.1%, renal failure 8.5%, kidney stones 2.1%, and Nothing 72.3% . Also, weekly dialysis session were distributed as 42.6% of patient had less than three session per week, and 57.4% of patient had less than five sessions per week , and dialysis hour from study show 10.6% had session less than three hour, and 89.4% had dialysis session less than five hour.

- The results showed that Using cut-off points of Depression scale of 18 and more as depression, depression in children with renal failure and under dialysis was 21.1% compared to 12% among other control group. There were statistically significant differences in depression toward End Stage Renal failure ( $\chi^2 = 29.81, p = 0.001$ ).
- Pearson correlation test showed that there were statistically significant positive relationship between total depression due to the emotional functioning ( $r = 0.53, p < 0.001$ ) and negative relationship with school functioning ( $r = -0.36, p < 0.001$ ). These findings mean that there were very strong risk factor of having depression, which will increase emotional functioning and decreases school functioning of children with End Renal Stage failure.
- Pearson correlation test showed that there were statistically significant positive relationship between total depression and social functioning ( $r = 0.27, p < 0.001$ ) and negative relationship with physical functioning ( $r = -0.29, p < 0.001$ ). These findings mean that there were very strong risk factor of having depression, which will decrease physical functioning and increase social functioning of control.

## **5.2 Recommendation:**

The study results might help in developing deep understanding of the issues that may influence subjects' overall health as their QoL and depression. Moreover, due to significant decrease in QoL domains among ESRD patients undergoing HD in Gaza Governorate, and significant increases of rate the depression among ESRD, I recommended to emphasize on increasing the efforts to avoid negative impacts on QoL and depression as following:

- Provide psychosocial support program to decrease level of depression.
- Provide program that can enhance the level of Quality of life.
- Coordinate between Ministry of Health and nongovernmental organization to apply psychological support program.
- Training team to deal with ESRD to perform support to the patient and their families.
- Encourage communication between healthcare givers and ESRD patients.
- Design educational program and counseling team, to work with patient to be able to cope with the new condition.
- Design psychological program for family dealing with their children to decrease the level of depression and promote quality of life.

## **5.3 Recommendation for further research**

- Quality of life among caregivers in dialysis centers at the hospitals of Ministry of Health.
- Quality of life among patients with kidney transplantation.
- The effect of psychological program among pediatric patients of end stage renal disease.
- Psychological problems among family of patients with ESRD.

