

Evaluation of Nurses' Practices throughout Hemodialysis Treatment for Patients in hemodialysis unit at Baghdad teaching hospitals.

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الخلاصة:

الهدف: تقويم مهارات الممرضين العاملين في وحدات الإنفاذ الدموي خلال مدة إجراء الإنفاذ الدموي للمرضى، وتحديد العلاقة بين هذه المهارات والصفات الديموغرافية للممرضين. **المنهجية:** أجريت دراسة وصفية في وحدات الديليزة الدموية في مستشفيات بغداد التعليمية للمدة من 25 كانون الأول 2011 ولغاية 9 أيار 2012. اختيرت عينة غير احتمالية "غرضية" من (30) ممرض و ممرضة يعملون في وحدات الإنفاذ الدموي في مستشفيات بغداد التعليمية. جمعت المعلومات من خلال استخدام استبانة مصممة و مكونة من جزأين، جزء شمل صفحة البيانات الديموغرافية و يحتوي (10) فقرات و جزء شمل صفحة مهارات الممرضين المتكون من (25) فقرة، و جمعت المعلومات بطريقة المقابلة المباشرة و المراقبة للممرضين. حددت ثباتية استمارة الاستبانة من خلال إجراء الدراسة المصغرة و حددت مصداقيتها من خلال مجموعة من الخبراء. استخدمت إجراءات التحليل الإحصائي الوصفي (التكرارات، النسبة المئوية، الوسط الحسابي) و إجراءات التحليل الاستنتاجي (معامل الارتباط و معامل التوافق) في تحليل البيانات. **النتائج:** أظهرت نتائج الدراسة إن هناك نقصا و قلة في مهارات الممرضين الواجب تطبيقها في وحدات الإنفاذ الدموي. كما و أظهرت النتائج عدم وجود علاقة معنوية بين مهارات الممرضين و بين (الجنس، المستوى التعليمي و سنوات الخدمة في وحدات الإنفاذ الدموي)، بينما أظهرت وجود علاقة معنوية بين مهارات الممرضين و بين الحالة الزوجية. **التوصيات:** أوصت الدراسة بضرورة توظيف الممرضين الجامعيين في وحدات الإنفاذ الدموي، ضرورة تصميم و توزيع كتيب يدوي لكل الممرضين العاملين في وحدات الإنفاذ الدموي تحوي المهارات القياسية الواجب تطبيقها و سلوكها للعناية بالمرضى في وحدات الإنفاذ الدموي، و ضرورة إعداد برنامج تثقيفي لكل الممرضين العاملين في وحدات الإنفاذ الدموي يتضمن تعليم معايير العناية الواجب إتباعها في وحدات الإنفاذ الدموي.

Abstract:

Objectives: Evaluation of nursing staff practices throughout hemodialysis treatment for patients in hemodialysis units and to determine the relationship between nurses' practices and their demographical characteristics. **Methodology:** A descriptive study was carried out at hemodialysis units of Baghdad teaching hospitals started from December 25th, 2011 through May, 9th, 2012. Non-probability (purposive sample) of (30) nurses, who were working in hemodialysis units, were selected from Baghdad teaching hospitals. The data were collected through the use of constructed questionnaire, which consist of two parts (1) Demographic data form that consist 10-items and (2) Nurses' practices form that consist of 25 items, by means of direct interview technique and visualization of the nurses. Reliability of the questionnaire was determined through a pilot study and the validity through a panel of (9) experts. Descriptive statistical analysis procedures (frequency, percentage, mean of score) and inferential statistical analysis procedures (person correlation coefficient, contingency coefficient) were used for the data analysis. **Results:** The findings of the study indicated that there was a deficit in the nurses' practice that should be applied to the patient throughout hemodialysis treatment. No significant relationship was found between nurses' practice and their gender, level of education, years of experience in hemodialysis units, while significant relationship was found between nurses' practice and their marital status. **Recommendations:** The study recommended that the importance of employing Academic nurse in Hemodialysis units, a booklet should be designated and distributed to all nurses who were working in hemodialysis units including the standard actions that should be applied and followed to care for patients in hemodialysis units, and an educational program should be designated to the nurses who were working in hemodialysis units including the standard actions that should be applied to care for patients in hemodialysis units

Keywords: Hemodialysis treatment, Nurse, Practice.

