Knowledge and practices of nurses regarding nebulization therapy in Kirkuk city hospitals

معارف وممارسات الممرضين فيما يتعلق بعلاج الرذاذ في مستشفيات مدينة كركوك

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الخلاصة:

خلفية البحث: البخاخ هو جهاز مهم يستخدم لاستنشاق الأدوية المخصصة لعلاج بعض الأمراض الرئوية عن طريق الرذاذ.

الهدف: تقييم معرفة وممارسة الممرضين حول استخدام علاج البخاخ و تحديد العلاقة بين الخصائص الديموغرافية مع معرفة وممارسات الممرضين في مستشفى مدينة كركوك.

المنهجية: أجريت دراسة غرضية في الفترة من 1 حزيران 2018 إلى 15 تشرين الثاني 2018.على عينة مؤلفة من (50) ممرض كانوا يعملون في وحدة العناية المركزة ،تم اجراء الدراسة في: مستشفى آزادي التعليمي ، مستشفى كركوك العام.

النتائج: غالبية اعمار الممرضين كانت بين (23-27) سنة وشكلوا 85 ٪، حيث ان معظمهم 74 ٪ من الإناث ،وكانت نسبة 24 ٪ من العينة لديهم خدمة اقل من سنة في وحدة العناية المركزة اما فيما يخص سنين الخدمة كانت النسبة 34 ٪ منهم يعملون لمدة 11 سنة فأكثر، وكانت 28 ٪ منهم لديهم دورة تدريبية في وحدة العناية المركزة حول التبخير.

الاستنتاجات:اغلب الممرضين لديهم مهارات جيدة ولكن المستوى المعرفي ضعيف ولا يوجد علاقة بين الخصائص الديموغرافية للممرضين ومستويات المعرفة والممارسات.

التوصيات: برنامج تعليمي للممرضين والممرضات لتحسين المعرفة والممارسات حول العلاج عن طريق الرذاذ داخل مستشفيات مدينة كركوك.

الكلمات المفتاحية: المعرفة، الممارسة، علاج البخاخ

Abstract:

Background: Inhaler is an important device used to inhalant the drugs to treat some pulmonary diseases.

Aims of study: Assess the knowledge and practices of nurses about nebulization therapy and determine the relationship between demographic characteristic with nurse's knowledge and practices.

Methodology: A purposive study design was conducted in the period from 1st June 2018 to 15th November 2018.the sample include (50) nurses who were working at intensive care unit, at Azadi teaching hospital and Kirkuk general hospital.

Results: The majority of nurses' ages were (23-27) years old that were accounted for (85%), Most of them (74%) were female,(24%) for less than one years were employee in the intensive care unit, Majority of them (34%) were employee (11 and more) years were employment in nursing, (28%) of them have training session in the intensive care unit.

Conclusions: Nurses have more skills best than knowledge level and their no significant relationship between nurse's demographic characteristics and levels of knowledge and practices.

Recommendation: there is a need for preparing Educational program for nurses to improve knowledge and practices about nebulization therapy.

Keywords: Knowledge, Practice, nebulization therapy.

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INTRODUCTION

Asthma and chronic impeding metabolism respiratory organ un-wellness (COPD) keep chronic diseases (Asthma and other noxious and chronic impeding metabolism of the respiratory organ (COPD) conserve those chronic diseases), with substantial world burden despite presently accessible treatments and management pointers [1, 2]. World prevalence has been estimated at 1–18% for respiratory disorder and COPD, with proof of fast incidence over recent years [3]. The supply of effective treatments means that heaps of these burdens is avertible, and education is crucial to the implementation of in intervention strategies [4], Inhalers area unit the mainstay of treatment for these diseases [5]. In every space, they improve symptoms and quality of life, and in respiratory disorder they save lives. Despite these benefits, there is a unit continuing high levels of non-adherence to victimization inhalers due to every drug and nondrug factors [6]**.** As frontline suppliers of patient care in respiratory disorder, nurses area unit generally to blame for the continued analysis of respiratory disorder management and for deciding the foremost effective treatment at the side of the patient and doc [7]**.**

Nurses collectively play important roles in most aspects of COPD management, at the side of designation, review and trailing of sickness progression and treatment success, and

instruction on treatment modification where required [8]. The National respiratory disorder Education bar arrange (NAEPP) tips advocate that health care suppliers, at the side of nurses, build a sturdy relationship with their patients through effective communication, respondent queries, and supporting effective sickness management [9]. These partnerships place nurse's terribly very key position to acknowledge poor sickness management and to supply exaggerated care or specialist referral for risky patients. Another major aspect of a decent nurse-patient partnership is that the prospect for nurses to deliver patient education, a very important a section of that's inhalator technique [10, 11]. This review will examine, from the nurse practitioners' perspective, the central role that nurses play at intervals the management of respiratory disorder and COPD and additionally the essential interventions they'll supply to spice up patient outcomes, with a particular target inhalator education.

