

## Assessment of Patients' Self-Care and Self-Efficacy after End Stage Renal Disease Undergoing Hemodialysis in Al-Najaf City

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**Abstract-** End stage renal disease (ESRD) is the complete or almost complete failure of the kidneys to function at a level that is necessary for day to day life. In ESRD, renal failure has progressed to the point where kidney function is less than ten percent of normal. End stage renal disease is increasing worldwide at an annual growth rate of 8% and millions of people around the world suffer from this disease. A Descriptive Correlational Design is used through the present study in order to : assess patients' self-care and self-efficacy after end stage renal disease undergoing hemodialysis, determine the association between patients' self-care and self-efficacy, and find out the relationship between the patients' self-care and self-efficacy and their demographic and clinical data. The period of the study is from 20<sup>th</sup> September 2016 to 28<sup>th</sup> August 2017. A Non-Probability (Purposive Sample) of (120) end stage renal disease patients who had already been on hemodialysis, are included in the study. The data were collected through the utilization of the developed questionnaire using an interview technique after the estimation of the validity and reliability of the study instrument. Reliability of the questionnaire is determined by using the Alpha Cronbach's technique, and the validity through (15) experts from different specialties (Face Validity) for reviewing the study instrument. The data was analyzed through using of the descriptive and inferential statistical analysis approaches. The findings of the present study indicate that the overall assessment of patients' responses to universal self-care domain items is independent, while the overall assessment of patients' responses to self-efficacy domain items is fair. Furthermore, there is a high significant correlation between (patient's universal self-care domain) and (patient's self-efficacy domain). The study concludes that the level of self-care and self-efficacy of the end stage renal disease patients undergoing hemodialysis is less than ideal and there is a direct effect of patients' universal self-care on their self-efficacy. The study recommends that further studies should be carried out to improve and explore effective methods to improve hemodialysis patients' self-care and self-efficacy. In addition, enhancing of self-care and self-efficacy through programs that include elements of training, support, encouragement, positive personal experiences, and modeling. Such programs may have long-term benefits for individuals with CKD.

**KEY WORDS:** Assessment, Patient, Self-Care, Self-Efficacy, End Stage Renal Disease, Hemodialysis.

### 1. INTRODUCTION:

End stage renal disease (ESRD) is the complete or almost complete failure of the kidneys to function at a level that is necessary for day to day life. In ESRD, renal failure has progressed to the point where kidney function is less than ten percent of normal. Louis, Davies, & White (2001) defined ESRD as a life threatening condition and survival is only with hemodialysis, a form of renal replacement therapy. End stage renal disease is increasing worldwide at an annual growth rate of 8% and millions of people around the world suffer from this disease [1].

Additionally, Chronic Kidney Disease (CKD) is an irreversible and progressive kidney failure, where hemodialysis has been proved to be the most effective treatment modality, as it results in long survival rates and maintains patients' life at a satisfactory level. However, this treatment has a number of restrictions and modifications, which detrimentally affect the patient's quality of life [2].

Furthermore, Chronic kidney disease involves the patients and their families because of the broad lifestyle modifications, and also fluid and dietary limitations. The successful treatment of patients with end stage renal disease requires adherence to complex, whole of lifestyle changes, and lack of compliance with diet and fluid restrictions may lead to accumulation of metabolic by products and excess fluid in the circulatory system, leading to increased morbidity and mortality for renal failure patient [3].

Additionally, these patients encounter many physical and psychosocial stresses including hypertension, lack of appetite, anemia, sexual disorders, reduced or loss of financial income, social isolation, loss of sense of security, dependence on caregivers [4,5]. Although HD therapy prolongs patients' life, often there is a huge decline in quality of life (QoL), self-care, and self-efficacy of patients receiving HD [6]. Quality of life "is demonstrated through the physical, psychological and social domains of health and appears to be influenced by a person's experiences, beliefs, expectations and perceptions" [7]. Recently, an increasing amount of interest for improvement of self-care and self-efficacy is observed in patients who suffer from chronic diseases, including those with ESRD [8]. And large amounts of information in the modern decade demonstrate that health-related quality of life, self-care, and self-efficacy abilities markedly impact dialysis results. Consequently, it is need to pay attention on to what extent as well as on exactly how well ESRD patients live [9].

There is a growing evidence that self-care in chronically ill patient is associated with improvement of quality of life [10,11]. Self-care is associated with several advantages, it improves coping with or adjustment to illness, increases sense of wellbeing, improves symptom control, decreases risk of complications increases control and autonomy, increases functioning and finally enhances quality of life. High level of perceived self-efficacy is related to more self-care practice [12].