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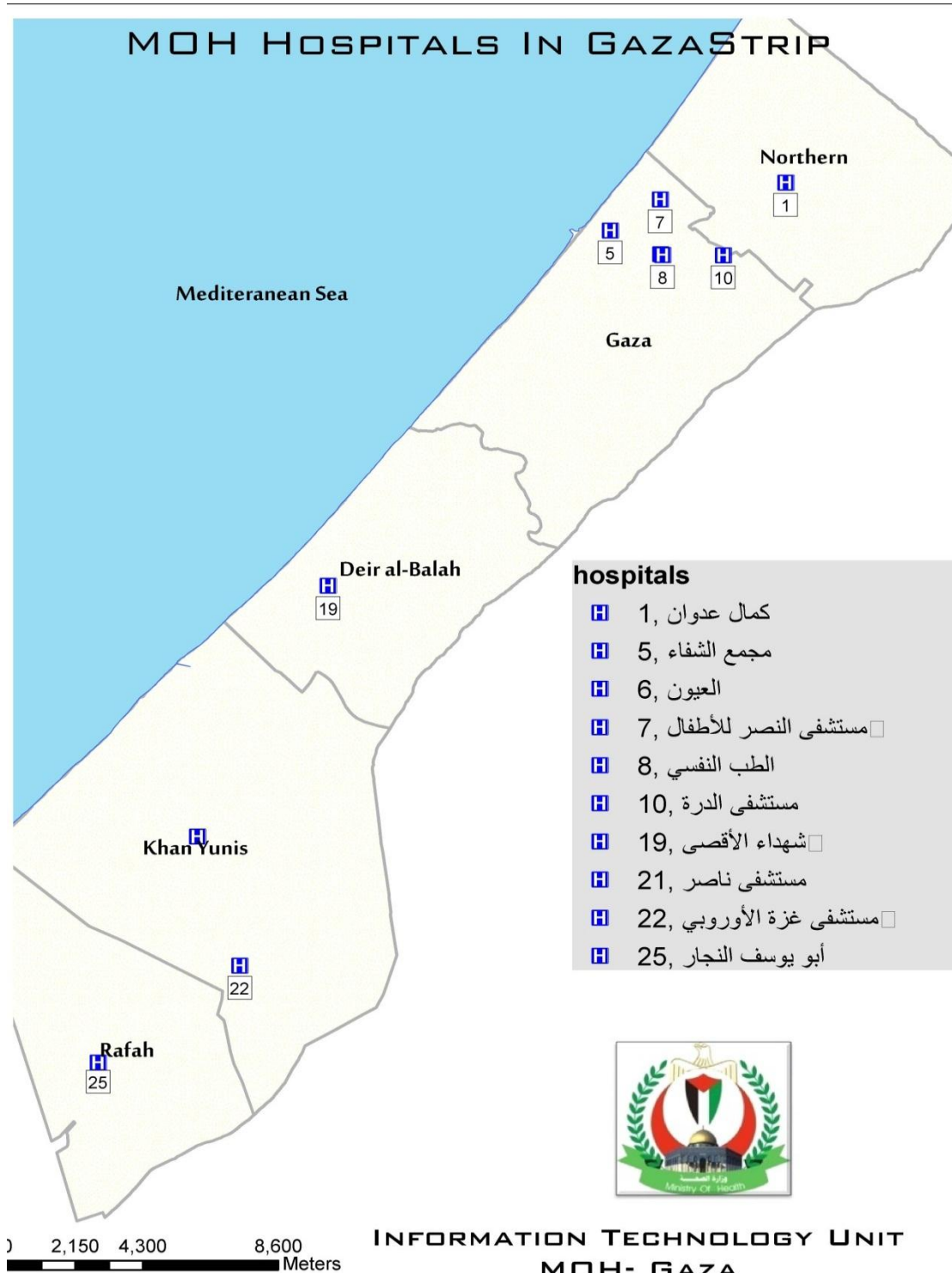
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## Annex (2)

### MoH Hospital in Gaza Strip



### Annex (3)

#### Examples of definitions of QoL

| Source  | Definition  |
|---|---|
| Edlund and Tancredi (1985)                      | One's ability to lead a socially “useful” life.   |
| Ferrans (1992)                                  | The balance between positive feelings (elation) and negative feelings (depression).   |
| Janssen Quality-of-life Studies (2006)          | A subjective well-being. Recognizing the subjectivity of QoL is a key to understand this construct. QoL reflects the difference, the gap, between the hopes and expectations of a person and their present experience.  |
| QoL Research Unit, University of Toronto (2006) | The degree to which a person enjoys the important possibilities of his/her life. Possibilities result from the opportunities and limitations each person has in his/her life and reflect the interaction of personal and environmental factors.   |
| Quality-of-Life Research Center, Denmark (2006) | Subjective QoL is about feeling good and being satisfied with things in general. Objective QoL is about fulfilling the societal and cultural demands for material wealth, social status, and physical well-being.   |
| Leidy (1994)                                    | The ability to supply basic needs and to maintain health and well-being   |
| Ontario Social Development Council (1997)       | A tool for community development which can be used to monitor key indicators that encompass the social, health, environmental and economic dimensions of the QoL in the community.  |
| Peplau (1994)                                   | QoL is a perception that encompasses the prevailing view of one's life at a particular point in time.   |
| WHO Quality of life-BREF (2006)                 | An individual’s perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations and standards and concerns. It is a broad ranging concept affected in a complex way by the person’s physical health, psychological state, and level of independence, social relationships, and their relationship to their environment. |

