

Evaluation of Nurses' Practice in Hemodialysis Units in Medical City Directorate

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Abstract: Hemodialysis nurse plays an important role in this kind of patient critical treatment. Nurses practice at hemodialysis must be evidence-based and guidelines to provide high quality care and the nurses practice must be evaluated continually to determine judgment.

Study aimed to evaluate hemodialysis nurses' practice at Medical City Directorate and determine relationship between nurses' practice and their general information.

Methodology: A descriptive study was carried out at hemodialysis units at Iraqi Hemodialysis Center and Renal Transplantation Center in Medical City Directorate. This study has started from April 24th, 2016 through July 1st, 2017. A purposive (non-probability) sample of (30) nurse who work in hemodialysis units, were selected from Iraqi hemodialysis center and kidney transplant center.

The data were collected through the use of a constructed questionnaire, which consists of two parts; (1) demographic data of that consist from 7 items, (2) hemodialysis nurse's practice checklist taken from that which consists from 3 sections of (79) items.

Validity of the study was determined through the panel of (10) experts and the reliability of the study questionnaire through the pilot study.

Descriptive statistical analysis procedure (frequency, percentage and mean of score) and inferential analysis procedure (person correlation coefficient, chi-square test, t-test and Z score) were used to data analysis.

Results: The findings of the study indicated that there is high practice score of nursing practice concern. No statistical significant difference between nurses practice and their demographic data except training out Iraq.

The study recommended that providing an opportunity for nurses to enrolled in training sessions and conferences to improve their practice and keep updating knowledge concerning hemodialysis nursing care.

Keywords: Nurses' Practice, Hemodialysis Units, Medical City Directorate

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I. Introduction

Nursing profession emphasize on relationships can provide collaboration between nurse and other care giver with patient-their family for promote the best possible outcomes and quality of care. The professional relationships may important at of health care services to maximize collaboration and quality of care delivery belonging and across several units and it may be act with multiple members at same practical working collaboratively environment to provide quality of nursing care⁽¹⁾.

End-stage renal disease (ESRD) consider as wide range problem of person health that need care with long time and high cost. ESRD patients treated with hemodialysis 3 times a week, for 3 to 4 hours per each treatment session. Hemodialysis is high-quality patient curative procedure and it provides safety for renal failure patients. Hemodialysis nurses have an important role applying high standards hemodialysis treatment and to provide care for patients by effective and safe manner. Comfort and safety of patient are essential elements of high quality care⁽²⁾. Nurses consider a main of care providers in hemodialysis units that provide the prescription and clinical nursing care, may include pre, intra, and end hemodialysis care⁽³⁾.

Nursing evidence based practice act to directing the skills, knowledge, judgement process that are vital to safe way of nursing practice. The norms of nursing are significant because it gives road map for patient needs estimation and their expectations of care, promote guidelines and direct professional nursing practice. The high

level of understanding and response for the multiple complementary nurses expected practice provided by developing of nursing standards⁽⁴⁾.

The high level of quality care should be supported by up dated evidences and directed by client expectations and usage practical evaluation to achieve high level of outcomes⁽⁵⁾.

Aim of the study: evaluate hemodialysis nurses practice at medical city directorate and determine relationship between practice and their general information

II. METHOD AND MATERIAL

Method

Research design

Descriptive study design was followed to conduct this study.

Setting

Study carried out in hemodialysis unit at Iraqi Hemodialysis Center and Renal Transplantation Center in Medical City Directorate in Baghdad.

Subject:

A purposive (non-probability) sample of (30) nurse who work in hemodialysis units and agree to participate in study.

Tool of the study

A study instrument was designed and constructed by the researcher to measure the variables underlying the present study. A construction was employed through review of literature and related studies. The check list consisted of two parts (Nurses Demographic Characteristic and nurses practice check list)

Part 1: A demographic data sheet, consisted of (7) items, which included Gender, age, nurses' education level, years of employment, years of experiences at hemodialysis units, training in Iraq and training out Iraq.

Part 2: nurses' practice check list designed to measure the nurses practice consists of (79) items that concerned with:

Section one: This section is composed of (39) items; they presented the nurses pre-hemodialysis practice which contain three subdomains prepare patient, equipment and hemodialysis machine.

Section two: This section is composed of (28) items; they presented the nurses practice during hemodialysis such as hand wash, wear personal protective equipment, prime dialysis machine and patient monitoring and educating

Section three: This section is composed of (12) items; they presented the nurses end-hemodialysis practice which contain as hand wash, wear personal protective equipment, prepare machine to disconnect and patient discharge

Method

- 1- Approval request of provided to the nurses to obtain their participation agreement with study.
- 2- Validity: Content validity for the early developed instrument was determined through the panel of experts (who have had more than 5 years' experience in their specialty field) to investigate the clarity, relevancy, and adequacy of the questionnaire in the order to achieve the present study's objectives. A preliminary copy of the questionnaire was designed and presented to (10) experts. They were (6) faculty members from college of nursing /university of Baghdad, (4) nephrology faculty member from ministry of health (Al-Kindy Teaching Hospital and Ghazy Al-Hariry surgical specialist hospital).
- 3- Determination of reliability of the questionnaire was based on the inter-observation method.

