Effectiveness of Self-Regulation Fluid Program on Patients with Hemodialysis Self-Efficacy for Fluid Adherence in Al-Diwaniyah Teaching Hospital

فاعليـة برنـامـج التنظيـم الذاتـي للسوائـل على الكفاءة الذاتية لمرضـى الإنفـاذ الدمـوي للالتزام بالسوائـل في مستشفى الديوانية التعليمي

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المستخلص

الاهداف: تقويم معارف مرضى العجز الكلوي وتحديد فاعلية برنامج التنظيم الذاتي للسوائل على الكفاءة الذاتية لمرضى الإنفاذ الدموي للالتزام بالسوائل في مستشفى الديوانية التعليمي.

منهجية البحث: تم استخدام تصميم شبه التجريبي (تصميم مجموعتين، الاختبار القبلي، والاختبار البعدي). إجريت هذه الدراسة في مستشفى الديوانية التعليمي للفترة (من15 تشرين الاول 2018 الى 20 ايار 2019). لمعرفة فاعلية البرنامج الارشادي في معارف مرضى العجز الكلوي في وحدة الانفاذ الدموي، تم اختيار عينة غير احتمالية (غرضية) تكونت من (60 مريض/ ة) من المرضى المراجعين لوحدة الانفاذ الدموي. تم بناء استبيان كأداة لجمع البيانات وتكونت من اربع اجزاء:

الجزء الاول: يشمل الخصائص الديموغرافية للمرضى ،الجزء الثاني: يتعلق بالمعلومات السريرية للمرضى ،والجزء الثالث: يتعلق بمقياس تحسين الكفاءة الذاتية للسيطرة على السوائل ويتكون من (22) سؤال ، والجزء الرابع: يتعلق بمعارف المرضى ويتكون من(20) سؤال مقسمة الى اثنان اجزاء فرعية.

تم التحقق من مصداقية الاستبانة والبرنامج التعليمي من خلال عرضها على (18) خبير. اجريت للعينة اختبار قبلي، برنامج تعليمي، اختبار بعدي، وتم استخدام الاحصاء الوصفي والاستدلالي لتحليل نتائج الدراسة باستخدام الحقيبة الاحصائية الإصدار 22 وبرنامج ميكروسوفت اكسل(2010).

النتائج تظهر النتائج أن جميع استجابات عينة الدراسة في الاختبار القبلي كانت متوسطة، بمتوسط إحصائي للدرجات (1.35) بخلاف الاختبار البعدي، يظهر أن (100٪) من عينة الدراسة لديها معرفة عالية بمتوسط الدرجات (2.66). كما أظهرت نتائج الدراسة ان غالبية المرضى في كلتا المجموعتين (الضابطة والدراسة) كانوا من الإناث اللواتي تزيد اعمارهن عن 48 سنة ، معظم عينة الدراسة كانوا متزوجين واكثر المرضى مستوى التعليم لديهم (لا يقرأ ولا يكتب) ، ومعظم المرضى دخلهم الشهري لا يكفي، وأغلبية المرضى يسكنون في المناطق الريفية. خلص الباحث إلى أن البرنامج الارشادي كان فعالا في تعزيز معرفة المرضى حول تدابير السوائل في وحدة الانفاذ الدموي

الاستنتاجات: يساعد البرنامج المرضى في زيادة الثقة بالنفس، ومعرفة رعاية مرضى العجز الكلوي المزمن بما في ذلك السيطرة على السوائل الزائدة.

التوصيات: أوصت الدراسة بضرورة توفير برامج إرشادية بشكل صحيح للمرضى الذين يعانون من المرحلة الاخيرة من العجز الكلوي واجراء برامج بحوث مستقبلية من اجل تحسين معارف المرضى حول المرض والالتزام بالسوائل و توفير كتيب بسيط من التوصيات.

الكلمات المفتاحية: التنظيم الذاتي، الانفاذ الدموي ، الكفاءة الذاتية، الالتزام ، السوائل.