## Annex (4)

### Indicators f QoL

| <b>Indicators</b>  | <b>Description</b>   |
|--|--|
| Objectively assessed aspects of the environment (Lee, 2005)          | The physical environment and settings (e.g. home, nursing home, hospital), are highly associated with QoL as are social environments (e.g. living with relatives, alone). These aspects are explored in this dimension |
| Human adaptation (Janssen, 2006)                                     | Is such that life expectations are usually adjusted so as to lie within the realm of what the individual perceives to be possible .  |
| Psychological Being (QoL Research Unit, University of Toronto, 2006) | Includes the person's psychological health and adjustment, cognitions, feelings, and evaluations concerning the self, and self-control   |
| Spiritual Being (QoL Research Unit, University of Toronto, 2006)     | Reflects personal values, personal standards of conduct, and spiritual beliefs which may or may not be associated with organized religions   |
| Physical Belonging (QoL Research Unit, University of Toronto, 2006)  | The connections the person has with his/her physical environments such as home, workplace, neighborhood, school and community  |
| Social Belonging (QoL Research Unit, University of Toronto, 2006)    | Includes links with social environments and includes the sense of acceptance by intimate others, family, friends, co-workers, and neighborhood and community   |
| Community Belonging (QoL Research Unit, University of Toronto, 2006) | Represents access to resources normally available to community members, such as adequate income, health and social services, employment, educational and recreational programs, and community activities.              |
| Leisure (QoL Research Unit, University of Toronto, 2006)             | Includes activities that promote relaxation and stress reduction. These include games, neighborhood walks, and family visits, or longer duration activities such as vacations or holidays.                             |

## Annex (5)

### Domains of quality of life

| Domain               | Facets incorporated within domains   |
|----------------------|--|
| physical health      | Activities of daily living<br>Dependence on medicinal substances and medical aids<br>Energy and fatigue<br>Mobility<br>Pain and discomfort<br>Sleep and rest<br>Work capacity  |
| psychological        | Bodily image and appearance<br>Negative feelings<br>Positive feelings<br>Self- esteem<br>Spirituality / religion / personal beliefs<br>Thinking, learning, memory and concentration  |
| social relationships | Personal relationships<br>Social support<br>Sexual activity  |
| Environment          | Financial resources<br>Freedom physical safety and security<br>Health and social care: accessibility and quality<br>Home environment and transport<br>Opportunities for acquiring new information and skills<br>Participation in and opportunities for recreation/ leisure activities<br>Physical environnement (pollution/ noise/ trafic/ climate ) |

## Annex (6)

### Consent form for each participant

#### نموذج موافقة

عزيزي/عزيزتي

تحية طيبة وبعد.

نأمل من سيادتكم التكرم والمشاركة في تعبئة هذا الاستبيان والذي يهدف الي تقييم جودة الحياة والاكتئاب لدى مرضى الفشل الكلوي والذين يخضعون الي جلسات الغسيل الكلوي مقارنة بالمرضى الذين يعانون من أمراض أخرى في مستشفيات قطاع غزة.

ستتم هذه الدراسة من خلال جمع البيانات من المقابلة الشخصية وتعبئة الاستبانة، ومن المقدر أن تستغرق المقابلة 15-20 دقيقة وستكون لمرة واحدة مع كل شخص.

يجب أن يكون واضحا لديكم بأن المقابلة لن تتم الا بموافقتك وسيكون لك الحق في قبول أو رفض الاجابة لي عن الاسئلة، كما ستحترم بالكامل سرية المعلومات التي سيدلى بها ولن تنشر هذه الدراسة أي أسماء أو عناوين أو أن يلمح بشي من ذلك، مع العلم أن كتابة الاسم على الاستبانة اختياري ومن حقك عدم كتابة اسمك.

ستفيد نتائج الدراسة في تحديد وتقييم المشاكل والثغرات المتعلقة بقياس جودة الحياة والاكتئاب لدى المرضى الذين يعانون من الفشل الكلوي، مما يساعد على تحسين الجهود التي من شأنها تحسين جودة الحياة وجودة الخدمات وما هية الاحتياجات اللازمة لهؤلاء المرضى مقارنة بغيرهم.

ليست هذه الدراسة ممولة من أي جهة كانت، ولا تستهدف تحقيق مكاسب مادية، ولن يترتب عليك أي التزامات مادية معينة، ولن تكلفك أكثر من الوقت اللازم.

