Evaluation of Nursing staff Performance in Cardiac Care Units at Teaching and Non Teaching Hospitals in Kirkuk City: A Comparative Study

تقويم أداء الملاك التمريضي في وحدات العناية المركزة في المستشفيات التعليمية وغير التعليمية في مدينة كركوك: دراسة مقارنة

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المستخلص :
الهدف : لتقييم الاداء التمريضي في وحدة العناية القلبية في المستشفيات التعليمية والغير التعليمية في مدينة كركوك: دراسة مقارنة
المنهجية : دراسة وصفية لتقييم الاداء التمريضي في وحدة العناية القلبية، اجريت للفترة من التاسع والعشرون من كانون الاول ٢٠١٣ الى السابع والعشرون من نيسان ٢٠١٤ . عينة غرضية (غير احتمالية) مكونة من (٤٤) ممرضا يعملون في مستشفى أزادي التعليمي ومستشفى كركوك العام ، قيموا بواسطة استبانة مكونة من جزئين، الجزء الاول يتعلق بالخصائص الديموغرافية للممرضين والجزء الثاني يتعلق باستمارة مراقبة لتقيم الاداء التمريضي في وحدة العناية القلبية. تم تحديد مصداقية استمارة المراقبة من خلال (٢٠) خبيرا والثبات من خلال دراسة مصغرة. استخدم الاحصاء الوصفي والاستدلالي لتحليل البيانات.
النتائج : الدراسة اظهرت ان (٦١.٤%) من العينات اعمارهم (٢٠-٣٠) سنه، (٦٣.٦%) من ذكور، (٦٨.٢%) لديهم بكلوريوس في علوم التمريض، معظم العينة لديهم (١-٥) سنه خبرة في التمريض. الدراسة اظهرت التقيم العالي لاستمارة المراقبة للحقول التالية: المحافظة على التنفس بتوفير الاوكسجين الكافي، تقليل مقاومة الأوعية المركزية، مراقبة غازات الدم الشريانية ، كما اظهرت الدراسة التقيم متوسط لاستمارة المراقبة للحقول الباقية.
التوصيات: توفير فرص تدريبية وبصورة مستمرة للممرضات العاملات في وحدات العناية المركزة للحفاظ على المعارف والمهارات الحديثة.

Abstract:
Objective: The descriptive study was used to evaluate nursing staff performance in cardiac care units at teaching and non teaching hospitals in kirkuk city: A comparative study.
Methodology: A descriptive study was used to evaluate nursing staff performance in cardiac care units. The study was conducted from December 29th, 2013 up to the 27th of Apr. 2014. A non-probability (purposive) sample of (44) nurses who work in cardiac care unit at Azady teaching Hospital and Kirkuk general Hospital was evaluated by a questionnaire which consisted of two parts; the first part is concerned with the demographic characteristics of the nurses and the second part concerned Observation check list for evaluation nursing staff Performance in Cardiac Care. Validity of the observational check list performed through a panel of (20) experts and the reliability of the questionnaire is determined through the pilot study. Descriptive and inferential statistical used to analysis of data.
Results: the study shows that (61.4%) of the samples age were (20-30) years old, (63.6%) were male. (68.2%) of them Graduate B.Sc. of Nursing. most of the samples has (1-5) Years of experience in Nursing. the results shows that a high assessment of observational Check List are reported for the following domains: Maintenance respiration by adequate O2 supply, Decrease SVR (systematic vascular resistance), Monitor ABGs (Arterial blood gases) frequently. Also the study reveals that moderate assessments of observational Check List are reported for reaming domains.
Recommendations : Providing opportunity for nurses in cardiac care units to continuing updating their education to maintain knowledge and skills.

Keywords: Evaluation, Cardiac Care, Performance, Coronary artery disease, Blood Gases

Introduction:

Cardiovascular diseases continue to be the leading cause of death and morbidity worldwide. It is not just a disease of the elderly; forty five percent of all heart attacks occur in people under age 65 year or cardiovascular diseases occur in females.[1] Coronary artery disease (CAD) is the most prevalent type of cardiovascular disease in adult, it is important for nurse to become familiar with various manifestations of coronary artery condition and methods for assessing, preventing and treating these disorders.[2] Because of the prevalence of CVD, nurses practicing in CCU must be capable of assessing the cardiovascular system. Key components of assessment include a health history, physical examination, and monitoring of a variety of laboratory and diagnostic test results. An accurate and timely assessment of cardiovascular function provides the data necessary to identify nursing diagnoses, formulate an individualized plan of care, evaluate the response of the patient to the care provided, and revise the plan as needed. An understanding of the structure and function of the heart in health and in disease is essential to develop cardiovascular assessment skills.[3] The cardiac care unit is a high care environment with a higher ratio of nurses to patients than on a general ward. There is monitoring equipment above each bed. This is normal for this kind of unit and enables nursing staff to constantly monitor heart rhythms and other important signs, such as blood pressure and oxygen levels. The staff can still see the Information sent to a central monitor even when the patient at the bedside. There are alarms on the equipment that may sound from time to time - they do not always indicate a problem so try not to worry.[4] Coronary care units (CCUs) are specially equipped hospital units that provide highly specialized care to patients who suffer from a serious injury or illness. A multidisciplinary team (physicians, nurses, respiratory therapists and pharmacists) trained in care of critically ill or injured patients provide continuous observation and monitoring as well as specialized care. There are different units may specialize in specific areas such as neonatal, pediatric, and cardiac care.[5] The contribution of the intensive coronary care unit (ICCU) to the reduction of mortality from heart disease has been well documented over the past 30 years. Consequently, the ICCU is currently accepted as the ‘gold standard’ for the treatment of heart diseases. The limitation of infarct size through reperfusion therapy has become a primary goal of ICCU treatment in recent years.[6] The dominance of chronic diseases as major contributors to total global mortality has emerged and has been previously described in detail elsewhere.[7] By 2005, the total number of cardiovascular disease (CVD) deaths (mainly coronary heart disease, stroke, and rheumatic heart disease) had increased globally to 17.5 million from 14.4 million in 1990. Of these, 7.6 million were attributed to coronary heart disease and 5.7 million to stroke. More than 80 percent of the deaths occurred in low and middle income countries. [8]

Methodology:

A quantitative design (a descriptive study) was carried out to evaluate nursing staff Performance in cardiac care units at Teaching and Non Teaching Hospitals in Kirkuk City. Starting from December. 29th 2013 up to the 27th of Apr. 2014.

A non-probability (purposive) sample of (44) nurses who work in CCU unit at Azady Teaching Hospital and Kirkuk General Hospital in Kirkuk city.

The questionnaire was based up on the extensive review of related literature, the questionnaire and observation tool consisted of (73) items which include two parts. Part I: - Demographic characteristics of the nurses which concern with the personal information and contains nine items which includes (hospital names, nurse age, nurse's gender, level of education, years of experience in nursing, years of experience in CCU, training Session in Cardiac Care Unit, number of training session and place of training session). And Part II which concern with the Observation check List for evaluation nursing staff Performance in Cardiac Care and comprised of nine major parts which are (Maintenance of respiration by adequate O2 supply (8) items, maintenance cardiac output (14) items, assessment of the chest pain (15) items , maintenance systematic vascular resistance (2) items , monitoring ECG, peripheral and apical pulse to detect any arrhythmia (12) items, monitor Arterial Blood Gases (5) items, monitoring Respiratory Status (6) items , maintenance physical needs (5) items, patient instruction before transfer to ward (7) items.

Results:

Table (1) Demographic characteristics of the Nurses with frequency and percentage

Variables	Groups	F	%
Hospital	Educational AZADY H.	22	50
	General Kirkuk H.	22	50
	Total	44	100
Age Groups	20 - 30	27	61.4
	31 - 40	11	25
	> 40	6	13.6
	Total	44	100
Gender	Male	28	63.6
	Female	16	36.4
	Total	44	100
Educational achievement	Junior Nursing	4	9.1
	Graduate Diploma of Nursing	10	22.7
	Graduate B.Sc. of Nursing	30	68.2
	Total	44	100
Years of Experience in Nursing	1 - 5 yrs.	26	59.1
	6 - 10 yrs.	7	15.9
	11 - 15 yrs.	6	13.6
	16 - 20 yrs.	5	11.4
	Total	44	100
Years of Experience in Cardiac Care Unit	< 1 year	15	34.1
	1 - 5 yrs.	20	45.5
	6 - 10 yrs.	6	13.6
	> 11 yrs.	3	6.8
	Total	44	100
Training Session in Cardiac Care Unit	Yes	32	72.7
	No	12	27.3
	Total	44	100
Number of Training Session in Cardiac Care Unit	Non	12	27.3
	1 - 2	20	45.5
	3 - 4	7	15.9
	> 5	5	11.4
	Total	44	100
Training Session place	Non	12	27.3
	Inside Iraq	32	72.7
	Outside Iraq	0	0.0
	Total	44	100

Most of the samples ages were (20-30) years old who were accounted (61.4%). Most of them were male (63.6%). Most of them Graduate B.Sc. of Nursing (68.2%). most of the samples has (1-5) Years of experience in Nursing, (45.5%) of the nurses has (1-5) Years of experience in cardiac care unit, Most of the samples(72.7) had taken training session in cardiac care unit, (45.5%) of the samples had taken (1-2) training session in cardiac care unit. All of the sample who had taken training sessions, their sessions was inside Iraq.

