

RESEARCH ARTICLE

Assessment of Nurses' Knowledge and Practices Regarding Nursing Management for Patients on Hemodialysis at Kirkuk General Hospital / Iraq

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ABSTRACT

Background: Hemodialysis is the most common method used to treat advanced chronic kidney failure, which considers the eighth cause of the top ten causes of death in Iraq with 4.1% of total death in 2020.

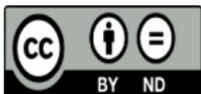
Objective: To assess nurses' knowledge and practices regarding nursing management for patients on hemodialysis at Kirkuk General Hospital / Iraq.

Methodology: A quantitative (descriptive and observational) design study was carried out at Kirkuk General from 7 February to 25 August 2022, A non-probability (purposive) sampling technique was utilized to collect data from 55 nurses who worked in the hemodialysis unit, and the data were collected through A questionnaire was designed and constructed by the researcher, Data analyzed using the statistical package of social science version 22.

Results: Most of the participants were 30-34 years old, female, and College graduates, 41.8% have more than 5 years of the experience dialysis unit, the results also showed no significant differences between the nurses' knowledge and demographic characteristics of the nurses, while the result observed that strong relationship due to the significant level which was accounted at $P < 0.05$ in gender.

Conclusion: Most of the participants were of the female gender, of young ages, Nursing College graduates, about two third whose experience years in hospital increased than five years.

Keywords: Assessment, Knowledge, Practice, Hemodialysis.



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INTRODUCTION

Dialysis is the process of removal of waste and extra water from the blood, the term dialysis is derived from the Greek words dia, meaning "through", and lysis meaning "splitting or loosening" (Alyassin, 2018). It is a type of renal replacement therapy(RRT), where the kidney's role of filtration of the blood is supplemented by artificial equipment, which removes excess water, solutes, and toxins (Murdeswar & Anjum, 2021).

Hemodialysis (HD) is usually carried out three times a week for 3-4 hours, and it is necessary when the kidneys are not able to get rid of enough waste products and fluid from the blood and body (Fernandes & Fatima, 2020). Dialysis ensures the maintenance of homeostasis in patients experiencing a sudden reduction in kidney function such as acute kidney injury (AKI) (Muroya et al., 2018), or a prolonged, gradual loss in renal function, called chronic kidney disease (CKD)(Murdeswar & Anjum, 2021).

Hemodialysis replaces the main function of the kidney, the main types of dialysis are HD and peritoneal dialysis(PD). Each type of dialysis has advantages, disadvantages, and risks of complications during the treatment period. The incidence of the RRT increases as well. For example, the incidence of HD and PD annually increases by 6-7% and 8%, respectively (Vadakedath & Kandi, 2017).

There were 1.1 million dialysis patients in 2002 and 1.3 million at the end of 2002 in the world (Jha et al., 2012), while there were 2.376 million HD patients and 0.289 million PD patients in 2014 and It is predicted that the number of patients undergoing RRT will reach 1.571-3.014 million in Asia by 2030 (Filipska et al., 2021). Moreover, states that the number of patients with end-stage renal disease (ESRD) needing RRT ranged from 4.902 to 7.083 million in the world with the global prevalence of CKD of 13.4% in 2019 (Lv & Zhang, 2019).

Dialysis technique and method may be affected by a range of factors that include health system policy, physician and clinical team's clinical evaluation and preference patient qualification, satisfy practices, patient preference available capacity for a specific modality, quality of life considerations, patient awareness and education about dialysis modalities (Sinclair et al., 2018).

Death rates among dialysis patients are elevated among younger age groups, primarily ascribed to

cardiovascular (40%) and infectious causes (10%). An increase in cardiovascular mortality in dialysis patients could be associated with combined risk factors, for example, dystrophic vascular calcification, chronic inflammation, significant changes in extracellular volume, and altered cardiovascular dynamics during dialysis (Murdeswar & Anjum, 2021).

Nurses' experiences of using clinical competencies in a qualitative study. All standards of practice provide a guide to knowledge, skills, judgment, and attitude that are needed to practice safely. The nursing standards are important because they outline what the profession expects of its member, and promote guide, and direct professional nursing practice. (Alramadhan et al., 2019).