شاكرين لكم حسن تعاونكم،،،

الباحث/

جمعة وليد يونس

التاريخ:

\_\_\_\_/\_\_\_\_/\_\_\_\_

توقيع الباحث:

\_\_\_\_\_

توقيع المشارك:

\_\_\_\_\_

## Annex (7)

### المعلومات الشخصية:

- 1- التسلسل: \_\_\_\_\_
- 2- الأسم: \_\_\_\_\_
- 3- العمر: \_\_\_\_\_
- 4- الجنس  ذكر  انثي
- 5- تاريخ الولادة: \_\_\_\_\_
- 6- مكان سكنك الحالي: \_\_\_\_\_
- 7- نوع السكن:  مدينة  قرية  معسكر
- 8- حالة السكن:  ملك  ايجار  مع العائلة  غير ذلك \_\_\_\_\_
- 9- عدد الأخوة :  4 وأقل  من 5-7  8 وأكثر
- 10- عمل الأب \_\_\_\_\_
- 11- عدد سنوات تعليم الأب \_\_\_\_\_
- 12- عمل الأم \_\_\_\_\_
- 13- عدد سنوات تعليم الأم \_\_\_\_\_
- 14- مصدر دخل الاسرة:  موظف حكومي  موظف خاص  شئون اجتماعية  أخرى.
- 15- دخل الأسرة الشهري:  أقل من 1200 شيكل  من 1201-2000 شيكل  من 2010-3000 شيكل  أكثر من 3010 شيكل
- 16- صلة قرابة الأب والأم:  صلة قرابة  لا يوجد صلة قرابة

### التاريخ المرضي:

- 16- المرض الحالي:  1-أمراض كلى(الفشل الكلوي).  2-أمراض القلب.  3-أمراض الاعصاب.
- 4-أمراض الدم والأورام.  5-أمراض الجهاز الهضمي.  6-أخرى \_\_\_\_\_.
- 17- هل هناك تاريخ مرضي في العائلة للمرض الحالي:  نعم  لا
- 18- عدد الأفراد المصابون بأمراض أخرى في العائلة:  أقل من 2  أقل من 4  أكثر من 6 لا يوجد.
- 19- ما هي طبيعة الأمراض الأخرى: \_\_\_\_\_.
- 20- عدد سنوات تشخيص المرض الحالي: \_\_\_\_\_.

### أسئلة خاصة بمرضى غسيل الكلى:

- 21- عدد سنوات غسيل الكلى: \_\_\_\_\_.
- 22- عدد جلسات الغسيل أسبوعياً:  أقل من 3  أقل من 5  أكثر من 5.
- 23- عدد ساعات جلسة الغسيل:  أقل من ثلاثة  أقل من خمسة.
- 24- مكان عمل جلسات غسيل الكلى:  1-مستشفى الشفاء.  2-مستشفى الرنتيسي للأطفال.
- 3-مستشفى الأقصى.  4-مستشفى ناصر.  5-مستشفى النجار.

## Annex (8)

### استبيان نوعية الحياة لدى الأطفال – النسخة الرابعة للأطفال

ترجمة د. عبد العزيز ثابت

على الصفحة التالية قائمة بأشياء قد تكون مشكلة لك، الرجاء اخبارنا حجم المشكلة لكل منها خلال الشهر الماضي بوضع دائرة حول(.). إذا لم تكن أبداً" مشكلة، (1) إذا تقريبا" لم تكن أبداً" مشكلة، (2) إذا كانت أحيانا" مشكلة، (3) إذا كانت غالبا" مشكلة (4) إذا كانت تقريبا" دائما" مشكلة

لا يوجد أجوبة صحيحة أو خاطئة إذا لم تفهم السؤال، الرجاء طلب المساعدة.