Abstract

Objectives: to evaluate patient knowledge with hemodialysis and to determine the effectiveness of Self-regulation Fluid Program on Patients with hemodialysis self-efficacy for fluid adherence in Al-Diwaniyah Teaching Hospital.

Methodology: A quasi-experimental design (two group design: pre-test and post-test) was used. This study was conducted in Al-Diwaniya Teaching Hospital for the period from (15th of October 2018 to 20th of May 2019) on a non-probability (purposive) sample consisting of (60 patients) treatment in hemodialysis units. A questionnaire was built as a data collection tool and consisted of four parts:

First part: Demographic characteristics of the patient that consisted of (7) items, second part: Clinical information of the patient that consisted of (8) items, third part: the self-efficacy scale of fluid control in hemodialysis patients that consisted of (22) items and fourth part: patients' knowledge in two axis that consisted of (20) items.

The validity of the questionnaire and the educational program were verified by presenting it to (18) experts. The sample has received a pre-test, educational program, and post-test. Descriptive and inferential statistics were used to analyze the results of the study using the Statistical Package of Social Sciences (SPSS) version 22 and Microsoft Excel (2010).

Results: The study finding shows, that all the study sample responses at the pre-test were fair knowledge with a statistical mean of scores (1.35). Other than the post-test, shows (100%) of the study sample have high knowledge at the mean of scores (2.66). Also, the maturity of the patients in both groups (control and study) is female and age group (more than 48) years, most of them not read and write, the maturity of the sample of study marred, regarding to the monthly income is not sufficient and urban residency. The study also confirms that the effectiveness of an instructional program on patients with hemodialysis to enhance self-efficacy fluid control is positive.

Conclusion: Program helps patients in increasing self-confidence, knowledge of Chronic Kidney Disease patient care including controlling fluid overload.

Recommendations: The study recommended the necessity of activating the role of instructional program correctly in order to give about end stage renal disease, and conduct future research programs to improve the patient's knowledge about end stage renal disease, fluid adherence and provide small booklist for caring.

Keywords: Self-regulation, Hemodialysis, Self-efficacy, Fluid, Adherence.

Introduction:

Chronic kidney disease (CKD) is well-defined as kidney damage or an projected glomerular filtration rate below (60) ml/min/(1.73) m^2 persevering for three months. The Kidney Disease Outcome Quality Initiative guideline has classified CKD into five stages rendering to the severity of the disease [(1)].

Chronic kidney disease is a non-communicable and preventive disease that may take months or years to yield life-altering signs and symptoms. The main etiologies of CKD include hypertension, chronic glomerulonephritis and diabetes mellitus. Symptoms of CKD do not seem during the early stages and usually become obvious to the individuals in later stages. It presents severe illness with fluid excess, uremic problems with augmented risk of morbidity. The persons at later stages are treated by renal replacement therapy. The Nephrology Society of Thailand stated that (21,402) cases of CKD in 2014 were treated by peritoneal dialysis, (49,719) cases by hemodialysis and (6,923) cases by kidney transplantation [(2)].

The utility of the kidney system is to remove waste products of human metabolism and to remove extra fluids. When end-stage renal disease (ESRD) occurs, renal replacement therapy - dialysis, transplantation - is obligatory. There are two types of dialysis treatment: extracorporeal blood purification (mainly hemodialysis) and intracorporeal blood purification (peritoneal dialysis). All patients with ESRD should be well-thought-out for kidney transplantation. Patients without complete contraindications should be positioned on the transplant waiting list, and receive a kidney, if possible. Patients should be educated about each procedure of RRT. Dialysis is a procedure that is achieved periodically in order to remove extra water

from a patient and to wash the blood from metabolic toxins [3].

Hemodialysis (HD) is a common mode of renal replacement therapy in End stage renal failure patients, which replaces some of the functions of a healthy kidney, for example removal of wastes products and extra fluid. The poor compliance of fluid restriction is commonly and significantly found in HD patients. Patients with excessive inter-dialytic weight gain (IDWG) may increase the risks of experiencing life threatening adverse symptoms and complication, such as acute myocardial injury, and also mortality rate[4].