METHOD

A quantitative (descriptive and observational) design was carried out in the present study which was conducted from 7 February to 25 August 2022. The study was carried out on the nursing staff at the dialysis unit/ Kirkuk General Hospital in Kirkuk City. A non-probability (purposive) sampling technique was utilized to collect data from (55) nurses out of (91) nurses working in Dialysis Unit/ Kirkuk General Hospital. They were selected according to the following criteria which included Both gender, Nurses who agree to participate in the study, and nurses who work morning shifts and night shifts. And the exclusion criteria of the study included: Nurses who participate in the pilot study, Nurses who refuse to participate in the study, and nurses who have administrative responsibilities (not performing practice). Based on an extensive review of literature related to the study topic, the researcher constructs the tools of data collection for the study. The tools contain three parts, which is:

Part one: Demographic characteristics of the nurses.

Part two: Nurses' level of knowledge regarding nursing management for patients on hemodialysis.

Part three: Nurses practice for hemodialysis nursing management.

Statistical Analysis: The following statistical data analysis approaches were used to analyze and assess the results of the study under the

application of the statistical package (SPSS) ver.

RESULTS

Table (1) show the distribution of demographic characteristics of the nurses. Regarding of "Gender" variable, the results show that two-thirds of the studied nursing staff are female and accounted for (63.6%), Age Groups show that most of the studied respondents were focused on the third age group (30_34) years since they accounted for (41.8%), "Educational level" shows that most of the studied respondents were " College Graduate" since they are accounted (78.2%), "Number of years of service in the nursing Hospital" showed that the majority of studied respondents were focused at the last group, since they are accounted (61.8%), "Years of experience in "Hemodialysis unit" showed that studied respondents were focused at the last group, since they are accounted (41.8%), asking about: "Having participated in a Hemodialysis training course", (54.5%) who had only one training course, despite more than a third of the studied respondents who did not participate in any course in the field of dialysis.

Table (2) shows that all items nurses' level of knowledge regarding nursing management for patients on hemodialysis were highly significant except the item (The patient with renal failure is considered for the low potassium diet program) which is moderate significant, regarding for grand means of a score for nurses' knowledge regarding renal failure items the result shows that (78.91) which is highly significant.

Table (3) shows that all items were highly significant except the items (A central venous catheter(dual-lumen)is a type of hemodialysis access used for a long period.), (The basic principle of hemodialysis is only diffusion), and (The prohibitive cardiovascular instability is an absolute contraindication of hemodialysis) which are moderate significant, regarding for grand means of a score for nurses' knowledge regarding hemodialysis items the result shows that (84.00) which is highly significant.

(22.0). Descriptive and inferential data analysis.

Table (4) shows that all items nurses' practice regarding nursing management of hemodialysis items were low significant except the items (Checking patients' information on scheduled treatment), and (Setting the dialyzer program according to the patients) which are highly significant, regarding for grand means of a score for nurses' practices regarding Pre-Hemodialysis nursing management items the result shows that (31.27) which is low significant.

Table (5) shows that all items were low significant except the items (Ensure dialyzer program has been completed), (Pushes normal saline to empty the lines from blood), (Ensure to leave 2 - 5 cm of the blood to prevent air from entering the body), and (Destruction of disposable materials used in the Hemodialysis) which are moderate significant, regarding for grand means of a score for Nurses' practices regarding post -hemodialysis nursing management items the result shows that (17.46) which is low significant.

Table (6) regarding the relationships between Nursing Management and the demographic characteristics of the nurses. Results show that regarding contingency coefficients and testing significant levels in contrast to (Nurse's Knowledge), observing that weak relationships are accounted due to significant levels which were accounted at $P>0.05$, and according to that, it could be concluded that nursing management's knowledge does not differ among studied subjects rather than differences within their demographic characteristics and their related variables.

Table (7) the results show that practices" observing that strong relationship due to the significant level which was accounted at $P<0.05$ in "Gender", while leftover variables recorded weak relationships since no significant contingency coefficient at $P>0.05$ are accounted, and according to that, it could be concluded that nursing practice's management does not differ among studied subjects rather than differences within their demographic characteristics and their related variables.