INTRODUCTION:

The kidney performs numerous specialized functions in an effort to maintain constancy of the internal composition of the body fluids. These functions include excretion of waste products, regulation of extracellular fluid volume and composition, production and catabolism of hormones, and regulation of acid-base balance. The normal kidney can compensate for wide variations in intake and in extra renal loss of fluid and electrolytes ⁽¹⁾.

The number of patients with end-stage renal disease (ESRD) treated by maintenance hemodialysis in the United States has increased sharply during the past 30 years. In 1999, more than 3,000 hemodialysis centers have had 190,000 chronic hemodialysis patients and >60,000 staff members. Chronic hemodialysis patients are at high risk for infection because the process of hemodialysis requires vascular access for prolonged periods. In an environment where multiple patients receive dialysis concurrently, repeated opportunities exist for person to person transmission of infectious agents, directly or indirectly via contaminated devices, equipment and supplies, environmental surfaces, or hand of personnel. Furthermore, hemodialysis patients are immunosuppressed which increases their susceptibility to infection, and they require frequent hospitalization and surgery, which increase their opportunities for exposure to nosocomial infections ⁽²⁾.

It is imperative that healthcare practitioners safeguard the individuals entrusted to their care by controlling diseases and preventing the spread of infection. Vigilant preventive care can limit exposure to potentially harmful infectious organisms and reduce the occurrence of infection. The nurse plays a critical role in preventing and controlling infection. This role begins with early detection and surveillance techniques ⁽³⁾. Nayeri, et al; (2005) also mentioned that nurses, as the largest human resource element of healthcare system, have a major role in providing ongoing, high-quality care to patients ⁽⁴⁾.

Patients requiring long-term hemodialysis are often concerned about the unpredictability of the illness and the disruption of their lives. They often have financial problems, difficulty holding a job, waning sexual desire and impotence, depression from being chronically ill, and fear of dying. Younger patients worry about marriage, having children, and the burden that they bring to their families. The regimented lifestyle that frequent dialysis treatments and restrictions in food and fluid intake impose is often demoralizing to the patient and family.

Patients with no renal function can be maintained by dialysis for years; a patient beginning dialysis between 15 and 19 years of age has greater than 80 % chance of 10 years survival. Many potentially life-threatening issues are associated with the need for dialysis. The nurse can assist the patient and family by answering their questions, clarifying the information provided, and supporting their decision. The lifestyle changes that patients requiring hemodialysis eventually need to make are often overwhelming. During dialysis, the patient, the dialyzer, and the dialysate bath require constant monitoring because numerous complications are possible, including clotting of the circuit, air embolism, inadequate or excessive ultrafiltration (hypotension, cramping, vomiting), blood leaks, contamination, and access complications. The nurse in the dialysis unit has an important role in monitoring, supporting, assessing, and educating the patient ⁽⁵⁾.

Aim of the Study:

The Study aimed to evaluate nurses' practice throughout hemodialysis treatment for patients in hemodialysis units and to find out a relationship between nurses' practices throughout hemodialysis treatment for patients in hemodialysis unit and their sociodemographic characteristics including (educational level, years of experience in hemodialysis unit).

METHODOLOGY:

A descriptive study was carried out in order to achieve the early stated objectives. The study was initiated from December 25th, 2011 through May, 9th, 2012. An approval was issued from the Ministry of Health.

The study has been conducted on the Nursing staff who are working in Hemodialysis Units at AL-Karama Teaching Hospital, AL-Yarmook Teaching Hospital, AL-Kadhimiya Teaching Hospital, AL-Kindy Teaching Hospital, and Baghdad Teaching Hospital in Baghdad city.

A purposive (non-probability) sample of (30) nurses who have been working in hemodialysis units. The samples have been selected based on the following criteria:

1. Those who have been working in hemodialysis units.
2. Those that should have one year of experience in hemodialysis.
3. Those who are (21) years of age and older.

The data have been collected through the use of a questionnaire and by means of an interview technique and direct visualization of the nurses who work in hemodialysis units (the study sample). The data collection process has been performed from January 18th, 2012 until February 20th, 2012. Each nurse spends approximately a complete dialysis treatment shift to document the observation.

