

Assessment of the Nurse's Role Regarding drug Administration of Cardiovascular Patients

تقييم دور الكادر التمريضي حول اعطاء الادوية للمرضى المصابين بأمراض القلب و الاوعية الدموية

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المستخلص

الهدف: الدراسة من تقييم دور الكادر التمريضي حول اعطاء الادوية للمرضى المصابين بأمراض القلب و الاوعية الدموية. **المنهجية:** دراسة وصفية اجريت في مستشفى اربيل و زكاري التعليميين ما بين ١٥-٩-٢٠٠٨ الى ٣٠-٣-٢٠٠٩ ، و كانت بعنوان تقييم دور الكادر التمريضي حول اعطاء الادوية للمرضى المصابين بأمراض القلب و الاوعية الدموية في وحدة انعاش القلب. اجريت الدراسة على (٥٠) عينة غير احتمالية من الكوادر التمريضية **النتائج:** اشارت نتائج الدراسة بان (٧٢%) من لكوادر التمريضية يتراوح اعمارهم بين (٣١-٤٠) سنوات، و (٦٦%) منهم كانوا متزوجين، و (٦٤%) كانوا من خريجي المعاهد. و اظهرت ايضا بان الممارسات التمريضية حول اعطاء الادوية لمرضى القلب و الاوعية الدموية كانت غير مرضية اضافة الى نقص في تقييم المريض قبل و اثناء و بعد اعطاء الادوية في كلا المستشفيات بنفس المستوى من خلال نتائج التحليل الاحصائي (الوسط الاجمالي). **التوصيات:** زيادة توعية الكوادر التمريضية من خلال فتح الدورات التدريبية لهم حول كيفية اعطاء الادوية للمرضى المصابين بأمراض القلب و الاوعية الدموية ايضا متابعة الممرضات حول تنفيذ حقوق خمسة من خلال اعطاء الادوية للمرضى .

Abstract:

Objectives: The aim of the study was, to assess the nurse's role regarding cardiovascular drug administration in Erbil city.

Methodology: A descriptive survey was conducted in Hawler teaching and Rizgari teaching Hospitals. The number of samples is 50 nurses; the period of the study was started from 15th of November 2008 up to the end of March 2009. A questionnaire was developed by investigators based on extensive review of available studies and literatures. Data were collected through application of observational check list consist of two part, part one was demographic sheet and part two about nurse's responsibility regarding medication administration which include (before, during, after drug administration). Data were analyzed through the application of descriptive statistical analysis such as (frequency, percentages and grand mean of scores).

Results: Results showed that (72%) of nurses were within age group of (31-40) years, (66%) of them were married, and (64%) of them were institute graduated. The study showed that nurses' practices were inadequate with low grand mean of score in most items regarding assessment of patients before, during and after drug administration.

Recommendations: Increase nursing staff awareness about cardio vascular drug administration through performs training on cardiac medication administration, follow up nurses' practice during drug administration and follow up the five rights of cardiac drug administration.

Keywords: Nurse, Cardiovascular, Medication.

Introduction:

The administration of medication is often a chief responsibility of the nurse. The practice of administering medication involves providing the patient with a substance prescribed and intended for the diagnosis, treatment and or prevention. Nurses are generally trained and authorized to administer medication, while other medical disciplines may have a limited responsibility in this area. Preparation for medication administration begins with the order for medication, in most circumstances written by the physician. A record of orders for medication and other treatments is kept in the medical chart, all orders should contain the patient's name, date and time, and the signature of the ordering clinician so as to ensure consistency and patient safety ⁽¹⁾.

A non-prescription medication or over the counter (OTC) medication can be purchased without a prescription and can be used to enhance personal health (e.g. Vitamins) or to treat common health problems such as constipation or diarrhea ⁽²⁾. Nurses and pharmacists have an important role in teaching clients about possible interactive effects between medications ⁽³⁾.

A nurse's responsibility regarding cardiovascular medication focused mainly on the five rights of drug administration; namely give right drug to the right patient, in the right dose by the right route at the right time ^(4,5).

In drug therapy today, nurses, together with physician and pharmacist, participate in a system of check and balances designed to promote beneficial effects and minimize their side effects ⁽⁶⁾. Nurses are especially important within this system because it is the nurse not the physician who follows the patient's status most closely ^(7,8).

Methodology:

A descriptive survey approach was conducted in Hawler and Rizgari teaching Hospitals. The period of the study started from 15th of November 2008 up to the end of March 2009.

A purposive sample of (50) nurses with different levels of education was selected such as 32 nurses graduated in institute, 12 nurses graduated in preparatory and 6 nurses graduated in school, whom they working in CCU and medical ward.

