

## Effectiveness of Instructional Health Educational Vascular Access on Hemodialysis Patients' Knowledge at Al-Hussein Teaching Hospital in AL-Nasiriyah City.

فاعلية التثقيف الصحي الإرشادي بتوصيلات الاوعية الدموية على معارف مرضى الانفاذ الدموي في مستشفى الحسين التعليمي في مدينة الناصرية

\*Amer Muhasin Naser

\*\*Dr. Widad K. Mohammed

\* MSc student, Adult Nursing, Ministry of Higher Education and Scientific Research, Southern Technical University Nasiriyah Technical Institute / Nursing Department, E:mail amer.muhsen@yahoo.com

\*\*Assist Prof, Adults Nursing Department, College of Nursing/ University of Baghdad, E:mail widad\_2005m@yahoo.com

**الهدف:** تهدف الدراسة الحالية الى (1) تحديد فاعلية التثقيف الصحي الإرشادي بتوصيلات الاوعية الدموية على معارف مرضى الانفاذ الدموي في مستشفى الحسين التعليمي في مدينة الناصرية، (2) إيجاد علاقة بين تأثير التثقيف الصحي الإرشادي بتوصيلات الاوعية والمعلومات الديموغرافية (العمر، الجنس و المستوى التعليمي).

**المنهجية:** دراسة شبة تجريبية (مجموعة دراسة ومجموعة ضابطة) في مستشفى الحسين التعليمي في مدينة الناصرية، للمدة من 3 تشرين الثاني 2015 ولغاية 2 حزيران 2016 ، اختيرت عينة غير احتمالية "غرضية" من (80) مريض من مرضى الديليزة الدموية ممن لديهم توصيلات اوعيه دموية (40) مريضا منهم اختير مجموعهم ضابطة، بينما اختير ال (40) الباقيون كمجموعة للدراسة ، في مستشفى الحسين التعليمي في مدينة الناصرية. تم جمع المعلومات من خلال استخدام استبانة مصممة ومكونة من ثلاثة اجزاء، الجزء الأول شمل الصفات الديموغرافية الاجتماعية، والجزء الثاني شمل على استمارة المعلومات الطبية، والجزء الثالث شمل على التثقيف الصحي، وبواسطة المقابلة الشخصية المباشرة مع مرضى. حددت ثباته استمارة الاستبانة من خلال إجراء الدراسة المصغرة وحددت مصداقيتها من خلال فريق الخبراء . تم وصف وتحليل البيانات باستخدام أساليب الإحصاء الوصفي والاستنباطي.

**النتائج:** أظهرت نتائج الدراسة فاعلية التثقيف الصحي الإرشادي على معارف مرضى الانفاذ الدموي ، التكافؤ النسبي كان تحت نقطة القطع ،وبعدها بواسطة الاختبار القبلي والبعدي. لا توجد هناك علاقة ذات دلالة معنوية بين المتغيرات الاجتماعية والديموغرافية والتي تشير الى (عدم وجود علاقة ذات دلالة معنوية) بين الجنس ومعارف المرضى تجاه توصيلات الأوعية الدموية لكلا المجموعتين في الاختبار القبلي والبعدي ماعدا عامل العمر والمستوى التعليمي التي تشير الى (عدم وجود علاقة ذات دلالة معنوية) في الاختبار القبلي لمجموعة الدراسة والاختبار القبلي والبعدي للمجموعة الضابطة. بينما (وجود علاقة ذات دلالة معنوية) ارتباط بين عامل العمر والمستوى التعليمي ومعارف المرضى تجاه توصيلات الأوعية الدموية في الاختبار البعدي لمجموعة الدراسة عند مستوى الدلالة القيمة  $P < 0.05$ .

**التوصيات:** أوصت الدراسة الحالية بتوفير برامج تثقيفية تقام للمرضى الذين يعانون من المرحلة المتأخرة من عجز الكلى من خلال قبل وبعد الانفاذ الدموي للمحافظة عليها مع الأشخاص المعنيين بإعطاء العناية الصحية لتحسين معارف ومهاراتهم حول المرض وعلاجه. توفير كتيب بسيط من التوصيات.

