Evaluation Of Nursesâ Practices Concerning Chest Pain Management For Patients In The Emergency Unit

تقويم ممارسات الممرضين المتعلقة بالعناية بآلام الصدر للمرضى في وحدة الطوارئ

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الخلاصه

الهدف: تهدف الدراسة الى تقويم ممارسات الممرضين المتعلقة بالعناية المقدمة للمريض المتعلقة بالم الصدر في وحدة الطوارئ وايجاد العلاقة بين ممارسات الممرضين والخصائص الديموغرافية والتي تشمل العمر، الجنس، المستوى التعليمي، سنوات الخبرة، والدورات التدريبية.

المنهجية: دراسة وصفية أجريت في مدينة الطب/ مستشفى بغداد التعليمي و مستشفى الكرامة التعليمي و مستشفى الكندي التعليمي للفترة بين 2 كانون الاول2012 ولغاية 15 نيسان 2013.ولتحقيق أهداف الدراسة تم اختيار عينة غرضية (غير أحتمالية) شملت (70) ممرض الذين يقدمون الرعاية التمريضية الطارئة للمرضى الذي يعانون من ألم في الصدر وفقا لمعايير خاصة. جمعت المعلومات من خلال أستمارة المراقبة حيث لوحظ الممرضين أثناء عملهم في وحدة الطوارئ خلال النهار. تم تحديد مصداقية الأداة من قبل لجنة من الخبراء. تم تحديد ثبات الاداة من خلال استخدام معامل ارتباط بيرسون والتي كانت (0.85). تم إجراء تحليل البيانات من خلال تطبيق الإحصاء الوصفي(التكرارات ، النسبة المئوية ، الوسط الحسابي المرجح والكفاية النسبية) ، وتطبيق التحليل الاستنتاجي الذي يضم (اختبار مربع كاي).

النتائج: أشارت نتائج الدراسة الى ان تقويم الوسط الحسابي و الكفاية النسبية فيما يتعلق بممارسات الممرضين حول العناية المقدمة لآلام الصدر في وحدة الطوارئ كانت خارج المقارنة وليس هناك علاقة ذات دلالة إحصائية بين الدورات التدريبية وممارسات العينة. في حين أن هناك علاقة معنوية عالية بين ممارسات الممرضين في وحدة الطوارئ والأعمار والجنس، ومستوى التعليم، وسنوات الخبرة في مجال الرعاية التمريضية الطارئة.

الاستنتاجات: إستنتجت الدراسة الى ان غالبية الممرضين الذين يعملون في وحدات الطوارئ يمتلكون خبرات غير كافية في مجال العناية بآلام الصدر.

التوصيات: أوصت الدراسة على ضرورة أعداد برامج تدريبية خاصة للممرضين والممرضات في هذا المجال لتعزيز مهاراتهم وتعزيز خبراتهم. و إتاحة الفرصة للممرضين والممرضات في وحدات الطوارئ إلى مواصلة استكمال تعليمهم للحفاظ على معارفهم ومهاراتهم ذات العلاقة بالعناية بآلام الصدر.

Abstract:

Objective(s): The study objectives are to evaluate of nurses' practices concerning chest pain management that are provided for patients in the emergency unit and to finding out the relationship between the nurse's practices and the demographic characteristics that includes (age, gender, level of education, years of experience, and training session).

Methodology: A descriptive study which was using the quantitative design. The study was conducted at the Medical City/ Baghdad Teaching Hospital; Al-Karama Teaching Hospital, and Al-Kindi Teaching Hospital Starting from Sep. 2nd 2012 up to the 15th of April 2013. To achieve the objectives of the study, A non-probability (purposive) samples of (70) a nurse who was consisted of all nurses who provide emergency nursing care for patients which suffering from chest pain and according to special criteria. Data were collected by an application of direct check list observation as a means of data collection. Nurses were observed while they are working in the emergency unit during the day. Instrument validity was determined through content validity, by a panel of experts. Reliability of the instrument was determined through the use of Pearson correlation coefficient for the researcher and co-observes reliability approach, which was (0.85). Analysis of data was performed through the application of descriptive statistics (frequency, percentage, mean of score, Relative sufficiency) and inferential statistics (Chi-square (X^2) test).

Results: The results of the study indicated the evaluation of the mean of scores and relative sufficiency for nurse's practices to management of chest pain for patients in the emergency unit was out of comparison and there is no significant association between training session of sample and nurses' practices scores. While there is high significant association between ages, gender, level of education, years of experience in emergency unit and nurses' practices.

