

Potentially Inappropriate Medication Use in the Elderly

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Context

- The use of Potentially Inappropriate Medications (PIM) in the elderly population is significant.
- The Canadian Institute for Health Information (CIHI) reports that in 2016 nearly half of seniors (49.4%) had at least one claim for a drug listed in the Beers Criteria for PIMs.

Objective

To determine the prevalence of PIM use among patients referred for comprehensive geriatric assessment (CGA).

Methods

Design

Two cross-sectional retrospective chart reviews.

Settings

Outpatient Geriatric Clinics at the Glenrose Rehabilitation Hospital (Glenrose) and Misericordia Community Hospital (Misericordia), Edmonton, Alberta.

Participants

- In 2014, at the Glenrose, we reviewed 200 randomly selected charts from patients aged 65 years and older seen in 2012-2013.
- In 2019, at the Misericordia, we reviewed 164 randomly selected charts from patients aged 65 years and older seen in 2016-2017.

Outcome Measures

Demographics, prevalence of PIMs, common PIMs used, PIMs addressed, total number of oral medications.

Results

Table 1. Characteristics of Patients Seen in the Outpatient Geriatric Clinics at the Glenrose Rehabilitation Hospital and Misericordia Community Hospital.

	Glenrose, 2012-3 (n=200)	Misericordia, 2016-7 (n=164)
1. Age, \bar{x} (SD)	79.4 years (7.7 years)	81.8 years (6.8)
2. Sex, Females	60.5%	62.2%
3. Number of comorbidities, median	7	8
4. Number of medications per patient, \bar{x} (SD)	9.0 (4.3)	8.5 (3.9)
5. Prevalence of PIM use, % (n)		
a. At least one PIM, % (n)		
Including PPIs	45.0% (90)	57.3% (94)
Excluding PPIs	45.0% (90)	42.1% (69)
b. At least two PIMs, % (n)	16.0% (32)	28.0% (46)
c. At least three PIMs, % (n)	2.5% (5)	6.7% (13)
d. 4 PIMs, % (n)	1.5% (3)	1.2% (2)
6. PIMs addressed, % (n)		
Including PPIs	43.1% (56/130)	36.1% (56/155)
Excluding PPIs	43.1% (56/130)	58.4% (52/89)
7. Most Common PIMs, (n)		
	zopiclone (32)	pantoprazole (49)*
	clonazepam (12)	zolpidem (23)
	amitriptyline (9)	clonazepam (10)
	lorazepam (9)	lorazepam (9)
	cyclobenzaprine (7)	naproxen (5)
	ibuprofen (6)	temazepam (5)
	quetiapine (5)	

Legend: PPI, Proton-Pump Inhibitors

*Proton-Pump Inhibitors, including pantoprazole, were considered as PIMs in the 2015 Beers Criteria but not in the 2012 criteria.

Discussion

- High prevalence of PIM use is consistent with other studies.
- CNS drugs and benzodiazepines have also been reported as the most prescribed.
- Limitations: Difference in the 2 study periods and 2 hospital settings; PIM use is not informed by prescribers' benefit-harm considerations.

Conclusion

PIM use in the elderly is prevalent. There is a need for clinical and educational interventions to decrease PIMs use in this patient population.