### Abstract

**Objectives:** The study aims: (1) To determine effectiveness of instructional health education vascular access on hemodialysis patients' knowledge, (2) To find out the association between effects of instructional health education vascular access and demographic characteristics of (age, gender and educational level).

**Methodology:** A quasi experimental study –control study design is carried out at AL-Hussein Teaching Hospital in AL-Nasiriyah City, from 3November,2015 to 2 June, 2016. A non-probability (Purposive sample) of (80) patients with vascular access devices on maintenance hemodialysis patients divided into two group (40) patients as control study and (40) patients as study group , at AL- Hussein Teaching Hospital in Nasiriyah city. The data are collected through the use of semi-constructed questionnaire, which consists of three parts (1) sociodemographic data form (2) medical sheet information, and (3) main domains of health education, by direct interview technique with the patients. Reliability of the questionnaire is determined through a pilot study and the validity through a panel of experts. The data were described statistically and analyzed through use of the descriptive and inferential statistical analysis procedures.

**Results:** The findings of the present study indicate that the effectiveness of health education vascular access on hemodialysis patient knowledge , since their relative sufficiency were under cutoff point, then followed by pre and posttest .There is a non-significant relationship between socio-demographic characteristics variable and reveal (no significant) correlation between gender with patients knowledge toward vascular access for both study and control group in pre and posttest except with age factor and level of education which revealed (no significant) in pretest for study group and pre and posttest for control group. While (significant) correlation between age factor and educational level and patient's knowledge toward vascular access in posttest of study group by P value  $< 0.05$ .

**Recommendations:** The study recommended to provide educational program should be ongoing for patients with end stage renal disease initiated during the pre-hemodialysis stage and continued after maintenance hemodialysis with their caregivers to enhance their knowledge and skills about the vascular access , provide small booklist for caring.

Keywords: - Effectiveness, Instructional Health Educational, Vascular Access Devices, Hemodialysis Patients'.

## Introduction

Chronic hemodialysis (HD) considered as a treatment and preventive measure to save the lives of end-stage renal disease (ESRD) patients, they are completely dependent upon the availability vascular access works (VA), and the establishment and successful use of an access to the blood vessels, arteries and veins, require a multidisciplinary team of learners to ensure a coordinated vascular access ideal for each patient<sup>(1), (2)</sup>. It should be developed vascular access to the vascular system of the patient to allow blood to be removed, cleanse, and return to the vascular system of the patient at rates ranging between 200 and 800 ml / min, and numerous types of access are located<sup>(3)</sup>. Best vascular access must be providing with safe and active treatment by permitting the removal and return of blood outside the body accidentally. The vascular access be simple to use, consistent and have a minimum of risk to the client deliver dialysis. Conversely, the establishment of the arrival of well quality, while it is a crucial part of the treatment of dialysis patients, it is stay challenging to do so. The original access, in arteriovenous fistula, require advance planning, and has a high failure rate. Arteriovenous grafts replace the use of synthetic or biological substances in combination with the mother ships necessitate a new preparation and surgical experience<sup>(4)</sup>. trust that dialysis successfully, a good work of vascular access and preservation requires a multidisciplinary communication, surgeons, nurses, dialysis and patients work each other as a team in adjacent collaboration<sup>(5)</sup>. Suitable management and care of vascular access represent a very important to hemodialysis patient care. Access is the cornerstone of hemodialysis therapy. Proper vascular access maintenance needs good relationship between medical care personnel and patients. Nurses are responsible to put on their professional knowledge and technology in clinical practice, educate, and encourage patients to be careful of themselves. Patients are responsible to apply a good learned self-care knowledge to their daily life<sup>(6)</sup>.

## Objectives of the study

1. To determine effectiveness of instructional health education vascular access on hemodialysis patients' knowledge.
2. To find out the association between effects of instructional health education vascular access and demographic characteristics of (age, gender and educational level).

## Methodology

The quasi-experimental design (two-dimensional demonstration of two-group pre-test-posttest design) conducted on maintenance

hemodialysis patients towards instructional health education with application of pre-post- test approach for the study group and control group in assessing their knowledge and the application of instructional health education for the study group. It carried out in order to accomplish the early stated objectives. The study was started from from 3<sup>rd</sup> November, 2015 to 2<sup>nd</sup> June, 2016.