Table (1): Distribution of demographic characteristics of the nurses with comparisons significant

demographic characteristics.	Classes	F	%	C.S. (*) P-value
Gender	Male	20	36.4	P=0.000

Assessment of Nurses' Knowledge

	Female	35	63.6	(HS)
Age Groups	20 _ 24	4	7.3	x ² = 31.091 P=0.000 (HS)
	25 _ 29	19	34.5	
	30 _ 34	23	41.8	
	35 _ 39	4	7.3	
	40 _ 45	5	9.1	
	Mean ± SD	30.85 ± 5.47		
Level of Education	Secondary School Nursing Graduate	3	5.5	x ² = 83.400 P=0.000 (HS)
	Nursing Institute Graduate	6	10.9	
	Nursing College Graduate	43	78.2	
	Postgraduate	3	5.5	
Nurses' experience years in hospital	Less than 1 year	9	16.4	x ² = 41.509 P=0.000 (HS)
	1 < 3 years	3	5.5	
	3 < 5 years	9	16.4	
	More than 5 years	34	61.8	
Nurses' experience years in the Hemodialysis unit	Less than 1 year	11	20	x ² = 9.218 P=0.027 (S)
	1 < 3 years	13	23.6	
	3 < 5 years	8	14.5	
	More than 5 years	23	41.8	
Nurses' participation in a Hemodialysis training course	Not Participate	21	38.2	x ² = 43.255 P=0.000 (HS)
	One training course	30	54.5	
	Two training courses	3	5.5	
	Three or more training courses	1	1.8	

(*) HS: Highly Sig. at P<0.01; Testing based on One-Sample Chi-Square test, and Binomial test.

Table (2): nurses' knowledge regarding renal failure items.

Knowledge Items	Response.	F.	%	MS	SD	RS%	Ev.
I: Nurses' knowledge regarding renal failure							
The creatinine test is considered a marker of renal function	Don't Know	2	3.6	0.96	0.19	96	H
	No	0	0.0				
	Yes	53	96.4				
The normal value of the creatinine range is 1.7-3.5 mg/dL	Don't Know	11	20	0.20	0.40	20	H
	No	11	20				
	Yes	33	60				
The normal value of the blood urea range is 40-80 mg/dL	Don't Know	17	30.9	0.31	0.47	31	H
	No	12	21.8				
	Yes	26	47.3				

The patient with renal failure is considered for the low potassium diet program	Don't Know	13	23.6	0.64	0.49	64	M
	No	7	12.7				
	Yes	35	63.6				
The management of stage 5 chronic kidney disease is dialysis	Don't Know	3	5.5	0.85	0.36	85	H
	No	5	9.1				
	Yes	47	85.5				
Grand Means of Score(GMS)				78.91			

Ev. : Evaluation (0.00 - 33.33) Low (L) ; (33.34 - 66.66) Moderate (M) ; (66.67- 100) High (H).

Red Color: Belong to items having a reversed score.

Table (3): nurses' knowledge regarding Hemodialysis items.

II: Nurses' knowledge regarding Hemodialysis							
Knowledge Items	Resp.	F.	%	MS	SD	RS%	Ev.
Hemodialysis removes excess water from the body	Don't Know	0	0.0	1.00	0.00	100	H
	No	0	0.0				
	Yes	55	100				
The dialyzer is the filter that acts as an artificial kidney in Hemodialysis	Don't Know	1	1.8	0.95	0.23	95	H
	No	2	3.6				
	Yes	52	94.5				
Dialysate, is a solution of pure water, salts, and electrolytes	Don't Know	0	0.0	1.00	0.00	100	H
	No	0	0.0				
	Yes	55	100				
A Central venous catheter (dual-lumen) is a type of hemodialysis access used for a long period.	Don't Know	20	36.4	0.36	0.49	36	M
	No	2	3.6				
	Yes	33	60				
The basic principle of Hemodialysis is only diffusion	Don't Know	28	50.9	0.51	0.50	51	M
	No	9	16.4				
	Yes	18	32.7				
The anticoagulant drug used during dialysis is heparin	Don't Know	1	1.8	0.98	0.13	98	H
	No	0	0.0				
	Yes	54	98.2				
The prohibitive cardiovascular instability is an absolute contraindication of Hemodialysis	Don't Know	15	27.3	0.62	0.49	62	M
	No	6	10.9				
	Yes	34	61.8				
The complication of Hemodialysis is low blood pressure	Don't Know	8	14.5	0.84	0.37	84	H
	No	1	1.8				
	Yes	46	83.6				

Assessment of Nurses' Knowledge

Monitor new patients carefully for disequilibrium Syndrome	Don't Know	1	1.8	0.93	0.26	93	H
	No	3	5.5				
	Yes	51	92.7				
Monitor patients for complications during Hemodialysis	Don't Know	2	3.6	0.96	0.19	96	H
	No	0	0.0				
	Yes	53	96.4				
Grand Means of Score(GMS)				84.00			

Ev. : Evaluation (0.00 - 33.33) Low (L) ; (33.34 - 66.66) Moderate (M) ; (66.67- 100) High (H).