Non-adherence to fluid-intake limits is one of the furthermost mutual problems for hemodialysis patients. An surge in the number of HD patients is originate to be adherent to fluid-intake boundaries is reported[5]. Patients on dialysis are advised to boundary their interdialytic (ID) fluid weight gain [6, 7]. In these conditions, those handling the dialysis treatment try to support patients in attaining their target dry weight by regulating the dialysis machine ultrafiltration (UF) rate to eliminate more fluid. This high UF rate throughout dialysis risks difficulties, such as prolonged painful muscle cramping, nausea, dizziness, and potentially, a hypotensive crisis[8].

Methodology:

To achieve the aims of this study, to determine the effectiveness of Self-regulation Fluid Program on Patients with hemodialysis self-efficacy for fluid adherence in Al-Diwaniyah Teaching Hospital. a quasi-experimental design study was conducted in Al-Diwaniyah Teaching Hospital from 28 of October 2018 to 14 of May 2019. The program and instruments were constructed by the researcher for the purpose of the study. A non- probability purposive sample of (60) patients undergoing hemodialysis were divided into two groups; study group consisted of (30) patients who were exposed to an instructional program and control group consisted of (30) patients who were not exposed to the program. The study instrument is composed of four main parts: Part I. The socio- demographic characteristics of the patients, Part II. Clinical data of the patients, Part III. The self-efficacy scale of fluid control in hemodialysis patients and Part IV. Knowledge of patients undergoing hemodialysis toward renal failure , hemodialysis and fluid adherence. Each question of fluid control self-efficacy and knowledge of patient in three domain was composed of (3) items given the correct answer score (2) and the incorrect answer scored (1). About (30-40) minutes are given for the test completion.

The instructional program consists of three sessions and is implemented for four weeks period in hemodialysis unit. Time required for each session was (40-50) minutes

Validity of the study instrument was determined through a panel of (18) experts and reliability of the instrument was

determined through Cronbach's Alpha method. The analysis of the data used was descriptive statistics and statistical inferential, in order to find the differences between the study group and the control group.

Data were analyzed through the Statistical Package of Social Sciences (SPSS) version 22 and Microsoft Excel (2010). Descriptive data analysis including Mean of score (M.S), with their Standard Deviation (S.D), and frequency (f). Inferential data analysis includes Contingency Coefficients (C.C.) test, and Pearson correlation.

Results

Table (1) Distribution of Socio-demographic Characteristics for the Study and Control Groups No=60:

No	*Demographic data*	*Classification*	Study group =*30*		Control group =30	
			F	%	F	%
1	Age	18-27	3	10.0	0	0.0
		28-37	3	10.0	6	20.0
		38-47	8	26.7	6	20.0
		48 and above	16	53.3	18	60.0
		Mean ± SD =43.8±5.23				
2	Gender	Male	14	46.7	13	43.3
		Female	16	53.3	17	56.7
3	Marital status	Single	4	13.3	1	3.3
		Divorced	1	3.3	1	3.3
		Separated	0	0.00	3	10.0
		Married	19	63.3	20	66.7
		Widowed	6	20.0	5	16.7
4	Level of education	Not read or write	14	46.7	15	50.0
		Read or write	3	10.0	5	16.7
		Primary graduate	3	10.0	3	10.0
		Secondary graduate	5	16.7	3	10.0

		Institute graduate	2	6.6	1	3.3
		College graduate	3	10.0	2	6.7
		Postgraduate	0	0.0	1	3.3
5	**Occupation status**	Employee	5	16.7	3	10.0
		Free business	3	10.0	4	13.3
		Retired	5	16.7	6	20.0
		Housewife	10	33.3	8	26.7
		Student	1	3.3	0	0.00
		Unemployed	6	20.0	9	30.0
6	**Monthly Income**	Not Sufficient	16	53.3	15	50.0
		Barely Sufficient	11	36.7	13	43.3
		Sufficient	3	10.0	2	6.7
7	**Residence**	Rural	18	60.0	16	53.3
		Urban	12	40.0	14	46.7

f = frequency, % = percentage, $\bar{x} \mp SD$ **= arithmetic Mean (X) and Std. Dev. (S.D.).**

