MONITORING, ANALYSIS AND PREVENTION OF MEDICATION ERRORS IN CRITICAL CARE UNITS DURING 2025

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BACKGROUND AND IMPORTANCE

Evaluation of medication incidents in critical care units is essential to strengthen patient safety, reduce adverse events, and optimize pharmacotherapy outcomes.

AIM AND OBJECTIVE

To describe medication incidents reported in the critical care units, identifying the most frequent types, the most severe events, and the corrective or preventive actions implemented.

MATERIALS AND METHODS

- A descriptive analysis of medication errors reported between January and October 2025 in intensive care units of a tertiary care hospital was conducted.
- Variables such as care area, error risk, professional category, patient age, error process, severity, and implicated drugs were evaluated, especially high-risk medications.
- Severe errors were defined as those causing temporary or permanent harm requiring immediate intervention.
- Improvement actions implemented and conclusions drawn from each incident were systematically reviewed.

RESULTS

- **<u>80 incidents recorded:</u>** 65.0% in pediatric and 35.0% in adults
- Most affected age groups: **patients under one year** (22.5%) and **61–70 years** (15%).

Table 1. Error risk level (%)	
Very low risk	21.0
Low risk	55.0
Moderate risk	21.0
High risk	3.0

Table 2. Most frequent error types (%)	
Administration	42.9
Preparation	11.1
Dispensing	6.3

Predominantly **moderate severity** (66.7%). **No severe events** reported.

Nursing staff most frequently involved in error notification **(69.9%),** followed by physicians (7.9%).

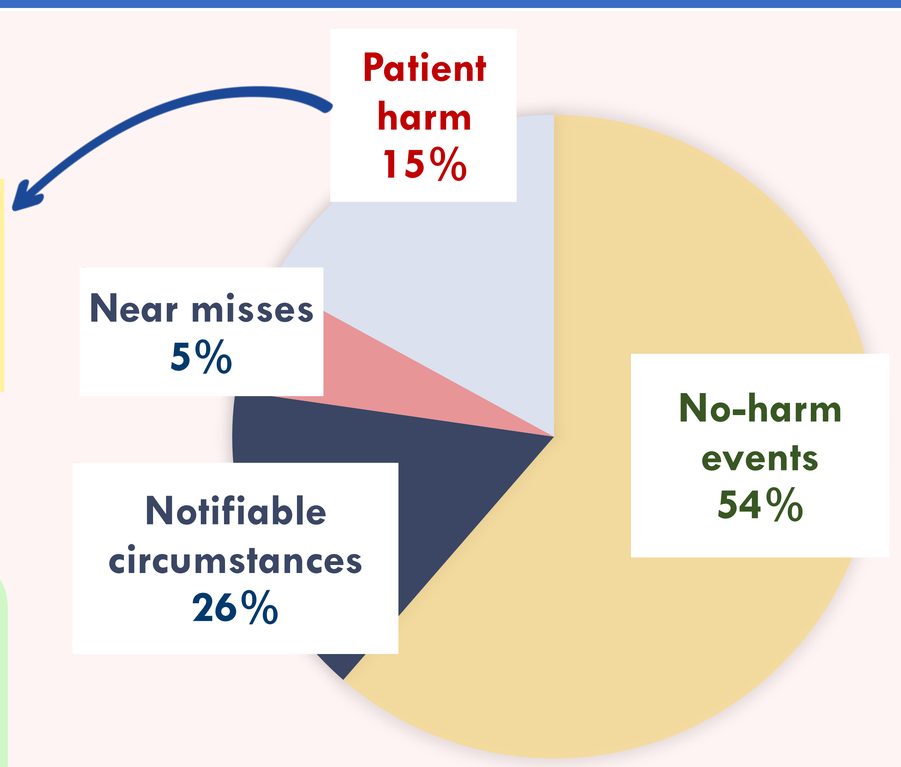

Figure 1. Incident severity

- **33.8%** of incidents involved **high-risk medications**, mainly **<u>opioids and vasoactive drugs.</u>**
- **Moderate and high-risk errors** mainly involved **morphine and fentanyl infusion pumps.**
- <u>Other drugs related to harm:</u> dopamine, furosemide, amiodarone, and fluid therapy solutions.
- **Improvement strategies:** process standardization, double-check controls, and effective communication of safety procedures among healthcare professionals.

CONCLUSION AND RELEVANCE

- **Most medication incidents were low-risk** and related to administration.
- **Implemented measures showed positive outcomes** in reducing errors and improving adherence.
- **Continuous training, standardized protocols, and regular audits** remain key to minimizing preventable harm and promote a robust culture of patient safety in critical care units.

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