| "   | الأداء الجسدي (مشاكل مع....)                    | أبداً" | تقريبا" أبداً" | أحيانا" | غالبا" | تقريبا" دائما" |
|-----|---|--------|----------------|---------|--------|----------------|
| 1.  | أستطيع السير لمدة تتجاوز العشر دقائق            | 0      | 1              | 2       | 3      | 4              |
| 2.  | أستطيع الركض                                    | 0      | 1              | 2       | 3      | 4              |
| 3.  | أستطيع الاشتراك في الأنشطة الرياضية أو التمارين | 0      | 1              | 2       | 3      | 4              |
| 4.  | أستطيع حمل شيء ثقيل                             | 0      | 1              | 2       | 3      | 4              |
| 5.  | أستطيع الاستحمام بنفسى                          | 0      | 1              | 2       | 3      | 4              |
| 6.  | أستطيع أداء الواجبات مثل التقاط ألعابه/ألعابها  | 0      | 1              | 2       | 3      | 4              |
| 7.  | أستطيع المعاناة من الأوجاع و الجروح             | 0      | 1              | 2       | 3      | 4              |
| 8.  | مستوى طاقة متدني                                | 0      | 1              | 2       | 3      | 4              |
| "   | الأداء العاطفي (مشاكل مع....)                   | أبداً" | تقريبا" أبداً" | أحيانا" | غالبا" | تقريبا" دائما" |
| 9.  | أشعر بالخوف أو الرعب                            | 0      | 1              | 2       | 3      | 4              |
| 10. | أشعر بالحزن أو التعاسة                          | 0      | 1              | 2       | 3      | 4              |
| 11. | أشعر بالغضب                                     | 0      | 1              | 2       | 3      | 4              |
| 12. | أعاني من مشاكل في النوم                         | 0      | 1              | 2       | 3      | 4              |
| 13. | أشعر بالقلق إزاء ما سيحدث لى                    | 0      | 1              | 2       | 3      | 4              |
| "   | الأداء الاجتماعي (مشاكل مع....)                 | أبداً" | تقريبا" أبداً" | أحيانا" | غالبا" | تقريبا" دائما" |
| 14. | أنسجم مع الأطفال الآخرين                        | 0      | 1              | 2       | 3      | 4              |
| 15. | الأطفال الآخرين لا يريدون مصاحبتي               | 0      | 1              | 2       | 3      | 4              |
| 16. | يستفزني الأطفال الآخرين                         | 0      | 1              | 2       | 3      | 4              |
| 17. | لا أستطيع القيام بأمر يقوم بها أطفال بنفس عمري  | 0      | 1              | 2       | 3      | 4              |
| 18. | أستطيع أن أجاري الأطفال في اللعب                | 0      | 1              | 2       | 3      | 4              |
| "   | الأداء المدرسي (مشاكل مع....)                   | أبداً" | تقريبا" أبداً" | أحيانا" | غالبا" | تقريبا" دائما" |
| 19. | أنتبه أثناء الحصص                               | 0      | 1              | 2       | 3      | 4              |
| 20. | أنسى كثير من الأمور                             | 0      | 1              | 2       | 3      | 4              |
| 21. | أجاري الآخرين في النشاطات المدرسية              | 0      | 1              | 2       | 3      | 4              |
| 22. | أغيب عن المدرسة بسبب المرض                      | 0      | 1              | 2       | 3      | 4              |
| 23. | أغيب عن المدرسة للذهاب الى الطبيب أو المستشفى   | 0      | 1              | 2       | 3      | 4              |

Annex (9)

مقياس بيرلسون للاكتئاب عند الأطفال

ترجمة د. عبد العزيز ثابت

عزيزي/ عزيزتي  
أمامك مجموعة من الأسئلة تتعلق بما تشعر/ي به في خلال الأسبوع الماضي من فضلك ضع علامة صح في الخانة الصحيحة.