Table (1): presents the socio-demographic characteristics, the study sample for study and control groups which as high percent of study and control at age 48 years and above(n=16; 53.3% ,and n=18; 60%) respectively, (n=16; 53.3%, and n=17; 56.7%) of study and control groups was females respectively, regarding marital status which of(n= 19; 63.3%, and n=20; 66.7%) was married for study and control groups respectively, high percent of study and control group did not read and not write which as (n=14; 46.7%, and n=15; 50% respectively), (n=10; 33.3%, and n=9;30.0%) of the study sample for study and control was housewife respectively, the income of study group was (n=16; 53.3% and n=15; 50%) of control group was not sufficient, high percent of study and control group was residence live in rural which as(n=18; 60%, and n=16; 53.3%) respectively.

Table (2) Distribution of Clinical Information for the study and Control Groups No=60:

No	Clinical data	Classification	Study group				Control group			
			Yes		No		Yes		No	
			F	%	F	%	F	%	F	%
1	Duration of diagnosed with kidney failure?	*1-2 years*	8	26.7			9	30.1		
		3-4 *years*	12	40.0			13	43.4		
		5-6 *years*	7	23.3			4	13.3		
		7-8 *years*	2	6.7			4	13.3		
		9 *years* and more	1	3.3			0	0.00		
2	Duration of hemodialysis	*1-2 years*	8	26.7			10	33.4		
		3-4 *years*	12	40.0			16	53.3		
		5-6 *years*	8	26.7			3	10.0		
		7-8 *years*	1	3.3			1	3.3		
		9 *years* and more	1	3.3			0	0.00		
3	Frequency of hemodialysis per week	1-2	3	10.0			6	20.0		
		3-4	27	90.0			24	80.0		
4	Do you suffer from diabetes?		19	63.3	11	36.7	18	60.0	12	40.0
5	Do you suffer from heart disease?		14	46.7	16	53.3	15	50.0	15	50.0
6	Do you suffer from high blood pressure?		17	56.7	13	43.3	14	46.7	16	53.3
7	The amount of fluid you take per day	0 - 500 ml	2	6.6			4	13.3		
		501 - 1.000 ml	15	50.0			14	46.7		
		1.001 - 1.500 ml	9	30.0			8	26.7		
		1.500.1 - 2,000 ml	2	6.7			1	3.3		
		more than 2,000 ml	0	0.00			0	0.00		
		I don’t know	2	6.7			3	10.0		
8	Body mass index	Underweight	4	13.4			3	10.0		

		Healthy (normal)	4	13.4	8	26.6
		Overweight	19	63.2	15	50.0
		Obese	3	10.0	4	13.4
		Severe obese	0	0	0	0

F= frequency, % = percentage, $\bar{x} \mp SD$ ***= arithmetic Mean (X) and Std. Dev. (S.D.).***

Table (2): shows medical information for the study and control group which of (n=12; 40%, and n=13; 43.3%) for study and control groups was diagnosed since 3-4 years ago respectively, high percent of the study sample for study and control was treated by dialysis since 3-4 years which as (n=12;40%, and n=16; 53.3%) respectively, (n=27; 90%,and n=24; 80%) of study and control group was doing 3-4 sessions per week respectively,(n=19; 63.3 %, and n=18; 60%) of study and control groups have diabetes respectively, (n=14; 46.7%, and n=15; 50%) of study and control group have heart disease respectively, (n=1756.7%, and n=14; 46.7%) of study and control group have hypertension respectively, (n=15; 50%,and n=14; 46.7%)of the study sample for study and control consume (501- 1000 ml) of fluid daily respectively. ,and high percent of study and control group was overweight which as(n=19; 63.2%, and n=15; 50%) respectively.

