Anxiety and Depressive Disorder – The Medication Experience

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What is polypharmacy?

• Multiple definitions not universally agreed upon
  – Literal: Poly = multiple, Pharmacy = medication
  – “excessive use of medication” or “unnecessary use of medication”
  – CMS Quality Indicator: Nine or more medications
  – Includes Rx, OTC, herbal/dietary supplements
  – Psychiatric Polypharmacy: Use of two or more psychiatric medications
Polypharmacy

- Patients may take many medications that are all appropriate while others take few but are inappropriate
  - Consider term of “inappropriate medication use” instead
- Caused by a number of factors
  - Multiple providers
  - Transitions of care
  - Provider education
  - Patient expectations
  - Multiple disease states
Polypharmacy

- 10% of the population and more than 30% of older adults take 5 or more drugs simultaneously\(^2\)
- More than two-thirds of older adults concurrently use prescription and OTC/dietary supplements
  - 1 in 6 adults at risk for major drug-drug interaction
- Adverse drug events cause approximately 4 hospitalizations per 1,000 people each year\(^2\)
- High cost (30-180 billion dollars each year)\(^2\)
- 1/3 of patients visiting an outpatient psychiatry department have been found to be on three or more psychotropic drugs
Why does it matter?

- Increased risk for adverse effects
- Increased risk for drug interactions
- Reduced functional impairment
- Increased hospitalization and institutionalization
- Increased risk for falls in older adults
- Increased mortality
- Increased cost
- Lower medication adherence
How do medications work?

- Absorption
- Distribution
- Metabolism
- Excretion
- Site of Action
Drug interactions

- What is a Drug Interaction?
  - Pharmacodynamic Interaction:
    - Alters the responsiveness at the site of action
  - Pharmacokinetic Interactions
    - Alters absorption, distribution, binding, metabolism, or excretion of another drug
- Effects can by synergistic, antagonistic, or a completely new effect
- Estimated that 20% of drug adverse effects are related to drug-interactions²
Drug interactions

- **Serotonin Syndrome:** Rare, life-threatening serotonin toxicity related to increased serotonergic activity in the CNS
  - Increased risk with multiple serotonergic medications
  - Sweating, muscle rigidity, tremor, increased body temperature

<table>
<thead>
<tr>
<th>Common Medications that May Affect Serotonin</th>
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<tbody>
<tr>
<td>SSRIs (Paxil, Prozac, Zoloft)</td>
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<td>Illicit Drugs (Cocaine, Ecstasy)</td>
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<td>Metoclopramide</td>
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<td>Tramadol</td>
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Drug interactions

- **St. John’s Wort:**
  - Herbal thought to inhibit reuptake of serotonin, norepinephrine, and dopamine
  - Induction of hepatic metabolism
  - MANY interactions—SSRIs, SNRIs, MAOIs, Benzodiazepines, Warfarin, oral contraceptives, heart medicines, anti-seizure drugs, etc.
Drug interactions

- **Opioids and Benzodiazepines (and alcohol)**
  - Common benzodiazepines: Valium (diazepam), Xanax (alprazolam), Ativan (lorazepam), etc.
  - Increased risk for respiratory depression
  - More than 30% of overdoses involving opioids also involve benzodiazepines

- **Monoamine Oxidase Inhibitors (MAOIs)** – Rasagiline, selegiline, etc.
  - Rarely used due to high number of interactions
  - Interact with tyramine-rich food and many other medications
Drug interactions

• **Alcohol**
  - Bupropion
  - Most anxiety/depression treatment options
  - Sedating medications

• **Grapefruit** - blocks major drug metabolism enzyme and boosts drug effects
  - Valium, Midazolam, Buspirone, Sertraline (Zoloft), Carbamazepine (Tegretol)
Adverse effects

• Multiple medications with similar adverse effect profile can potentiate adverse effects

• Anticholinergic Medications:
  – Inhibit binding of acetylcholine to receptors
  – Dizziness, dry mouth, dry eyes, constipation, urinary incontinence

• Falls
  – Dizziness and/or sedation may precipitate falls. Common side effect for most anxiety/depression treatment options
  – Higher risk with anticholinergic medications

First generation antihistamines
Tricyclic Antidepressants
Anticholinergic Medications
Antipsychotics
Paroxetine and some other SSRI/SNRIs
Drug interactions & adverse effects

- Interaction Checkers
- What do I do if I suspect a problem?
Polypharmacy—What can we do about it?

