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# SUBSTANCE USE AMONG OLDER ADULTS

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# Issues Related to Substance Use in Later Life

- Even with minimal substance use, biological aging itself and life stage present specific risks for harm.
- Risks to one's health may vary widely by substance, clinical presentation, or lifestyle (e.g., age, liver function, medical co-morbidities, current medications, living situation, employment, and social network).
- While the biological impact of substance use on the older body is shared universally, social and life stage factors that impact substance use may vary across cultures and nations.

- Some factors described below may be considered *predictors* of late-life substance use, though little longitudinal research exists.

**Table 3.** Factors associated with alcohol and other substance use in late life

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Demographics

Male gender (for alcohol, marijuana, tobacco) [10, 13]  
Female gender (for prescription drugs) [11, 32]  
Caucasian [10, 13]  
Age (being closer to middle age) [10, 11]  
Less than college education [11]

Physical factors

Chronic pain [62]  
Physical disabilities or reduced mobility [5]  
Poor physical health status, chronic physical illness [10]  
Significant drug burden/polypharmacy

Psychiatric factors

Cognitive impairment, dementia [33, 60]  
Poor mental health status [10, 11]  
Avoidance coping style [5]  
Using substances to cope with stress [51]  
Previous and/or concurrent alcohol or other substance use disorder (including tobacco) [11]  
Previous and/or concurrent psychiatric illness [5]  
Loneliness (alcohol, marijuana, and potentially opioids) [3]  
Boredom [62]  
Low perceived social support (for cannabis use) [51]

Social factors

Affluence/more financial resources/more stable financial future [9]  
Being single, divorced, separated (among men) [8, 10]  
Bereavement [5]  
High work place stress or high job satisfaction before retirement [58]  
Unexpected, involuntary, or forced retirement [58]  
Social isolation (living alone or with nonspousal others) (for prescription drug use) [32]  
Transitions in care/living situations [3]  
Size of social network, including people who use mood-altering substances [58]  
Lack of religious affiliation [5]  
Homelessness [60]

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All factors listed here are based on studies performed in the US except for unexpected, involuntary, or forced retirement. A few of these factors have been shown to predict late-life alcohol use. Most are known correlates of alcohol or other substance use.

# *The Biology of Aging*

- Aging causes numerous biological changes to the body and brain. Cognitive functions evolve as we age, including changes in the dopaminergic, glutaminergic, and serotonergic systems.
- Chemical shifts and changes in brain structure (e.g., diminished white matter and increased permeability of the blood-brain barrier) are exacerbated by substance use and speed the aging process.
- Lean body mass and total body water decrease as neuronal receptor sensitivity increase.

- Drugs that are fat soluble, such as benzodiazepines, have a longer duration of action. Therefore, benzodiazepines with long half-lives, such as diazepam, cause excessive sedation
- Finally, the ability of the liver and kidneys to process and eliminate alcohol, drugs, or medications is also diminished.
- These factors coincide to cause OA to experience higher concentrations of substances in their systems, for longer periods of time, with greater impairment compared to younger adults at equivalent consumption levels and with less awareness of their impairment

- This can contribute to OA experiencing more severe substance-related problems compared to their younger counterparts; impaired instrumental activities of daily living (e.g., inability to shop or cook for oneself); and an increased risk for substance use-related hospitalizations and nursing home admissions.

# *Comorbid Medical and Mental Health Conditions*

- OA have higher rates of comorbid medical and psychiatric conditions than their younger counterparts.
- These conditions and the medications used to treat them create a complicated set of risks for OA who use substances
- Many conditions common in older age, such as high blood pressure, diabetes, or depression, may warrant abstinence from substances altogether, as they are known to worsen these conditions.

- While little research exists on psychiatric comorbidity with SUD among OA, evidence suggests a high correlation between substance use, specifically alcohol use, and depression and other affective disorders among OA.
- Such co-occurrence greatly complicates the diagnosis and treatment of both.
- In addition, a high blood alcohol concentration is found to feature largely in suicides among American OA struggling with depression.
- While some studies show alcohol use to be protective of brain functions over the life course, other studies show cognitive impairment and various dementias are associated with alcohol and other substance use, whether active or past use.