Table (3): Self-efficacy of Fluid Control among Patients for study Group at Pre and Post test

No	Items	Pre-study							Post-study						
		Always		Sometimes		Never		Ass	Always		Sometimes		Never		Ass
		F	%	F	%	F	%		F	%	F	%	F	%	
1	Do not eat salty food	5	16.7	9	30.0	16	53.3	L	19	63.4	3	10.0	8	26.7	M
2	Avoid excessive intake fluids	18	60.0	9	30.0	3	10.0	M	18	60.0	11	36.7	1	3.3	M
3	increase the amount of fluid	5	16.7	9	30.0	16	53.3	L	19	63.3	3	10.0	8	26.7	M
4	Do not eat other foods	5	16.7	16	53.3	9	30.0	L	9	30.0	13	43.3	8	26.7	L
5	Avoid taking in more than 2-3 liters of fluid	21	70.0	3	10.0	6	20.0	H	26	86.7	3	10.0	1	3.3	H
6	Don't excess drinking water	1	3.3	6	20.0	23	76.7	L	22	73.4	4	13.3	4	13.3	H
7	Don't take excessive fluid to maintain normal BP	1	3.3	2	6.7	27	90.0	L	17	43.3	10	33.3	7	23.4	M
8	I use the measuring cup when taking fluid food.	3	10.0	2	6.7	25	83.3	L	22	73.3	1	3.3	7	23.4	H

9	I consume food in brine	0	0.00	2	6.7	28	93.3	L	17	56.7	7	23.3	6	20.0	M
10	Keep away from activities	0	0.00	2	6.7	28	93.3	L	10	33.3	6	20.0	14	46.7	L
11	Fluid restriction	10	33.3	5	16.7	15	50.0	L	13	43.3	13	43.3	4	13.4	L
12	I drink my beverage sip by sip drinks over a long time.	0	0.00	2	6.7	28	93.3	L	8	26.7	14	46.6	8	26.7	L
13	I keep a record of how much fluid I take daily.	0	0.00	4	13.3	26	86.7	L	26	86.7	1	3.3	3	10.0	H
14	I rinse my mouth when I feel thirsty.	0	0.00	4	13.3	26	86.7	L	17	56.7	2	6.6	11	36.7	M
15	Chew gum to overcome thirst	0	0.00	4	13.3	26	86.7	L	22	73.3	0	0.00	8	26.7	H
16	I take care not to put salt on my food.	0	0.00	8	26.7	22	73.3	L	11	36.6	5	16.7	14	46.7	M
17	I avoid salty food	11	36.7	19	63.3	0	0.00	M	21	70.0	9	30.0	0	0.00	H
18	I cannot restrict fluids when meeting with friends.	0	0.00	7	23.3	23	76.7	L	17	56.7	6	20.0	7	23.3	M
19	I find it very difficult to comply with fluid restriction.	26	86.7	4	13.3	0	0.00	L	10	33.3	9	30.0	11	36.7	M
20	There are times when I do not comply with fluid restriction.	0	0.00	4	13.3	26	86.7	L	5	16.7	18	60.0	7	23.3	L
21	I have no idea how I can reduce my need for water.	0	0.00	6	20.0	24	80.0	L	12	40.0	10	33.3	8	26.7	M
22	I feel thirstier when I leave the dialysis session.	8	26.6	11	36.7	11	36.7	L	11	36.7	15	50.0	4	13.3	M

F=frequency, %= percentage, assessment [L: Low (0.00-33.33)];[M: Moderate (33.34-66.67)];[H: High(66.67-100)]

Table (3): shows the self-efficacy scale of fluid control at pre and post instruction program for study group, which presented that the percent of patient knowledge for standard fluid program was improve at post-test.