Conclusion: The study concluded most of nurses that work in emergency unit have inadequate practices to manage chest pain.

Recommendations: The study recommends to prepare special training programs for nurses in this area to reinforce their practices and promote their experiences and providing opportunity for nurses in emergency unit to continuing updating their education to maintain knowledge and practices.

Keywords: Chest pain, Management, Myocardial ischemia, Nursing practice

INTRODUCTION:

Chest pain is one of the most common reasons for people to seek healthcare advice within primary and secondary care settings in Europe and North America [1]. However, skills and knowledge required to undertake thorough assessment and differentiation of the numerous alternative presentations of chest pain, particularly with regard to triaging potentially life-threatening conditions, remain elusive. A number of studies have reported that between 5 and 30% of patients are discharged with evidence of coronary heart disease (CHD) [2, 3].

Chest pain is a commonly occurring symptom affecting between 20 and 40% of the general population during their lifetime [4]. Approximately 1.5% of the general population consults a primary care physician each year because of chest pain symptoms [5].

Chest pain is the presenting symptom in about 12% of emergency department visits in the United States and has a one year mortality of about 5 %[6].

Chest pain accounts for 2% – 4% of all new attendances at emergency departments (ED) in the United Kingdom. Chest pain can be the presenting complaint in a myriad of disorders ranging from life threats such as acute myocardial infarction (AMI) to mild self-limiting disorders such as muscle strain [7].

Patients presenting with chest pain require rapid evaluation. Myocardial ischemia should be considered in all patients presenting with chest pain. Assessment of pain type and referral, and response of pain to various interventions is important in differentiating between cardiac and non-cardiac chest pain. If the pain is cardiac in nature it is important to respond quickly to ensure the best possible outcome for the Patient [8].

Nurses play a vital role in management of chest pain through nursing practice, research, and patient education. However, many common nursing interventions to management of chest pain are based on tradition or expert opinion and have not been subjected to scientific examination [9].

Objectives of the study: The study objectives are to evaluate of nurses' practices concerning chest pain management that are provided for patients in the emergency unit and to finding out the relationship between the nurse's practices and the demographic characteristics that includes (age, gender, level of education, years of experience, and training session).

METHODOLOGY:

Design of the study: Quantitative design (a descriptive study) was carried out to achieve the purpose of the study.

Setting of the study: The study was conducted in emergency unit at three Teaching Hospitals in Baghdad city (Baghdad Teaching Hospital, Al-Karama Teaching Hospital, Al-Kindi Teaching Hospital). These hospitals provide emergency nursing care for patients which suffering from chest pain.

Sample of the study: A non-probability (purposive) samples of (70) a nurse who was consisted of all nurses who provide emergency nursing care for patients which suffering from chest pain.

Instrument construction: After extensive review of relevant literature which includes the emergency nursing care for patients which suffering from chest pain. The questionnaire was constructed for the purpose of the study consisted of (28) items which include two parts:

Part I: The first part concerned with determination of the demographic characteris- tics of these patients through designated sheet which include eleven items,(hospital ID, age, gender, level of education, marital status, number of years of employment in nursing, number of years of experience in the emergency department, sources of experience to management of chest pain for patients in the emergency unit, participating in training sessions in the management of chest pain, continue education inside hospital, and pursue education by continuing education) .

Part II: Questionnaire concerning nurses′ practices to management of chest pain for patients in the emergency unit consisted of (28) items.

The questionnaire were ordinal according to the three level scale which were scored as (never = 1, sometimes = 2, always = 3) for each level respectively so the cutoff point was (2).

Validity of the instrument: Content validity was determined through the use of panel of experts.

Reliability of the instrument: Pilot study was carried out between the 1st of Oct., to 4th of Nov., 2012. On (10) nurses in emergency unit by the researcher and co-observe reliability was performed for determination of the checklist, person correlation coefficient was computed for each determination .The results indicated that the correlation coefficient was r = 0.85 at the level ($p \leq 0.05$) which was statistically acceptable.

Data collection: The data were collected from 2nd December to April 15th 2013 through the use of the constructed questionnaire as an observation tool; the researcher gathered the subject's responses through an application of direct observation as a means of data collection. Nurses were observed while they are working in the emergency unit during the day. The observational checklist took about (1-2) days at morning shift, each of them was observed on an individual basis. A total of 3 episodes of events were observed for each respondent's practices as a means of data collection. Three correct practices out of 3 episodes were rated as always; 2-1 correct practices out of 3 episodes were rated as sometime; and no correct practices out of 3 episodes was rated as never [(10)].

