USP Issues Perioperative Medication Error Report

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ROCKVILLE, MD. — More than 11,000 perioperative medication errors were reported to a national database of hospital medication errors between 1998 and 2005. Of these, 5% resulted in harm, according to a report issued by the United States Pharmacopeia.

The database, known as MEDMARX, is operated by the USP and is the largest national database of hospital medication errors in the United States, receiving about 15,000 new reports every month.

The 11,239 perioperative medication errors reported by more than 500 hospitals in 7 years were divided into four settings: outpatient surgery (30% of the total reports), the preoperative holding area (7%), the operating room (34%), and the postanesthesia care unit (29%). The proportion reported in the preoperative holding area was lower because this category was added to the database in 2003.

The 5% rate of harmful perioperative errors is about threefold higher than the proportion of medication errors resulting in harm in all other areas of the hospital combined. Harmful errors occurred in all four perioperative areas but were most common in the operating room. The proportion of perioperative medication errors that resulted in harm was higher among patients under age 17 than it was among older patients.

Among the medication errors that resulted in harm, there were four deaths, including one pediatric patient, according to Diane D. Cousins, a registered pharmacist and vice president of the Center for the Advancement of Patient Safety at the USP.

A total of 739 drug products were involved in errors, the most common of which were the antibiotics cefazolin and vancomycin; the analgesics morphine, fentanyl, and meperidine; the sedative midazolam; and heparin, Ms. Cousins said. There were 165 drugs (22%) involved in harmful errors; most common among them were morphine, fentanyl, and cefazolin.

Errors included administering the wrong medication or the wrong amount, administering medication at the wrong time, omitting a medication or a dose, or administering medication incorrectly.

In the operating room, omission and wrong drug administration were the most common mistakes, she said. For example, a surgeon called in an order for a dose of ampicillin to be given during surgery that was scheduled a week later, but the order was never recorded. As a result, the patient (a child) never received the drug.

In the postanesthesia care unit setting, the most typical errors involved prescribing and administering incorrect amounts of drugs, she said. After an elderly patient was discharged from the postanesthesia care unit to an inpatient unit, it was discovered that the patient was receiving too much heparin because of a programming error made in the postanesthesia care unit.

The results were announced during a press briefing sponsored by the USP, which released the report in partnership with the Uniformed Services University of the Health Sciences, the Association of Peri-Operative Registered Nurses, and the American Society of PeriAnesthesia Nurses. The report is the largest known national analysis of medication errors related to surgery, Ms. Cousins said during the press conference. ■

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