Table (4): Association between Patient's Self-efficacy of fluid control for Study Group at Post-test and their Age, Gender, Marital Status, level of Education, Occupation, Monthly income, and Residency

Variable	Sum of Squares	DF	Mean Square	F	Sig. p≤0.05
Age	29.367	29	2.063	3.268	**.015 HS.**
Gender	51.000	29	4.6	.968	.543 NS
Marital status	43.867	29	3.2	.901	0.575 NS
Educational Level	26.300	29	8.514	6.780	**.000 HS.**
Occupation	42.000	29	2.878	.682	.760 NS
Monthly Income	14.000	29	0.972	1.537	.209 NS
Residency	20.300	29	1.396	.876	.595 NS

Table (5): the result of this table revealed that there were significant association between the study Group for self-efficacy to fluid control at post-test regarding age group, and level of education at $p \leq 0.05$.

Table(5): Relationship between Patients' Self-Efficacy of Fluid Control and Clinical Information of Patients At Post-Test for Study Group.

Variable	Pearson Correlation	P- Value (2-tailed)	Sig.
Duration of Hemodialysis	-.196	.298	**NS**
Frequency of Hemodialysis	-.168	.374	**NS**
Diabetes Mellitus	.108	.572	**NS**
Heart disease	.363*	.049	**S**
Hypertension	.147	.439	**NS**
Body Mass Index	.105	.561	**NS**

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

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

Table (6): shows the relationship between patient clinical information and self-efficacy to fluid control which presented that there was significant relationship between heart disease and amount of fluid with their self-efficacy at significant relationship at p≤0.05 level**.**

Table(6) Total Mean of Patient Knowledge About Renal Failure, Hemodialysis and Fluid Adherence

Knowledge	**Knowledge about renal failure and hemodialysis**		**Knowledge about fluid adherence**	
Group	Study	Control	study	Control
Pre- test	1.35	1.36	1.15	1.19
	F	**F**	**F**	**F**
Post- test	2.66	1.36	2.70	1.25
	P	**F**	**P**	**F**

Discussion

Part-I: Discussion of the patients' Demographic Characteristics of the Study Sample, as Shown in Table (1):

Concerning patients' age, the results show that the highest percentage (53.3%) are in age group of (48 and more) years in the study group, also the control group (60.0%) of the sample are in age group (48 and more) years with mean age (43.8±5.23). A study conducted in Iran was performed to identify the prevalence of differential aspects of fatigue among patients receiving maintenance dialysis, found that the majority of the study sample with mean age (54)[9].

Regarding to gender it is noticed that the mostly (55 %) of the study sample were females and remaining were male .This finding disagrees with the study adaptation problems of patients undergoing hemodialysis, who reported that the mostly (52.2%) of hemodialysis gender were male[(10)]. The researcher's opinion on this finding related to most of male in hemodialysis unit refused to participation the present study and boring from recurrent previous studies from different specialized at hemodialysis unit in Al Diwaniyah hospital.

According to the marital status, the majority of the sample (65%) was married. A study conducted in China, who mentioned that the most of hemodialysis patients (83.8%) were married[(11)].

Concerning to the educational levels, the greater number(48.35) of them had low level of education not read and not write, A study conducted in Iraq, who mentioned that the greater number of patients with hemodialysis was illiterate and they were counted for (22.9%) of the study sample[(12)] . The researcher's opinion on this finding, such result is an ordinary outcome for our society because largest number of families under the line of poverty with insufficient monthly income.

Regarding to occupation status, results indicated that a highest percentage (31.65%) of the study sample were housewives. A study conducted in Saudi Arabia, who reported that the most (35.6%) of the hemodialysis patients were housewives[(13)].

Regarding to monthly income, the majority (51.65%)of the study sample are within the not insufficient, based on that and according to the diseases related cost of care statistics, individual as well, especially in our country as a developing one who that lives under the shadows of the global financial crisis. While in our country unfortunately there, is no available data regarding such important issue. A study conducted in Egypt, who stated that monthly income is not enough[(14)].

Regarding to residency, the highest percentage of the study sample is living in rural area. A study conducted in Iraq, who found that the highest percentage of the study sample is living in rural area[(15)].