Statistical analysis

Descriptive statistical analysis procedure (frequency, percentage and mean of score) and inferential analysis procedure (person correlation coefficient, chi-square test, t-test and Zscore) and use SPSS were used to data analysis software package version 20.

III. Result

The table (I) show that more than half of study sample were female, with age (≤ 35) years, majority of the study sample were nursing institute graduate and most of the study sample were ≥ 10 years with years of experience in hospital. Concerning of years with years of experience were ≥ 10 in hemodialysis, majority of the study sample were with ≥ 5 training sessions in Iraq and ≥ 2 training sessions out Iraq. The table (II) show that the nurses practice score was as following pre-dialysis $(28.6) \pm 1.1$, Intra dialysis $(55.4) \pm 2.1$ and $(50.7) \pm 1.7$.

Tables (III) to (VIII) show there is no significant association between nurse's practice and their age, gender, education level, years of hospital and hemodialysis unit, training in Iraq (p value > 0.05), there is no differences between age and nurses' practice. Table (IX) shows that there is a significant association between nurse's practice and their training out Iraq (p value < 0.05), are differences between training out Iraq and nurses practice.

Table (I): Distribution of general information of nurses at hemodialysis unit(n = 30)

Variables	Frequency	Percent
Gender		
Male	14	46.7
Female	16	53.3
Age		
≤ 35	12	40.0
>35	18	60.0
Educational status		
Nursing school	1	3.3
Nursing high school	1	3.3
Nursing institute	21	70.0
Nursing college	7	23.3
Years of experience at hospital		
10 years ≤	17	56.6
10 years >	13	43.4
Years of experience in hemodialysis		
10 years ≤	18	60.0
10 years >	12	40.0
Training in Iraq		
≤5 sessions	21	70.0
>5sessions	9	30.0
Training outside Iraq		
≤2 sessions	24	80.0
> 2 sessions	6	20.0

Table(II) Distribution and Association of Hemodialysis Nurses Practice

Stage	Pre-dialysis		
	Frequency	Mean	SD
Pre-dialysis	30	28.6	1.1
Intra dialysis	30	55.4	2.1
End dialysis	30	50.7	1.7

Significant level at p value ≤ 0.05, SD= Standard deviation,df= degree of freedom, p= probability

Table(III) Distribution and Association of nurses practice and their age

Age	Pre-hemodialysis		During hemodialysis		End of hemodialysis	
	No.	Mean ± SD	No.	Mean ± SD	No.	Mean ± SD
Accepted	7	31.6 ± 9.2	0	00	18	36.7 ± 8.6
	t= 1.3, df=28, p= 0.2				t= 1.2, df=28, p= 0.2	

Significant level at p value ≤ 0.05 No: number, df= degree of freedom, SD= standard deviation, t = t test, p= probability

Table(IV) Distribution and Association of nurses practice and their Gender

Gender	Pretest		During hemodialysis		End of hemodialysis	
	Accepted		Accepted		Accepted	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Male	3	21.4	0	0.0	9	64.3
Female	4	25.0	0	0.0	9	59.3
	Fisher's Exact p = 0.5		χ ² = 0.1, df=1, p=0.7		χ ² = 0.2, df=1, p=0.6	

Significant level at p value ≤0.05 Significant level at p value ≤ 0.05, df= degree of freedom, χ²= chi-square test, p= probability

Table(V) Distribution and Association of nurses practice and their education level

Education level	Pre- hemodialysis		During hemodialysis		End of hemodialysis	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
High school	1	100.0	0	0.0	1	100.0
Institute	6	28.6	0	0.0	0	0.0
College	0	0.0	0	0.0	12	57.1
Total	7	23.3	0	0.0	5	71.4
Test	$\chi^2= 6, df=3, p=0.1$			$\chi^2= 2.6, df=3, p=0.4$		

Significant level at p value ≤ 0.05 , df= degree of freedom, χ^2 = chi square test, p= probability

Table(VI) Distribution and Association of nurses practice and their years of experience in hospital

Years of experience in hospital	Pre-hemodialysis		During hemodialysis		End of hemodialysis	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
>10	12	92.3	0	0.0	10	76.9
≤ 10	6	25.0	0	0.0	8	47.1
Total	18	60.0	0	0.0	18	60.0
Test	$\chi^2= 2.7, df=1, p=0.01$			$\chi^2= 2.7, df=1, p=0.09$		

Significant level at p value ≤ 0.05 , d.f.= degree of freedom, χ^2 = chi square test, p= probability

