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KNOWLEDGE AMONG NURSES ON MEDICATION ERRORS AND THEIR PERCEPTION ON THE CONTRIBUTING FACTORS TO MEDICATION ERRORS

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ABSTRACT

Medication errors can lead to adverse outcomes such as increased mortality, increased duration of hospitalization, and increased medical expenses. The goal of this study was to assess the level of knowledge among nurses on medication errors and their perception on the contributing factors to medication errors. A descriptive cross-sectional study with a self-administered questionnaire was used in this study. Purposive sampling technique was used to select 50 registered nurses from 2 selected hospitals. The study results showed that the overall level of knowledge of nurses on medications was good that 56% nurses had medium level of knowledge, and 44 % had good level of knowledge and 10% of them had very good level of knowledge. The wrong infusion rate (30%) and administration of two doses of medicine instead of one (22%) were identified as the most common medication errors by the nurses. The complicated orders from the physicians is the significant factor ($p=0.05$) for the medication errors. The study concluded that though the nurses have good level of knowledge on medications, the continuous education on medication trends, is mandate to decrease the medication errors.

KEYWORDS

Medication errors, Nurses, Knowledge and Medication.

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INTRODUCTION

A medicine is a substance that is used to diagnose, treat, cure, relieve, or prevent health problems. The administration of medications is a routine element of nursing practice that is far more than a simple psychomotor skill. As medicines administration is a part of the nurses' job, it is their moral responsibility to ensure that clients get the right medication at the

right time. Errors in medication delivery are a common occurrence in health care. Although nurses play a vital part in this procedure, it also involves a multidisciplinary team that includes a physician, pharmacist, and the patient. The medication process in an acute care hospital is complex and time-consuming, taking up to one-third of a nurse's work. The UK's National Health Services Audit Commission (2001) found that drug errors were responsible for around 20% of all adverse event deaths. According to the Department of Health (DOH), every 400 deaths or adverse reactions are, as a result of medication related events.

Patient safety is a universal goal for every healthcare provider. One of the major concerns for safety is medication errors. Because of the potential for patient damage and causes emotional impact on patients, it is considered one of the important indicators of health care delivery system. Over 2 million serious adverse drug reactions (ADR) requiring hospitalization, causing permanent disability or death each year¹.

Medication errors also are one of the most common health-related errors that have a negative impact on patient care. Such errors are regarded as a global issue that raises death rates, hospital stay lengths, and associated expenses. Given that medication administration errors are becoming more common around the world, substantial steps should be done to prevent them from occurring.

Additionally, the annual financial consequences of these medical issues have been estimated to exceed \$77 million². Medication errors have been linked to a two-day increase in hospital stay and a \$2000-2500 rise in costs per patient, according to studies. Inappropriate drug use can result in higher hospitalization expenditures due to negative side effects and failure to receive essential medicine^{1,3}. Hence, medication administration error prevention is multifaceted but crucial to ensure the safety of patients, the goal of this study was to assess the level of knowledge among nurses on medication errors and their perception on the contributing factors to medication errors.

MATERIAL AND METHODS

A descriptive cross-sectional study with a self-administered questionnaire was used in this study. Purposive sampling technique was used to select 50 registered nurses from 2 selected hospitals. The questionnaire was developed based on review of literature and content validity, reliability was assessed ($r = 0.81$). The three sections of the tool include demographic data, questions related to medication errors and nurses perception on the factors contributing to medication errors. The ethical clearance for the institutions and participants consent was obtained before the conduct of the study. Descriptive and inferential statistics was used for the statistical analysis.

RESULTS AND DISCUSSION

According to findings of the study, among the nurse's seven (14%) were found to have an experience of less than 4 years and majority (82%) as having experience more than 5 years as well as 18 % of the nurses were male and remaining were female nurses. 76% nurses were qualified as Diploma in nursing and rest of the 24% were having B.Sc qualification.

The frequency and percentage of nurses' knowledge on medication showed that the overall level of knowledge of nurses on medications was good that 56% nurses had medium level of knowledge, and 44% had good level of knowledge and 10% of them had very good level of knowledge. The similar findings were reported in the study conducted by Johari H, *et al*, (2013)⁴ concluded that the nurses level of knowledge about medication was good and more than half of the nurses 54% had medium, 46% had high while none had low scores.

The Table No.1 shows the types of common medication errors reported by nurses in which wrong infusion rate was identified as the most frequent medication error (30%) by the nurses which is followed by administration of two doses of medicine instead of one (22%).

The omission of medicine (16%), medication at inappropriate time (8%), mistaken medication (12%) and giving medicine of a patient to another patient

(12%) was the common medication errors reported by the nurses who participated in the study.

The Table No.2 shows the relationship between the levels of knowledge of nurses with the factors contributing to the medication errors. It shows that the complicated orders from the physicians is the significant factor ($p=0.05$) for the medication errors. Other factors such as personal neglect, heavy workload, unfamiliarity with medications and new staff, did not show any significant relationship with the level of the knowledge among the nurses. This indicates that the nurses need to be given adequate training as in-service education frequently on the newer developments on the pharmacology which can reduce the medication errors significantly and the patients' also can also get access to safe health care.

There were similar findings reported from the studies which conclude that appropriate strategies (e.g., reducing the nursing staff workload) should be developed to address medication errors and improve patient safety in hospital settings and as medication administration is the primary function of the nurses, they should be well equipped with necessary knowledge and skills to avoid medication errors.

Table No.1: Types of Common Medication Errors reported by nurses

S.No	Types of Common Medication Errors reported by nurses	Number	%
1	Omission of medicine	8	16
2	Medication at inappropriate time	4	8
3	Mistaken medication	6	12
4	Administration of two doses of medicine instead of one	11	22
5	Giving medicine of a patient to another patient	6	12
6	Wrong infusion rate	15	30

Table No.2: Relationship with level of knowledge and factors contributing medication error

S.No	Factors contributing to Medication Errors	Level of Knowledge (%)		'p' value
		Medium	High	
1	Personal neglect	69.2	30.8	0.063
2	Heavy workload	90.1	9.9	0.551
3	Unfamiliarity with medication	31.8	68.2	0.326
4	New staff	64.8	35.2	0.439
5	Complicated orders	70.1	29.9	0.05*

CONCLUSION

The study results show that the appropriate in service education and adequate training to be given nurses regarding the knowledge on newer trends in the medications, factors contribute to common medication errors and so on.

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DECLARATION OF CONFLICTING INTEREST

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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