- An Australian study of OA attending out- patient treatment for SUD discovered that 66% met criteria for mild or severe cognitive impairment.
- Substance use may also interact with medications used to treat physical and mental health conditions, potentiating or inhibiting the medication effects or creating dangerous cross-tolerance reactions among OA.
- For example, both cannabis (including both THC and cannabidiol [CBD]) and alcohol are contraindicated while taking high blood pressure medications, antibiotics, antihistamines, medications for erectile dysfunction, pain relievers (prescription and over the counter), sleep aids, anti- depressants, and some cholesterol medications, and may cause hepatotoxicity.

- Using substances while taking medications can delay the biotransformation or digestion of medications, cause excessive sedation, or potentiate blood thinning.
- Anesthetics should be adjusted if an OA drinks heavily or uses marijuana or CBD due to cross tolerance.
- Another example relates to OA with HIV. About 17% of new cases of HIV are OA, and substance use is common among this population.
- Complicated antiretroviral medication regimens for HIV could be rendered relatively inert due to substance use.

# *Tobacco Use*

- Tobacco use is a marker of vulnerability for OA, as it is likely to co-occur with almost all other substances.
- Tobacco use among OA is associated with increased mortality, risks of coronary events and cardiac deaths, smoking-related cancers, problems with pulmonary function, osteoporosis, hip fractures, and overall poorer physical functioning and mobility.
- Nicotine also interferes with treatments for these conditions.

# *Pain*

- Epidemiological research revealed that 53% of American OA experienced a chronic or bothersome pain in the past month, with studies across Europe, Asia, and Australia demonstrating similar rates.
- OA experience pain from complications due to diabetes, neuropathy, osteoarthritis, and other conditions.
- While pain wreaks its own havoc on the lives of OA, such as causing depression, anxiety, or activity avoidance, it can prompt OA to use prescribed and over-the-counter medication, alcohol, nonprescription cannabis, or opioids to cope.
- Opioids may be particularly lethal for even healthy OA whose aging renal system is unable to eliminate the drug efficiently from the body – thereby accumulating to toxic and/or lethal levels.
- A study of OA with HIV and chronic pain found a reciprocal relationship with daily alcohol consumption and daily reports of pain – each increasing the other, as is supported elsewhere in the literature

# *The Unique Case of Cannabis*

- OA may use marijuana to cope with illness-related side effects and/or recreationally.
- A 2015 study of US medical marijuana registries in 13 states found that 35– 50% of registrants were  $\geq 50$  years. Among individuals 50–64 years old, just under 18% report medical marijuana use, and among medical marijuana users, there was a high rate (33%) of cannabis use disorder (regardless of age).
- Controlling for other stress risk factors, one epidemiological study of OA found that marijuana use (medicinal or otherwise) and cannabis use disorder were associated with more life stressors and lower perceived social support compared to those who did not use marijuana.

- Marijuana (with chemical compounds THC and CBD) causes impairment in short-term memory; increases heart and respiratory rates, elevates blood pressure; and contributes a fourfold increased risk for heart attack after the first hour of smoking marijuana.
- These effects may be pronounced in OA with compromised cognitive or cardiovascular systems. These negative effects may also be increasingly common as OA are exposed to the exponential rising potency of THC and ratio of THC to CBD.
- While OA marijuana use (particularly edibles) is associated with increased injury, emergency department visits, and driving under the influence, OA perceive less risk from using marijuana compared to their younger counterparts, particularly among frequent users, medical marijuana users, and in states where marijuana has been legalized.