Self-administrative questionnaire was construct by the investigator for the present study through the review of available literature and related previous studies. The constructed questionnaire consisted of three parts: the first part include the socio-demographic characteristics of patients on maintenance hemodialysis; the second part is medical sheet information of basic patients' past medical history data related to the medical condition; and the third part includes 40 items of patients' knowledge toward vascular access devices. These items were rated to two levels of Likert scale and scored as follows: yes (2), no (1). Patients' knowledge toward vascular access devices was calculated as two level and scored as follows: Pass = (1.50-2.00) and Fail = (1-1.49) with cutoff point (0.05) with pass score with relative sufficiency R.S (75%).

Relevancy, and adequacy of the questionnaire were done by using of panel experts (eight experts from college of nursing, three of them were specialized in 5 from expert College of Medicine University of Thi-Qar, three from expert work in Al-Hussein Teaching Hospital in Nasiriyah City, one from Bagdad Medicine City Health Office, one expert work in Thi-Qar Health Office, one from Baghdad Medical Technical Colleague), to determine the content validity of the instrument in order to achieve the present study's objectives.

The internal consistency of the instrument was determined through the pilot study and the computation of Alpha Correlation Coefficient (Cronbach's Alpha). The result of the reliability was ( $r = 0.87$ ) and such an estimation was statistically adequate which means that the questionnaire had adequate level of internal consistency and equivalence measurability.

The data were collected through the utilization of the self-administrative questionnaire as a mean of data collection; the data were collected from (80) patients with chronic renal failure on maintenance hemodialysis patients in these area, (40) patients as the study group and (40) patients as control, pre and posttest was done to each group. Filling the questionnaire takes approximately 15 – 20 minutes.

The data is analyzed using SPSS (Statistical Package for Social Sciences) version 20. Application of statistical analysis system and the application of Excel. Data analysis was employee through the application of descriptive and inferential statistical approaches, which were performed through the computation of the following: frequencies, percentage, and means of scores, standard deviation, relative sufficiency, alpha correlation coefficient and Pearson correlation coefficient.

**Results:****Table (1): Distribution of the (80) Hemodialysis Patients According to the Demographical Characteristics:**

Basic Information	Groups	Frequency	Percent	Study group		Control group	
				F	%	F	%
Age groups	20 – 29	5	6.3	4	10.0	1	2.5
	30 – 39	23	28.7	13	32.5	10	25.0
	40 – 49	16	20.0	7	17.5	9	22.5
	50 – 59	36	45.0	16	40.0	20	50.0
	Total	80	100	40	100	40	100
Mean ± SD 43.2± 0.999							
Gender	Male	52	65.0	25	62.5	27	67.5
	Female	28	35.0	15	37.5	13	32.5
	Total	80	100	40	100	40	100
Education Level	Not read and write	30	37.5	16	40.0	14	35
	Read and write	17	21.3	10	25.0	7	17.5
	Primary	15	18.8	5	12.5	10	25.0
	Intermediate	6	7.5	3	7.5	3	7.5
	Secondary	8	10.0	4	10.0	4	10.0
	Institute and colleague graduation or higher	4	5.0	2	5.0	2	5
	Total	80	100	40	100	40	100
Marital status	Married	74	92.5	36	90	38	95.0
	Single	6	7.5	4	10	2	5.0
	Divorced	0	0	0	0	0	0
	Widow	0	0	0	0	0	0
	Total	80	100	40	100	40	100
Occupation	Employee	6	7.5	4	10.0	2	5.0
	Government employee	14	17.5	10	25.0	4	10.0
	Free Work	1	1.3	0	0	1	2.5
	Unemployed	31	38.8	15	37.5	16	40.0
	Retired	14	17.5	6	15.0	8	20.0
	Housewife	13	16.3	5	12.5	8	20.0

Continue...