Self-efficacy theory is widely applied in predicting health related behaviors which is defined as "an individual's confidence in his/ her ability to perform a specific behavior or task". Enhancing the awareness of self-efficacy does have an affirmative outcome on inspiration, condition of passionate wellness, thinking style, engaging in health-promoting behaviors, and coping with chronic physical illnesses. Self-care self-efficacy, is "the confidence a person has in his or her ability to perform relevant self-care activities"[13].

Nurses must realize the self-care and self-efficacy abilities of patients receiving dialysis. The rich data gathered can help nurses to decide which patients might be in danger for reduced self-care and self-efficacy behaviors. It has direct concerns for clinical decision-making, recovery, and management of individual patients. Nurses can guide assets to regions where development may be required. Patients would then be able to a more noteworthy possibility of leading a satisfying life. Every one of these variables can definitely impact the self-care and self-efficacy of patients, and specifically advantage the family as well. This is can be achieved through health education and advancement of perception regarding the disease, its cure choices, progression and self-care abilities. Counseling, from another side, is a significant mediation that nurses - with appropriate preparation - can offer. As a final point, nurses can create and actualize restoration programs for ESRD patients receiving hemodialysis to help them to have a profitable life [14].

## **2. METHODS AND MATERIALS**

### **2.1 Design of the Study:**

A Descriptive Correlational Design is carried out through the present study in order to achieve the early stated objectives. The period of the study is from 20<sup>th</sup> September 2016 to 28<sup>th</sup> August 2017.

### **2.2 Setting of the Study:**

The study was conducted in Al-Najaf City/Al-Najaf Al-Ashraf Health Directorate / Al-Sadder Medical City, at Hemodialysis Unit.

### **2.3 Sample of the Study:**

A Non-Probability (Purposive Sample) of (120) end stage renal disease patients who had already been on hemodialysis , those who visit Al-Sadder Medical City/ Hemodialysis Unit for treatment or follow up or both are included in the study. The selection of the sample size based on statistical power analysis with a statistical power more than 90% .

## 2.4 Including Criteria:

The researcher used the following criteria for specifying the study subjects those are who included in the study, patients out of these criteria are basically excluded:

- 1- All participants are diagnosed with end stage renal disease and undergoing hemodialysis.
- 2- All participants having two or three sessions per week.
- 3- The age of the all participants is 20 years old and older
- 4- All participants are from Iraqi Nationality .
- 5- Alert patients, free from any change in the level of consciousness.

## 2.5 Study Instrument:

An assessment tool is adopted and developed by the researcher to assess patients' self-care and self-efficacy, and to determine association between them. The final study instrument consists of four parts:

Part I: Patients' Demographic Data.

Part II: Patients' Clinical Data.

Part III: Hemodialysis Patients' Self-Care Measurement Scale.

Part VI: The Chronic kidney Disease Self-Efficacy (CKDSE) Instrument.

## 2.6 Data Collection:

The data had been collected through the utilization of the developed questionnaire after the validity and reliability are estimated, and by means of a structured interview technique with the subjects who were individually interviewed, by using the Arabic version of the questionnaire and they were interviewed in a similar way, by the same questionnaire for all those subjects who were included in the study sample. The data collection process had been performed from march 23<sup>th</sup> , to 20<sup>th</sup> April. Each subject spends approximately (20-25) minutes to complete the interview.

## 2.7 Validity of the Instrument:

A content validity of the study instrument conducted through a group of experts who have more than 10 years of experience in nursing field.

## 2.8 Statistical analysis:

The data were analyze through application of the descriptive and inferential data analysis methods, included:

- Frequency, percentage, and mean of scores.
- Chi-square.
- Alpha Cronbach for the reliability of questionnaire (Internal consistency ).

## 3. STUDY RESULTS AND FINDINGS

**Table (1) Distribution of the Study Subjects by their Demographic Data and Clinical Data**

Demographic And Clinical Data	Rating And Intervals	Frequency	Percent
Age / years	20-29	21	17.5

	30- 39	18	15
	40- 49	18	15
	50- 59	22	18.3
	60 and more	41	34.2
	Mean (std. dev.) = 48.4 (1.86)		
Gender	Male	66	55
	Female	54	45
Levels of Education	Not able to read and write	37	30.8
	able to read and write	18	15
	Primary school graduated	30	25
	Intermediate school graduated	20	16.7
	Secondary school graduated	8	6.7
	Institute graduated	4	3.3
	College or post graduate	3	2.5
Socio-Economic Status	Enough	13	10.8
	Enough to what limit	76	63.3
	Not enough	31	25.8
Residency	Rural	56	46.7
	Urban	64	53.3
Marital Status	Single	10	8.3
	Married	92	76.7
	Widowed	17	14.2
	Separate	1	0.8
Occupational status	Governmental employee	9	7.5
	Housewife	51	42.5
	Private worker	37	30.8
	Jobless	21	17.5