A questionnaire was designed and constructed by the researchers to measure the variable. Such a construction was employed through the review of literature and related studies.

The questionnaire consisted of 2 parts.

A demographic data sheet, consisted of (10) items, which included gender, age, marital status, level of education, years of experience in hospital, years of experience in hemodialysis units, sharing in training sessions concerned to hemodialysis which established by the hospital, sharing in training sessions concerned to hemodialysis which established by other hospitals, sharing in training sessions related to hemodialysis which established by other institutions, and duration of the training session.

The second part of the questionnaire was comprised of (25) items that concerned with nursing staff practices throughout hemodialysis treatment for patients in hemodialysis unit at Baghdad teaching

The items have been rated and scored according to the following patterns:

1. Three point likert scale is used for rating the items as Always, Sometimes, and Never (6).
2. The three point type likert scale is scored as 3 for Always, 2 for Sometimes, and 1 for Never.
3. The higher grade scoring of the questionnaire (MS) the greater Practice throughout hemodialysis treatment for patients in hemodialysis unit.

Content validity for the early developed instrument was determined through the use of panel of experts (who have had more than 5 years of experience in the job field) to investigate the clarity, relevancy, and adequacy of the questionnaire in order to achieve the present study's objectives.

A preliminary copy of the questionnaire was designed and presented to (9) experts.

In addition to the experts' responses, their suggestions were taken into consideration. So far, modifications were employed and the final copy of the constructed instrument was completed to be an appropriate tool for conducting the study.

A pilot study was conducted on purposive sample of (5) nurses which was selected from the Surgical Specialist Hospital in hemodialysis unit prior to the original study. The pilot study was conducted from January 6th, 2012 until January 15th, 2012.

The purposes of pilot study are:

- a) To know whether respondents understand the questions and directions or if they find certain questions objectionable in some way; this is generally referred to as presenting the questionnaire.
- b) To enhance the reliability of the questionnaire.
- c) To determine the average time required for the data collection.

Determination of reliability of the questionnaire was based on the test-retest method. The reliability coefficient of the nurses' practice as a whole of the questionnaire were ($r = 0.95$).

Data were analyzed through the use of statistical package of social sciences (SPSS). The statistical procedures, which were applied for the data analysis and assessment of the results, included the following:

a. Descriptive statistics: which include (Frequency (F) and Percentage (%), Mean of Score ⁽⁷⁾ and Standard deviation according to the mean of score).

b. Inferential statistics:

Such analysis was performed through the application of the following procedures:

b.1. Person correlation coefficient formula: it was used to estimate the scale (test-retest) reliability ⁽⁸⁾.

b.2. Contingency table structure: It was used in order to accept or reject the statistical hypothesis. It was depending on the distribution of the observed frequencies among different levels of the two factors which had been used or included. Whichever that got frequencies in each cell recorded the individuals responded to that recorded specific level of response on the measurement scale by the 1st factor and with the level of response of the measurement scale by the 2nd of the same cell. The other usefulness of the contingency table in addition to that can be summarized by testing the correlation ship value through the contingency coefficient according to the presence of constraint (s) effects which were assigned the impertinence from the random state of the observed frequencies distribution among the two independent factors ^(6, 7, 8).

Confidence Level of the cause's correlation ships of the contingency coefficients proposed within not less than 75% interval should be meaningful {P- value ≤ 0.25 } ⁽⁹⁾.

RESULTS:

Table (1): Distribution of nurses by their demographic characteristics.

Gender	F	%	Cum. %
Female	14	46.7	46.7
Male	16	53.3	100.0
Total	30	100.0	
Age	F	%	Cum. %
21-25	5	16.7	16.7
26-30	12	40.0	56.7
31-35	2	6.7	63.3
36-40	6	20.0	83.3
41-45	1	3.3	86.7
46 & more	4	13.3	100.0
Total	30	100.0	
Marital status	F	%	Cum. %

