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Research Article

## ASSESS THE ERRORS AND FACTORS RELATED TO MEDICINE ADMINISTRATION AMONG NURSES OF PAKISTAN AT JINNAH HOSPITAL LAHORE

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**Abstract:**

*Patient care is the cornerstone of nursing profession worldwide. Despite the implementation of the 6 Rights of Medication in letter and spirit (Right Patient, Right Medication, Right Dose, Right Time, Right Route, Right Documentation, Right Approach, Right Assessment, Right Information, Right Interaction), errors do occur which though appearing inevitable can be prevented.*

*In this study we find different portfolios, errors and factors associated with drug administration from nursing point of view. The healthcare systems today are a facing tough challenge related to drug administration errors. Multiple methodologies and practices are being used to improve quality of care patient safety.*

*The study is an attempt to assess the Errors and Factors Related to Medicine Administration Among Nurses of Pakistan at Jinnah Hospital Lahore.*

*Descriptive cross sectional study design was used for this purpose. The data was collected by using a structured questionnaire as a tool. Random sampling technique was used and data was collected from 100 nurses on the basis of inclusion and exclusion criteria from Jinnah Hospital Lahore.*

*The outcome of this study was help to assess the Errors and Factors Related to Medicine Administration Among Nurses Medication errors by nurses was related to medication packaging, poor communication, unclear medication orders, workload and staff rotation. To prevent medication errors, teamwork must be improved.*

*All healthcare settings was emphasise awareness of the culture of safety, provide support and guidance to nurses and improve communication skills.*

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**INTRODUCTION:**

Patient safety is the cornerstone of nursing profession worldwide. The healthcare systems today are a facing tough challenge related to drug administration errors. Multiple methodologies and practices are being used to improve quality of care patient safety.

Administering drugs is not only beneficial for patient's health but also the risk associated with the errors and omissions is one of the leading causes of iatrogenic mortality and morbidity worldwide. According to a survey MAEs are reportedly experienced by 2–14% of hospitalized patients and are estimated to kill 7000 patients and injure at least 1.5 million patients per year (1).

Of the many barriers associated with adherence to drug administration guidelines, include the failure to follow the evidence-based research into practice, lack of support, communication gap among multidisciplinary teams (2, 3) and a non-supportive environment for safe practices (4).

In addition, nurses have reported that spidery handwritten orders, identical generic names, undocumented allergies are contributory factors to MAEs (1, 5–8).

It is the nurse's responsibility for provision of suitable quality of care and patient safety (9). This includes administration of the correct medication to patients and rapid detection of MAEs (8). Therefore, nursing staff are the first line of defense in MAE prevention (10). Globally the nurses are educated about clinical guidelines and policies for the medication administration in any healthcare setting (10–12).

These policies include the 10 rights of medication administration including right drug, dose, patient, time, route, assessment, approach, interaction, information and documentation (11). The reporting of such errors is a basic principle to overcome via feedback mechanism. (13). Hence, reporting medication errors is equally important to preventing MAEs. According to the literature, nurses face many obstacles to reporting MAEs.

The most cited factor is fear of consequences including the loss of a job or professional license and disciplinary action (3, 14). Reportedly, more than 70% of errors resulting in adverse effects are related to negligence and failure to report the error (13). Another study reported that more than 90% of such errors were preventable (12).

**OBJECTIVES**

The objectives of this study are to:

- To explore the factors that influence the occurrence of MAEs and error reporting by nurses.

**METHODOLOGY:****Study Design:**

Descriptive cross-sectional study

**Setting:**

The study was conducted at a tertiary care Jinnah Hospital Lahore.

**Study Population:**

All nurses working in the above mentioned hospital

**Sample Size:**

100 nurses was included in the study from target population.

**Sampling Technique:**

Random sampling technique was adopted for study purpose.

**Inclusion Criteria**

- A Registered Nurse with A Valid License having at least 6 months of experience

**Exclusion Criteria:**

- Unregistered Nurse or whose License has expired or whose experience is below 6 months.
- Student, Trainees and Internees.

**Instrument:**

The validated questionnaire used in this study is Modified Gladstone 2001.

Approval from the authors was obtained before conducting this study.

The research instrument consisted of two parts.

The first part referred to the demographic data of the participants, including their sex, age, educational level, years of experience, working unit and current position.

The second part referred to the MAEs and consisted of 10 questions associated with the most common possible causes of medication errors.

The responses ranged from 1 (Strongly Disagree) to 6 (Strongly Agree). And a chart to estimate the percentage of the errors reported to the Nursing Superintendent.

**Data Collection:**

All the participants was included in the study according to the inclusion and exclusion criteria. Informed consent was obtained and proper explanation was given to the participants. Confidentiality was

insured to protect the ethical rights of the participants. Self-structure tool was used and its content validity was tested .. A detail of demographics profile was recorded.

### Data Analysis

Data analysis is the most important part of a research to depict the real picture of information. The data was analysed by SPSS Software version IBM-20 for its proper analysis. The data was presented in the form of percentages, frequencies, mean & standard deviation for qualitative variables. Mean with standard deviation

was calculated for quantitative variables. Pair t test was used for comparison of scores of knowledge.

### RESULTS:

The data was collected from 100 participants. The mean ( $\pm$  standard deviation) age of the participants was 28.89 ( $\pm$ 9.70) years. The estimated medication administration error reported was found to be 29.1 %. The perceived rates of medication administration error reported for non intravenous medications were ranged from 18.1 to 28.4 % and from 20.6 to 33.7 % for intravenous related medication.

**Table 01: Proportion of perceived medication administration error reported for each item**

Type of Medication Error		Percentage of Each Type of Medication Error Actually Reported	
		Intra Venous (IV) Error	Non-Intra Venous (IV) Error
1	Wrong route	20.6	26.2
2	Wrong time	33.3	27.7
3	Wrong patient	20.6	18.8
4	Wrong Dose	30.5	19.1
5	Wrong drug	28.4	18.8
6	Medication is omitted.	30.1	28.4
7	Medication is given, but not ordered by physician.	20.9	24.8
8	Medication administered after the order discontinued.	33.7	23.4
9	Given to patients with a known allergy.	22.7	18.1
10	Wrong fluid	22.3	----
11	Wrong rate	23.8	----

### DISCUSSION:

Primary and Secondary Healthcare Departments and Specialized Healthcare and Medical Education Government of Punjab has laid down a well-defined policy on how to handle medication errors.

MAEs are avoided by giving appropriate instructions and precautions on how to identify, rectify, report, intervene to resolve and analyze medication errors. Also, the policy has a system in place for monitoring, observing and preventing future incidents. This system of medication error reporting is an anonymous, nonpunitive and strongly encouraged process.

This adherence to clinical practice guidelines prevents medication errors by nurses (9). This study is important because it was enriching the current literature on factors related to medication errors by nurses. Also, it was providing a framework for policymakers and healthcare institutions on the main barriers to adherence to clinical guidelines regarding

the administration of medications and error reporting among nurses in Pakistan.

### CONCLUSION:

It is concluded that Educational status, disagreement over time - error definition, administrative and fear reason were factors statistically significant for the refusal of reporting medication administration errors at  $p$ -value  $<0.05$ . Therefore, the results of this study suggest strategies that enhance the cultures of error reporting such as providing a clear definition of reportable errors, establishing a good relationship with the healthcare administrators that make the workers free to report any mistakes without fear and strengthen the educational status of nurses by the health care organization.

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