to SAD products could be observed, the relative decrease could indicate a positive effect.

The simulation study indicated that specific design features such as yellow background colour, Tall Man lettering and consistent design improved safety in the medication process. However, the new label design is complex implying a potential for misinterpretation of the features if the users are not familiar with the design.

**Conclusions** The effect of the new design depends on several factors such as the user’s knowledge of the design, the complexity of the design and the context of use. Errors related to misinterpretation of labels remains a problem and research into good label design remains a relevant topic.

No conflict of interest.

**EVALUATION OF THE PRESCRIPTION OF INTRAVENOUS NON-Steroidal ANTI-INFLAMMATORY DRUGS COMPARED TO THE RECOMMENDATIONS OF THE SUMMARY OF PRODUCT CHARACTERISTICS**

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**Background** Acute renal failure is a side effect of NSAIDs.

**Purpose** To assess the appropriateness of the intravenous prescription of dexketoprofen according to the dosage specifications depending on renal function following the recommendations of the Summary of Product Characteristics.

**Materials and Methods** An observational, retrospective study that analysed dexketoprofen prescriptions in surgical patients admitted to a tertiary hospital from January-September 2011. The estimated glomerular filtration rate (eGF) was calculated by the CKD-EPI formula, of reference in the hospital.

The Summary of Product Characteristics advises using the following posology for dexketoprofen:

- 150 mg maximum daily dose for a maximum duration of 48 hours.
- In patients with renal impairment:
  - GF < 50 mL/min: administration contraindicated
  - GF 50–80 mL/min: 25 mg/12 h. Maximum: 50 mg daily.
  - GF > 80 mL/min: No dosage adjustment required.

**Results** Prescriptions from 1946 patients were analysed. Of the patients, 54.3% were male and 45.7% female, with a mean age of 59.8 years (17–103). The mean serum creatinine levels were 0.84 mg/dl ± 0.48 and the mean eGF from the CKD-EPI calculation was 83.05 ± 26.17 mL/min/1.73m².

In 58% of the admissions the drug was not prescribed correctly. Of these:

- 270 patients were prescribed dexketoprofen when the eGF was less than 50 mL/min/1.73m²;
- 350 of them had an unadjusted prescription with an eGF 50–80 mL/min/1.73m²;
- 370 patients with an eGF > 80 mL/min/1.73 m² were prescribed NSAIDs for longer than 48 h.

**Conclusions** 58% of the intravenous NSAID prescriptions did not conform to the SPC recommendations. Due to this fact and in order to prevent renal toxicity it is recommended:

1. To establish protocols for pain management during hospitalisation to limit the duration of these drugs to 48 hours and adjust the dose to the patient’s renal function.
2. To enhance the proactive role of the pharmacist in individualised patient monitoring.

No conflict of interest.

**EXPOSURE TO ANTI-NEOPLASTIC AGENTS IN ONCOLOGY DEPARTMENTS: PRACTICE SURVEY AND INFORMATION TO THE PERSONNEL OF THREE ONCOLOGY DEPARTMENTS**

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**Background** The exposure of pharmacy technicians to antineoplastic agents (AAs) has been widely studied, but less is known about risks of exposure and awareness of nurses, nursing auxiliaries and cleaning personnel.

**Purpose** To evaluate the practising and the awareness of oncology nurses (ONs), nursing auxiliaries (NA) and cleaning personnel (CP) concerning exposure to AA.

**Materials and Methods** Three questionnaires were distributed to ONs, NAs and CP in three oncology wards including one paediatric ward. Participants were asked 10, 11 and 12 questions respectively about their practises and awareness of exposure to AAs.

**Results** For ONs (n = 38), gloves are more often worn when manipulating syringes than when manipulating infusion bags (60.5% vs. 36.8%, p < 0.05). 26.3% considered themselves well informed but 97.4% thought information could be improved. 81.6% of ONs suspected that AAs had teratogenic effects and 10.5% of them thought that AAs did not have mid- or long-term toxic effects. For NAs (n = 14), wearing gloves while washing patients or eliminating excreta was more frequent than mask wearing (64.3% vs. 5.3%). 28.6% considered themselves well informed but 92.9% thought information could be improved. 85.7% of NAs suspected that AAs had teratogenic effects and 14.3% of them thought that AAs did not have mid- or long-term toxic effects. For CP (n = 10), 62.5% wore gloves for bed making and 80.0% for sanitation cleaning. All of them considered themselves not sufficiently informed and 90.0% thought that AAs had teratogenic effects whereas 10% of them thought that AAs did not have mid- or long-term toxic effects. All (n = 62) reported routine use of water and soap (46.8%) or hydro-alcoholic solution (25.8%) after a potential exposure to AAs.

**Conclusions** Lack of information suggested the necessity of informing the nurses and cleaning personnel on the oncology ward in some fields. A teaching session was arranged by department.

No conflict of interest.

**FAILURE MODE AND EFFECT ANALYSIS IN IMPROVING THE SAFETY OF THE CHEMOTHERAPY PROCESS**

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**Background** Medication errors in chemotherapy have a high potential to cause harm. Errors may occur during different steps of the medication process.

Failure Mode and Effect Analysis (FMEA) is a proactive risk assessment method that enables potential risks to be identified and prioritises actions to improve safety.

**Purpose** To apply FMEA methodology to the chemotherapy process: prescribing, pharmaceutical validation, compounding and dispensing.

**Materials and Methods** Prospective study, in a tertiary level hospital, using the FMEA technique developed by the Veterans Affairs Healthcare System for the chemotherapy process. An interdisciplinary working group was created and meetings held over three months. Processes and subprocesses were described; potential failure modes and possible causes were identified. Main sources used were brainstorming and cause-effect diagramming. For each failure
mode, a Hazard Score (HS) was calculated by multiplying the probability of occurrence (Remote = 1, Uncommon = 2, Occasional = 3, Frequent = 4) and severity of effect (Minor = 1, Moderate = 2, Major = 3, Catastrophic = 4). If HS >= 8, corrective actions were proposed. If HS < 8, failure mode was evaluated based on: lack of detection, criticality and absence of effective control measures. All data were collected in a validated worksheet.

Results A flow diagram was obtained. Twenty-seven failure modes were identified, and twenty had a HS > = 8. Failure modes with the highest HS were: wrong dose calculation and wrong protocol (Prescribing); incorrect production protocol in the computer system and non-detection of wrong dose calculation (Pharmaceutical validation); wrong medicine is chosen, incorrect volume of drug added to diluent and labelling error (Compounding); Delivered to wrong nursing unit or patient (Dispensing). Corrective actions proposed were: policy of weighing patient for proper dose calculation, chemotherapy database updated, double checking, gravimetric control on prepared chemotherapy, procedures for proper patient identification (barcode identification system or radiofrequency dispensing system).

Conclusions FMEA contributes to the development of a very clear and shared vision of the chemotherapy process, taking into account different perspectives: oncologist, pharmacist, technician and nurse. FMEA is a useful tool for identifying critical parts of the chemotherapy process, prioritising corrective actions, minimising potential risks and improving the quality and safety of patient care.

No conflict of interest.