Married	20	66.7	66.7
Single	10	33.3	100.0
Total	30	100.0	
Level of education	F	%	Cum. %
Nursing School	2	6.7	6.7
Secondary nursing school graduate	8	26.7	33.3
Nursing institute graduate	13	43.3	76.7
Nursing college graduate	7	23.3	100.0
Total	30	100.0	
No. of years of experience in hospitals	F	%	Cum. %
1-5 yrs.	12	40.0	40.0
6-10 yrs.	8	26.7	66.7
11-15 yrs.	4	13.3	80.0
16-20 yrs.	3	10.0	90.0
21 yrs. & more	3	10.0	100.0
Total	30	100.0	
No. of years of experience in hemodialysis units	F	%	Cum. %
1-5 yrs.	19	63.4	63.4
6-10 yrs.	6	20.0	83.3
11-15 yrs.	1	3.3	86.7
16-20 yrs.	1	3.3	90.0
21 yrs. & more	3	10.0	100.0
Total	30	100.0	
Sharing in training sessions concerned to hemodialysis which established by the hospital	F	%	Cum. %
Yes	18	60.0	60.0
No	12	40.0	100.0
Total	30	100.0	
Sharing in training sessions concerned to hemodialysis which established by other hospitals	F	%	Cum. %
Yes	16	53.3	53.3
No	14	46.7	100.0
Total	30	100.0	
Sharing in training sessions concerned to hemodialysis which established by other institutions	F	%	Cum. %
Outside the country	5	16.7	16.7

Inside the country	5	16.7	33.3
Not sharing	20	66.6	100.0
Total	30	100.0	
Duration of the training session	F	%	Cum. %
Not sharing	13	43.3	43.3
Less than one month	5	16.7	60.0
One month	5	16.7	76.7
Two months	3	10.0	86.7
Six months	4	13.3	100.0
Total	30	100.0	

Table (1) indicated that the majority of the study sample (53.3%) were male and the remaining were female, most of them were (26- 30) years old and accounted for (40 %). In regard to the subject marital status, the majority of the sample were married and they accounted for (66.7%) of the whole sample.

Relative to their level of education, the greater number of them were nursing institute graduate and they accounted for (43.3%) of the sample.

Concerning number of years of experience, the majority of the sample (40 %) having 1-5 years of experience in hospitals, while (63.3%) having 1-5 years of experience in hemodialysis units.

The majority of the study sample (60.0 %) were sharing in training session which established by the hospital and (53.3 %) of them were sharing in training session which established by other hospitals (Table 1).

With respect to the subjects sharing in training sessions concerning hemodialysis which established by other institutes, the majority of the sample were not sharing and they accounted for (66.7 %) of the whole sample (Table 1).

In regard to the duration of the training session, the majority of the study sample (43.3 %) were not sharing in any training session and they did not have any time of training session related to nursing actions throughout hemodialysis treatment for patients in hemodialysis unit.

Table (2): Nurses' practice within three point level scale by total frequencies, mean score and comparative significant of the first and second observation

☐	Items	M.S. 1 st Obs.*	M.S.2 nd Obs.**	Total M.S.	Severity
1	Paying attention to patient I.D.	1.866	2	1.933	Moderate
2	Introducing him/her self as a health care provider to the patient before starting procedure	1.6	1.633	1.616	Moderate
3	Preparing the necessary equipment before starting procedure	2.2	2.3	2.25	Moderate
4	Hand washing before and after doing procedure	2.266	2.333	2.3	Moderate
5	Checking patient fluid status and body weight before and after hemodialysis treatment	2.833	2.833	2.833	High
6	Checking patient fluid status and blood pressure before and after hemodialysis treatment	2.6	2.666	2.633	High

7	Checking patient fluid status and peripheral edema before and after hemodialysis treatment	2.133	2.3	2.2166	Moderate
8	Checking patient fluid status and lung sounds before and after hemodialysis treatment	2.0333	2	2.016	Moderate
9	Checking patient fluid status and heart sounds before and after hemodialysis treatment	1.966	1.966	1.966	Moderate
10	Assessing the condition of vascular access	2.5	2.566	2.533	High
11	Assess the Patient for Nausea	1.833	1.833	1.833	Moderate
12	Assess the Patient for Dizziness	1.6	1.666	1.633	Moderate
13	Assess the Patient for Muscle cramp	1.7	1.633	1.666	Moderate
14	Assessing general skin condition	2	1.9	1.95	Moderate
15	Checking patient vital signs	2.3	2.333	2.316	Moderate
16	Checking patient vital signs within the ideal interval at least 30- 60 minutes	2.2	2.233	2.216	Moderate
17	withdraw a sample of blood from the patient to determine the level of serum electrolytes and waste products	2.033	2.066	2.05	Moderate
18	Monitoring physical status before and during dialysis for evidence of physiologic imbalance and change	2.1	2.033	2.066	Moderate
19	Providing patient with entertainment materials like books, magazines...etc during hemodialysis treatment	1.666	1.866	1.766	Moderate
20	Providing patient with comfort and safety during hemodialysis treatment	2.033	2.266	2.15	Moderate
21	Helping the patient to understand and adjust him/herself to the changes happened in lifestyle	1.633	1.7	1.666	Moderate
22	Educating the patient as to follow the treatment program “diet and medications in particular” and how this is related to the altered kidney function.	1.933	2	1.966	Moderate
23	Encouraging patient to express feelings and concerns	1.8	1.866	1.833	Moderate
24	Checking patient’s consciousness before starting procedure	2.4	2.5	2.45	Moderate
25	Ensuring that every medication should be given at the prescribed time	2.133	2.3	2.216	Moderate

*M.S. 1st Obs.: Mean Score of the First Observation.

**M.S. 2nd Obs.: Mean Score of the Second Observation

Table (2) indicated that the nurses had a deficit in their practices that should be applied throughout hemodialysis treatment to care for patients in hemodialysis unit as presented with moderate level of practices in all items except items (5, 6, 10).

Table (3): Causes correlationship of the contingency coefficient and significant level responding under and upper cut off point in compact form of nurses' practice among gender

Nurses' Practice		Under cut off point	Upper cut off point	Total	*C.C. test	**P-value	CS
Female	F	12	2	14	0.132	0.464	NS
	%	40.0%	6.7%	46.7%			
Male	F	15	1	16			
	%	50.0%	3.3%	53.3%			
Total	F	27	3	30			
	%	90.0%	10.0%	100.0%			
Confidence level = 0.536							

*Contingency coefficient

**S= significant (p-value ≤ 0.25)

Table (3) shows that {(40 %) of the study sample were female and (50 %) of the study sample were male} responding under cut off point of nurses' practices, while the result has indicated that there has been a no significant relationship between gender and nurses' practices (C.C. = 0.132, Confidence level= 0.536).

Table (4): Causes correlationship of the contingency coefficient and significant level responding under and upper cut off point in compact form of nurses' practice among marital status

Nurses' Practice		Under cut off point	Upper cut off point	Total	*C.C. test	**P-value	CS
Married	F	19	1	20	0.229	0.197	S
	%	63.3%	3.3%	66.7%			
Single	F	8	2	10			
	%	26.7%	6.7%	33.3%			
Total	F	27	3	30			
	%	90.0%	10.0%	100.0%			
Confidence level = 0.803							

*Contingency coefficient

**S= significant (p-value ≤ 0.25)

Table (4) shows that (63.3 %) of the study sample were married and (26.7 %) were single, both of them were responding under cut off point of nurses' knowledge.

The result has indicated that there has been a significant relationship between marital status and nurses' practice (C.C. = 0.229, Confidence level= 0.803).

Table (5): Causes correlationship of the contingency coefficient and significant level responding under and upper cut off point in compact form of nurses' practice among level of education

Nurses' Practice		Under cut off point	Upper cut off point	Total	*C.C. test	**P-value	CS
Level of education							
Nursing School	F	2	0	2	0.305	0.380	N.S
	%	6.7%	.0%	6.7%			
Secondary nursing school graduate	F	6	2	8			
	%	20.0%	6.7%	26.7%			
Nursing institute graduate	F	12	1	13			
	%	40.0%	3.3%	43.3%			
Nursing college graduate	F	7	0	7			
	%	23.3%	.0%	23.3%			
Total	F	27	3	30			
	%	90.0%	10.0%	100.0%			
Confidence level = 0.62							

*Contingency coefficient

**S= significant (p-value \leq 0.25)

Table (5) shows that (40 %) of the study sample were nursing institute graduate, (23.3 %) were nursing college graduate, (23.3%) were secondary nursing school graduate, and (6.7 %) were nursing school graduate, all of these percentages were responding under cut off point of nurses' practices.