Red Color: Belong to items having a reversed scored

Table (4): Nurses' practices regarding Pre-Hemodialysis nursing management items.

Practices items	Resp.	F	%	MS	SD	RS%	Ev.
I: Nurses' practices in Pre-Hemodialysis nursing management							
Checking patients' information on scheduled treatment	Not Perform	0	0.00	2.00	0.00	100	H
	perform incorrectly	0	0.00				
	perform correctly	55	100				
Explain of procedure to the patient	Not Perform	46	83.6	0.11	0.46	5.50	L
	perform incorrectly	8	14.5				
	perform correctly	3	5.5				
Take a sample of the blood for chemistry levels	Not Perform	24	43.6	0.65	0.64	32.5	L
	perform incorrectly	26	47.3				
	perform correctly	5	9.1				
Preparation of Hemodialysis machine	Not Perform	0	0	0.65	0.95	32.5	L
	perform incorrectly	37	67.3				
	perform correctly	18	32.7				
Setting the dialyzer program according to the patients	Not Perform	0	0	1.82	0.58	91	H
	perform incorrectly	5	9.1				
	perform correctly	50	90.9				
Prepare anticoagulant dose	Not Perform	0	0	0.44	0.83	22	L
	perform incorrectly	43	78.2				
	perform correctly	12	21.8				
Performing hand washing, and wearing Personal Protected Equipment	Not Perform	17	30.9	0.44	0.83	22	L
	perform incorrectly	26	47.3				
	perform correctly	12	21.8				
Measures and records patient vital signs	Not Perform	53	96.4	0.07	0.38	3.6	L
	perform incorrectly	0	0				

	perform correctly	2	3.6				
Measure and record patient weight	Not Perform	55	100	0.00	0.00	0.00	L
	perform incorrectly	0	0				
	perform correctly	0	0				
Assessing the condition of vascular access	Not Perform	0	0	0.07	0.38	3.6	L
	perform incorrectly	53	96.4				
	perform correctly	2	3.6				
Grand Means of Score(GMS)				31.27			

Ev. : Evaluation: (0.00 - 33.33) Low; (33.34 - 66.66) Moderate ; (66.67- 100) High.

Table (5): Nurses' practices regarding post-hemodialysis nursing management items.

Practices items	Resp.	F	%	MS	SD	RS%	Ev.
III: Nurses' practices in post-hemodialysis nursing management							
Ensure dialyzes program has been completed	Not Perform	0	0	1.16	1.00	58	M
	perform incorrectly	23	41.8				
	perform correctly	32	58.2				
Remove the arterial needle and apply continuous moderate pressure with sterile gauze until the bleeding stops	Not Perform	0	0	0.00	0.00	0.00	L
	perform incorrectly	55	100				
	perform correctly	0	0				
Pushes normal saline to empty the lines from blood	Not Perform	0	0	1.02	1.01	51	M
	perform incorrectly	27	49.1				
	perform correctly	28	50.9				
Ensure to leave (2 - 5) cm of the blood to prevent air from entering the body	Not Perform	0	0	0.87	1.00	43.5	M
	perform incorrectly	31	56.4				
	perform correctly	24	43.6				
Remove the venous needle and apply continuous moderate pressure with sterile gauze until the bleeding stops	Not Perform	0	0	0.04	0.27	1.8	L
	perform incorrectly	54	98.2				
	perform correctly	1	1.8				
Apply necessary dressing over the cannulation site	Not Perform	47	85.5	0.04	0.27	1.8	L
	perform incorrectly	7	12.7				
	perform correctly	1	1.8				
Take a sample of blood from the patient to determine the level of serum electrolytes	Not Perform	55	100	0.00	0.00	0.00	L
	perform incorrectly	0	0				
	perform correctly	0	0				
Observe patient for prevention of Hemodialysis complications	Not Perform	50	90.9	0.18	0.58	9.0	L
	perform incorrectly	0	0				

