ANALYSIS OF ANTINEOPLASTIC DRUGS PREPARATION ERRORS AS A FIRST STEP TO IMPROVE THE QUALITY OF THE PROCESS

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OBJECTIVES

Background: Antineoplastic preparation presents unique safety concerns because of its toxicity and narrow therapeutic window. Moreover, antineoplastic use system includes several stages that are vulnerable to opportunities for potentially harmful medication errors.

PURPOSE: To identify the type and underlying factors of medication errors during antineoplastic drug preparation, to identify improvement strategies.

METHODS

Design: Prospective, observational study, from April to June 2016, using a disguised observation technique.
Setting: Hazardous Preparation Unit of the Hospital Pharmacy Department in a 1300-bed tertiary teaching hospital.

In this Unit, quality control of the final products is made by a nurse, who compares the preparation order instructions with all vials used to make the preparation.

1. Observation of medication preparations
   - Classification (according to Ruiz-Jarabo 2008)
     - Errors: the dose was >5% variation from the prescribed, or the preparation did not meet pharmacy quality standards, like wrong fluid or wrong final volume that implied instability of the drug.
     - Discrepancies
     - Causes

2. Analysis of intercepted errors
   - Severity (categorized using NCC-MERP Index)
     - Minor
     - Moderate
     - Serious

RESULTS

Graph 1. Classification of errors and discrepancies
- ERRORS
  - Wrong drug
  - Wrong label
  - Wrong fluid
  - Wrong fotoprotection
  - Wrong dose
  - 2 (0,35%)
  - 1 (0,18%)
  - 3 (0,53%)
  - 1 (0,18%)

Graph 2. Potential severity
- Minor: 3, 38%. No damage or monitoring required
- Moderate: 5, 63%. Temporary damage that required monitoring or treatment

Graph 3. Potential error causes
- Lack of standardized procedures
- Lapse of concentration

CONCLUSIONS

Although the identified error rate is very low and consistent with previous studies, the high intrinsic risk of antineoplastic drugs calls for a zero rate target. For this reason, and in order to improve preparation accuracy, new strategies such as automatized workflow management systems will be of use in the near future.

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