| لا | بعض الأحيان | دائماً | البند   |
|----|-------------|--------|---|
| 2  | 1           | 0      | 1- ما زلت أنظر للأشياء في حياتي كما تعودت عليها |
| 2  | 1           | 0      | 2- أنام جيداً .                                 |
| 0  | 1           | 2      | 3- أشعر بأنني سوف أبكي .                        |
| 2  | 1           | 0      | 4- أحب أن أخرج في الشارع للعب .                 |
| 0  | 1           | 2      | 5- أرغب في الهروب بعيداً .                      |
| 0  | 1           | 2      | 6- تصيبني آلام في المعدة.                       |
| 2  | 1           | 0      | 7- لدي طاقة كبيرة .                             |
| 2  | 1           | 0      | 8- أستمتع بالأكل.                               |
| 2  | 1           | 0      | 9- أستطيع القيام بخدمة نفسي .                   |
| 0  | 1           | 2      | 10- أشعر بأن الحياة لا تساوي شيئاً .            |
| 2  | 1           | 0      | 11- أفعل الأشياء بشكل جيد .                     |
| 2  | 1           | 0      | 12- استمتع بعمل الأشياء كما كنت في السابق .     |
| 2  | 1           | 0      | 13- أحب التحدث مع أهلي ومع الآخرين .            |
| 0  | 1           | 2      | 14- أحلم أحلام مزعجة .                          |
| 0  | 1           | 2      | 15- أشعر بالوحدة الشديدة .                      |
| 2  | 1           | 0      | 16- من السهولة أن أبتهج                         |
| 0  | 1           | 2      | 17- أشعر بالتعاسة لدرجة لا تطاق                 |
| 0  | 1           | 2      | 18- أشعر بالملل .                               |

**Annex (10)**

**Time Table**

|    | Item / Month                            | September | October | November | December | January | February | March |
|----|---|-----------|---------|----------|----------|---------|----------|-------|
|    |   | 2014      | 2014    | 2014     | 2014     | 2015    | 2015     | 2015  |
| 1  | Developmental proposal                  |           |         |          |          |         |          |       |
| 2  | Taking approval from Helsinki           |           |         |          |          |         |          |       |
| 3  | Taking approval from ministry of health |           |         |          |          |         |          |       |
| 4  | Instrument development                  |           |         |          |          |         |          |       |
| 5  | Data collection                         |           |         |          |          |         |          |       |
| 6  | Data entry                              |           |         |          |          |         |          |       |
| 7  | Data analysis                           |           |         |          |          |         |          |       |
| 8  | Data discussion interpretation          |           |         |          |          |         |          |       |
| 9  | Research writing                        |           |         |          |          |         |          |       |
| 10 | Dissemination of finding                |           |         |          |          |         |          |       |

## Annex (11)

### Helsinki Committee Approval Letter



## المجلس الفلسطيني للبحوث الصحي Palestinian Health Research Council

تعزيز النظام الصحي الفلسطيني من خلال مأسسة استخدام المعلومات البحثية في صنع القرار

Developing the Palestinian health system through institutionalizing the use of information in decision making

### Helsinki Committee For Ethical Approval

Date: 08\12\2014

Number: PHRC/HC/41/14

Name: Jomaa Waleed Younis

الاسم: جمعة وليد يونس

We would like to inform you that the committee had discussed the proposal of your study about:

نفيدكم علماً بأن اللجنة قد ناقشت مقترح دراستكم حول:-

### “Quality of life and depression among children with end stage renal disease attending hemodialysis units in Gaza governorates: comparative”

The committee has decided to approve the above mentioned research. Approval number PHRC/HC/41/14 in its meeting on 08/12/2014

و قد قررت الموافقة على البحث المذكور عاليه بالرقم والتاريخ المذكوران عاليه

### Signature

Member

د. جهاد جهاد جهاد

Member

د. الهادي الهادي الهادي  
08/12/2014

Chairman

08/12/2014

Specific Conditions:-

General Conditions:-

Valid for 2 years from the date of approval.  
It is necessary to notify the committee of any change in the approved study protocol.  
The committee appreciates receiving a copy of your final research when completed.



The subject was approved following the World Medical Association Declaration of Helsinki-Ethical principles for medical research involving human subjects, adopted by the 18th World Medical Association General Assembly, Helsinki, Finland, June 1964 and amended by the 59th WMA General Assembly, Seoul, Korea, October 2008.

E-Mail: pal.phrc@gmail.com

Gaza - Palestine

غزة - فلسطين  
شارع النصر - مفترق العيون

Annex (12)

Ministry of Health Approve

The Palestinian National Authority  
Ministry of Health  
Directorate General of Human Resources Development



السلطة الوطنية الفلسطينية  
وزارة الصحة  
الإدارة العامة لتنمية القوى البشرية

التاريخ: 2015/01/21م

الرقم: .....