Table (1) to be continued

Basic Information	Groups	Frequency	Percent	Study group		Control group	
				F	%	F	%
Occupation	Student	1	1.3	0	0	1	2.5
	Total	80	100	40	100	40	100
Income	Sufficient	14	17.5	6	15.0	8	
	Barely sufficient	23	28.7	15	37.5	8	20.0
	Insufficient	43	53.8	19	47.5	24	60.0
	Total	80	100	40	100	40	100
Residency	City	37	46.3	15	37.5	22	55.0
	Rural	43	53.8	25	62.5	18	45.0
	Total	80	100	40	100	40	100

F=Frequency, %= Percent

This table indicated that (45%) of the hemodialysis patients within age group of (50-59) years with a mean of (43.2) years. Concerning to the gender, the greater number of study sample are male and account (65.0 %). Regarding to the level of education, the greater number of them do not read and write and they are accounted for 30 (37.5%) of the sample. With respect to the marital status, the majority of the sample are married and they accounted for 74 (92.5%) of the whole sample. Related to occupation status, the results indicated that a highest percentage of the study sample are (unemployed, no working, retired, and housewife) and they are accounted for 40 (72.6%). The majority of monthly income of the study sample individuals are insufficient and they are accounted 43(53.8%).

Table (2) the Correlation between Total Patients' Knowledge toward Vascular Access and both Study and Control Groups for Pre and Posttest by Pearson Correlation.

Total patient's knowledge	Study group	Control group
	Mean ± S.D.	Mean ± S.D.
Pretest	1.2355 ± 0.13199	1.2938±0.13281
Posttest	1.8530±0.11418	1.2928±0.15137
Pearson correlation	.442(**)	.635
N	40	40

\*\*Correlation is significant at the 0.01 level (2-tailed) , Mean =Arithmetic Mean, S.D= Standard, N= Number of sample.

This table revealed (no significant) correlation between total patient's knowledge toward vascular access with pre and posttest for control group. While (high significant) correlation between total patient's knowledge toward vascular access with pre and posttest of study group by P value  $< 0.01$ .

**Table (3) the Correlation between Age Factor with Patients' Knowledge toward Vascular Access for Both Study and Control Groups for Pre and Posttest by Pearson Correlation .**

Study Items	Statistic relation	Study group				Control group			
		Pretest		Posttest		Pretest		Posttest	
		Age	Sig	Age	Sig	Age	Sig	Age	Sig
Patients' Knowledge toward Vascular Access	Pearson correlation	Yes	.453	No	.697 <sup>(*)</sup>	No	.034	No	.185
	N		40		40		40		40

\*Correlation is significant at the 0.05 level (2-tailed), N= Number of group sample.

This table revealed (significant) correlation between age factor and patient's knowledge toward vascular access in pretest for study group, and pre and posttest for control group. While (significant) positive correlation between age factor and patient's knowledge toward vascular access in posttest of study group by P value  $< 0.05$ .

**Table (4) the correlation between Gender Factor with Patients' Knowledge toward Vascular Access and both Study and Control Groups for Pre and Posttest by Pearson Correlation.**

Statistic relation	Study Items	Study group				Control group			
		Pretest		Posttest		Pretest		Posttest	
		Sig	Gender	Sig	Gender	Sig	Gender	Sig	Gender
Patients' knowledge toward vascular access	Pearson correlation	No	.044	No	-.130	No	.034	No	.173
	N		40		40		40		40

N= Number of group sample.

This table revealed (no significant) correlation between gender factor and patient's knowledge toward vascular access in both study and control group for pre and posttest.

**Table (5) the Correlation between Educational Level Factor with Patients' Knowledge toward Vascular Access and both Study and Control Groups for Pre and Posttest by Pearson correlation.**

Statistic relation	Study Items	Study group				Control group			
		Pretest		Posttest		Posttest		Pretest	
		Sig	Educational Level	No	Educational Level	Sig	Educational Level	Sig	Educational Level
Patients' knowledge toward vascular access	Pearson correlation	Yes	.836	No	.625(*)	No	.836	No	.243
	N		40	No			.173	No	.334

\*Correlation is significant at the 0.05 level (2-tailed), N= Number of group sample.

This table revealed (no significant) correlation between educational level and patient's knowledge toward vascular access in pretest for study group and pre and posttest for control group. While (significant) correlation between educational level and patient's knowledge toward vascular access in posttest of study group by P value < 0.05.

