Factors Affecting Nurse's Performance Regarding Drug Administration

Thesis

Submitted for Partial Fulfillment of the Requirements
for the Master Degree in Nursing Sciences
Medical & Surgical Nursing (Critical Care Nursing)

By

Azza Abo Elhares Abd Eltwab

Clinical Instructor
Faculty of Nursing / El-Fayoum University

Faculty of Nursing
Ain Shams University
2018

Factors Affecting Nurse's Performance Regarding Drug Administration

Thesis

Submitted for Partial Fulfillment of the Requirements
for the Master Degree in Nursing Sciences
Medical & Surgical Nursing (Critical Care Nursing)

Supervised by

Prof. Dr. Magda Abd Elaziz

Professor of Medical Surgical Nursing
Faculty of Nursing
Ain Shams University

Dr. Shimaa Nabil Abd Elslam

Lecturer of Medical Surgical Nursing
Faculty of Nursing
Ain Shams University

Faculty of Nursing
Ain Shams University
2018

Acknowledgement

*First and foremost, I feel always indebted to **ALLAH** , the most kind and most the merciful for all his blessing and for giving me the will and strength for completion of this work.*

*I am deeply grateful to **Prof. Dr. Magda Abd Elaziz** , Professor of Medical Surgical Nursing, Faculty of Nursing, Ain Shams University, for her guidance, constructive criticism and supervision for the perfection of this thesis.*

*I would like to express my deep thanking and appreciation to **Dr. Shimaa Nabil Abd-Elsalam**, Lecturer of Medical Surgical Nursing, Faculty of Nursing, Ain Shams University, for her unlimited help, effort, support, guidance and for the time she devoted to me in this work. I would not have been able to start and continue this work without her help.*

Words can never express my hearty thanks and respect to all my professors who taught me the meaning of courage, and gave me a lot of knowledge, experience and time.

I am grateful to Dr.Manal Salah and Dr. Nadia Taha, are helped me to complete this work.

Special acknowledgement to my lovely husband for his unlimited help especially during the stressful situations.

Finally, my deepest grateful to my friends and my family especially my mother, my father, my daughter, my sisters and my brothers. For them all love and respect for their cooperation.

Azza Abo Elhares Abd Eltwab

LIST OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

Abb.	Meaning
ADR	: Adverse Drug Reaction
CPOE	: Computerized Provider Order Entery System
ID	: Identification
IM	: Intramuscular
IOM	: Institute of Medicine
IV	: Intravenous
MAE	: Medication Administration Error
MAP	: Medication Administration Process
MAR	: Medication Administration Record
ME	: Medication Error
ICU	: Intensive Care Unit
NGT	: Nasogastric Tube
NIC	: Nursing Intervention Classification
NII	: Nerve Injection Injury
RN	: Registered Nurse
SIP	: Smart Infusion Pump
SNII	: Sciatic Nerve Injection Injury
WHO	: World Health Organization

Factors Affecting Nurses' Performance Regarding Drug Administration

Abstract

Factors affecting nurses' performance regarding drug administration is a serious problems in medical units; and due error during drugs administration. Annually 7000 mortalities have been reported due to medication administration errors **Aim of the study:** to assess factors affecting nurses' performance regarding drug administration. **Design:** A descriptive exploratory design was utilized. **Setting:** The study was carried out in medical units at El Fayoum University Hospital. **Study subjects:** convenience sample of all available nurses (n=40) were included in the study. **Data collection**: Data were obtained through, nurses' knowledge questionnaire, nurses' observational checklist, nurses' attitude questionnaire and factors affecting nurses' performance questionnaire .**Results:** about three quarters (70%) of the study nurses had unsatisfactory knowledge and more than three quarters (77.5) of them had incompetent level of practice regarding drug administration. Half of the studied nurses (55%) have a positive attitude regarding drug administration. There were many factors affecting nurses' performance regarding drug administration as; nurses' related factors, doctors related factors, patients' related factors, and drugs related factors. **Recommendations:** Designing in-service training and educational program to improve nurses' knowledge and practice regarding drug administration. **Conclusion**: There was statistically significant relation between the nurses', level of knowledge and practice regarding drug administration and their demographic characteristics; educational level& years of experience in medical units and high significant relation between nurses' attitude and factors .

Keywords: Knowledge, Practice, Atitude, Drug administration, Factors affecting

Introduction

Medicines are chemical compounds administered for the purpose of diagnosis, treatment, and Prevention. All medications have toxic effects, therefore all medications are expected to be administered carefully to achieve the desired outcome, and to avoid adverse drug reactions (ADR). Nurses administer almost all medication in hospitals. Factors that may affect nurses' medication administration practice may influence patients' outcome. Medication administration practice errors besides economic and societal burden have an impact on mortality and morbidity ***(Kimeu, 2015)***.