الإدارة العامة للمستشفيات  
مصادر  
رقم: 638  
التاريخ: 15/1/2015  
الموضوع/ تسهيل مهمة باحث  
لاحمد زنجي وشركاه  
لإجراء بحث  
عن  
السلام عليكم ورحمة الله وبركاته،،،  
الموضوع/ تسهيل مهمة باحث

الأخ / د. عبد اللطيف الحاج

مدير عام المستشفيات

السلام عليكم ورحمة الله وبركاته،،،

بخصوص الموضوع أعلاه، يرجى تسهيل مهمة الباحث/ جمعة وليد بنوس  
المتجق ببرنامج ماجستير الصحة النفسية والمجتمعية - كلية الصحة العامة - جامعة  
القدس ابوديس في إجراء بحث بعنوان :-

“Quality of Life and Depression among Children with End Stage  
Renal Disease attending Hemodialysis Units in Gaza Governorates:  
Comparative Study“

حيث الباحث بحاجة لتعبئة استبانته من عدد من مرضى الغسيل الكلوي دون سن 18 سنة المترددين على أقسام  
غسيل الكلى في المستشفيات وعينة ضابطة من الأطفال المراجعين للمستشفيات بأمراض مزمنة أخرى،  
نأمل توجيهاتكم لنظوي الاختصاص بضرورة الحصول على الموافقة المستبصرة من الأطفال المرضى  
وذويهم اللذين هم على استعداد للمشاركة في البحث ومن ثم تمكين الباحث من التواصل معهم بإشراف  
العاملين في أقسام غسيل الكلى وأقسام الأطفال في المستشفيات، بما لا يتعارض مع مصلحة العمل وضمن  
أخلاقيات البحث العلمي، و دون تحمل الوزارة أي أعباء أو مسئولية.

وتفضلوا بقبول التحية والتقدير،،،

د. ناصر رأفت أبو شعبان  
مدير عام تنمية القوى البشرية

وزارة الصحة  
تنمية القوى البشرية  
مصادر: 15/1/15  
التاريخ: 15/1/15

وزارة الصحة  
الإدارة العامة للمستشفيات  
وارد  
الرقم: 638  
التاريخ: 15/1/15

صورة لـ /  
الإدارة العامة للرقابة الداخلية  
صاحب العلاقة

Gaza Tel / 08-2827298

Fax / 08-2868109

Email / hrd@moh.gov.ps

## Annex (13)

### Criteria for Major Depressive Episode: DSM-5

- A. Five (or more) of the following symptoms have been present during the same 2- week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

**Note:** Do not include symptoms that are clearly due to a general medical condition, or mood-incongruent delusions or hallucinations.

- Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). Note: In children and adolescents, can be irritable mood.
  - Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).
  - Significant weight loss when not dieting or weight gain (e.g., a change of more than 5 percent of body weight in a month), or decrease or increase in appetite nearly every day. Note: In children, consider failure to make expected weight gains.
  - Insomnia or hypersomnia nearly every day.
  - Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).
  - Fatigue or loss of energy nearly every day.
  - Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
  - Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).
  - Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.
- B. The symptoms cause clinically significant distress or impairment in social, occupational or other important areas of functioning.
- C. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism)(DSM5, 2013)

## Annex (14)

### ملخص الدراسة

جودة الحياة والاكنتاب لدى أطفال المرحلة النهائية للفشل الكلوي والذين يخضعون

للعلاج بالغسيل الكلوي في محافظات غزة

إعداد: جمعة وليد يونس

إشراف: د. عبد العزيز ثابت

**مقدمة:** مرض المرحلة النهائية للفشل الكلوي، هو مشكلة صحية مهمة لصحة السكان الكبار والاطفال والمراهقين، والحديث المتكرر عن مصطلحات المراضة والوفيات التي تقيس مستوى الصحة والرفاهة وهي غير كافية لتقييم الحالة الصحية ومستوي الرفاهية، جودة الحياة والاكنتاب للأطفال المصابون بمرض المرحلة النهائية للفشل الكلوي هي مشكلة صحية مهمة مع معدل حدوثه وانتشاره العالي وشدته السريرية ويكتسب أهمية في تحديد الذين يعانون من الداء الكلوي بمراحله الاخيرة، فأن أفضل الرعاية في وحدات الكلى للأطفال تتطلب الانتباه الي العوامل النفسية والاجتماعية لهذه الفئات.