Assessment of Nurses' Knowledge

	perform correctly	5	9.1				
Check patients' vital signs	Not Perform	54	98.2	0.04	0.27	1.8	L
	perform incorrectly	0	0				
	perform correctly	1	1.8				
Measure patients weight	Not Perform	54	98.2	0.04	0.27	1.8	L
	perform incorrectly	0	0				
	perform correctly	1	1.8				
Destruction of disposable materials used in the Hemodialysis	Not Perform	0	0	1.16	1.00	58	M
	perform incorrectly	23	41.8				
	perform correctly	32	58.2				
Sterilize dialysis machine.	Not Perform	0	0	0.11	0.46	5.5	L
	perform incorrectly	52	94.5				
	perform correctly	3	5.5				
Remove gloves and perform hand hygiene.	Not Perform	13	23.6	0.51	0.88	25.5	L
	perform incorrectly	28	50.9				
	perform correctly	14	25.5				
Document data	Not Perform	0	0	0.00	0.00	0.00	L
	perform incorrectly	55	100				
	perform correctly	0	0				
Confirm patient safety discharge	Not Perform	53	96.4	0.07	0.38	3.6	L
	perform incorrectly	0	0				
	perform correctly	2	3.6				
Grand Means of Score(GMS)			17.46				

Ev. : Evaluation: (0.00 - 33.33) Low; (33.34 - 66.66) Moderate ; (66.67- 100) High.

Table (6): Relationships between Nursing Knowledge, and demographic characteristics.

Demographical Characteristics	Knowledge		
	C.C.	Sig.	C.S.
Gender	0.189	0.153	NS
Age Groups	0.224	0.573	NS
Level of Education	0.235	0.361	NS
Nurses' experience years in hospital	0.263	0.253	NS
Nurses' experience years in the Hemodialysis unit	0.109	0.881	NS
Nurses' participation in a Hemodialysis training course	0.291	0.165	NS

(*) NS: Non-Sig. at $P > 0.05$; S: Sig. at $P < 0.05$; Testing is based on a Contingency Coefficient test.

Table (7): Relationships between Nursing Practices, demographic characteristics.

Demographical Characteristics	Practices		
	C.C.	Sig.	C.S.
Gender	0.273	0.035	S
Age Groups	0.207	0.651	NS
Level of Education	0.136	0.791	NS
Nurses' experience years in hospital	0.237	0.351	NS
Nurses' experience years in the Hemodialysis unit	0.110	0.879	NS
Nurses' participation in a Hemodialysis training course	0.286	0.178	NS

(*) NS : Non Sig. at P>0.05 ; S : Sig. at P<0.05; Testing is based on a Contingency Coefficient test

DISCUSSION

Analysis of the demographic characteristics of the results shows that two-thirds of the studied nursing staff are female (63.6%), these findings are supported by the results of the study carried out to assess nurses' knowledge and practices at El Fayoum Insurance Hospital-Egypt (Sayied & Ahmed, 2017). Who mention that female records had the highest study percentage about 84%, while this finding was inconsistent with (Bakey, 2012), who perform a study for evaluation of nurses' practices throughout hemodialysis treatment for patients in hemodialysis unit at Baghdad teaching hospitals, concluded that most of the nurses (53.3 %), who worked in hemodialysis units were male.

Concerning age group, the result shows that the highest percentage (41.8%) were within the age range from (30-34), while the lowest percentage of the sample (9.1%), their age range age groups (40-45) years old, with mean age, was (30.85±4.8), which consistent with the findings of the other study done for assessment of the nurses' knowledge during caring for hemodialysis patients by (Alramadhan et al., 2019), in Saudi Arabia, they found that the mean age (30.3±4.8).

Regarding the educational level of the study samples, the result shows that the majority of them (78.2%) were College Graduate, the finding in the present study is supported by the result of the study in the evaluation of nurses' awareness and practice of hemodialysis access care in Khartoum state, Sudan perform by

(Abdelsatir, 2013), who mentions that (85%) nurses had university bachelor degrees and records the highest percentage among another education level.

Concerning experience years of samples in the hospital, the result shows the majority of the nurses (61.8%), had more than five years of experience, followed by 16.4 % who had less than one year and the same for 3<5 years, minimal percentages of sample the years' experience group was (1<3) years, these results contradict with the study perform to the assessment of the nurses' knowledge during caring for hemodialysis patients by (Alramadhan et al., 2019), in Saudi Arabia, who mention that more than half of nurses 60.8% had less than five years of experience in hospital.

