The Pharmacist's Role in Combating Polypharmacy: A Focus on Geriatric Oncology

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Background/Introduction

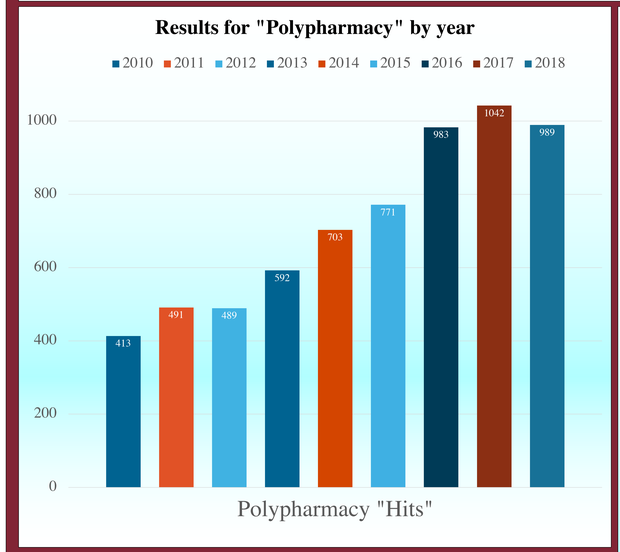
- *What is Polypharmacy?*
  - There are 24 different definitions of polypharmacy in use, dealing with both potentially inappropriate medications (PIMs) as well as an excessive number of medications[1]
  - Conventional definitions of polypharmacy deal solely with the number of medications used; **The use of 5 or more medications regularly is one of the most common definitions of polypharmacy**[2]
- *How common is polypharmacy/use of potentially inappropriate medications (Poly/PIM)?*
  - In the U.S. in 2011-2012, **90% of adults 65 and older** reported taking at least one prescription in the prior 30 days, and **39% reported using 5 or more prescription drugs**[2]
  - In elderly patients with cancer, **11% to 96% were exposed to polypharmacy**[2]
- *What factors contribute to Poly/PIM?*[2]
  - Chronic disease states (i.e. diabetes mellitus)
  - Multimorbidity (having multiple chronic conditions)
  - End-of-life situations, managing symptoms with additional medications
  - Use of complementary and alternative medicine methods
  - Being elderly
  - **Cancer care (complex medication regimens with supportive care medicines)**
- *What outcomes are associated with Poly/PIM?*[3,6]
  - Hospital admissions
  - Drug-drug interactions
  - Adverse drug effects
  - Increased healthcare costs
  - Increased length of stay
  - Delirium
  - **Chemotherapy-related toxicities**
  - Post-operative complications
  - Falls, disability, and frailty

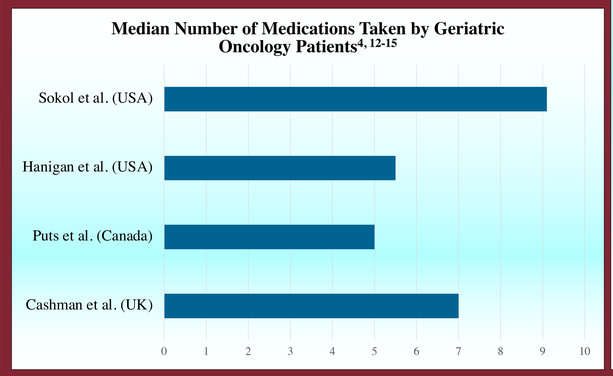
Objectives

- To summarize the associated negative outcomes of polypharmacy and potentially inappropriate medications (PIMs) in the geriatric oncology population
- To discuss useful and impactful pharmacist-lead interventions to prevent harm resulting from polypharmacy and PIMs

Methods

- A literature review was conducted using the PubMed electronic database
- Search criteria included: articles published in the English language between the years of 2005-2019; using search terms "Geriatric," "Oncology," "Polypharmacy," and "Potentially inappropriate medications"
- Articles were individually screened twice for relevance via abstract review. Articles that did not meet relevancy were excluded
- The most common themes, definitions, and ideas found throughout the relevant literature were included and summarized in this review





Study Design

- This is a meta-analysis that builds on previous systematic reviews, such as *Sharma et al* (2017), and further synthesizes data into meaningful tables for analysis, supporting the position that pharmacists are best equipped to intervene and combat polypharmacy
- A literature search was conducted using the PubMed electronic database, with criteria as defined in the *Methods* section

Discussion

- Polypharmacy is an increasing concern as patients grow older and live longer. Elderly patients with multiple chronic conditions are at an increased risk for Poly/PIM
- Medication regimens are becoming increasingly complex, especially in conditions that require many supportive care medications (i.e. cancer)
- **<u>Methods for pharmacists to combat polypharmacy</u>:**
  - **Geriatric Assessment (GA)**
  - **Rational deprescribing**
- **<u>Tools to aid in the process</u>:**
  - **EHRs**
  - **Beer's list criteria**
  - **Screening Tool for Older People's Prescriptions (STOPP)**
  - **Medication Appropriateness Index (MAI) tool**

Conclusion

- Poly/PIM are issues plaguing the care of elderly patients, especially those with cancer. The negative outcomes associated with poly/PIM are well elucidated
- Pharmacists are uniquely positioned to hone in on Poly/PIM issues. Pharmacists can effectively and efficiently optimize medication regimens due to extensive pharmacotherapeutic training and education
- Opportunities exist for such optimization and review, such as MTMs, CMRs, in LTC facilities, in the community, ambulatory care settings, and at transitions of care (ex. discharge/transfer)

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