A questionnaire was developed by investigators based on extensive review of available studies and literatures. Data were collected through application of observational check list consist of two part, part one was demographic sheet which include (age, marital status, level of education, number of training session regarding drug administration, and year of employment) and nurse's responsibility regarding medication administration which include (before, during, after drug administration). Data were analyzed through the application of descriptive statistical analysis such as (frequency, percentages and grand mean of scores). Mean of score calculated by statistical formula like $\frac{\text{always} \times 3 + \text{sometime} \times 2 + \text{never} \times 1}{\text{No of samples}}$

No of samples

Results:**Table 1.** Socio-demographic Characteristics of the Nurses

Characteristics of the Nurses	No.	%
Work location of nurses:		
Rizgary Teaching Hospital.	24	48.0
Hawler Teaching Hospital	26	52.0
Total	50	100.0
Age groups:		
21-30 Years	11	22.0
31-40 Years	36	72.0
41-50 Years	3	6.0
Total	50	100.0
Marital status:		
Married	33	66.0
Single	17	34.0
Total	50	100.0
Level of education:		
Intermediate school	6	12.0
Preparatory of nursing school	12	24.0
Institute of nursing	32	64.0
Total	50	100.0
Training course regarding drug administration.		
No	50	100.0
yes	0	0.0
Total	50	100.0
Year of employment in nursing:		
1-3 years	12	24.0
4-6 years	20	40.0
7-9 years	8	16.0
10-12 years	4	8.0
13-15 years	4	8.0
16≤ years	2	4.0
Total	50	100.0

Table (1) shows that (52%) of nurses were working in Hawler teaching hospital. The majority (72%) of them were within age group (31-40) years. (66%) were married, (64%) of nurses were graduated from health institute and none of them were trained regarding cardiovascular drug administration, (40%) of nurses were employment in nursing.

Table 2. Assessment of nurse's role before drug administration among cardiovascular patients

No	Items	Always	Sometimes	Never	M.S
1	Assess the signs and symptoms of heart problem	3	10	37	1.32
2	Hand washing before drug administration and after each contact with patient	2	16	32	1.4
3	Record the rate and rhythm of the heart	6	2	42	1.2
4	Monitor electrocardiogram for arrhythmia	11	12	27	1.54
5	Assess vital signs before drug administration	6	16	28	1.56
6	Assess weight before drug administration	2	3	45	1.14

Table 2. Continues

7	Monitor intake and output of fluid	9	24	17	1.84
8	Ask the patient specifically about OTC (over the counter) drug herbal remedies, and routine drugs that they may not think to mention	2	7	41	1.2
9	Monitor platelet count during therapy (bleeding time and clotting time)	3	13	34	1.38
10	Make sure all allergies have been checked before giving a drug.	6	15	29	1.44
11	Provide thorough patient teaching include name of the drugs, dosage prescribed proper administration measure to avoid adverse effect	2	17	31	1.4
12	Offer support and encouragement about diagnosis and drug regimens	1	10	39	1.24
13	Identify risk factors that may precipitate arrhythmia	4	20	26	1.56
GMS =1.37					

Grand mean of score (GMS) = sum of all mean score and divided number of items, the grand mean of score (1-1.9) = inadequate nurses role, the grand mean of score (2-3) = adequate nurses role

Table (2) shows that nurses has inadequate role with low grand mean of score (GMS) = (1.37) in all items regarding nurses role before drug administration

Table 3. Assessment of nurse's role during drug administration among cardiovascular patients

No	Items	Always	Sometimes	Never	M.S
1	Monitor injection sites	29	16	5	2.48
2	Monitor the patient's response to the drugs	6	13	31	1.5
3	Monitor for adverse effect(hypotension, cardiac arrhythmia, gastrointestinal upset)	4	7	39	1.3
4	Tell the patient to take drugs exactly as prescribed	32	15	3	2.58
5	Advise the patient to eat potassium and rich food	2	5	43	1.18
6	Advise the patient to take oral drug with full glass of water at the time of drug administration to relieve GI symptoms	6	15	29	1.54
7	Tell the patient to keep drugs faraway from light and moist weather	2	10	38	1.28
8	Check the patient's identification even the patient is well known.	20	13	17	2.06
9	Avoid administer drug to patients who is disoriented	20	26	4	2.32
10	Encourage the patients to void before taking drugs	2	4	44	1.16
11	Provide comfortable measures to help the patient tolerate drug effect	1	21	28	1.46
12	Focused on the five rights of drugs, (Give the right drug, to the right patient in the right dose by the right route at the right time).	10	14	26	1.68
13	Reassure from new drugs regarding prescription for knowing any alteration before drug administration.	9	9	32	1.54
14	Correct documentation of drugs	6	10	34	1.44
15	Review the available forms of drug before administration	10	26	14	1.92
16	Make sure that the drug name is correct ask for brand name & generic name.	8	21	21	1.74
17	Avoid taking verbal orders when ever possible have a second person listen.	10	17	23	1.74
18	Abbreviations can be confusing clarify of drugs	3	13	34	1.38
19	Consider whether the drug makes sense for the patient's diagnosis.	3	9	38	1.3
20	Check the routes available and the appropriateness of the route.	10	15	25	1.7
21	Make sure the patient is able to take the drug by the route indicated.	25	17	10	1.8
GMS= 1.48					

Grand mean of score (GMS) = sum of all mean score and divided number of items, the grand mean of score (1-1.9) = inadequate nurses role, the grand mean of score (2-3) = adequate nurses role

Table (3) shows inadequate nursing practice regarding assessment of patients during cardiovascular drug administration with low grand mean of score (1.48) in most items, except items (monitor injection site, tell the patient to take drugs exactly as prescribed, check the patient's identification even the patient well known, Avoid administer drug to patients who is disoriented, review the available forms of drug before administration, Make sure the patient is able to take the drug by the route indicated, with high mean of score.

