**Medication Misuse and Addiction in the Elderly**

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What We All Know is Coming

- 13 percent of U.S. population age 65+; expected to increase up to 20 percent by 2030
- 78 million ‘Baby Boomers’ (born from 1946-1964) in U.S. Census 2000
  - Second wave ‘Baby Boomers’ (now aged 35-44) contains 45 million

The Silver Tsunami

- ‘Baby Boomers’ are currently 50-68 years old
  - Major pressure on retirement systems, health care facilities, and other services
- Enormous implications for substance abuse and mental health prevention and treatment
  - The number of adults with substance use disorders is projected to double from 2.8 million (annual average) in 2002-2006 to 5.7 million in 2020. (Han et al, 2009)

Generational Change

- The Good
  - More assets
  - Healthier
  - Less stigma
  - Better educated
- The Bad
  - “Quick fix” generation
  - Greater opportunities
- The Ugly
  - Illicit substance exposure and use
  - Pharmaceutical misuse
Most common addictions:
- Nicotine: ~ 18–22 percent
- Alcohol: ~ 2–18 percent
- Psychoactive Prescription Drugs: ~ 2–4 percent
- Other illegal drugs (marijuana, cocaine, narcotics): <1 percent

At least one in five (19%) older adults use psychoactive medications with abuse potential (Simoni-Wastila, Yang, 2006)

11% of women > 60 years old misuse prescription medication (Simoni-Wastila, Yang, 2006)

18–41% of older adults are affected by medication misuse (Office of Applied Studies, SAMHSA, 2004)

### Substance Abuse Among Older Adults

### Prevalence of Use/Misuse of Psychoactive Medications

<table>
<thead>
<tr>
<th>Sociodemographic Characteristics</th>
<th>Antidepressant (n=263)</th>
<th>Anxiolytic (n=143)</th>
<th>Antipsychotic (n=33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Mean, SD)</td>
<td>79 (7)</td>
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<td>80 (7)</td>
</tr>
<tr>
<td>Low Overall Symptomatology</td>
<td>45%</td>
<td>56%</td>
<td>30%</td>
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</tbody>
</table>
Sedative/Hypnotic Use in a primary care sample

M:W p = 0.0393, Positive: Negative p=0.002


Adverse Drug Reactions (ADRs) as a Function of Increasing Age


Relationship Between Prescribing Rate and Prevalence of Potential Drug Interactions

Alcohol Abuse: Comorbid Psychiatric Illness

- Older adults are three times as likely to develop a mental disorder with a lifetime diagnosis of alcohol abuse.
- Common “Dual Diagnoses” include:
  - Depression (20–30%)
  - Cognitive loss (10–40%)
  - Anxiety disorders (10–20%)
  - Sleep Disorders

Alcohol Related Dementia

- Longitudinal study of nursing home residents with Alcohol related dementia (n=16) or Alzheimer’s Disease (n=26).
- Subjects identified from consecutive nursing home admissions (n=212) evaluated for cognition, disability, addiction history
- Subjects followed every 6 months for 2 years.

(Oklin, et al. 2003)

Disability and cognition
Alcohol abuse more prevalent in older persons who are separated, divorced, or widowed

Highest rates of completed suicides:
- Older white males who are depressed, drinking heavily, and who have recently lost their partner or spouse

Treatment of Older Adults
Detoxification

- Benzodiazepines
  - Doses are lower and toxicity greater
  - Alprazolam or oxazepam
  - Others (chlordiazepoxide, diazepam, etc)

- Gabapentin
  - 400 mg t.i.d. for 3 days,
  - 400 mg b.i.d. for 1 day,
  - 400 mg for 1 day.