**هدف الدراسة:** مقارنة جودة الحياة والاكنتاب لمرضى المرحلة النهائية للفشل الكلوي الخاضعين لجلسات الغسيل الكلوي مقارنة مع مرضى لا يعانون من مرض المرحلة النهائية للفشل الكلوي ويعانون من أمراض مزمنة في قطاع غزة.

**المنهجية:** إن تصميم هذه الدراسة هي دراسة مقارنة لمقارنة نوعية الحياة والاكنتاب بين الأطفال، واستهدفت الدراسة 142 طفلا 47 (الحالات) 95 (مراقبة) هذا التصميم ووصف نوعية الحياة والاكنتاب في الأطفال الذين يعانون من الداء

الكلوي بمراحله الأخيرة مقارنة مع الأطفال الذين يعانون الأمراض المزمنة الأخرى في خمسة مستشفيات وزارة الصحة، وأداة جمع البيانات (ورقة الديموغرافية ونوعية الحياة الاستبيان ومقياس بيرلسون للاكتئاب) وجها لوجه المقابلة.

**النتائج:** أظهرت النتائج أن متوسط الاكتئاب في العينة الضابطة كان 12.63% بالمقارنة مع العينة المقارنة 20.13% وكانت هناك دلالة احصائية في حالات الاكتئاب لصالح العينة المقارنة (الفشل الكلوي).

وأظهرت الدراسة أن جودة الحياة للفشل الكلوي كان نسبته لمرضى المرحلة النهائية الفشل الكلوي 48.98%، أما للعينة الضابطة 52.75% ويبين أنه هناك دلالة احصائية في نوعية الحياة لصالح المجموعة الضابطة.

بالنسبة للأداء الجسدي كان متوسطه لمرضى الفشل الكلوي 14.02%، والعينة الضابطة 21.24% يتبين أنه هناك دلالة احصائية في الاداء الجسدي لصالح المجموعة الضابطة.

أما الاداء العاطفي لمرضى الفشل الكلوي كان متوسطة 14.04% والعينة الضابطة 9.68%، يتبين أن هناك دلالة احصائية في الاداء العاطفي لصالح العينة المقارنة.

أظهرت النتائج الأداء الاجتماعي لمرضى الفشل الكلوي 9.96% والعينة الضابطة 8.32%، وهذا يدل على انه هناك دلالة احصائية لصالح العينة المقارنة

بالنسبة للأداء المدرسي لمرضى الفشل الكلوي كان متوسطة 11.38% والعينة الضابطة 12.77%، وهذا يدل على أنه هناك دلالة احصائية لصالح العينة الضابطة.

**الخلاصة:** أكدت النتائج أن المرضى الذين يعانون من مرض المرحلة النهائية للفشل الكلوي لديهم تصورات إيجابية عن نوعية حياتهم (العاطفية والاجتماعية) والنظرة السلبية من (الأداء الجسدي والمدرسي) وتأكيد مستوى عال من الاكتئاب

بين الداء الكلوي بمراحله الأخيرة من المجموعة الضابطة.

**التوصيات:** وفقاً للانخفاض في محددات جودة الحياة لدى الاطفال الذين يعانون من مرض المرحلة النهائية للفشل الكلوي،

وارتفاع نسبة الاكتئاب، توصيات توفير برنامج الدعم النفسي للتعامل مع ارتفاع مستوى الاكتئاب، وتوفير برنامج

يمكن تعزيز مستوى جودة الحياة. تتسيق بين وزارة الصحة ومنظمة غير حكومية لتطبيق برنامج الدعم النفسي.

فريق التدريب للتعامل مع الداء الكلوي بمراحله الأخيرة لتحسين الدعم لأسرهم والمريض. تشجيع التواصل بين

مقدمي الرعاية الصحية ومرضى الداء الكلوي بمراحله الأخيرة. تصميم برنامج تعليمي وفريق تقديم المشورة،

والعمل مع المرضى ليكونوا قادرين على التكيف مع الوضع الجديد.