Regarding the years of experience in the HD unit, it has been noted that studied respondents were focused on the last group since they accounted for (41.8%), which have more than five years, This result contradicts (Bakey, 2012), which performs a study among nurses who have been working in HD units in Baghdad, which showed (63.4%) of the samples were had below 5 years of experience,

Concerning the training course related to HD, unfortunately, more than a third of the studied respondents (38.2) did not participate in any course in the field of dialysis, on the other hand, the majority of nurses (54.5%) had received only one training course related to HD, these findings disagree with the study done to the assessment

of nurses practice about hemodialysis in Port-Said City- Egypt by (Ahmed, 2015), who mentions that the majority of nurses(56.6%) of the whole sample, did not participate in any training course regarding HD.

Regarding nurses' knowledge of renal failure items, the findings showed were highly significant except for the item (The patient with renal failure is considered for the low potassium diet program) which is moderate significant, while for PGMS for nurses' knowledge regarding renal failure items were (78.91) which is highly significant.

The study findings show that the knowledge of nursing staff regarding hemodialysis items all items was highly significant except for items (4, 5, and 7) which are moderately significant, while for PGMS for nurses' knowledge regarding Hemodialysis items was (84.00) which is highly significant.

Regarding nurses' practices regarding pre-hemodialysis nursing management items, the findings showed were all items were lower significant except the items (1 and 5) which are highly significant, while for PGMS for nurses' practices regarding pre-hemodialysis nursing management items were (31.27) which is lower significant.

Concerning nurses' practices regarding post-hemodialysis nursing management items, the findings showed were all items were lower significant except the items (1, 3, 4, and 11) which are moderately significant, while for PGMS for nurses' practices during-hemodialysis nursing management items were (17.46) which is lower significant.

From the researcher's point of view, unfortunately, the nurses usually didn't reflect their nursing education in a university in their actual nursing care. After they are employed in a healthcare organization nurses are often taught skills from a co-worker and older experienced nursing staff without attending scientific training sessions.

The results show that regarding contingency coefficients and testing significant levels in contrast to nurses' knowledge, observing that weak relationships are accounted due to significant levels which were accounted at $P>0.05$. This is in agreement with (Al-Mawsheki et al., 2016), the study conducted in the HD unit at Ismailia University Hospital and Ismailia General Hospital in Egypt, which showed a significant difference between nurses' knowledge scores and their age.

The results show that practices" observing that strong relationship due to the significant level which was accounted at $P<0.05$ in "Gender", while leftover variables recorded weak relationships since no significant a contingency coefficient at $P>0.05$ are accounted, the results show that there was no significant relationship at the p-value (0.05) level between nurses' practice and years of experience in HD, this result agreed with(Bakey, 2012), that there was no significant relationship at the p-value (0.05) level between nurses' practice and years of experience in HD. This finding disagreed with (Al-Hakkak, 2004), who stated that there was a significant relationship between nurses who worked in hemodialysis units and years of experience in HD units.

CONCLUSIONS

Based on the findings of the study the researcher concluded:

Most of the participants were of the female gender, of young ages, with the majority of those with a "Nursing College Graduate" education level, about two third whose experience years in hospital increased than five years, while about half of them are working in the Hemodialysis unit, as well as more than half of them, had only one participant in a Hemodialysis training course, and this was achieved by a statistically significant difference.

From the study, we can conclude that the knowledge part, concerning nursing management of patients on Hemodialysis is assigned at the established level which that achieving the goal of this study since most of the evaluated knowledge items responding were at a high score.

Regarding nurses' practice, it could be concluded that the practices part, concerning nursing management of patients on Hemodialysis does not come at the level in which that achieves the goal of this study since most of the evaluated practice's items responding were at a low score. According to the study that a statistically significant association between nurses' practices and gender

ETHICAL CONSIDERATIONS

An administrative agreement was obtained from the head of the clinical nursing department. The study was approved by the College of Nursing and the College of the Medicine/ University of Sulaimani. Oral consent was gained from the nurses after explaining the purpose and objectives of the study and ensuring the confidentiality of the information.

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AUTHOR CONTRIBUTIONS

Study concept; Writing the original draft; Data collection; Data analysis and Reviewing the final edition by all authors.

DISCLOSURE STATEMENT

The authors report no conflict of interest

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