



MEDICATION ERRORS: CAUSE & EFFECT – A DESCRIPTIVE STUDY

Medical Surgical Nursing

Ms. Vidya. J

Assistant Professor, Department Of Nursing, Pondicherry Institute Of Medical Sciences, Puducherry, India

Mr. Sween Samuel

Quality Manager, Quality Cell, Pondicherry Institute Of Medical Sciences, Puducherry, India

ABSTRACT

Medication errors are a leading cause of injury and avoidable harm in healthcare systems across the world². The objective of this study was to find the rate, types, cause and effect of medication error for the period of January – December, 2022 in a tertiary care hospital. A descriptive study design was adopted to collect data by convenience sampling technique from 20 medication error reporting forms using NABH medication error guidelines. The data was analyzed using descriptive statistics and results showed that the average medication error rate is 0.3/1000 patient days, 40% (n = 8) of errors were dispensing error, major cause for error (30%, n = 6) was wrong patient identification and 55% (n = 11) errors caused no harm to the patient. The results conclude that it is the iceberg effect and huge errors are not reported. So, medication safety that is medication without harm and a safe medication error reporting system must be fostered.

KEYWORDS

Medication error, medication safety and medication error reporting

INTRODUCTION

Medication error is any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in control of the healthcare professional, patient or consumer¹. Medication errors are a leading cause of injury and avoidable harm in healthcare systems across the world². Among the patient safety goals by WHO, medication safety aims for “Medication Without Harm”³. Medication safety is defined as the freedom from accidental injury due to medical care or medical errors during the medication-use¹. The process of medication delivery includes: prescribing, transcribing, dispensing, administering, and monitoring³. Errors happen due to various factors like human, environment, equipment and process⁴. 45 - 50% of medication errors happen due to distraction and 21% distraction happens while handling medications³. One-third of all medication errors occur during the administration phase which can be a near miss, no harm or sentinel event⁴. The volume and complexity of medication administration contribute to the risk of medication errors⁴.

OBJECTIVES

The objective of this study was to

1. Find the rate of medication error
2. Classify the types of medication error
3. Identify the cause for medication error
4. Describe the effect of medication error

METHODOLOGY

- **Approach:** Quantitative approach
- **Design:** Descriptive study design
- **Setting:** Selected tertiary hospital
- **Period:** January – December, 2022
- **Sample:** Medication error reports
- **Sampling Technique:** Convenience sampling
- **Sample Size:** 20
- **Tool:** Medication error – Guidebook to NABH Accreditation standards for hospitals, 5th edition
- **Data Collection:** Data from the medication error reporting form
- **Data Analysis:** Descriptive statistics like number and percentage

RESULTS

The study results shows that the result from the total number of medication errors which were reported voluntarily. The total number medication errors reported were 20 from the period of January 2022 to December 2022 with an average medication error rate is 0.3/1000 patient days

Figure 1 shows that the medication error rate on an average is 0.3/1000 patient days

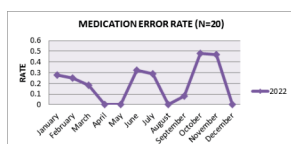


Fig1: Medication Error Rate – 2022

Figure 2 highlights that among the medication errors 40%(n=8) were dispensing error and followed by prescription error (35%, n=7) and 25%(n=5) administrative error

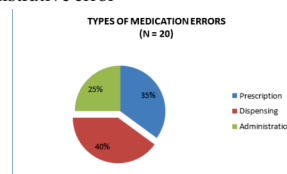


Fig2: Types Of Medication Error – 2022

Figure 3 shows that majority causes for error was wrong patient identification(n = 6), ten rights not observed(n = 4) and wrong indent (n = 3)

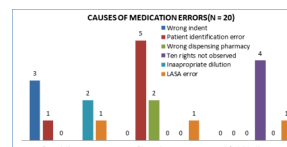


Fig3: Causes Of Medication Error – 2022

Table 1 explains that 55% errors caused no harm to the patient followed by 25% errors that caused harm and 5%(n = 1) error that may have contributed to death

Table 1: Effects Of Medication Error - 2022

S.No.	EFFECT OF MEDICATION ERROR	Number (N=20)	%
1	NO ERROR – Category A	3	15
2	ERROR, NO HARM – Category B, C & D	11	55
3	ERROR, HARM – Category E, F, G & H	5	25
4	ERROR, DEATH – Category I	1	5

DISCUSSION

The objective of this study was to find the rate, types, cause and effect of medication error for the period of January – December, 2022 in a tertiary care hospital. A descriptive study design was adopted to collect data by convenience sampling technique from 20 medication error reporting forms using NABH medication error guidelines and data was analyzed using descriptive statistics.

The results showed that the average medication error rate is 0.3/1000 patient days which is probably due to low medication error reporting due to fear and lack of awareness about the patient safety goals.

Among the medication errors, dispensing error was 40% (n=8) where the patient identification were not followed (n=5), followed by wrong drug dispensing (n=2) and Look Alike Sound Alike LASA error (n=1).

Prescription error contributed to 35% (n=7) of medication errors where the major reason was wrong indent (n=3), followed by wrong dilution (n=2), LASA error (n=1) and wrong patient identification (n=1). The least found was administrative error 25% (n=5) where the ten rights not observed (n = 4) followed by LASA error (n = 1). The errors were probably not taking time for two patient identifier check in pharmacy while dispensing, inadequate training on drug prescription and careless attitude of the nurses during administration of medication by not following the rights of medication administration

Causes for the medication errors reported (N=20) were wrong patient identification (n = 6), ten rights not observed (n = 4), wrong indent (n = 3), LASA error (n=3), wrong drug dispensing (n=2) and wrong dilution (n=2). The causes shows that there is inadequate training and lack of supervision on adherence to safe medication practices like identifying the patient with two identifiers, rights of medication administration, drug prescription, LASA drug policy, drug dispensing procedure and drug dilutions.

Among the 20 medication errors reported, 55% (n=11) errors caused no harm to the patient i.e. error occurred but either it did not reach the patient(Category B) or caused no harm to the patient (Category C) or needed monitoring to see that there is no harm(Category D). 25% (n=5) errors caused harm i.e. error reached the patient and caused either temporary harm which required intervention (Category E) or temporary harm which required intervention with prolonged hospitalization (Category F) or permanent harm (Category G) or permanent harm which required intervention to sustain life (Category H). 15% (n=3) errors were Category A were no error happened but had that situation to cause error and 5% (n =1) error was Category I where the error may or may not have contributed to death.

Limitations

- Study is not generalizable since the sample size is small

CONCLUSION

- Medication errors happen at different levels of medication delivery due to various factors with or without harm.
- The above result concludes that it is the iceberg effect, only those caused harm is being reported, that is the tip and still there is a huge beneath which comprises of all no error, error no harm category of medication errors
- “Primum non nocere”(first, do no harm) must be cultured for medication without harm and adequate manpower for the same must be ensured
- Since “to err is human” – training on safe medication must be ongoing and a safe medication error reporting system must be fostered

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