The inhalation route is to boot being investigated in some instances for the overall delivery of medication [12, 13], High pneumonic yet low general drug concentrations given by inhalation cause high pneumonic effectiveness, whereas at an equivalent time reducing the danger of aspect effects. This suggests that higher general aspect effects unit of measurement typically associated with orally or intravenously administered doses that may provide similar pneumonic effectiveness compared with inhalation [14].

Aims of the study:

1. Assess the knowledge and practices of nurses about nebulization therapy.
2. Determine the relationship between demographic characteristic with nurse's knowledge and practices.

METHODOLOGY:

Across-sectional design study the sample was selected purposive (non-probability) of (50) Nurses. Setting of the study: intensive care units of both Azadi Teaching Hospital (25) nurses were included; Kirkuk general Hospital (25) nurses were included and collected data from1st June 2018 to 15th November 2018. Instruments: The questionnaire was constructed for the study. The instrument consisted two parts:

Part I: socio demographic characteristic, which includes (4) variables (age, gender, years of the service in the field of the nursing, training session).

Part II: Consists of two tools: The first tool was a questionnaire for assessing knowledge regarding nebulization therapy which refers to the level knowledge of nurses about nebulization therapy measured by the correct response to the items through using of two options for answering (where1 = Incorrect answer, 2 = Correct answer), the second tool which used was a checklist for assessing nursing practice about nebulization therapy procedure which refers to options were used for the doing the step or not (where1 = Not done, 2 = Done) through direct observation method was used the observation checklist was carried out while the nurses were working during their shifts in these units. Each observation lasted for 20 minutes by using the direct observation technique.

The data was analyzed by using SPSS package which include descriptive statistical approach (frequency, percentage and mean of score) and inferential statistical approach (Standard deviation and one way a nova), The level of knowledge was ranked into two levels; (1-l.5) are not significant, (1.5-2) are significant, and the level of practice was ranked into two levels; (1-1.5) are not significant; (1.5-2) are not significant. Validity and Reliability of the instrument: Content validity of the questionnaire was determined through a panel of (12) experts.

RESULTS

Table (1): study samples of demographic data

No.	Variable	F.	%
	Age		
1	23-27	29	58
2	28-32	17	34
3	33 and more	4	8.0
Total		**50**	**100**
No.	**Gender**	**F.**	**%**
1	Male	13	26
2	Female	37	74
No.	**Years of experience**	**F.**	**%**
1	less than 1 year	12	24
2	1-5	14	28
3	6-10	7	14
4	11 and more	17	34
No.	**Participation in training session**	**F.**	**%**
1	No	36	72
2	Yes	14	28

Table (1) shows that the study sample were (58%) were between age group 23-27 year, (74%) were female, (48.2%) were between (11 and more) Years of experience , (28%) were with Training Session.

Table (2): Knowledge of nurses regarding nebulization therapy (N= 50)

No.	Items	correct		incorrect		MS	sig
		F	%	F	%		
1	Treatment should be given using either an electrical compressor or compressed air	19	38	31	62	1.3	NS
2	The volume of fluid in the nebulizer chamber is usually 2-4.5mls and O_2 flow rate 6-8 Lt/min	23	46	27	54	1.4	NS
3	The nebulizing time is approximately 5-10 minutes	19	38	31	62	1.3	NS
4	Bronchodilator responses are the same whether a mask or a mouthpiece is used.	18	36	32	64	1.3	NS
5	Nebulizers just before meals may spoil an already small appetite	16	32	34	68	1.3	NS
6	Patient education should be given to reinforce how to manage at home	16	32	34	68	1.3	NS
7	The drug to be nebulized requires dilution, should be 0.9% sodium chloride	19	38	31	62	1.3	NS
8	Oxygen should be used with caution in patients with COPD	19	38	31	62	1.3	NS
9	Mouthpieces should be used for nebulizer steroids and antibiotics in order to prevent deposition to the face and eyes	18	36	32	64	1.3	NS
10	Drugs should only be added to the nebulizer chamber immediately prior	18	36	32	64	1.3	NS

This Table shows that knowledge of the nursing staff regarding nebulization therapy was inadequate NS= NOT significant (1-1.5) S=significant (1.5-2).