Table 4. Assessment of nurse's role after drug administration among cardiovascular patients

No.	Items	Always	Sometimes	Never	M.S
1	Interview and observe for compliance with instructions for taking ant arrhythmic drugs	4	15	31	1.46
2	Provide comfort and safety measures and give small meals	7	9	34	1.46
3	Change lifestyles including dietary restriction, exercise, smoking cessation, and stress reduction	7	15	28	1.56
	GMS =1.49				

Grand mean of score (GMS) = sum of all mean score and divided number of items, the grand mean of score (1-1.9) = inadequate nurses role, the grand mean of score (2-3) = adequate nurses role

Table (4) shows that the assessment of patients after cardiovascular drug administration, was inadequately presented with low grand mean of score (1.49) in all items.

Discussion:

The result of presented study shows that the nursing role was inadequate and unsatisfied with low grand mean of score in all items before cardiovascular drug administration. Also inadequate nursing role regarding assessment of patient during cardiovascular drug administration with low grand mean of score in most items.

1. Poor monitoring policy.
2. Lack of an educational program.
3. Lack of guideline and written instructions relate to cardiovascular drug administration. Those acts as a logical reason which directs the negative attitude of inadequate nursing practice relating cardiovascular drug administration.

A study found that the nurses should have an understanding of drug's purpose, dosage, route, action, sideeffect and specific reason for why a client has the drug prescribed⁽⁹⁾. A study show us that the OTC drug use reported in 2001 indicated that 77% of American people taken an OTC drugs to treat common, everyday ailments⁽¹⁰⁾.

Other studies show us that some nurses aware patients of side-effect, expiry, risks and complications of cardiovascular drugs^(9,11).

Related to assessment of patient after drug administration, the nursing practice was inadequate presented through low grand mean of score in all items. Those results may be due to:

1. Lack of written guidelines and educational program.
2. Absence of workshops concerning cardiovascular drug administration.
3. Absence of regular review of nursing practice especially drug administration.
4. Standard universal medication administration not defined and displayed for all staffs.
5. Organizational knowledge transfer-lack of appropriate orientation, staff development, education and training. A study conducted that the nurse should perform in administrating the medication safety and monitors as expected outcomes of therapy with this medication⁽¹²⁾. Those are a logical reason which due to the negative attitude of nurses sharing in practice of cardiovascular drug administration.

According to socio-demographic characteristics of nurses the concerning works location of nurse, more than half of nurses from Hawley teaching hospital, graduation. More than (40%) of nurses have 4-6 years of employment.

Recommendations:

1. Perform training on cardiac medication on nurses in CCU.
2. Follow up nurses' practice during drug administration.
3. Sharing the nurses in work shop that concerning cardiac medication.
4. Follow up the five rights of cardiac drug administration to provide safety to the patient.

References:

1. Mckenry L, Salerno E .**Pharmacology in Nursing**, 20th ed.. Mosby Comp. Philadelphia, 1993. p. 449.
2. Perry A, Potter P .**Clinical Nursing Skills techniques**, 5th ed.. Mosby Merlin Comp, 2002. p. 438.
3. Lehne A .**Pharmacology for Nursing care**, 4th ed.. Saunders Comp, 2001. p. 5-8. 4. Hodgson B, Kizior J .**Nursing Drug Hand Book**, Saunders Comp. 2001. p.11.
5. Karb V. **Hand book of Drugs for Nursing Practice**, 2nd ed.. Mosby London, 1996. p. 6.
6. Timby B. **Fundamental Nursing and Concepts**, 8th ed.. Lippincott Williams and Wilkins Comp. London, 2005.p. 709-710.
7. Tietze J. **Clinical skills for pharmacists**, Mosby comp. New York, 1997. p. 2-8.
8. Soller R. **The self care movement**, 1998, available from <http://www.org.com> access on Feb. 5/2008.
9. Abrams A. **Clinical Drug Therapy**, 6th ed.Lippincott, Philadelphia, 2001. p. 4.
10. Lapham R, Agar H. **Drug calculating for nurses**, 2nd ed..Hodder Arnold, Baltimore. 2003. P. 1.
11. Blanchard L. **Nurse's Drug hand book**, 5th ed. Leob publisher, LLC, 2006. p. 8.
12. **Administration of medication**, available from <http://www.enotes.com /nursing-encyclopedia>. Access on 6 Sep, 2010.