Table(VII) Distribution and Association of nurses practice and their years of hemodialysis

Hemodialysis years	Pre- hemodialysis		During hemodialysis		End of hemodialysis	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
>10	15	88.4	0	0.0	9	75.0
≤ 10	5	27.4	0	0.0	9	50.0
Total	20	66.6	0	0.0	18	60.0
Test	$\chi^2= 1.7, df=1, p=0.01$			$\chi^2= 1.8, df=1, p=0.2$		

Significant level at p value ≤ 0.05 ,df= degree of freedom, χ^2 = chi square test, p= probability

Table(VIII) Distribution and Association of nurses practice and their training in Iraq

Training in Iraq	Pre- hemodialysis		During hemodialysis		End of hemodialysis	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
>2	13	86.7	0	0.0	10	66.7
≤ 2	4	26.7	0	0.0	18	53.3
Total	17	56.6	0	0.0	18	60.0
Test	$\chi^2= 2.71, df=1, p=0.01$			$\chi^2= 0.5, df=1, p=0.4$		

Significant level at p value ≤ 0.05 ,df= degree of freedom, χ^2 = chi square test, p= probability

Table(IX) Distribution and Association of nurses practice and their training outside Iraq

Training out Iraq	Pre-hemodialysis		During hemodialysis		End of hemodialysis	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
>2	15	93.8	0	0.0	6	100.0
≤ 2	5	25.0	0	0.0	12	50.0
Total	20	66.6	0	0.0	18	60.0
Test	$\chi^2= 5.7, df=1, p=0.01$			$\chi^2= 5, df=1, p=0.02$		

Significant level at p value ≤ 0.05 ,df= degree of freedom, χ^2 = chi square test, p= probability

IV. Discussion

Evaluation or measurement of process is commonly used for determination of the range which health care providers how can give patients particular services consistently which come with recommended guidelines for management. Process measures may be linked with procedures or cure process as general that common designed to enhance health care or reduce complications at future ⁽⁵⁾.Nurses play important role of clinical care that ensuring and maintain an adherence with norms and criteria to perform actions with high degree of care standard than other professionals if needed ⁽⁶⁾.The study finding indicate good level of nurses practice at hemodialysis units in Medical City directory in Baghdad city table (II).

Concerning the nurses' age the highest proportion of study sample (60.0%) was (≥ 35) years old table (III), and this result agree with finding was disagreed with Uğur, et al., (2007) who stated that (73,9%) of the nurses in hemodialysis units in Ankara were under 30 years old and Jawad (2015) who found that the majority of nursing staff age was more than 30 years.

Throughout the course of this study, it was showed that the (53.3%) of the study sample were female table (IV), this result agree 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. Concerning the educational status, highest percentage (70.0%) of the sample was nursing institute graduate (table V). This result come with Ibrahim (2009) shows that the majority (81.3%) of health care workers were nurses with a diploma in nursing. This come in line with Younes (2012), knowledge and performance among nurses before and after receiving a training program on patient' fall in hemodialysis unit, showthat the majority of nursing staff were having a diploma qualification.

Regarding years of experience in hospital, the (56.6%) of the dialysis nurse have (≤ 10 years) (table VI). This finding was come in agreement with Motamed (2006) show that the majority (40.6%) of the nurse staff had 0-5 years of experience in hospital nine years of experience in hemodialysis the highest percentage (60.0 %) of the study sample is (≤ 10) years. This result agrees with Uğur, et al., (2007) stated that (68,9 %) had 0-5 years of experience in hemodialysis unit. The results of training in Iraq the highest percentage (70.0 %) of the study sample have (≤ 5) sessions. The training out Iraq the highest percentage (80.0 %) of the study sample have (≤ 2) sessions.

The findings demonstrate that there was no significant association between nurse's practice and their age and gender (p value > 0.05), 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. The findings show that there was no significant association between nurse's practice and their nursing education level (p value > 0.05), this results 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. The findings reported that there was no significant association between nurse's practice and their years of experience in hospital (p value > 0.05) table (V), this results 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. The table (VII) showed that there was no significant association between nurse's practice and their years of hemodialysis experience (p value > 0.05). The table (VIII and IX) showed that there was no significant association between nurse's practice and their training in Iraq but there was no significant association between nurse's practice and their training out Iraq (p-value < 0.05)

V. Conclusion

- Most of nurses have good practice level at hemodialysis units.
- No significant association between nurses practice and their demographic data.

Recommendations

- Providing an opportunity for nurses to enrolled in training sessions and conferences to improve their practice and keep updating knowledge concerning hemodialysis nursing care
- Implementation advanced hemodialysis guidelines to be efficient and effective methods of conveying information to nurses.
- Periodic evaluation of hemodialysis nurses should be conducted to identify the shortage that influence in providing nursing care for hemodialysis patient
- It is necessary to initiate nurses' dialysis specialty after the graduation from nursing colleges and institutes.

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