Furthermore, the result has indicated that there has been a no significant relationship between level of education and nurses' practices (C.C. = 0.305, Confidence level= 0.62).

Table (6): Causes correlationship of the contingency coefficient and significant level responding under and upper cut off point in compact form of nurses' practice among years of experience in hemodialysis unit

Years of experience in HD unit \ Nurses' Practice		Under cut off point	Upper cut off point	Total	*C.C. test	**P-value	CS			
1-5 yrs.	F	16	3	19	0.246	0.749	N.S			
	%	53.3%	10.0%	63.3%						
6-10 yrs.	F	6	0	6						
	%	20.0%	0%	20.0%						
11-15 yrs.	F	1	0	1						
	%	3.3%	0%	3.3%						
16-20 yrs.	F	1	0	1						
	%	3.3%	0%	3.3%						
21 yrs.& more	F	3	0	3						
	%	10.0%	0%	10.0%						
Total	F	27	3	30						
	%	90.0%	10.0%	100.0%						
Confidence level = 0.251										

*Contingency coefficient

**S= significant (p-value \leq 0.25)

Table (6) shows that (53.3 %) of the study sample have (1- 5) years of experience in HD unit, (20 %) have (6 - 10) years of experience in HD unit, (10 %) have (21 yrs. & more) experience in HD unit, and (3.3 %) have (11 – 15) and (16 – 20) years of experience in HD unit respectively. All of these percentages were responding under cut off point of nurses' knowledge.

While the result has indicated that there has been a no significant relationship between years of experience in HD unit and nurses' practices (C.C. = 0.246, Confidence level = 0.251).

Discussion:

Throughout the course of the present study, it has been noticed in table (1) that most of the nurses who worked in hemodialysis units were male and accounted for (53.3 %) and the remaining were female. This finding was disagreed with Bakey (2009) who showed in a study which was conducted in hemodialysis at Baghdad teaching hospitals that the majority of the study sample (51 %) were female and the remaining were male ⁽¹⁰⁾. But this finding was agreed with Nihatolla, et al., (2005) who reported that the majority of nurses in hemodialysis unit were male ⁽¹¹⁾. The study showed that the majority (40 %) of the study sample were within age group (26 – 30) years old. This finding comes along with that of Bernal-Sundiang, et al., (1995) who showed that the majority (82 %) of the nurse staff in hemodialysis were female, within age group (21 - 26) years old ⁽¹²⁾; also the finding was agreed with Bakey (2009) who showed in a study which was conducted in hemodialysis at Baghdad teaching hospitals that the majority of the study sample (43.1 %) were within age group (26 – 30) years old ⁽¹⁰⁾, and the finding was agreed with Uğur, et al., (2007) who stated