The medication administration process (MAP) is a complex process and multistage practice in hospital setting. MAP play a central role in nursing and is mostly managed by nurses, except prescribing that is conducted by the physician. The complexity of the MAP exposes risk to medication errors that are surprisingly common and costly; administering medicines requires theoretical and clinical medication competence. In depth knowledge of medicine includes pharmacodynamics, therapeutic use, side effect, adverse event and appropriateness of administration the medication considering the patient's current response to

treatment ***(Pirinen, Salantera, Kauhanenl, & Lilius, 2015).***

The most common factors which contribute to medication administration errors (MAE) are failure to check the patients' identification prior to administration, the storage of similar preparations in similar areas, and environmental factors like nurse interruptions whilst undertaking a drug round . Other factors which contribute to MAE are characteristics of the nurse (age, sex, years of experience, year in the specific unit, nurse-to-patient ratio and educational status), route, and time of drug administration. Inaccurate documentation and poor communication during change of shifts in the hospitals also contribute to MAE ***(Feleke & Mulatu, 2015)***.

Everybody in the world takes medication at one time or another. Most of the time the medications are favourable or at least they root no harm but on occasion they do harm the person taking them. Sometimes these harms are due to errors occurred during medication use process which can be prevented. In hospitals, errors occur in every step of medication use process starting from the drug prescribing, transcribing, dispensing, administering and monitoring its effect. Annually 7000 mortalities have been reported due to medication errors ***(Sheikh & Mateti, 2017)***.

Medication errors is any avoidable event that leads to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional or patient. Such events may be related to professional practice, healthcare products, procedures, and systems, including prescribing, order communication, product labeling, packaging, compounding, dispensing, distribution, administration, education, monitoring, and use ***(National Coordinating Council for Medication Error Reporting and Prevention, 2015)***.

Patient safety is the freedom from accidental or preventable injuries produced by medical care, patient safety can be affected as a result constellation of different factors and circumstance. In the health care system medication errors are the main factors endangering the patient safety. Medication errors are an error in the medication process: ordering, transcription, dispensing, and administration. The medication administration process is a daily component of nursing practice and often viewed as a routine and basic nursing task that account for 40% of their work time ***(Bifftu & Dachew, 2016)***.

The main responsibility of a nurse is the safety of the patient to whom she is giving care. Medical surgical nurses are challenged to reduce and eliminate medication errors. They use knowledge and skills innovations aimed at

error prevention. Knowledge changes the attitude and develops confidence for practice. Due to this, assessing the rate of medication errors, the frequency of interruptions and associated factors of medication administration error has a significant contribution for improving the quality of patient care ***(Zakria &Mohamed, 2017)***.

Significance of study:

Medication administration becomes a major challenge, as nurses struggle to keep up with all the latest pharmaceutical advances and medications on the market. Nurses administer hundreds of medications to their patients on a regular basis and are responsible for patient safety. Medication errors (ME) are one of the leading causes of injury to hospital patients. In many cases, medication errors are preventable, and it requires skillful nursing judgement to identify errors and potential risks before they happen ***(*Jenkins, *2017)***.

Unsafe medication practices and medication errors are a leading cause of avoidable harm in health care systems across the world the scale and nature of this harm differs between low, middle, and high income countries. Globally, the cost associated with medication errors has been estimated at US$ 42 billion annually. Errors occur most frequently during administration, however there are

risks at different stages of the medication process ***(WHO Global Patient Safety Challenge, 2017)***.

Medication errors (MEs) are among the most common medical errors, harming about 1.5 million people every year. Medication errors are main contributors to adverse events to hospitalized patients. In addition to weakening the patients' confidence in medical services, MEs also impose substantial costs between US$ 6 billion and US$ 29 billion per year ***(WHO, 2014)***. Medication errors have significant implications on patient safety. Error detection through an active management and effective reporting system discloses medication errors and encourages safe practice ***(Kamel Elden & Ismail, 2015)***.

The study in Egypt results showed that, medication administration errors was the highest percentage among all causes (52%), and according to pareto test missed dose cause was the highest percentage of medication administration errors (60.4%), while root causes of medication administration errors revealed that the process itself as well as the human factors were the main root causes ***(Abdrabou & Saad, 2017)***.

Aim of the Study

This study aimed to assess factors affecting nurses' performance regarding drug administration, through the following:

1. Assess nurses' knowledge regarding factors affecting drug administration.
2. Assess nurses' practice regarding factors affecting drug administration.
3. Assess nurses' attitude regarding factors affecting drug administration.
4. Assess the factors affecting nurse's performance regarding drug administration.

Research Questions:

The current study will answered the following question:

1. What are nurses' levels of knowledge regarding factors affecting drug administration ?
2. What are nurses' practice regarding factors affecting drug administration?
3. What are nurses' attitude regarding factors affecting drug administration?
4. What are the factors affecting nurses' performance regarding drug administration?