	Retired	2	1.7
Duration of Chronic Renal Failure	<= 3.00	107	89.2
	4.00 - 6.00	10	8.3
	7.00+	3	2.5
	Mean (std. dev.) = 16.6 (2.1)		

Table (1) shows that the highest percentage of the study sample (34.2%) are within (60 and more ) years old. Regarding gender, the study results reveals that the majority (55%) are males. In addition, the study results presents that (30.8%) of the participants are unable to read or write, while (25%) are primary school graduates. Concerning the socioeconomic status, (63.3%) of the participants have an income that is enough to what limit. Additionally, the study results show that (76.7%) of the participants are married. In regards to occupational status, (42.5%) of the study subjects are housewives. As for duration of the disease, the highest percentage (89.2%) is less or equal to 3 years.

**Table (2) Patients' Overall Responses to Universal Self-Care Domain Items**

Main domain	Rating	Frequency	Percent	Sum of scores	Assessment
Self-care	Independent	73	60.8	42.7	Independent
	Interdependent	47	39.2		
	Dependent	0	0		
	Total	120	100		

Table (2) shows that the overall assessment of patients' responses to universal self-care domain items is independent.

**Table (3) Overall Assessment of Patients' Responses to Self-Efficacy Domain Items**

Main Domain	Rating	Frequency	Percent	M.S.	Assessment
Self-efficacy	Low	8	6.7	32.10	Fair
	Fair	85	70.8		
	High	27	22.5		
	Total	120	100		

Table (3) reveals that the overall assessment of patients' responses to self-efficacy domain items is fair.

**Table (4) Correlation between Patients' Self-Care Domains and their Self-Efficacy**

Studied domains	Statistical parameters	Self- efficacy	Self-care related to health deviation	Universal Self-care
Self-efficacy	Pearson Correlation	1	.164	.446**
	p-value		.074	.000
	N	120	120	120
Self-care related to health deviation	Pearson Correlation	.164	1	.449**
	Sig. (2-tailed)	.074		.000
	N	120	120	120
Universal Self-care	Pearson Correlation	.446**	.449**	1
	Sig. (2-tailed)	.000	.000	
	N	120	120	120
**. Correlation is significant at the 0.01 level (2-tailed).				

Table (4) shows that there is a high significant correlation between (patient's universal self-care domains ) and (patient's self-efficacy domains ) at p-value > **0.01** .

#### **4. DISCUSSION:**

The present study revealed that more half of the study sample are males and more half of the study sample are married. This result is supported by Al-garni, who studied the "Health-Related Quality of Life among End-Stage Renal Disease (ESRD) Adult Patients Undergoing Hemodialysis at the Eastern Region". She found that half of the sample was males. In addition, the majority of the participants were married [14]. In addition, these results may come because of the renal diseases are most common occur in male compared with female. In addition, with respect to the patients' age group and the cultural context that make the Iraqi population more like to marry early. Therefore, we can conclude that the dominant gender is the male and the majority of them are married. In addition, the gender variations in the wide extent of health and illness have been the subject of broad examinations, and are currently gaining more attention in nursing. Women and men accentuate various parts of their lives when appraising their level of quality of life and life satisfaction. This will lead to the fact that the chronic diseases are more common in men than in women.

The study results also showed that the 60 years old is the dominant age group among the study subjects. This result is similar to Rayyani *et al.*, who conducted a study to assess self-care self-efficacy and its relationship to quality of life in hemodialysis patients in Southeast of Iran. They found that the highest percentage of the participants in the study sample were aged 60 years and more [15]. In addition, this result may come because of the renal diseases most common occur among those people with advanced age. In addition, the patients with advanced age (more than 50 years old) are out of the criteria of renal transplant beside the economic factors, so it is easy to conclude that the majority of the study subjects are with advanced age.

The results explain that the highest percentage of the study sample were homemakers and private workers, and have an income that is enough to what limit. This is may be because of expensive price of medications, transportation, and the most patients have part time work hours due to their illness. In addition, due to the current situations in our country, more than two third of population live in poverty level or below it. This result is similar to Nasiri *et al.* in their study which was about determining stressful factors, coping methods and quality of life among hemodialysis patients. They found that most of the participants express that the income of all the family does not have enough living expense[16].

Concerning level of education, the study revealed that the highest percentage of the study sample are not able to read or write and primary school graduates. This is may be because that more than one third of the participants are old age (60 years and more) and their living and social and cultural conditions did not allow them to join school or complete their study. In addition, that result may come due to continuous economic and political crises and wars that our country has suffered since the beginning of eighties until this time.

From the approach of residency, more than half of the study sample live in urban areas. This result comes along with Okoro and Ngong, whose results indicate that the majority of the study subjects are reside in a big cities rather than the countryside [17]. This is may be due to the nature of the city's lifestyle and atmosphere, which is usually full of pathogenic and polluting substances that lead to pollution of air, water, food, and nature in general. In addition, most people in cities have a sedentary lifestyle, other than the lifestyle of people in countryside that is full of activity. For example, the life of employee differs from the life of the farmer who is plowing the ground, cultivated, harvested, in addition to animals husbandry, and take care of them.

The study result revealed that the highest percentage of the participants had the experience of dialysis for duration of less than or equal to 3 years. This result is in the same line with Nasiri *et al.*, they conducted a study to determine stressful factors, coping methods and quality of life among hemodialysis patients. They found that most of the units of the study had the experience of the dialysis for 3 years or less[16].

The study results reveal that the overall assessment of patients' responses to universal self-care domain items is independent. This result is in the same line with Roso *et al.* in their study " self-care of patients in conservative treatment of chronic renal insufficiency". They found that the self-care of patients in conservative treatment expressed through attitudes that acceptance of the chronic condition and they are mostly able to self-care [18]. Shoulah *et al.*, who conducted a study to assess the home self-care for patients with renal failure undergoing hemodialysis. They found that most of the study subjects have a good level of self-care except they do not perform the physical activity [19]. Atashpeikar *et al.*, they studied the self-care ability in hemodialysis patients. They found that the patients' self-care activity is desirable in most of them [20].

The results also indicate that the overall assessment of patients' responses to self-efficacy domain items is fair. This result is agree with Tsay *et al.*; Curtin *et al.*, they studied "self-efficacy and self-management behaviors in patients with chronic kidney disease; self-efficacy training for patients with end-stage renal disease", respectively. They found that the end stage renal disease is a physical condition that may affect the patients' psychological status. Furthermore, the self-efficacy of patients with end stage renal disease is affected [21,22].Lin *et al.*, who studied the chronic kidney disease self-efficacy (CKD-SE) instrument: development and psychometric evaluation. They mentioned that the patients with chronic kidney disease exhibit low self-efficacy[23].

The study results reveal that there is a significant and direct impact of patients' self-care (universal self-care) on their self-efficacy. That means that when the patients' self-care increases that will lead to increase their self-efficacy and vice versa. Abedi *et al.* , they conducted a study to determine the effect of self-efficacy

enhancement program on self-care behaviors in chronic obstructive pulmonary disease, their results indicated that there is a significant correlation between the patients' self-care and their self-efficacy [24]. Criswell *et al.*, they studied the "effect of self-efficacy and social support on adherence to antihypertensive drugs". They found that there is a significant correlation between the patients' self-care to medications and their self-efficacy [25]. Gao *et al.*, they studied the "effects of self-care, self-efficacy, social support on glycemic control in adults with type 2 diabetes". They mentioned that there is a significant and direct relationship between the patients' self-efficacy and their self-care [26].

## 5. CONCLUSION :

Based on the study results, the study concludes the following :

- 1-The level of self-care and self-efficacy of the End Stage Renal Disease patients undergoing hemodialysis was less than ideal and there is a direct effect of patients' universal self-care on their self-efficacy.
- 2-End Stage Renal Disease, most common occurs in old age males than females.
- 3-End Stage Renal Disease, is most common in urban residential than those in rural.
- 4-Patients' age, gender, level of education, and occupation affect their universal self-care levels.
- 5-Patients' gender, marital status, level of education, and occupation affect their self-efficacy levels.

## RECOMMENDATIONS:

Based on the study results and conclusion, the study recommends that:

- 1-Further research should be carried out to improve and explore effective methods to improve hemodialysis patients' self-care and self-efficacy behaviors.
- 2- Health education programs should be applied to increase the patients' knowledge regarding how to improve their self-care and the factors affecting their self-care abilities.
- 3-Because the nursing staff who endure major accountability regarding the treatment and checking of dialysis patients, this makes them in charge of arranging proper nursing activities which will limit their undesirable impact on persons and utilizing their characters as advocate, educator and counselor efficiently.
- 4-Self-care and self-efficacy can be enhanced through programs that include elements of training, support, encouragement, positive personal experiences, and modeling. Such programs may have long-term benefits for individuals with CKD.

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