Paradox

- Clinicians view
  - Low engagement (<40%)
  - Non-adherence
  - Poor prognosis
  - High drop out rates (~70%)

- Patient view
  - <20% report getting the help they need
  - >80% report a desire to change
  - Often only exposed to 1 or 2 types of treatment

Unique aspects of treating an older adult

- Addiction
- Health
  - Musculoskeletal health
- Chronic Pain
- Sexuality
- Social structure
- Time management
- Cognition
- Life stage – generativity and purpose
- Suicidality and death ideation
Basic Physiological changes

- Brain changes
  - Decrease cortical neurons
  - Decreased blood flow 15-20%
  - Increased sensitivity to medications (alcohol, anticholinergic, etc)

- Sensory changes
  - Visual and hearing loss
  - Olfactory changes

- Liver changes
  - General but variable decrease in hepatic blood flow limits first pass metabolism
    - Drugs with large 1st pass metabolism increase in concentration (e.g., opiates)
    - Decrease reduction, oxidation, and hydrolysis
    - Drugs may accumulate – barbiturates and long acting benzodiazepines
    - Short acting Benzo’s are conjugated which is not affected by age

Treating Addiction

- Drug Free Housing
- Pharmacotherapy
- Residential Treatment
- CBT
- Motivational Enhancement
- 12 step Facilitation
- Telephone Aftercare
- Intensive Outpatient
- Supported Employment
- AA / Peer Support

Specialty Addiction Services

- Compliance with treatment is greater in older adults compared to younger adults.
- Age appropriate treatment planning is critical.
Mutual/Self Support

<table>
<thead>
<tr>
<th></th>
<th>Elderly Subjects</th>
<th>Middle Aged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attend AA</td>
<td>81.2</td>
<td>91.1</td>
</tr>
<tr>
<td>Have a sponsor</td>
<td>54.6</td>
<td>64.7</td>
</tr>
<tr>
<td>Attend Aftercare</td>
<td>31.2</td>
<td>56.4</td>
</tr>
</tbody>
</table>

Addiction for older adults

- **Things to Avoid**
  - Reliance only on peer support
  - Simple referral
  - Treat concurrent disorder alone
  - Abstinence as the only acceptable outcome
  - Be careful about groups without context

- **Things to Learn**
  - CBT or other evidenced based psychotherapy
  - Pharmacotherapy
  - Patients may have different goals than you
  - Toxicity is often dose dependent. Strive for the lowest dose possible.
  - The domains of care need to take into age appropriate domains

Pharmacotherapy for Older Adults

- Alcohol dependence
  - Naltrexone
  - Acamprosate
  - Antabuse
  - Topiramate
- Opioids
  - Buprenorphine
  - Methadone
  - Naltrexone
- Cocaine
  - ?
- Nicotine
  - Nicotine replacement
  - Bupropion
  - Varenicline

- Antidepressants
- Mood Stabilizers
- Antipsychotics
- Benzodiazepines
- Sleep enhancers
- Cognitive Enhancers
- Stimulants
- Serotonergic agents
Naltrexone Should Be Used for Patients With:

- Prior treatment failure
- Presence of craving, stimulation, or reward
- High level of interest in biomedical therapies
- Low level of interest in traditional psychosocial therapies or settings
- Cognitive impairment
- In most alcohol-dependent patients
- Consider depot formulation for added adherence

Outcomes in Older vs younger adults

Acamprosate

- Mechanism of action is unknown – GABA vs NMDA
- Low rate of adverse effects
- Usual dose 2 gm/d divided 4 times/day

- No trials specifically in older adults
  - Caution to watch for patients with renal failure
Disulfiram

- Not directly addressing addiction
- "Universally" effective
- Easy to stop
- Limited efficacy trials

- No trials specifically in older adults
  - Disulfiram reaction may be more problematic in older adults.

Topiramate

SSRI's and other serotonergic agents

- By all accounts serotonin is important in addictions
- But results from treatment trials?
  - Some say yes, some say no, others maybe.
- SSRI's are not proven in older adults – most trials are negative
- Side effects are not uncommon and often lead to use of benzo's
Opioid Use Disorders

- Methadone
- Naltrexone
- Buprenorphine and Buprenorphine/Naloxone
  - Partial agonist
  - Office based treatment but need to take a training course
- No studies in older adults

Suggested Readings

- CSAP TIPS Series: [http://www.treatment.org/Externals/tips.html](http://www.treatment.org/Externals/tips.html) and [http://www.samhsa.gov](http://www.samhsa.gov) TIP #26 Older Adults