Table (3): practices of nurses regarding nebulization therapy (N= 50)

No.	Items	Done		Not done		MS	Sig
		F	%	F	%		
1	Position the patient allowing optimal ventilation	37	74	13	26	1.7	S
2	Assess and record pulse and respiration	17	34	33	66	1.3	NS
3	Teach the patient the proper way for inhalation and perform hand washing	34	68	16	32	1.6	S
4	Explain the procedure and prepare the medication added to the nebulizer	17	34	33	66	1.3	NS
5	Plug in the nebulizer and attach the connecting tubes	33	66	17	34	1.3	NS
6	Turn on the machine	33	66	17	34	1.3	NS
7	Offer the nebulization to the patient with assistance until performs proper inhalation	33	66	17	34	1.3	NS
8	Continue the treatment until the medication is gone	34	68	16	32	1.6	S
9	Reassess the patient breathing sounds	33	66	17	34	1.3	NS
10	Remove and rinse mask	36	72	14	28	1.7	S
11	Shake off excess water and dry on clean cloth	31	62	19	38	1.6	S
12	Put the mask and tubing back together and set it aside	33	66	17	34	1.3	NS
13	Disconnect the tubing from compressor make sure every part is dry before sorting	31	62	19	38	1.6	S
14	Place a cover over the compressor	32	64	18	36	1.6	S

This table shows that the practice of the nursing staff regarding nebulization therapy was adequate NS= NOT significant (1-1.5) S= significant (1.5 – 2)

Table 4: Association between nurses' knowledge and demographical data of nurses

Item		Sum of Squares	df	Mean Square	F	Sig.
Age	Between Groups	.823	5	.165	.368	.868
	Within Groups	19.677	44	.447		
	Total	**20.500**	**49**			
Gender	Between Groups	.828	5	.166	.828	.536
	Within Groups	8.792	44	.200		
	Total	**9.620**	**49**			
Years of Experience	Between Groups	.461	5	.092	.422	.831
	Within Groups	9.619	44	.219		
	Total	**10.080**	**49**			
Participation In training sessions	Between Groups	8.611	5	1.722	1.231	.311
	Within Groups	61.569	44	1.399		
	Total	**70.180**	**49**			

This table shows the relation between (demographic data) and knowledge where not significant differences P-value (>0.05).

Table (5): Association between nurses' practice and demographical data of nurses

Item		Sum of Squares	df	Mean Square	F	Sig.
Age	Between Groups	.634	6	.106	.229	.965
	Within Groups	19.866	43	.462		
	Total	**20.500**	**49**			
Gender	Between Groups	.138	6	.023	.104	.995
	Within Groups	9.482	43	.221		
	Total	**9.620**	**49**			
Years of Experience	Between Groups	.515	6	.086	.386	.884
	Within Groups	9.565	43	.222		
	Total	**10.080**	**49**			
Participation In training sessions	Between Groups	12.417	6	2.070	1.541	.188
	Within Groups	57.763	43	1.343		
	Total	**70.180**	**49**			

This table shows the relation between (demographic data) and practice where not significant differences P-value (>0.05).

DISCUSSION

Nebulizers utilized in the management of acute exacerbation airways unwellness. The nurses are the primary health care suppliers for educating the patients and giving correct and correct nebulization medical aid. They're the sure worthy hand of the doctors for the nebulization medical aid. The workers info level and capabilities are a big considers crucial the quantity of workers needed to carry out unit goals [(15)] Majority of all the nurses was in between the age bracket of 23-27 years. Some nurses had no previous coaching relating to nebulization (72%). The findings showed that total data was at associate degree unacceptable level.

In a study, majority of the nurses acknowledge that providing some amount of education relating to nebulization medical aid to the patients throughout the hospital keep or at the time of discharge is duty of the nurses World Health Organization act as bridge between the doctors and patients. However, few of them felt that it's the primary responsibility of the doctors or the metastasis healer to point out the patients concerning the right and use of nebulization so as thus on cut back the complications and adherence to the indrawn medications [(16).]