## Discussion

### Part-I: Discussion of the Socio-Demographic Characteristics Related to the vascular access of Hemodialysis Patients (study and control group).

Relative to the table (1) the majority of the study sample at the middle age ranged (40 - 59) years, and they are accounted for (52) patients with percent (65%) with age mean (43.2) years. This result agree with (Daffar, Thamer, and Yosur, 2013) , that show the majority of study sample with mean age (42.4). This might because of prevalence of diabetes type 2 and long standing uncontrolled hypertension among these age group ( researcher), that supported by (Alashek, McIntyre, and Taal, 2012), who sated that diabetes and hypertensive nephropathy were more common causes of end stage renal disease (ESRD) in patients mean age (49) years <sup>(7) (8)</sup> .

In regarding to gender, it is noticed that (65%) of the study sample are male and the remaining are female. This result is similar to study done by (Mohamad, Abdel, and Ramadan, 2011) , they reported that the study population consisted of (115) hemodialysis patients with vascular access device more than half (67%) of them were male and (33%) female .This high prevalence of end stage renal disease (ESRD) in males could be due to their habits like smoking and alcohol consumption, this results is supported by (Salih, 2013), who stated that results the prevalence of chronic renal failure was significantly more than half of male in comparison with female <sup>(9) (10)</sup> .

Concerning with educational levels, the greater number of them illustrated low levels of education, such as not read and write, read and write, and primary school of the sample, such result is an ordinary outcome for our society because largest number of families under the line of poverty with insufficient monthly income. This result is agree with study done by (Khasal, 2013), the stated findings indicate that the majority of the study sample are low literacy level <sup>(11)</sup> .

In concerning to the marital status, the majority of the sample are married. As we know that the effect of the persons marital status, but in light of the Iraq culture, the marital status after disease may continuing because the strong of sociocultural band in southern area of Iraq. This result is similar to a study done by (Khasal, 2013) , who stated that the largest of hemodialysis patients proportion are married <sup>(11)</sup> .

Relative to occupation status, results indicated that a highest percentage of the study sample are (unemployed, no working, Retired, and Housewife).

In regarding to monthly income, the majority of the study sample are within the insufficient monthly income, 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? I believe that the responsible official bodies in the Ministry of Health in our country need to be more committed and focused to such kind of data for its vital



role in planning health policies scientifically (The researcher). This result agrees with study done by (Mohamad, Abdel, and Ramadan, 2011), who stated that monthly income is not enough <sup>(9)</sup>.

In regarding to residency, the highest percentage of the study sample is living in rural. This result agree with a study done by (Salih, 2013), who found that the highest percentage from the sample study is living in urban area <sup>(10)</sup>.

### **Part-II.: Discussion of Effectiveness of Instructional Health Education Vascular Access on Hemodialysis Patients Knowledge for (Study and Control group) at Pre and Posttest:**

The health education was effective on study group in present study through the high percent of the patients responses for knowledge concerning the vascular access between pre and post health education and majority of patients responses for the study group at post program were have been passed compared with control group at post period.

Indicates that there are highly significant correlation between posttest for study group and total patients knowledge at the 0.01 level, and no significant correlation between the control at pre and posttest and total patient knowledge that is mean the effectiveness of instructional health education vascular access device on study group.

(Mohamad, Abdel, and Ramadan, 2011), the study was conduct to improve, implement teaching guidelines for hemodialysis patients and evaluate the effect of guidelines on quality of life for hemodialysis patients at the study locations, the data were select from 115 adult HD patients of both sexes who correlated to inclusion criteria. The results specify increased total knowledge score for patients at post further than follow up tests and increased total score for studied patients at follow up test <sup>(9)</sup>.

(Deshmukh and Shinde, 2014), support present study-by-study results with pre-test-post-test design use. The sample of the study compose of 60. In this, 30 were in experimental group and 30 were in control group. The samples were choices from the cancer department. Results: The maximum of 43.33 % of samples scored the knowledge pre-test before implementing education to the experimental group and 65 % samples scored in the post-test after implementing to experimental group. In experimental group, the maximum of 75 % of samples scored in the practice pre-test before implementing education and 48.33 % samples scored among score in the practice post-test score after structured education <sup>(12)</sup>.

(Mollaoglu, Fatima, Tulay, and Birsen, 2011), support the present study by conducted experimental study, which was done on 32 patients undertaking hemodialysis between November 2009

and February 2010. By comparing data and score of individuals before to and following education about vascular access devices care, it was look that data and scores were little and high correspondingly, before to the education. Following education, patients' data and scores became higher correspondingly. All these findings were statistically significant ( $P < 0.001$ ) <sup>(13)</sup>.

(Lindberg, Husser, and Ross, 2005), supported study by conducted investigated the impact of a structured educational session on the type and scheduling of permanent vascular access location in patients receiving hemodialysis. Prior to starting dialysis, the patient study group received a general impression of one-on-one teaching from a registered nurse, a dietitian, and a social worker. The study group was compared with a control group who not expose to education instruction, the results show the strong statistical significance differences with  $p < 0.001$ ) compared with control group. Education programs for CKD patients support to improve of patient's knowledge <sup>(14)</sup>.

(Bai, Hung, and Chiou, 2014), who supported the outcome of the study revealed that patients are responsible for the application of science knowledge to self-care daily lives. This cooperation is essential to improve the effectiveness of full care. Can increase the capabilities of self-care for patients and work with each other on the care of patient's vascular access devices to appropriate sustainability site access <sup>(6)</sup>.

(Moureau, 2013), it supported the outcome of the study, which was disclosed that education is an effective staff in reducing the incidence of complications, throughout the training on clean model, evaluate and clear, and you put on accessible through a vein, and assess the patient and catheter cleaning up clear, care basics intravenous safe can be consistently understood and applied and the ability to evaluate. Education on the basics of aseptic technique is essential for all nurses, doctors and patients to establish a culture of safety in all health care facilities. Create a reliable, simple and clear health professional education in the care and preservation of organs intravenously, according to the rules and praise, it is necessary to achieve the best results <sup>(15)</sup>.

### **Part III: Correlation between Demographic data (Age, Gender and Level of Education) with Effectiveness of Instructional Health Education on Hemodialysis Patients Knowledge (Pre-Post, Study and Control Groups):**

Related to the sociodemographic data that revealed (no significant) correlation between age factor and patient's knowledge toward vascular access in pretest for study group and pre and posttest for control group. While (significant) positive correlation between age factor and patient's knowledge toward vascular access in posttest of study group by P value <

0.05. This findings is supported by (El-Rahim, Abd El-Hameed, and Ebtisam, 2010), who revealed that there were significant correlation between patients' socio-demographic characteristics for age and total patients knowledge. This may be due to whenever increase individual age of lifespan increases adherent to the life<sup>(16)</sup>.

Concerning gender the results show that there is no significant relationship among gender factor and patient's knowledge toward vascular access in both study and control group for pre and posttest This finding is supported by (Green, Mor, and Shields, 2011) , their findings illustration that there is non-significant relation between the gender (Prevalence and Demographic and Clinical Associations of Health Literacy in Patients on Maintenance Hemodialysis ). This finding is supported by (Bayraktar, Kurtulus, and Kazancioglu, 2009), there is no significant correlation

### RECOMMENDATION

1. An intensive comprehensive large population-based (national level) studies could be conducted to improve patient's knowledge toward vascular access devices of hemodialysis patients.
2. Educational program needs to be done for patients who suffer from end stage renal kidney disease throughout the pre-dialysis and continued after kidney maintenance with their caregivers to improve their knowledge and skills about the disease and its treatment.
3. A simple booklet of recommendations of care for hemodialysis patients perform hemodialysis should be located in all event to be submit to a newly diagnosed with end stage renal disease.

### Reference

1. Beathard, G.; and Posen, R.: Initial clinical results with the life site Hemodialysis Access System. **Kidney International Journal**, 2000;Vol. (58),No.(5):Pp. 2221–7.
2. Moist, L.; Lee, T.; Lok, C.; Al-Jaishi, A.; Xi, W.; Campbell, V.: Education in vascular access. *Semin Dial*, 2013; Vol.(26), No.(2):Pp.148–53.
3. Smeltzer, S.; Bare, B.; Hinkle, J.; Cheever K.: Brunner and Suddarth's Textbook of Medical-Surgical Nursing. 12th edition. New York: Lippincott Williams and Wilkins; 2010.
4. Kumwenda, M.; Mitra, S.; Reid, C.: Clinical Practice Guideline Vascular Access for Haemodialysis. UK Renal Association, 2015; Vol.(4):Pp.1–26.
5. Simonvan, H.; Donck, J.; Ameye, F.; and Aerden, D.: Duplex Ultrasonography and Haemodialysis Vascular Access: A Practical Review. *Nephro-Urology Monthly*, 2010; Vol.(2):Pp:283–93.
6. Bai, Y.; Hung, S.; and Chiou, C.: Vascular access management and education for hemodialysis patients. *Hu Li Za Zhi*, 2014;Vol.(61), No.(10):Pp.93–8.
7. Daffar, A.; Adnan, T.; and Akeel S.:Native Ateriovenous Fistula Creation in Al-Hussien Teaching Hospital.Thi-Qar *Medical Journal(TQMJ)*,2013; Vol.(7):Pp. 27–40.
8. Alashek, W.; McIntyre, C.; and Taal, M.: Epidemiology and aetiology of dialysis-treated end-stage kidney disease in Libya. *BMC nephrology*, 2012; Vol.(13): Pp.33.



9. Mohamad, H; Abd, N; Fardous A; Fattah R.: Impact of Teaching Guidelines on Quality of Life for Hemodialysis Patients. *Nature and Science*, 2011; Vol.(9):Pp. 214–22.
10. Mahdi, A.; The effect of postural changes on the blood velocity, blood pressure and hemoglobin during hemodialysis. M.Sc. Thesis, Faculty of Medicine, Kufa University, College of Nursing, 2013
11. Khasal Q.: Quality of Life for Hemodialysis Patients with Chronic Hepatitis B and C Virus Infection at Southern Provinces in Iraq. M.Sc.N. Thesis, Faculty of Nursing, Baghdad University, College of Nursing, 2013.
12. Deshmukh, M.; and Mahadeo, S.: Impact of Structured Education on Knowledge and Practice Regarding Venous Access Device Care among Nurses. *Nature and Science*, 2014; Vol.(3):Pp.895–901.
13. Mollaoglu, M.; Fatma, O.; Tulay, K.; Birsen, Y.: Effect on Anxiety of Education Programme about Care of Arteriovenous Fistula in Patients Undergoing Hemodialysis. *The Journal of Vascular Access*, 2011; Vol.(13):Pp.152–56.
14. Lindberg, J.; Fred, E.; Jamie, L.; Dina, J.; Debra, S; Joyce, N.: Impact of Multidisciplinary, Early Renal Education on Vascular Access Placement. *Nephrology News & Issues*, 2005; Vol.(19):Pp.35–36, 41–43.
15. Moureau, N.: Safe Patient Care When Using Vascular Access Devices. *British Journal of Nursing*, 2013; Vol.(22):Pp. 14-21.
16. El-Rahim, S.; Howyida, A.; Abd EL-Aal E; and Jehan S.: Assessment of Home Self Care for Patient with Renal Failure Undergoing Hemodialysis. M.Sc.N. Thesis, Faculty of Nursing, Benha University, 2010.
17. Green, J.; Maria, K.; Anne, M.; Mary, A.; Paul, M.; Palevsky, M; et al.: Prevalence and Demographic and Clinical Associations of Health Literacy in Patients on Maintenance Hemodialysis. *Clinical Journal of the American Society of Nephrology*: CJASN, 2011; Vol.(6):Pp.1354–60.
18. Bayraktar, G.; Kurtulus, I.; Kazancioglu, R.; Bayramgurler, I.; Cintan, S.; Bural, C.; et al.: Effect of educational level on oral health in peritoneal and hemodialysis patients. *International journal of dentistry*, 2009; Vol. (1), No.(5):Pp.1–5
19. Ford, J.; Janet, F.; Alice, E.; Bonnie, G.: The Effect of Diet Education on the Laboratory Values and Knowledge of Hemodialysis Patients with Hyperphosphatemia. *Journal of Renal Nutrition*, 2004; Vol.(14):Pp36–44.

