

Pharmacotherapy in geriatrics

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Recently we are faced to dramatic increases in aging population. Besides, the median number of medications has doubled. Those who cannot or do not take their medications properly have poorer health outcomes and higher all-cause mortality. Individuals aged 65 and older have twice the risk of drug-related complications. The process of drug therapy is complex in this population. You need to determine different aspects including: Deciding that if a drug is indicated; Choosing the best drug; Determining a dose and schedule appropriate for the patient's physiologic status; Monitoring for effectiveness and toxicity; Educating the patient about drug related problems; Indications for seeking consultation.

Polypharmacy is one of the major challenges. Greater risk for adverse drug events (ADEs) is due to physiologic alteration like metabolic changes, decreased drug clearance. There is the potential of more drug-drug interactions and prescription of potentially inappropriate medications. Poly pharmacy is an independent risk factor for hip fractures in older adults. Numbers of drugs may have been an indicator of higher likelihood of exposure to specific types of drugs associated with falls (eg, CNS active drugs). In general lower than usual doses of medications, especially at initiation is recommended. In this population as a result of coexisting medical problems, memory issues, use of multiple prescribed & non-prescribed medications, and frailty the risk for developing a drug-related problem has been increased. The risk factors for adverse drug events are polypharmacy, multiple co-morbid conditions, prior adverse drug event, low body mass index, age > 85 years and estimated CrCl <50 mL/min. A study of more than 2,000 elderly Italian adults at hospital discharge found that almost 70% were exposed to at least one drug–drug interaction and approximately 24% were exposed to a potentially severe interaction.

To optimize pharmacotherapy we need to consider a stepwise approach:

- Review current drug therapy.
- Discontinue unnecessary therapy.
- Consider adverse drug events for any new symptom.
- Consider non-pharmacologic approaches.
- Substitute with safer alternatives.
- Reduce the dose.
- Simplify the dosing schedule.
- Prescribe beneficial therapy.
- Reconsider medication appropriateness.
- Considers the patients' remaining life expectancy and the goals of care.