# *Life Transitions*

- While life events and social transitions may impact substance use across the life span, transitions common or specific to later life heighten the risk of harmful substance use.
- Bereavement (death of spouse/friends), poor health, loneliness, caregiving for an ill spouse, change in living arrangement (e.g., entering assisted living), and retirement can influence substance use among OA.
- A review of the impact of retirement on OA drinking revealed that pre-retirement conditions among blue-collar workers in the US and abroad, such as high job satisfaction or workplace stress, increase the use of and problems with alcohol into retirement.

- High job satisfaction appears to predict increased alcohol problems due to loss of an important role in the life of the retiree.
- Coping with workplace stress using alcohol appears to extend into retirement, even when the primary stressor is removed. It may be that the coping mechanism is too entrenched by the point of retirement for retirement to have a protective impact.
- Involuntary retirement or widening social networks after retirement both increase the likelihood of drinking problems for OA.
- Additionally, retirement communities involving high socialization may increase alcohol use, and alcohol use may be continued, encouraged, and/or enabled in nursing homes.



# *Risky Behaviors*

- Many OA underreport their substance use.
- OA may see multiple doctors, each of whom may prescribe medications without full knowledge of other medications or substances an OA is taking.
- OA may un-intentionally misuse medication by borrowing prescribed medication from others (e.g., lorazepam for sleep), confusing pills (e.g., confusing zolpidem for a blood pressure pill), or taking more than intended (e.g., not accurately tracking they already took their recommended dose). Stockpiling medications occurs among OA, increasing the risk for overdose and suicide.

# Screening, Assessment, and Intervention

- Symptoms of substance use can present similarly to other illnesses common in later life, such as depression and dementia, making screening, assessment, and diagnosis difficult.
- Several screening tools specific to OA exist and are described elsewhere in detail.

# *A Person-Centered Approach*

- Using a supportive, nonconfrontational approach, OA are more likely to provide information about stigmatized behaviors and sensitive information if the clinician is genuinely interested in their overall well-being and asks questions as a part of overall health promotion.
- Questions should focus on behaviors, such as whether an OA some- times takes an extra pill to fall asleep or to cope with pain, runs out of medication early, or borrows medications from others, to provide a gateway to further discussion about high-risk use of substances.
- While the OA may be abstinent from substances, questions about past use are critical due to associations with other psychiatric disorders or cognitive decline.

# *Motivation and Self-Efficacy*

- Motivation and self-efficacy, both critical to reducing substance use, may decline with age or are less influential on behavior than in younger counterparts.
- Additionally, low self-efficacy is associated with fewer health promotion behaviors among OA due to perceiving the related consequences as normal aging.

# *Intervention*

- Few studies on the effectiveness of substance abuse treatment for OA exist.
- OA barriers to treatment include: stigma and shame surrounding substance use and related problems; geographic isolation; inability to pay; subthreshold diagnosis; or difficulties with transportation and physical accessibility.
- Treatment services specifically tailored to OA accessibility and needs are rare, and in the US, only an estimated 18% of substance abuse treatment programs are specifically designed to accommodate OA.

- Available treatments, such as: brief interventions, psychopharmacology and age adaptations to formal treatment, and self-help groups are reviewed elsewhere.
- Only two intervention studies with OA who use alcohol emerged recently.
- One study demonstrated that OA reduce their alcohol use more when they receive normative feedback (peer comparison) versus personalized feedback (review health consequences).

- A second study examined motivational enhancement therapy (MET).
- MET is considered appropriate for OA due to its client-centered, nonjudgmental approach.
- MET increases motivation by assisting OA in identifying their perceived pros to changing behavior, including maintaining independence and sustaining optimal health, and cons of maintaining the status quo.
- Until recently, no studies on MET for substance use included OA  $\geq 62$  years. This multinational study compared MET (4 sessions) and MET plus a community reinforcement approach (up to 8 additional sessions) to reduce alcohol use among just under 700 adults  $\geq 60$  years.
- At the 26-week follow-up, half of the participants in both groups (48.9 and 52.3%, respectively) were abstinent or maintained low blood alcohol concentration.

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# **Substance Use among Older Adults: An Update on Prevalence, Etiology, Assessment, and Intervention**

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*Thank  
you*