Statistical data analysis: Appropriate statistical approach is used that includes descriptive statistics (frequency, percentage, mean of score, Relative sufficiency) and inferential statistics (Chi-square (X^2) test).

RESULTS:

Table 1. Distribution of nurses by their socio-demographic

No.	Variables			
1.	Age (years)	No.	%	Cumulative%
1.1.	Less than 20 year	3	4.3	4.3
1.2.	20- 29 year	29	41.4	45.7
1.3.	30- 39 year	20	28.6	74.3
1.4.	40- 49 year	18	25.7	100
	Total	70	100	
2.	Gender	No.	%	Cumulative%
2.1.	Male	43	61.4	61.4
2.2.	Female	27	38.6	100
	Total	70	100	
3.	Level of education	No.	%	Cumulative%
3.1.	Nursing Intermediate School graduate	18	25.7	25.7
3.2.	Nursing High School graduate	4	5.7	31.4
3.3.	Nursing Institute graduate	38	54.3	85.7
3.4.	Nursing college graduate	10	14.3	100
	Total	70	100	
4.	Marital status	No.	%	Cumulative%
4.1.	Married	43	61.4	61.4
4.2.	Single	13	18.6	80
4.3.	Widowed	3	4.3	84.3
4.4.	Divorced	4	5.7	90
4.5.	Separated	7	10	100
	Total	70	100	
5.	Years of employment in Nursing (years)	No.	%	Cumulative%
5.1.	1 – 5	36	51.4	51.4
5.2.	6 – 10	17	24.3	75.7
5.3.	11 -15	6	8.6	84.3
5.4.	21 and more	11	15.7	100
	Total	70	100	
6.	Number of years of experience in the emergency unit (years)	No.	%	Cumulative%
6.1.	Less than 1	9	12.9	12.9
6.2.	1 – 5	39	55.7	68.6
6.3.	6 – 10	18	25.7	94.3
6.4.	16 – 20	4	5.7	100
	Total	70	100	
7.	Training Sessions in the management of chest pain for patients in the emergency unit	No.	%	Cumulative%
7.1.	No	53	75.7	24.3
7.2.	Yes	17	24.3	100
	Total	70	100	
8.	Continue education inside hospital	No.	%	Cumulative%
8.1.	Yes	28	40	40
8.2.	No	42	60	100
	Total	70	100	
9.	Pursue education by continuing education	No.	%	Cumulative%
9.1.	Yes	20	28.6	28.6
9.2.	No	50	71.4	100
	Total	70	100	

This table shows that the range of nurses age (20-29) years old that were accounted for (41.4 %).Most of them (61.4 %) were males. The level of education represents that most of them (54.3%) were from nursing institute. most of them (61.4%) were married. (51.4 %) for (1-5) years were

employment in nursing, (55.7%) of them were employee (1 – 5 years) in the emergency unit. (75.7 %) of them did not have training sessions in the management of chest pain for patients in the emergency unit. (60%) of them had no Continue education inside hospital, and finally most of nurses had (71.4%) no Pursue education by continuing education.

Table 2. Sources of experience to management of chest pain for patients in the emergency unit

No.	Sources	F.	%	Cumulative%
1.	Reviewing literature which is related to management of chest pain	32	45.7	45.7
2.	Enlightening on update information by internet	15	21.4	67.1
3.	Spectator of the movies instructional	4	5.7	72.9
4.	Participating in training sessions	7	10	82.9
5.	Working with these patients	12	17.1	100
	Total	70	100	

This table show that sources of experience to management of chest pain for patients in the emergency unit was 32 (45.7%) from Reviewing literature which is related to management of chest pain.

Table 3. The mean of scores and relative sufficiency of nursesà practices to management of chest pain for patients in the emergency unit

