NOTIFICATION OF MEDICATION ERRORS IN A PEDIATRIC ONCOLOGY INTENSIVE CARE UNIT

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Medication errors (ME) are the most common and also the most frequent cause of adverse events.

In pediatric populations, ME are observed at 3 times the rate seen in the adult population.

OBJECTIVE

To describe the ME reported in a Pediatric Oncology Intensive Care Unit.

METHODS

✓ Descriptive study - 1st March and 31st May of 2008
✓ Pediatric Oncology Intensive Care Unit
✓ It was developed and implemented for the first time in the POICU a ME reporting form.
✓ Studied variables:
  • patient
  • medication therapy
  • staff
MEDICATION ERROR REPORTING FORM

1. Date of event:

2. Shift: ( ) morning ( ) afternoon ( ) night ( ) I don’t know

3. The event occurred during: ( ) emergency situation ( ) routine situation ( ) I don’t know

4. The event occurred:
   ( ) in the Pediatric Intensive Care Unit
   ( ) in other location Where?

5. Patient age: _____ years _____ months ( ) I don’t know

6. Sex: ( ) male ( ) female

7. Reason for patient hospitalization: ( ) clinical ( ) surgical

8. Name of the substance (drug, solution, blood component) related to error:

9. Route of administration:
   ( ) intravenous ( ) oral ( ) intramuscular
   ( ) subcutaneous ( ) rectal ( ) sublingual
   ( ) intradermal ( ) inhalatory ( ) epidural
   ( ) topical other:________________

10. Describe how the medication error occurred (if necessary, use the back side). If possible, include in the description which factors contributed to error occurrence.

11. Mark the answer which indicates the error consequences:
   ( ) An error occurred, but did not cause patient harm.
   ( ) An error occurred and resulted in reversible or temporary harm to the patient.
   ( ) An error occurred and resulted in irreversible or permanent harm to the patient.
   ( ) An error occurred and resulted in patient’s death.
   ( ) I don’t know.

12. After identifying that an error occurred, was there communication to the staff or to the professional responsible for subsequent interventions?
   ( ) yes Professional: ___________________________
   ( ) no
   ( ) I don’t know

13. Mark the answer which indicates the intervention after the error occurrence:
   ( ) there was no intervention.
   ( ) patient required observation.
   ( ) patient required monitoring.
   ( ) patient required modification of the treatment.
   ( ) patient required new treatment.
   ( ) I don’t know.

14. Patient and family were communicated about the error occurrence?
   ( ) yes ( ) no ( ) I don’t know

15. Professional category of who reported the error:
   ( ) nurse technician or auxiliary
   ( ) nurse
   ( ) physician
   ( ) pharmacist
   ( ) other __________________________
RESULTS

During the 92 days of data collection, 71 forms were filled out by the PICU staff and 110 ME were notified, representing 227 errors per 1000 patient-days.

**Figure 1** - Medication error type.

**Figure 2** - Classification of drugs related to ME.
High-alert medications, drugs with the highest risk of causing harm when misused, were involved in 44 ME (40.0%).
### RESULTS

#### Table 1- Medication error consequences to patients.

<table>
<thead>
<tr>
<th>Medication error consequences</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No harm</td>
<td>59 (83.1)</td>
</tr>
<tr>
<td>Reversible or temporary harm</td>
<td>5 (7.0)</td>
</tr>
<tr>
<td>Unknown</td>
<td>7 (9.9)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>71 (100.0)</td>
</tr>
</tbody>
</table>

#### Figure 6- Intervention related to ME.

- **No intervention**: 49.3%
- **Observation**: 33.8%
- **Monitoring**: 8.5%
- **Modification of treatment**: 4.2%
- **New treatment**: 1.4%
- **Unknown**: 2.6%

n = 71
RESULTS

Figure 7 - Professional category of who notified the ME.

- Nurse: 60.5%
- Physician: 12.7%
- Nurse Technician / Auxiliary: 26.8%

n = 110

Pharmacists did not report ME in this study.

Figure 8 - Communication of ME to patient and family.

- No: 95.8%
- Yes: 2.8%
- Unknown: 1.4%

n = 71
Measures to reduce ME in pediatric oncologic patients in the PICU are needed.

Researches conducted in specific practice environments provide knowledge regarding particular patients’ needs and cultural characteristics.

A plan of actions must be implemented to improve the medication system and prevent ME and adverse events.