that (73,9%) of the nurses in hemodialysis units in Ankara were under 30 years old ⁽¹³⁾. The study also showed that most of the study sample (66.7 %) were married, and this finding was agreed with Bakey (2009) who showed that most of the study sample were married and they accounted for (56.9 %) ⁽¹⁰⁾. Concerning the level of education, most of them were nursing institute graduate and they accounted for (43.3%) of the sample. In a cross sectional study which was conducted in 32 hemodialysis units in the Nile delta, Egypt to evaluate knowledge and practices toward risk of infection by 317 health care workers shows that the majority (81.3%) of health care workers were nurses with diploma in nursing ⁽¹⁴⁾. This finding also agreed with Bakey (2009) who showed that most of the nurses those work in hemodialysis unit in Baghdad teaching hospitals were with nursing institute graduate level of education ⁽¹⁰⁾. Regarding years of experience in hospital, the majority of the sample (40 %) having 1-5 years of experience in hospitals. This findings was come in agreement with a study which was conducted to investigate knowledge of and practices towards universal precautions among health care workers and medical students in 2 university hospitals in Mazandaran Province, Islamic Republic of Iran, show that the majority (40.6%) of the nurse staff had 0-5 years of experience in hospital ⁽¹⁵⁾. Relative years of experience in hemodialysis units, (63.3%) of them having 1-5 years of experience in hemodialysis units, and this finding comes in agreement with Bernal-Sundiang, et al., (1995) who reported that the majority of the nurse staff had 20 months (range: 7-36 months) years of experience in hemodialysis units ⁽¹²⁾. Nihatolla, et al., (2005) reported that (82.5%) of nurses had (1-3) years of experience in hemodialysis and peritoneal dialysis units ⁽¹¹⁾, Uğur, et al., (2007) stated that (68,9 %) had 0-5 years of experience in hemodialysis unit ⁽¹³⁾. The majority of the study sample (60.0 %) were sharing in training session which established by the hospital and (53.3 %) of them were sharing in training session which established by other hospitals. With respect to the subjects sharing in training sessions concerning hemodialysis which established by other institutes, the majority of the sample were not sharing and they accounted for (66.7 %) of the whole sample. The findings was disagreed with Bakey (2009) who showed that more than half of the study sample (64.7%) had no opportunity to be involved in training sessions concerning hemodialysis which established by the hospital, and the same percentage (64.7%) had no opportunity to be involved in training sessions concerning hemodialysis which established by other hospitals, and the majority (78.4%) of the study sample had no opportunity to be involved in training sessions concerning hemodialysis which established by other institutions neither outside the country nor inside the country ⁽¹⁰⁾. In regard to the duration of the training session, the majority of the study sample (43.3 %) were not sharing in any training session and they did not have any time of training session related to nursing actions throughout hemodialysis treatment for patients in hemodialysis unit. This result was agreed with Nihatolla, et al., (2005) who reported that (95%) of the nurse staff had no training sessions after graduation ⁽¹¹⁾.

The study indicated that there was a moderate significant comparison in all items except (5, 6, and 10) which mean that there was a deficit and lack of nursing actions that should be applied to care for patients throughout hemodialysis treatment.

Table (3) presents that there was no significant relationship at p-value (0.464) level between nurses' practice and their age. This result was disagreed with Al-Hakkak (2004) who presented that there was a significant relationship between nurses' practices and their age related to nurses who worked in hemodialysis units at Baghdad teaching hospitals ⁽¹⁶⁾.

Table (4) presents that there was a significant relationship at p-value (0.197) level between nurses' practice and their marital status. This result come in agreement with Al-Hakkak (2004) who showed that there is a significant relationship between nurses' practice those worked in hemodialysis unit and their marital status ⁽¹⁶⁾.

Table (5) presents that there was no significant relationship at p-value (0.380) level between nurses' practice and their level of education. This finding was disagreed with Al-Hakkak (2004) who stated that there was a significant relationship between nurses' practice those worked in hemodialysis units and their level of education ⁽¹⁶⁾.

Table (6) presents that there was no significant relationship at p-value (0.749) level between nurses' practice and years of experience in HD. This finding was disagreed with Al-Hakkak (2004) who stated that there was a significant relationship between nurses' practice those worked in hemodialysis units and years of experience in hemodialysis unit ⁽¹⁶⁾.

CONCLUSIONS:

According to the results of the study, the researchers conclude the following:

1. The majority of the study samples were male, with age group (26-30) years.
2. Most of them were graduated from Nursing Institute.
3. The majority of the study sample had (1 – 5) years of experience in hospital, most of them had (1 – 5) years of experience in hemodialysis unit.
4. Most of the study sample were not sharing in any training session related to nursing actions throughout hemodialysis treatment.
5. The study demonstrated that there was a deficit in the nurses' practice that should be applied to care for patients throughout hemodialysis treatment.
6. There was no significant relationship between gender, level of education, years of experience in hemodialysis units and nurses' practice.
7. The study indicated that there was a significant relationship between marital status and nurses' practice.

RECOMMENDATIONS:

Based on the results obtained from the present study, the researchers recommended the following:

1. Importance of employing Academic nurse in Hemodialysis units.
2. A booklet should be designated and distributed to all nurses who were working in hemodialysis units including the standard actions that should be applied and followed to care for patients in hemodialysis units.
3. An educational program should be designated to the nurses who were working in hemodialysis units including the standard actions that should be applied to care for patients in hemodialysis units.

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