Medication Incidents Involving Psychotropic Drugs: An Aggregate Analysis

Calvin Poon, BScPhm Candidate, Roger Cheng, BScPhm, PharmD, Sanaz Riahi, BScPhm Candidate, Sylvia Hyland, BScPhm, MHSc (Bioethics)

Background

Psychotropic medications are used frequently.[1]

- In 2007, a total of 422.6 million prescriptions were dispensed from Canadian retail pharmacies.
- Psychotropic medications accounted for 53 million (12.6%), second only to cardiovascular agents (65.7 million).

Serious adverse psychotropic medication events do occur and account for medication-related hospital admissions.[1]

Objective

To gain a deeper understanding of incidents involving psychotropic medications and potential systems based contributing factors.

Methodology

DATA COLLECTION

Data source for medication incident reports:

- ISMP Canada Medication Incident Database
  - Oct 7, 2000 to July 29, 2009

Inclusion Criteria:

- Incidents **with an outcome of harm or death** involving medications in the following American Hospital Formulary System (AHFS) categories:
  - 28:16.04 Antidepressants
  - 28:16.08 Tranquilizers
  - 28:24.08 Benzodiazepines
  - 28:28 Antimanic agents

DATA ANALYSIS

Qualitative research methods utilized:

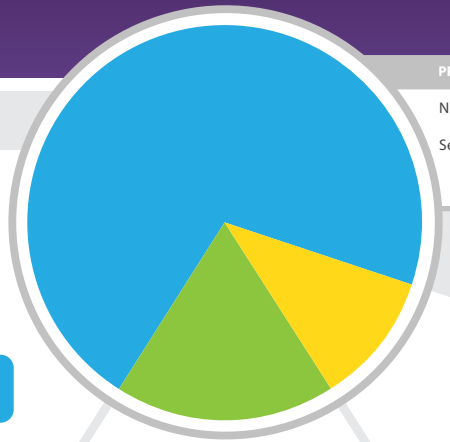
- Analysis of the narrative data-fields by two independent analysts
- Identification of common themes and potential contributing factors

Results

MAIN THEMES IDENTIFIED

Common themes were identified from analysis of medication incidents

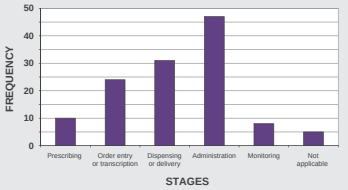
Classified according to practice settings (hospitals, community pharmacies, long-term care facilities)



PRACTICE SETTINGS

Number of Incidents:
n = 89
Severity of Outcome:
Death (n = 4)
Harm (n = 85)

STAGES OF MEDICATION USE SYSTEM



TOP 5 MEDICATIONS

Medication	Frequency
Haloperidol	11
Lorazepam	9
Olanzapine	8
Trazodone	7
Diazepam	6

HOSPITALS — 71%

- Dose omission
- Incorrect dose
- Medication discrepancy
- Multiple medications
- Incorrect medication
- Incorrect patient
- Change in order

COMMUNITY PHARMACIES — 18%

- Dose omission
- Incorrect dose
- Multiple medications
- Incorrect medication

LONG-TERM CARE FACILITIES — 11%

- Incorrect dose
- Multiple medications
- Incorrect patient

Dose Omission, Medication Discrepancy

Venlafaxine was omitted for 10 days for a 78 year old patient. The order was inadvertently crossed off from medication administration records and subsequently not transcribed on transfer to chronic care. Patient experienced discontinuation syndrome (nausea and vomiting, went into delerium).

Incorrect Medications

Patient was dispensed Apo-Trimethoprim instead of the prescribed Apo-Trifluoperazine due to an order entry error. The error was discovered by physician during appointment 6 weeks later. During the 6 weeks, patient reported panic attacks and thoughts of suicide.

Multiple Medications

A long-term care resident was given a prn dose of lorazepam 1 mg for escalation of aggressive and agitated behaviour. Thirty minutes later, he was also started on clonazepam. Shortly after, he rolled off the swing and onto the patio floor. Staff members assisted him up and assessed him. They found a small grazed bump on his forehead and some blood under his chin. He was referred to the emergency department at the hospital, where the ER staff explained that the two medications do not mix well, leading to disorientation.

Limitations

- Voluntary reporting
  - True incidence rates cannot be established
  - Not comprehensive
- Follow-up not possible in most cases

Conclusions

Learning from medication incidents is a fundamental step to medication system improvement.

Aggregate analysis of medication incidents involving psychotropic drugs:

- Unique challenges faced by mental health patients and their caregivers
- Potential areas for systems-based improvements

Reference:
1. Brickell, T. A., Nicholls, T. L., Procyshyn, R. M., McLean, C., Dempster, R. J., Lavoie, J. A. A., Sahlstrom, K. J., Tomita, T. M., & Wang, E. (2009). Patient safety in mental health. Edmonton, Alberta: Canadian Patient Safety Institute and Ontario Hospital Association.

Support from Health Canada (Canadian Medication Incident Reporting and Prevention System) and the Ontario Ministry of Health and Long-Term Care (Medication Safety Support Service) and the University of Waterloo, School of Pharmacy is gratefully acknowledged.