Table (2): Main domains responses with grand mean of score, relative sufficiency (RS %) and assessment of observational tool.

Questionnaire's Items	No.	GMS	RS %	Ass.
Maintenance respiration by adequate O_2 supply	44	2.634	87.8	High
Maintenance cardiac output	44	2.245	74.8	Mod.
Assess chest pain	44	2.073	69.1	Mod.
Decrease SVR (systematic vascular resistance)	44	2.568	85.6	High
Monitoring ECG to detect any arrhythmia	44	2.144	71.5	Mod.
Monitor ABGs (Arterial blood gases) frequently	44	2.418	80.6	High
Monitoring respiratory status	44	2.197	73.2	Mod.
Monitoring physical needs	44	1.882	62.7	Mod.
Patient instruction before transfer to ward	44	2.224	74.1	Mod.
Observation Tool (Check List)	44	2.265	75.5	Mod.

Scored by (Low, Mod., and High) through the intervals ("33.33 - 55.54", "55.55 - 77.76", and "77.77 - 100")

Table (2) the results shows that a high assessment of observational Check List are reported for the following domains: Maintenance respiration by adequate O2 supply, Decrease SVR (systematic vascular resistance), Monitor ABGs (Arterial blood gases) frequently. Also the study reveals that moderate assessments of observational tool (Check List) are reported for reaming domains. The overall main domains that are done by global mean of score (GMS), which was accounted a moderate assessment with relative sufficiency 75.5%.

Table (3): Association between demographic characteristic and Evaluation of Nursing staffs Performance in Cardiac Care Units.

Demographic characteristic	Contingency Coefficients	Approx. Sig.	C.S.(*)
Age Groups	0.183	0.467	NS
Gender	0.186	0.210	NS
Educational achievement	0.109	0.766	NS
Years of Experience in Nursing	0.243	0.429	NS
Years of Experience in Cardiac Care Unit	0.167	0.737	NS
Training Session in Cardiac Care Unit	0.000	1.000	NS
Number of Training Session in Cardiac Care Unit	0.180	0.688	NS
Training Session	0.102	0.498	NS

(*) NS: Non Sig. at P>0.05

Table (3) The results has reported that "Demographical characteristics and some related variables", had no significant relationship with an overall assessment of (Evaluation of Nursing staffs Performance in

Cardiac Care Units at Teaching and Non Teaching Hospitals) according to "Under/Upper" Cutoff point, since a non significant correlation ships were obtained at P>0.05.

Table (4): Summary Statistics for the Core Responding of Questionnaire's Domains for Observational Tool (Check List) in Teaching and Non Teaching Hospitals

Hospitals	Educational AZADY Hospital					General Kirkuk Hospital				
Domains	No.	M.S.	S.D.	R.S.	Ass.	No.	M.S.	S.D.	R.S.	Ass.
Maintenance respiration by adequate O2 supply	22	2.585	0.342	86.2	High	22	2.682	0.308	89.4	High
Maintenance cardiac output	22	2.221	0.227	74.0	Mod.	22	2.270	0.326	75.7	Mod.
Assess chest pain	22	2.118	0.230	70.6	Mod.	22	2.027	0.364	67.6	Mod.
Decrease SVR (systematic vascular resistance)	22	2.659	0.390	88.6	High	22	2.477	0.361	82.6	High
Monitoring ECG to detect any arrhythmia	22	2.095	0.211	69.8	Mod.	22	2.193	0.231	73.1	Mod.
Monitor ABGs (Arterial blood gases) frequently	22	2.355	0.269	78.5	High	22	2.482	0.244	82.7	High
Monitoring respiratory status	22	2.189	0.310	73.0	Mod.	22	2.205	0.405	73.5	Mod.
Monitoring physical needs	22	2.036	0.412	67.9	Mod.	22	1.727	0.412	57.6	Mod.
Patient instruction before transfer to ward	22	2.357	0.292	78.6	High	22	2.091	0.301	69.7	Mod.
Observation Tool (Check List)	22	2.291	0.169	76.4	Mod.	22	2.239	0.216	74.6	Mod.

Scored by (Low, Mod., and High) through the intervals ("33.33 - 55.54", "55.55 - 77.76", and "77.77 - 100") respectively.