The nursing workers in essential care units are to blame for giving care to the patients connected to nebulizer machine ought to be trained enough to provide effective and safe care to patients. Providing a brief coaching relating to correct observe of nebulization periodically to the nurses and this can decrease the burden of the un-wellness. This study indicated that there was applied mathematics a big distinction associated with years of expertise and therefore the majority of nurses were between 11and additional years in social unit. These findings are congruent with those of world organization agency [(17)].

The findings showed that total data was at associate degree unacceptable level. The reason is also attributable to education and coaching of the nurses, nurses (34%) had not attended coaching courses regarding nebulizer There-fore, and these factors may have an impact on the unacceptable level of information of nurses [(18)]. In another study put together notice that data is no heritable through experience, generally observation of addressing mentors and continuing education. Understood data might to boot be drawn as sensible that's,

derived from experience or observe [19]. Steered that lack of knowledgeable nurse's find to enlarged risks to patients and will influence patient's outcomes. Nursing shortage ends up in maximize employment because the nurse: Patient relation minimizes and one nurse ought to provide care of over one critically unwell patient. Shift leaders in every public and private sectors are operating below nice pressure and an outsized vary of them also are not trained, but merely have the experience of operating in associate degree social unit for a range of years. it had been found among this study that there was important distinction in nurses' data regarding shut down the equipment's, These results are in agreement with the study of Canadian Committee on Antibiotic Resistance [20]. they found that reusable instrument ought to be utterly clean before medical aid, factors that have an impact the ability to effectively clean medical instrumentation ought to be thought before shut down, instruments should be clean as before long as attainable once use.

The present study finds that nurses' data concerning checking all connections of nebulizer and most of the nurses in I.C.U were at unacceptable level. McNeal, [21] discovered that There are many of nebulizer out there, and each one is also very little completely different from the others. This general guide to nebulizer parts will provides a basic arrange of what makes a nebulizer system operate.

Kulas, [22] .showed that the act of euphotic the medication through a nebulizer will cause dryness, pharygitis, and oral dangerous style generally; nebulizers can cause. Thrush which will be a yeast infection within the mouth, symptoms of thrush embrace white spots within the mouth, trauma and pain.

The current study results denoted that the bulk of the studied nurses were having a satisfactory level of information concerning the definition of the nebulizer. This study showed that there was important distinction in nurses' data concerning explaining procedures in keeping with Ethan, [23]. The patient should be in an exceedingly comfy position, throughout the procedure once the patient puts the mask on. Can begin taking slow deep breaths, He or she ought to still breathe slowly and deeply till there's no medication left within the Nebulizer cup. A report by Creed & Spiers [24] entailed that delicate nurse ought to perform by assessing patient breath sounds, metastasis standing, vital sign and different important metastasis functions required compare, record important changes and improvement. Refer if necessary and perform different important metastasis functions. This study showed lack of performance as regarding of hands laundry most of the nurses were having associate degree unacceptable performance score. Hand hygiene is that the primary infection management lives utilized in nursing [25].

Pratt, et al., [26] notice that hand contamination is one within the most of causative factors among this infection threat; contaminated hands are main cause for transmittal infection. Effective hand shut down can decrease infection in high risk area. Sadly, the results of this study discovered that the bulk of nurses did not perform sure procedures in relevancy infection management precautions like hands laundry, carrying gloves and cleansing equipment's. Lam, et al., [27] bestowed that hand hygiene has been singled out because the most significant measures in preventing hospital no heritable infection Ahmed, [28] has found lack of information connected universal precautions and infection management among nurses.

The present study notices that there was important distinction in nurses' performance concerning reassessing very important signs. Quino,[29] find that very important signs are necessary reassessing patients status; breath sounds, metastasis standing, pulse and different important metastasis functions needed. Compare and record necessary changes and improvement. Refer if necessary once inhalation medical aid. Gamal, [30] showed that highest mean variant data and observe among younger nurses' people who have least expertise.

CONCLUSION

The knowledge of the nursing staff regarding nebulization therapy was inadequate and practice of the nursing staff regarding nebulization therapy was adequate .The association between nurses' knowledge and age, gender, years of the service in the field of the nursing, training session), was statistically not significant.

RECOMMENDATIONS:

1. Educational program for intensive care unit nurses to improve knowledge and practices about nebulization therapy
2. The need to place practice guidelines and teaching program to be perform at Kirkuk city hospitals.

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