No.	Items	Never		Sometime		Always		MS	RS	E.
		F	%	F	%	F	%			
1.	Loosening tight clothing.	16	23	44	63	10	14	1.91	64	OC
2.	Checking airway.	49	70	3	4	18	26	1.56	52	OC
3.	Checking the sound of breathing for patient.	49	70	3	4	18	26	1.56	52	OC
4.	Checking the pattern, frequency, depth, and rhythm of breathing for patient.	36	51	17	24	17	24	1.73	58	OC
5.	Checking the pulse of peripheral arteries and carotid arteries.	6	9	45	64	19	27	2.19	73	L
6.	Observing the patient use a respirator muscles for breathing.	14	20	35	50	21	30	2.10	70	L
7.	Observing the signs of decrease of oxygen.	35	50	14	20	21	30	1.80	60	OC
8.	Checking the level of conscious for patient.	45	64	4	6	21	30	1.66	55	OC
9.	Observing vital signs for patient.	49	70	0	0	21	30	1.60	53	OC
10.	Defining the location of pain.	39	56	10	14	21	30	1.74	58	OC
11.	Defining the prevalence of pain.	6	9	63	90	1	1	1.93	64	OC
12.	Defining the nature of pain.	15	21	49	70	6	9	1.87	62	OC
13.	Determining pain characteristics.	37	53	17	24	16	23	1.70	57	OC
14.	Determining chronological of pain.	11	16	50	71	9	13	1.97	66	OC
15.	Determining factors that reinforce of pain.	5	7	58	83	7	10	2.03	68	L
16.	Providing complete bed rest for patient.	35	50	18	26	17	24	1.74	58	OC
17.	Changing position of patient to Fowler position or semi-Fowler position.	12	17	44	63	14	20	2.03	68	L
18.	Performing (12) lead electrocardio- gram if necessary (24) leads	8	11	50	71	12	17	2.06	69	L
19.	Providing oxygenation for patient.	21	30	37	53	12	17	1.87	62	OC
20.	Asking if the patient takes any chest pain medication for a known heart condition.	10	14	49	70	11	16	2.01	67	L
21.	Administering of drugs analgesics, tranquilizers, nitroglycerin, and calcium antagonists for patient.	15	21	34	49	21	30	2.09	70	L
22.	Observing of drug side effects.	37	53	20	29	13	19	1.66	55	OC
23.	Providing cannula for patient.	36	51	17	24	17	24	1.73	58	OC
24.	Installing a drip and give peace to patient.	18	26	45	64	7	10	1.84	61	OC
25.	Taking blood samples.	12	17	51	73	7	10	1.93	64	OC
26.	Reducing environmental stimulation.	31	44	24	34	15	21	1.77	59	OC
27.	Be calm in the works.	18	26	45	64	7	10	1.84	61	OC
28.	Observing signs of complications.	44	63	9	13	17	24	1.61	54	OC

The findings of this table indicated that the evaluation of relative sufficiency was low on items (checking the pulse of peripheral arteries and carotid arteries, observing the patient use a respirator muscles for breathing, determining factors that reinforce of pain, changing position of patient to Fowler position or semi-Fowler position, performing (12) lead electrocardio-gram if necessary (24) leads, asking if the patient takes any chest pain medication for a known heart condition, and Administering of drugs analgesics, tranquilizers, nitroglycerin, and calcium antagonists for patient) ,while items (loosening tight clothing, checking airway, checking the sound of breathing for patient, checking the pattern, frequency, depth, and rhythm of breathing for patient, observing the signs of decrease of oxygen, Checking the level of conscious for patient, Observing vital signs for patient, Defining the location of pain, defining the prevalence of pain, defining the nature of pain, determining pain characteristics, determining chronological of pain, providing complete bed rest for patient, providing oxygenation for patient, observing of drug side effects, providing cannula for patient, installing a drip and give peace to patient, taking blood samples, reducing environmental stimulation, be calm in the works, and observing signs of complications) was out of comparison .

Table 4. Association between nurse's practices and the demographic characteristics

Scores / Age	Good	Fair	Poor	Total	χ^2 obs.	Sig.
	F	F	F	F		
Less than 20 year	0	0	3	3	19.338	HS
20- 29 year	14	3	12	29		
30- 39 year	7	7	6	20		
40- 49 year	0	7	11	18		
Total	21	17	32	70		
P≤0.05		df = 6		χ^2 crit. = 12.59		
Scores / Gender	Good	Fair	Poor	Total	χ^2 obs.	Sig.
	F	F	F	F		
Male	21	3	21	45	27.798	HS
Female	0	14	11	25		
Total	21	17	32	70		
P≤0.05		df =2		χ^2 crit. = 5.99		
Scores / Level of Education	Good	Fair	Poor	Total	χ^2 obs.	Sig.
	F	F	F	F		
Nursing Intermediate School graduate	0	11	7	18	27.797	HS
Nursing High School graduate	0	0	4	4		
Nursing Institute graduate	17	6	15	38		
Nursing college graduate	4	0	6	10		
Total	21	17	32	70		
P≤0.05		df = 6		χ^2 crit. = 12.59		
Scores / Years of Experience in emergency unit	Good	Fair	Poor	Total	χ^2 obs.	Sig.
	F	F	F	F		
Less than 1	2	4	3	9	20.577	HS
1 – 5	16	6	17	39		
6 – 10	3	3	12	18		
16 – 20	0	4	0	4		
Total	21	17	32	70		
P≤0.05		df = 6		χ^2 crit. = 12.59		
Scores / Training Sessions	Good	Fair	Poor	Total	χ^2 obs.	Sig.
	F	F	F	F		
No	17	13	23	53	0.575	NS
Yes	4	4	9	17		
Total	21	17	32	70		
P≤0.05		df = 2		χ^2 crit. = 5.99		

This table indicates that there is no significant association between training session of sample and nurses' practices scores at P≤0.05. While there is high significant association between ages, gender, level of education, years of experience in emergency unit and nurses' practices scores at P≤0.05.

DISCUSSION:

Through the data analysis distribution of demographic variables, the present study reported the age majority is (20-29) years old which accounted for 29 (41.4 %). Most of the sample are males 43 (61.4 %), 38 (54.3%) were graduated from nursing institute. 43 (61.4%) of the nurses were married.

These results agree with study done by Wong, et al., (2004) that reveals the age majority is (20-29) years old. Most of the sample are male and graduated from nursing institute [(4)].

The majority of the nurses were working in Baghdad Teaching Hospital.

36 (51.4 %) for (1-5) years were employment in nursing and majority of them 39 (55.7%) were employee for (1 – 5 years) in the emergency unit.

Concerning training sessions 53 (75.7 %) of them did not have training sessions in the management of chest pain for patients in the emergency Unit. 42(60%) of them had no Continue education inside hospital, and finally most of nurses had 50 (71.4%) no Pursue education by continuing education.

These results disagree with study done by Albarran, (2006) that indicates most of nurses have training sessions in the management of chest pain for patients in the emergency Unit and have Continue education inside hospital, and finally most of nurses have pursued education by continuing education[(8)].

Table (4) show that sources of experience to management of chest pain for patients in the emergency unit was 32 (45.7%) obtained by nurses from reviewing literature which is related to management of chest pain.

These results agree with study done by Pottle, (2005) that indicates most of nurses obtained experience to management of chest pain for patients in the emergency unit from reviewing literature [(11)].

The result of the present study reveals that the evaluation of relative sufficiency was low on items (Checking the pulse of peripheral arteries and carotid arteries, Observing the patient use a respirator muscles for breathing, Determining factors that reinforce of pain, Changing position of patient to Fowler position or semi-Fowler position, Performing (12) lead electrocardiogram if necessary (24) leads, Asking if the patient takes any chest pain medication for a known heart condition, and Administering of drugs analgesics, tranquilizers, nitroglycerin, and calcium antagonists for patient)

While items (Loosening tight clothing, Checking airway, Checking the sound of breathing for patient, Checking the pattern, frequency, depth, and rhythm of breathing for patient, Observing the signs of decrease of oxygen, Checking the level of conscious for patient, Observing vital signs for patient, Defining the location of pain, Defining the prevalence of pain, Defining the nature of pain, Determining pain characteristics, Determining chronological of pain, Providing complete bed rest for patient, Providing oxygenation for patient, Observing of drug side effects, Providing cannula for patient, Installing a drip and give peace to patient, Taking blood samples, Reducing environmental stimulation, Be calm in the works, and Observing signs of complications) was out of comparison.

This result disagree with results obtained from study done by Stanphope , and Loncaster (1996) which indicated that most of items related to management of chest pain for patients in the emergency unit was moderate level mean of score[(12)].

Table (6) indicates that there is no significant association between training session of sample and nurses' practices scores at $P \leq 0.05$.

This result disagree with results obtained from study done by Hogan , (2005) which indicated that there is significant association between training session of sample and nurses' practices scores at $P \leq 0.05$[(13)].

While there is high significant association between ages, gender, level of education, years of experience in emergency unit and nurses' practices scores at $P \leq 0.05$.

This result agree with results obtained from study done by Launbjerg, et al., (2005) which indicated that there is significant association between ages, gender, level of education, years of experience in emergency unit and nurses' practices scores at $P \leq 0.05$[14].

CONCLUSION:

The study concluded that the nurses work in emergency unit have inadequate skills to manage chest pain.

RECOMMENDATIONS:

1. Special training programs should be designed and constructed for nurses in this area to reinforce their skill and promote their experiences.
2. Providing opportunity for nurses in emergency unit to continuing updating their education to maintain knowledge and skills.
3. Increase the number of professional nurses' graduate from colleges of nursing assigned to employment in the emergency unit.

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