Table (4) shows that all of the studied main domains high and moderate assessments are accounted within all items in the two hospitals, and that insured what are evaluated for overall assessment indeed which illustrated a moderate assessment are accounted at the studied hospitals.

Table (5): Association between Demographic Characteristic and Main Domains According to "Under/Upper" Cutoff point in Teaching and Non Teaching Hospitals Independently

Hospitals	Basis Information X Overall Assessment	Contingency Coefficients	Approx. Sig.	C.S.(*)
Educational AZADY	Age Groups	0.434	0.078	NS
	Gender	0.447	0.019	S
	Educational achievement	0.277	0.400	NS
	Years of Experience in Nursing	0.456	0.123	NS
	Years of Experience in Cardiac Care Unit	0.488	0.075	NS
	Training Session in Cardiac Care Unit	0.444	0.020	S
	Number of Training Session in Cardiac Care Unit	0.497	0.065	NS
	Training Session	0.444	0.020	NS
General Kirkuk	Age Groups	0.463	0.050	NS
	Gender	0.120	0.571	NS
	Educational achievement	0.069	0.949	NS
	Years of Experience in Nursing	0.405	0.229	NS
	Years of Experience in Cardiac Care Unit	0.305	0.323	NS
	Training Session in Cardiac Care Unit	0.393	0.045	NS
	Number of Training Session in Cardiac Care Unit	0.490	0.073	NS
	Training Session place	0.266	0.277	NS

(*) S: Sig. at P<0.05; NS: Non Sig. at P>0.05

The results has reported that "Demographical characteristic and some related variables", had no significant relationship with an overall assessment of (Evaluation of Nursing staffs Performance in Cardiac Care Units at Teaching and Non Teaching Hospitals) according to "Under/Upper" Cutoff point in "Educational AZADY" hospital, since a non significant correlation ships were obtained at P>0.05, except of gender and training session in cardiac care unit, which were reported a significant different at P<0.05. In addition to that, and for "General Kirkuk" hospital, the results shows that a non significant correlation ships were obtained at P>0.05.

Discussion:

Throughout the course of the present study, it has been noticed that majority of the sample are full at the interval (20 – 30) yrs. The majority of the study sample were male, greater number of "Graduate B.Sc. of Nursing" and they are accounted for 30(68.2%) of the sample. Most of them (45.5%) have (1-5) years of experience in cardiac care unit. This result was consistent with study which revealed the highest percentage (48%) of nurses at (24-29) years old, and present the high percentage (54%) of nurses are male, and (90%) are nursing college graduate and the highest percentage (86%) have (0-6) years of experience in the nursing and highest percentage (88%) have (0-6) years of experience in the intensive care unit[9].

Table (2) the results shows that a high assessment of observational check list are reported for the following domains: maintenance respiration by adequate O2 supply, decrease SVR (systematic vascular resistance), monitor ABGs (arterial blood gases) frequently. Also the study reveals that moderate assessments of observational tool (check list) are reported for reaming domains. The overall main domains that are done by global mean of score (GMS), which was accounted a moderate assessment with relative sufficiency 75.5%.

This finding was supported by study which indicated that the nurse play an effective role in management and treatment of patient with chest pain and increased systemic vascular resistance in CCU[11]. The result emphasized by study indicated that the role of the nurse in assessing patients with arrhythmia through continuous ECG monitoring and reporting, even during routine nursing care activities[10].

Also The finding was supported by study that revealed that it was important for cardiac nurses to assess ABGs and determining the nurse management with treatment for prevent develop the patient to worse and to rice the level of nursing performance[12].

Table (3) reported that "demographical characteristics and some related variables", had no significant relationship with an overall assessment of (evaluation of nursing staffs performance in Cardiac Care Units at Teaching and Non Teaching Hospitals) according to "Under/Upper" Cutoff point, since a non significant correlation ships were obtained at P>0.05.

It was stated that cardiac nursing is nearly more than 30 years old during which the role of the cardiac nurse has undergone changes over the years. These finding congruent with those of [13]. It was reported that the high education nurses may be work accurately and scientific than the nurses with low education level because these nurses increase knowledge and practice with frequently evaluation by himself[14].

The results in table (5) has reported that "demographical characteristic and some related variables", had no significant relationship with an overall assessment of (evaluation of nursing staffs Performance in Cardiac Care Units at Teaching and Non Teaching Hospitals) according to "Under/Upper" Cutoff point in "Educational AZADY" hospital, since a non significant correlation ships were obtained at P>0.05, except of gender and training session in cardiac care unit, which were reported a significant different at P>0.05.

Recommendations:

Providing opportunity for nurses in cardiac care units to continuing updating their education to maintain knowledge and skill.

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