Polypharmacy

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Paraphrases

- The only portion of the animal kingdom that willingly takes medications is/are humans

- If all of the available medications (circa late 1800's) were to be dumped into the oceans patients would be better off but the fishes would suffer.

Definition

- Use of 5/6 or more medications, in any one individual
- The simultaneous use of multiple medications to treat a single condition
- “Concurrent use of multiple medications by a patient to treat coexisting conditions and which may result in adverse drug interactions.”

Who is at risk?

- Mainly older adults
- Those patients who are seeing multiple providers
- Those patients with multiple active medical problems
- Those patients receiving care at multiple facilities
- Patients at long term care facilities
- Patients with ongoing mental health conditions
- Patients with chronic pain syndromes

How often do Drug interactions occur?

- A patient taking 5-9 medications has a 50% chance of experiencing a drug-drug interaction
- This risk approaches 100%, if the patient is taking 20 or more medications
- Not all potential drug-drug interactions result in an adverse drug reaction (ADR) and not all ADR's are clinically meaningful. (Ex. Rise in kidney function tests with certain types of BP medications)

- *The bottom line is to be careful if you or a loved one are taking a handful of medications on a regular basis*

Potential *non-physical* consequences of multiple medications

- Duplicate medications, with associated costs
- Decreased quality of life
- Increased use of health care facilities
- Absolute contraindications of drug combinations (Ex. multiple opiates in the same patient)
- Adverse drug reactions
- Non-compliance with medications

Potential *physical* consequences of multiple medications

- Potential for increased mortality (Ex. OD,s with opiates and “nerve” medications)
- Decreased mobility (Ex. Low BP from interacting BP and prostate meds)
- Increased risk of:
  - Falls
  - Disability
  - Frailty
  - Emergency room visits
  - Long term care placement

Why does it occur?

- In particular as we age our systems loose some of our capacity to break down (metabolize) medications or to eliminate medications, especially by the kidneys. This also applies to younger patients with diseases that compromise liver and/or kidney function.
- In combination with the changes in metabolism multiple medications increase the risk of an unintended and negative effect (falls, changes in alertness etc.). This is considered an adverse drug reaction (ADR) versus a side effect. Side effects are known to occur in a predictable number of patients who take any given medication (constipation with pain medications) ; ADR's are unpredictable

What is considered to be a Medication?

- Certainly prescription medications
- Supplements do not require a prescription but certainly can interact with each other as well as with prescription medications
- Herbal agents likewise do not require prescriptions but also carry a risk of unintended interactions with each other as well as with prescription medications
- Many patients do not consider supplements and herbal agents to be medications and therefore do not report them to their providers

Does everyone taking multiple medications including supplements and herbal agents suffer a negative effect(s) ?

- Certainly not but consider the possibility if:
  - The condition for which the “medication” is being taking is not improving
  - The condition for which the medication is being taken is getting worse
  - In patients with multiple ongoing medical problems the new “medication” seems to worsen another condition (Ex. Drugs for urinary leakage may worsen memory problems)
  - Overall things seem to be going “south” or “something ain’t right”

Are Providers and Pharmacists on the lookout for potential ADR's ?

- You bet they are but:
  - They can only target what they can see. (Ex. Unreported "medications")
  - They may have a narrow focus. (Ex. The cardiologist treats only the heart failure not the diabetes, thyroid problems, etc.)
  - The computer systems from one health care system to another rarely "talk" to each other
  - They are human

Providers and Pharmacists being only human are their “alerts” to remind them of the potential for ADR’s ?

- The obvious answer is yes:
  - Many if not most electronic medical record systems (EMR’s) have a separate list of all medications being prescribed by any provider within their specific health care system
  - Most use alerts to the provider(s) to warn them of the potential for ADR’s; especially popular is the use of the Beer’s criteria and STOOP (screening tool to alert to “right” treatment. Warnings are so common that there is the potential for the “little boy crying wolf.”
  - Alert patients and families play a key role by asking the question could this be an ADR?

If you think you or your loved one is having an ADR what can be done?

- First and foremost raise the question gently; do not stop or start “medications” without input from your provider(s), preferably your primary care provider (PCP)

- Sometimes “medications” may be considered to be essential to maintaining life and can’t be stopped (Ex. Insulin in brittle diabetics) but most medications are not life sustaining and can be stopped for a short period of observation.

How do you go about a trial of stopping or eliminating a medication?

- Again only in conjunction with a provider, again preferably your PCP, a drug or drugs can be stopped for a period of “observation”
- Typically the drug stopped first is the last one to have been prescribed before things went “south” or the drug rated as most risky by the Beer’s or STOOP criteria
- If there is a clear change for the better it is one less “medication” you have to take; if there is no overall deterioration you/they may also consider a longer term trial of medication cessation
- Sometime, in fact many times, it requires a sequence of halts and observations with a list of medications to separate the “wheat from the chaff”

Cautions about Polypharmacy and ADR's

- Modern day "medications" in general are carefully studied before they are released and in general have excellent safety records.
- The natural tendency of many chronic diseases over time is/are to worsen. This is not a failure of treatment but the natural course of disease(s)
- Frailty and fragility are often part of the aging process.

- *Bottom line is there is not " a bear hiding behind every tree".*

Questions