• For Prescribers: If multiple medications are needed, select drugs with different mechanisms of action and side effect profiles

• Reach out to a physician or pharmacist
  – De-prescribing or changes in therapy
  – Comprehensive Medication Management (CMM)
  – Pharmacogenomic testing

• Education

• Encourage member to use just one pharmacy
Comprehensive Medication Management (CMM)

- AKA Medication Therapy Management (MTM)
- Complete Medication Review (CMR) with a pharmacist to go over medications to ensure that they are indicated, safe, effective, and convenient to use
- Some MTM pharmacists work under collaborative practice agreements and can change therapies directly, otherwise, they reach out and collaborate with prescribing provider(s)
- Available in multiple settings: Clinics, Hospitals, Retail Pharmacies, Telephonic medicine, Long-term Care settings, etc.
UCare CMM coverage

• **Medicare (CMS)**
  - ≥3 chronic health conditions AND/OR
  - ≥8 medications AND/OR
  - Cost of medications ≥$4,044 per year

• **Medicaid (DHS)**
  - Not eligible for Medicare Part D
  - Taking 1 or more prescription medication
  - 1 or more chronic condition(s)
  - Telephonic, Email, or SNF visits are not covered
Pharmacogenomic testing

Benefits
- May be able to determine up-front if a medication will be more effective or more likely to have side effects
- May help guide dosing
- Genes do not change over time

Limitations
- Not necessarily inclusive of all medications
- Does not preclude possibility of adverse effects or treatment improvements unrelated to genetic influences
- Studies remain somewhat limited
- Can be costly
Pharmacogenomic testing

- Drug-Gene testing – how your body responds to medications

**Antidepressants**

**USE AS DIRECTED**
- desvenlafaxine (Pristiq®)
- selegiline (Emas®)

**USE WITH CAUTION**
- citalopram (Ceflex®) [4]
- escitalopram (Lexapro®) [4]
- sertraline (Zoloft®) [4]
- trazodone (Desyrel®) [1]

**USE WITH CAUTION AND WITH MORE FREQUENT MONITORING**
- amitriptyline (Elavil®) [6]
- bupropion (Wellbutrin®) [6]
- clomipramine (Anafranil®) [6]
- desipramine (Norpramin®) [6]
- duloxetine (Cymbalta®) [7]
- fluoxetine (Prozac®) [6]
- fluvoxamine (Luvox®) [7]
- imipramine (Tofranil®) [6]
- mirtazapine (Remeron®) [3]
- nortriptyline (Pamelor®) [6]
- paroxetine (Paxil®) [6]
- venlafaxine (Effexor®) [6]

**Antipsychotics**

**USE AS DIRECTED**
- quetiapine (Seroquel®)
- ziprasidone (Geodon®)

**USE WITH CAUTION**
- clozapine (Clozaril®) [3]
- olanzapine (Zyprexa®) [3]
- perphenazine (Trilafon®) [3]
- risperidone (Risperdal®) [1]

**USE WITH CAUTION AND WITH MORE FREQUENT MONITORING**
- aripiprazole (Abilify®) [6]
- haloperidol (Haldol®) [6]

1. Serum level may be too high, lower doses may be required.
2. Serum level may be too low, higher doses may be required.
3. Difficult to predict response because of multiple gene variations.
4. Genotype suggests less than optimal response.
5. Blood levels may be outside of optimal range.
6. Use of this drug is associated with an increased risk of side effects.
7. Serum level may be too low in the presence of CYP2D6 inducers. See page three for additional information.
Medication adherence

- “The degree to which the person’s behavior corresponds with the agreed recommendations from a health provider”
- Poor adherence is associated with increased health care utilization, cost, and decreased quality of life
- Increased risk of mortality and increased risk of hospitalization
- Medication adherence rates in chronic disease range from 20-80%\textsuperscript{12}
- Depressed patients are 1.8 times more likely to be non-adherent than non-depressed patients\textsuperscript{12}

“Drugs don’t work in patients who don’t take them.”
—C. Everett Koop, MD
Adherence and Star Measures

- **STAR Measures**: CMS’ way to evaluate health plans
- Part D Measures
- Adherence rates for diabetes medications, Statin Medication, Anti-hypertensives
- Statin use in persons with diabetes
- 2021:
  - Polypharmacy of Multiple Anticholinergic Medications in Older Adults
  - Polypharmacy Use of Multiple CNS-Active Medications in Older adults
Factors that relate to adherence

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<th>Poor Health Literacy</th>
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<tr>
<td>Perceived Risk of Disease</td>
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<tr>
<td>Understanding Medications</td>
</tr>
<tr>
<td>Language Barriers</td>
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<tr>
<td>Cultural Beliefs</td>
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<td>Physical Barriers (vision, hearing)</td>
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<td>Housing/Environmental Factors</td>
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<td>Cost of Medications</td>
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<td>Provider-Patient Relationship</td>
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<tr>
<td>Mental Health</td>
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<td>Complexity of treatment</td>
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<td>Side Effects</td>
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<tr>
<td>Time to Achieve Therapeutic Effect</td>
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Medication adherence

- **Figure out what the barrier is and tailor adherence attempts to that specific barrier**
- Reduce polypharmacy – prescribing cascade
- 90-day refills or mail order
- Med sync programs
- Bubble Packs
- Pill boxes
- Alarms
- Smart Phone Apps
- Involve Family Members
- Motivational Interviewing
Medication disposal


• Ramsey County Disposal Sites: https://www.ramseycounty.us/residents/recycling-waste/collection-sites/medicine-collection

• Deterra Bags
References:


