Substance Use and Abuse among Older Adults

MAGEC Mental Health Module
June 5th, 2013
Barbara Sparacino, M.D.
Board Certified Adult & Geriatric Psychiatrist
Miami Jewish Health System
Learning Objectives

- Describe the prevalence and implications of substance use, misuse, and abuse
- Explain why abuse and misuse are under-recognized and underreported in older adults
- Describe age related changes in the elderly that increase their vulnerability to the complications of substance abuse
- Differentiate the presentation of substance abuse disorders in the elderly from that in younger adults
- Describe assessment and treatment methods useful for elders with substance abuse disorders
Substance abuse in the elderly is one of the fastest growing health problems and it is a silent epidemic.

The problem remains:
- Under estimated
- Under identified
- Under diagnosed
- Under treated
• Persons over age 65 from 13 → 20 % by the year 2030.
• One in four older adults has a significant mental disorder.
• Older adults with major psychiatric illnesses
• Older adults in need of substance abuse treatment
• Aging addicts vs. late-life addicts
Barriers to diagnosis

- Relative absence of clinical guidelines and well-validated screening tools
- Health care providers overlook substance abuse and misuse among older patients – misattributed to other physical or mental disorders
- Older adults and their families are more likely to hide their substance abuse and less likely to seek help.
- Older adults can present with multiple complex comorbidities
Barriers to diagnosis

- Limited information about treatment options.
- Diagnostic and treatment strategies are neither age-specific nor sensitive.
- Often drug trials of new medications do not include older adults.
- Striking lack of research and outcome data on drug use and dependence in the elderly.
- Government funding historically goes to other substance abuse problems.
Abuse versus Misuse

- ABUSE – deliberate and intentional
- MISUSE – inadvertent, at times perpetuated by the healthcare provider
Difficulties identifying elderly substance abusers

- No longer active in mainstream society.
- Less likely to get in trouble with the law.
- Retired, so less chance of drinking/drug abuse causing loss of job or other negative consequences.
Prevalence of Substance Use Prescription Medications

- 90% of those 65 and older take at least one prescription medication: A third have five or more prescriptions (NCHS, 2010)
- > 50% use five or more medications total (including OTCs, vitamins, herbals); 20% use 10 or more (Qato, 2008; Slone Survey, 2011)
Prevalence of Substance Use Prescription Medications

- Major classes of prescription drugs subject to abuse include benzodiazepines, barbiturate and non-barbiturate sedative-hypnotics, opioid analgesics, and CNS stimulants.
- At least one in four older adults use psychoactive medications with abuse potential.

Source: Simoni-Wastila & Yang, 2006
Prescription Drugs

- Benzodiazepines and opiates are the types of prescription drugs most likely to be abused by seniors
- Approximately 20% of the senior population use benzodiazepines
- Benzodiazepine abuse more common in females
- Even when taken as prescribed there is a danger that tolerance, dependence and toxicity may develop
- Longer acting benzodiazepines can increase risk of falls and hip fracture
- Slurred speech, ataxia and delirium may result
Elderly adults utilize more over-the-counter drugs than any other age group.

A combination of alcohol and over-the-counter medications is the most common source of adverse drug reactions in the elderly.
Prevalence of Substance Use Alcohol

- Prevalence decreases with age
- 38.2% aged 65 or older reported having a drink in the past 30 days
- 7.6% reported binge drinking
- 1.6% reported heavy drinking
- The same amount of alcohol causes greater intoxication in older adults (Durfour, 1995)

Source: 2010 National Survey on Drug Use and Health
Alcohol Misuse and Abuse

“In the United States it is estimated that 2.5 million older adults have problems related to alcohol and 21% of hospitalized adults over 40 have a diagnosis of alcoholism, with related hospital costs estimated as high as $60 billion a year.”

(Schonfeld and Dupree)
Heavy Alcohol Use in Elders

- National Institute on Alcohol Abuse and Addiction (NIAAA)
  - Male > 2/Day
  - Female > 1/Day
  - 1 Drink =
    - 12 Oz. Beer
    - 4–6 Oz. Wine
    - 1 ½ Oz Distilled alcohol
Risk factors for alcohol abuse in the elderly

- Prior history of alcohol abuse
- Family history of alcoholism
- New onset medical problems
- Loss of a spouse
- Recent retirement
- Social isolation
Early Onset

- 70% of elderly alcoholics
- 14% of male population
- 1.5% of female population
- These patients have problems with alcohol most of their lives
- Likely to have a family history of alcoholism
Late Onset

- 30% of elderly alcoholics
- Onset is usually after 50
- Triggered by a major life stressor
Most late onset alcoholics are affected by:
- Retirement
- Social Isolation
- Physical Health Problems
- Grief and Loss Issues (Losses for older people tend to be more irreversible, leading to a sense of hopelessness, fatalism)
- Housing Issues (Moving out of a home occupied for decades)
- Marital problems
- Mental health problems – particularly depression
Late Onset

- Fewer medical and mental health problems
- Stronger societal connections
- Less likelihood of having been in a correctional facility
- Less likelihood of having been in alcohol or drug treatment
- A better prognosis for recovery—since they have not suffered the physical and psychological ravages of long term substance abuse
The prevalence decreases with age.

~4.8 million adults aged 50 or older (5.2%) used an illicit drug in the past year.

Aging baby boomers heaviest consumers.

Any substance abuse refers to primary, secondary, or tertiary abuse of a substance.

*Reprinted with permission from: The TEDS Report: Changing Substance Abuse Patterns among Older Admissions: 1992 and 2008*
**Relevant Normal Aging Changes**

**General changes:**
Body Fat % Doubles to 30% → Fat Soluble Drugs May Accumulate (Eg. Diazepam, barbiturates, THC);

Total Body Water Decreases → Water Soluble Drug Concentrations Increase (Eg. Etoh)

**Brain:**
↓ Cortical Neurons, Brain Weight, Blood Flow by 15 to 20%
↑ Sensitivity to Anticholinergic Drugs

**Cardiac:**
The maximum heart rate decreases and it takes longer for heart rate and blood pressure to return to normal resting levels after exertion.
The baroreceptors which monitor blood pressure become less sensitive. Quick changes in position may cause dizziness from orthostatic hypotension.

**Relevant Normal Aging Changes**

**Sensory:**
Visual and hearing loss → more prone to confusion

Less thirst perception → prone to dehydration and hyponatremia → may be alcohol related

**Gastric:**
↓ Alcohol dehydrogenase in Stomach → Higher Blood Levels of Alcohol per Amount Consumed

**Hepatic:**
↓ liver size & hepatic blood flow

↓ 1st pass metabolism → Drugs with large 1st pass metabolism may reach toxic levels (eg. opiates)

↓ Reduction, oxidation and dydrolysis → Drugs may Accumulate: Barbiturates and long acting benzodiazepines (eg. Diazepam)

Unchanged Conjugation (Short Acting Benzos eg. Lorazepam are better tolerated in the elderly)

Relevant Normal Aging Changes

Urinary System:
Kidney mass decreases by 25–30 %
↓ hormonal response (vasopressin) and an impaired ability to conserve salt → increase risk for dehydration.

Musculoskeletal:
↓ Muscle Mass, Force of Contraction, Speed of Contraction.
Slower Response to Postural Changes → Contribute to Falls Disease Presentation

Benzodiazepine Intoxication

- Drowsiness
- Confusion
- Dizziness
- Blurred vision
- Weakness
- Slurred speech
- Lack of coordination
- Difficulty breathing
- Coma
Indications for Benzodiazepine Use

- Anxiety
- Insomnia
- Alcohol withdrawal
- Seizure control
- Muscle relaxation
- Inducing amnesia for uncomfortable procedures
- Given before an anesthetic (such as before surgery)

Red Flags for a Problem

- Cognitive Impairment
- Tremor, Seizures
- Irritability, Mood Changes, Agitation, Sleep Disturbance
- Unexplained Pain, somatization
- Poor Hygiene, Neglect
- Abnormal LFT

Consequences of Benzodiazepine Misuse/Abuse

- Sustained benzodiazepine usage in the elderly may exacerbate chronic medical problems such as COPD or GERD reflux disease
- Benzodiazepine usage in hospitalized patients increases length of stay and morbidity
- Chronic benzodiazepine use is associated with higher rates of motor vehicle accidents and falls in the elderly
- Benzodiazepines have a significant additive effect when consumed with narcotics or alcohol
Benzodiazepine Withdrawal Symptoms

- Anxiety
- Confusion
- Irritability
- Insomnia
- Autonomic Instability*
- Hyperacussis
- Nausea
- Difficulty concentrating

- Hallucinations
- Tremor
- Depersonalization
- Myoclonus
- Delirium
- Seizures
- Death
The elderly have more prolonged and severe withdrawal than younger patients, and are more likely to develop complications such as delirium (Kahan, 2005).

On average older adults need 5 to 10 days to complete the withdrawal process, are more likely to have co-morbid conditions and require assistance with activities of daily living. These factors increase the likelihood that withdrawal will be managed either in the ER or result in admission (Kahan, 2005).
Pharmacodynamics in Older Adults

- Increased sensitivity due to age-related alterations in the CNS receptors
- Benzodiazepine receptors in the brain become more sensitive, causing increased sedation, unsteadiness, memory loss, and disinhibition
- Psychomotor studies among elderly patients using benzodiazepines indicate that they have a greater risk of sedation, particularly those with dementia, hypoalbumenemia, or chronic renal failure.
- The simultaneous use of multiple medications increases the risk of adverse drug reactions

### DSM-IV Diagnostic Criteria for Substance Dependence and Special Issues of Aging

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Special Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tolerance</td>
<td>May have problems with low intake because of increased sensitivity to alcohol with aging.</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>Symptoms may be more subtle and more protracted. Many late onset alcoholics do not develop physiological dependence.</td>
</tr>
<tr>
<td>Taking larger amounts over a longer period than intended</td>
<td>Increased cognitive impairment can interfere with self-monitoring; drinking can exacerbate cognitive impairment.</td>
</tr>
<tr>
<td>Unsuccessful efforts to cut down or control use</td>
<td>No special considerations; same issues across life span.</td>
</tr>
<tr>
<td>Spending much time to obtain or use drugs or recover from their effects</td>
<td>Negative effects can occur with relatively low use.</td>
</tr>
<tr>
<td>Giving up activities because of use</td>
<td>May engage in fewer activities, making detection of problems more difficult.</td>
</tr>
<tr>
<td>Continuing use despite physical or psychological problems.</td>
<td>May not know that problems are related to use.</td>
</tr>
</tbody>
</table>
Commonly documented barriers to services:

- Transportation
- Homebound older adults
- Shrinking support systems
- Lack of expertise in this field
- Financial
- Age-related economic issues
- Physical barriers to care
- Gaps in services
- Inadequate financing
- Fragmentation of services
Substance abuse and mental health problems among older adults correlate

- with poor health outcomes
- higher health care utilization
- increased complexity of the course and prognosis of many mental and physical illnesses
- increased mortality
- increased disability and impairment
- compromised quality of life
- increased caregiver stress
- higher risk of suicide
Treatment Recommendations

- Age-specific, group treatment – supportive, non-confrontational
- Attend to negative emotions: depression, loneliness, overcoming losses
- Teach skills to rebuild social support network
- Employ staff experienced in working with elders
- Link with aging, medical, and institutional settings
- Slower pace & age-appropriate content
- Create a “culture of respect” for older clients
- Broad, holistic approach to treatment recognizing age-specific psychological, social & health aspects
- Adapt treatment to address gender issues

SAMHSA, 1998; Schonfeld & Dupree, 1997; 1998
Treatment Options

- **Disulfiram** an acetaldehyde dehydrogenase inhibitor
  - limited in the elderly due to their higher risk for adverse cardiovascular events caused by acetaldehyde toxicity and disulfiram induced hepatic toxicity

- **Naltrexone** long-acting opiate antagonist that appears safe and effective in the elderly.
  - Decrease craving,
  - Increase the time to first drink, and
  - Increase the time to heavy drinking once patients with alcohol dependence have their first drink.
  - Side effects are usually mild, and include nausea, headaches, anxiety, and in rare cases, liver damage.

- **Acamprosate** is a glutamatergic medication
  - FDA approval in abstinent drinkers
  - Anti-craving agent in patients with alcohol dependence
  - Has significantly greater rate of treatment completion, time to first drink, abstinence rate, and/or cumulative abstinence duration compared to placebo

- **Topiramate**, an anticonvulsant medication that potentiates γ-aminobutyric acid
  - Some success in initiation of abstinence.
  - Caution in elderly because can cause cognitive slowing/blunting

- **Ondansetron** which is a 5-HT3 receptor antagonist
  - Decrease alcohol use in early-onset alcohol-dependent patients

- **Mirtazapine**
  - Can improve alcohol detoxification
Major and costly public health problem.

Substance abuse is a serious issue among geriatric patients.

Current financing and systems of care do not necessarily provide adequate or appropriate treatment.

Services to older persons with psychiatric needs are underutilized and under provided.

Older persons are increasingly demanding acute and long-term care services in home and community-based settings.
Thank you!