Part-II: Discussion of the Clinical Information of the Sample, as Shown in Tables (2):

Regarding to the history of the duration to diagnosed with renal failure, the results indicated that the higher percent (41.7%) patients had renal failure before (3-4) years ago.

Concerning to the history of the duration hemodialysis started, the results indicated that the higher percent (46.7%) patients had renal failure and undergoing hemodialysis before (3-4) years ago. A study conducted in Brazil who stated that the duration of dialysis patients ranged from 1month to 13 years[16].

Relative to the number of hemodialysis per week, the results indicated that the majority of (85%) patients done hemodialysis (3-4) times per week. This result agrees with the study by National Kidney Foundation, reported that the hemodialysis is classically done 3 times per week for about 4 hours at each time[17] .

Regarding to the diabetes mellitus, the study result showed that the (61.7%) of the study sample suffer from diabetes mellitus. A study conducted in India, who stated that the (40.9%) were diabetic[18].

Regarding to the heart disease, the study result showed that the (50%) of the study sample suffer from heart disease.

Regarding to the hypertension, the study result showed that the (50%) of the study sample suffer from hypertension. A study conducted in India, who stated that the (84.4%) were hypertensive[18].

Regarding to the amount fluid drink per day, the study result showed that the (48.3%) and (28.3) of the study sample study group and control group fluid drink (501 - 1.000 ml) and (1.001 - 1.500 ml) respectively. This finding confirmed with study done by Winters who stated that the (48.4%) and (24.2%) of the study sample fluid drink (501 - 1.000 ml) and (1.001 - 1.500 ml) respectively[19].

Concerning to the body mass index , the high percentage was (34%) overweight. this finding agrees with a study done by Carreira and others who mentioned that the mean and standard deviation of BMI were (25.1± 5.1)kg/m^2 for hemodialysis patients[20].

Part-III: Discussion the effectiveness of Self-efficacy of fluid control among Patients for control study at pre and post-test, as Shown in Table (3):

The Self-efficacy of fluid control scale was effective on study group table (3 and 4) through the high percent of the patients responses and majority of patients responses for the study group at post program were have been passed compared with control group at post period.

Table (3) shows the self-efficacy scale of fluid control at pre and post instruction program for study group, which presented that the percent for always uses standard fluids before program was 15.4%, while the self-

control of fluid for patients was improved to always use standard of fluids to 53.6% at posttest.

This finding agrees with the result obtained from the study done by Albayrak Cosar and Cinar Pakyuz, (2016), who stated that the total mean score obtained from the fluid control in hemodialysis patients (FCHPS) was 56.55 ± 6.37,.An increase in the total score indicates that the knowledge, behaviors, and attitude of hemodialysis patients about fluid control are positive and a decrease that they are negative[21].

Part IV: Discussion association between Participants' Socio-Demographic, Clinical information and self-efficacy of fluid control for study group, as Shown in Table (4 and 5):

The study finding shows that there was a statistical significant between patients knowledge and their (age, level of education and heart disease) at post-test at p-value (.015 ,.000 and .049) respectively. A study conducted in Egypt to assess home self-care for patients with renal failure, who found that there were significant correlation between patients' socio-demographic characteristics for age and total patients knowledge[22].

Conclusions

Based on the results of research, there is an effect of providing program to increase self-efficacy, increase knowledge level and decrease fluid intake. The program has been shown a good result to increase knowledge level and increase fluid restricted in the study group, compared to the control group which did not get program. Therefore, each hemodialysis room should provide program to be given not only to the patients but also to their families as a guide for them in providing care for the patients.

Recommendations

1. Providing simple manual booklet prepared and presented to patients with end stage renal disease to enhancing their self-efficacy (illness, treatment, diet, fluid, and medication)

2. Continuous instructional program to health team to increase patients knowledge about enhancing self-efficacy for fluid adherence to hemodialysis patients.

3. Continuous monitoring and enhancing self –efficacy fluid adherence for hemodialysis patients.

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