ENHANCING PATIENT SAFETY: ANALYSIS AND MITIGATION OF MEDICATION ERRORS IN CRITICAL CARE UNITS DURING 2024

A. PUERTAS SANJUAN[1], E. GALLART VIVÉ[2], F.X. NUVIALS CASALS[2], M.E. PALACIO LACAMBRA[1], A.G. ARÉVALO BERNABÉ[1], M. GUERRA GONZÁLEZ[1], R. LÓPEZ MARTÍNEZ[1], E. VALLVÉ ALCON[1], L. VIDAL TARRASÓN[2], P. LALUEZA-BROTO[1], L. DOMÉNECH MORAL[1]

[1]VALL D'HEBRON UNIVERSITY HOSPITAL, HOSPITAL PHARMACY DEPARTMENT, BARCELONA, SPAIN.
[2]VALL D'HEBRON UNIVERSITY HOSPITAL, INTENSIVE CARE DEPARTMENT, BARCELONA, SPAIN.

Background and importance

The analysis of medication errors in critical care units is essential for enhancing patient safety and minimizing adverse events that may compromise health.

Aim and objectives

To describe the medication errors reported in the critical care unit during January-October 2024, identifying the most frequent types, the most severe incidents, and the corrective actions implemented.

5PSQ-099

Material and methods

Study design

- **A descriptive observational study was conducted in a tertiary-level hospital's ICU**
- **Based on reported medication errors**

Data collection

- ✓ **Care area**
- ✓ **Error risk**
- ✓ **Professional category notificator**
- ✓ **Patient age**
- ✓ **Error process**
- ✓ **Severity**
- ✓ **Probability**
- ✓ **Implicated drugs**

Severe errors were defined as those causing temporary or permanent harm and requiring immediate intervention

Results

58 incidents included

Table 1. Distribution of Errors	
Adult Critical Care Unit	56,9%
Pediatric Critical Care Unit	22,4%
Post-Surgical Area	12,1%
Operating Rooms	1,7%
Others	6,8%

Table 2. Errors by Patient Age Group	
61-70 years	21,1%
51-60 years	21%
71-80 years	18,4%
Less than 1 year	15,4%
41-50 years	7,9%
1-5 years	5,3%
81-90 years	5,3%
6-10 years	2,6%
16-20 years	2,6%

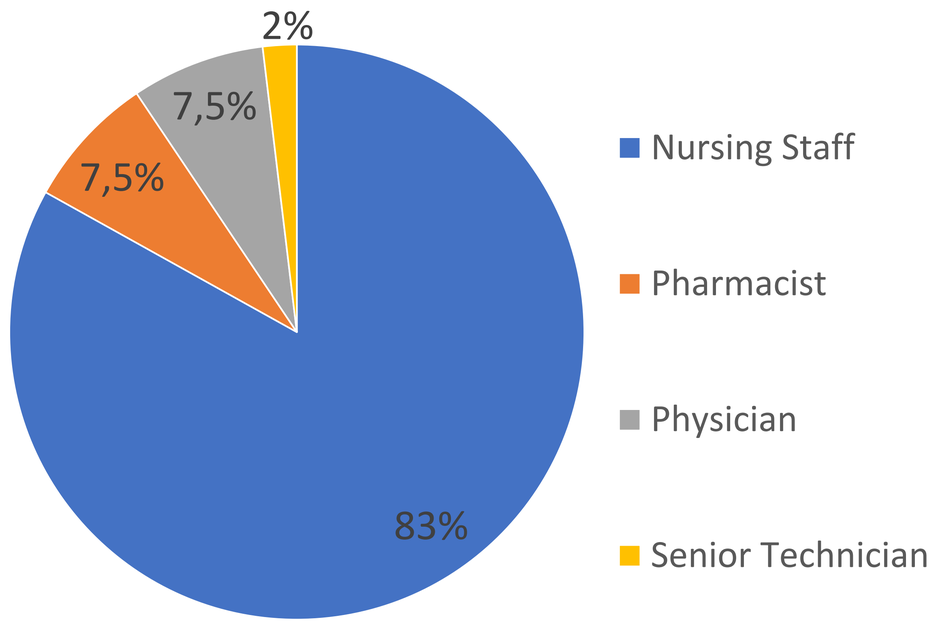

Figure 1. Who notifies?

Table 3. Risk level of Errors (%)	
Low Risk	48,3
Very Low Risk	25,9
Moderate Risk	19,0
High Risk	5,2
Extreme Risk	1,7

Table 4. Most common type of error	
Administration	42,1%
Storage	13,2%
Prescription	10,5%
Medication selection	10,5%

Table 5. Error severity	
Incident without harm	45%
Near misses	20%
Temporary harm	10%

Table 6. Medications Involved in Severe Errors
Insulin continuous pump
Heparin
Apixaban

Table 7. Main improvement strategies
Modifying prescription and administration protocols
Implementing double-check verification
Disseminating safety protocols to all healthcare staff

Conclusion

✓ **The interventions implemented have shown positive outcomes in reducing errors and improving protocol adherence. Nevertheless, maintaining a consistent focus on staff training, especially in the administration of high-risk drugs, is essential. Ongoing process review and effective communication among healthcare teams are critical to ensuring a safe environment in critical care units.**

Contact us:
adrian.puertas@vallhebron.cat