

Assessment of Medication & Polypharmacy in Older Adults

Objectives

- Explain the significance of Polypharmacy in Older Adults
- Identify common tools used to measure comorbidity in geriatric patients.
- Explain the strategies to assess the Medication & Polypharmacy in Older Adults
- Describe strategies to reduce polypharmacy and promote safe medication use in geriatrics

Introduction

- As people age, they are more likely to develop **multiple chronic conditions**, leading to the use of **multiple medications**—a phenomenon known as **polypharmacy**.
- Assessing medication use in older adults is essential for ensuring safety, preventing adverse events, and promoting optimal health outcomes.

Definitions

Polypharmacy

- Traditionally defined as the **use of five or more medications** simultaneously.
- May include **prescription drugs, over-the-counter (OTC) medications, vitamins, and herbal supplements.**

Inappropriate Polypharmacy

- The use of **more medications than are clinically necessary** or the use of **potentially inappropriate medications (PIMs)** that pose a greater risk than benefit in older adults.

Significance of Polypharmacy in Older Adults

A. Increased Risk of Adverse Drug Events (ADEs)

- Older adults have **reduced renal and hepatic function**, altering drug metabolism and clearance.
- Higher risk of **falls, confusion, constipation, bleeding, and hospitalization.**

B. Drug-Drug and Drug-Disease Interactions

- Some medications may **exacerbate existing diseases** (e.g., NSAIDs worsening hypertension or kidney disease).

C. Non-Adherence

- Complex medication regimens may lead to **intentional or unintentional non-adherence.**

D. Functional Decline

- Sedating medications or those affecting cognition may **impair mobility, increase fall risk, and reduce independence.**

Assessment Strategies

➤ Comprehensive Medication Review (CMR)

- A structured review of **all medications a patient is taking**.
- Conducted by physicians, pharmacists, or nurses.
- Includes evaluation of **indication, dosage, efficacy, side effects, duplication, and interactions**

➤ History Taking

Collect detailed information on:

- Prescription drugs
- OTC medications
- Herbal supplements
- Administration times and methods
- Patient understanding and adherence

Assessment Tools and Criteria

➤ Beers Criteria

Lists **potentially inappropriate medications (PIMs)** for older adults.

Updated periodically.

Organized into:

- Medications to avoid in all older adults
- Medications to avoid in specific diseases
- Drug-drug interactions
- Dose adjustments based on kidney function

<https://gwep.usc.edu/wp-content/uploads/2023/11/AGS-2023-BEERS-Pocket-PRINTABLE.pdf>

➤ **STOPP/START Criteria**

- **STOPP:** Screening Tool of Older Persons' Prescriptions – identifies potentially inappropriate medications.
- **START:** Screening Tool to Alert to Right Treatment – identifies potentially omitted beneficial treatments.

<https://nhssomerset.nhs.uk/wp-content/uploads/sites/2/STOPP-START-V3.pdf>

➤ Medication Appropriateness Index (MAI)

Scores each medication based on:

- Indication, effectiveness, dosage, directions, drug-drug interaction, drug-disease interaction, duplication, and cost.

<https://www.hqsc.govt.nz/assets/Our-work/System-safety/Reducing-harm/Medicines/Publications-resources/Use-of-the-Medication-Appropriateness-Index.pdf>

➤ **ARMOR Tool**

- **Assess, Review, Minimize, Optimize, Reassess**
- A clinical framework to evaluate medications in frail older adults, often in nursing homes or hospitals

Steps of ARMOR Intervention

- Assess
- Review for possible
- Minimize nonessential medication
- Optimize
- Reassess

Special Considerations in Assessment

➤ High-Risk Drug Classes

- Benzodiazepines (e.g., diazepam)
- Anticholinergics (e.g., diphenhydramine)
- NSAIDs
- Antipsychotics
- Hypoglycemics (e.g., sulfonylureas)
- Cardiovascular medications (e.g., digoxin)

➤ Renal and Hepatic Function

- Many medications require **dose adjustments** based on estimated glomerular filtration rate (eGFR).

➤ Cognitive and Sensory Impairments

- Visual, hearing, or memory impairments may affect **ability to manage medications independently**.

➤ Polypharmacy in Palliative and End-of-Life Care

- Focus shifts to **symptom control**, and **deprescribing** becomes essential.

Strategies for Optimizing Medication Use

➤ Deprescribing

- A systematic process of **tapering or stopping drugs** that may no longer be beneficial or may be harmful.
- Includes shared decision-making with patient and caregivers.

➤ Use of Medication Aids

- Pill organizers
- Medication administration charts
- Electronic reminders

➤ **Involving Pharmacists and Interdisciplinary Teams**

- Pharmacist-led reviews improve outcomes by identifying medication-related problems and optimizing regimens.

➤ **Patient and Caregiver Education**

- Improve awareness of medication purpose, side effects, and correct administration.

Challenges in Medication Assessment

- **Polypharmacy normalization:** Some patients and providers view multiple medications as unavoidable.
- **Time constraints:** Limited consultation time in clinics and hospitals.
- **Communication gaps:** Between specialists and primary care providers.
- **Lack of access to complete medication records,** especially in transitions of care.

Role of Nurses in Medication Assessment

- Monitoring for adverse effects and adherence.
- Educating patients and caregivers.
- Supporting medication reconciliation during transitions of care.
- Collaborating with pharmacists and physicians for timely interventions.

References

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Thank you

