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Prevention of Substance Use & Interventions for Older Adults and the Elderly: A Review of Recent Research



Benjamin Gleason, PhD & Connie Brichford

Introduction

Substance use disorders in older adults pose a significant and increasing concern for public health concern in the United States. While risk of adverse effects ranging from medical to psychiatric to social are higher for this group, older adults are increasingly reporting use of a wide variety of substances including alcohol, opioids, cannabis, cocaine, and heroin. Each of these substances carries unique risks to older adults (Lin et al., 2023).

West et al. reported that adults born between 1946 and 1964 (i.e., baby boomers) are at particular risk for abuse and misuse of prescription opioids due to a combination of factors related primarily to higher rates of chronic pain and increasing suicide rates for older adults (2015). Increasing life expectancies, combined with the “baby boomer” cohort’s greater numbers mean, in short, there will be more older adults living longer, facing increasing risks of substance abuse, particularly prescription opioids (West et al., 2015).

More than half of older adults suffer from one or more chronic illnesses and regularly use 5 or more prescribed medications. This heavy medication use makes older adults at risk for potentially inappropriate medication (PIM) usage (Rodrigues et al., 2022). Rodrigues et al. found that medication review in a hospital setting can be an important tool to prevent PIM usage (2022).

Sexual minority adults are at particular risk for substance abuse, and older adults are no exception. 20% of sexual minority adults consume alcohol to risky levels; this rate is higher than their heterosexual counterparts (Bryan et al., 2017). Despite comparable rates in both LGB men and women, risk and protective factors differ by gender. Stress related to discrimination is the biggest risk factor for LGB men, while social and cultural acceptance of risky drinking is greater for LGB women (Bryan et al., 2017).

Schoenfeld et al. found that requirements inherent to the Screening, Brief Intervention, and Referral to Treatment (SBIRT) program specifically adapted to serve Florida seniors in non-healthcare settings was effective (2015). While SBIRTs are traditionally only conducted in (and funded for) healthcare settings, the studied adaptation found that for elders, SBIRT interventions may be more efficacious when delivered in non-healthcare settings. Schoenfeld et al. (2015) also noted that regulations inherent to SBIRT make it difficult to accurately understand the issues inherent to older populations; SBIRT programs are required to classify all prescription drug use as “illegal drug use,” but these authors argue that categorization is not adequate to describe the ways prescription drugs are misused by older patients. For example, it may be easy for some people to take medication improperly when prescribed, due to the complexity and volume that

older patients are dealing with (2015). Research must allow for this nuance to fully understand the issues faced by this population.

Article 1 *Substance Use Disorders in the Geriatric Population: A Review and Synthesis of the Literature of a Growing Problem in a Growing Population*

Summary

Substance use disorders and substance use disorder in older adults are an increasing concern for public health. Between 2008 and 2018, older adults' share of first-time admissions to substance use treatment facilities increased from 9% to 17%, when compared to younger adults. While usage is increasing, consequences and side effects can be more severe for this population. The authors (2023) reviewed literature focusing on adults older than age 55 to understand the trends and special considerations for older adults using these substances, focusing on the following substances:

- Alcohol is the most commonly used substance, with 11% of those aged 65 and older reporting binge drinking. But older adults are more susceptible to alcohol-related harm due to the natural processes of aging, including changes in body composition and increased body fat, decreased liver metabolism, and other effects. Some studies link alcohol to hypertension and heart failure, cognitive dysfunction, and dementia in older adults.
- Between 2016 and 2020, Cannabis use in adults 65+ increased from 3% to 6%. Cannabis is associated with a higher fall risk in older adults and may be associated with adverse cardiovascular events. While older adults primarily use cannabis for medical reasons, they tend to receive information regarding this use from friends, dispensaries, and the media, rather than prescriptions from their health care providers. Studies examining the benefits of cannabis typically do not include patients in this age group.
- Often prescribed for insomnia, anxiety and behavioral issues related to dementia, Benzodiazepine use in older adults may be as high as 30%. While benzodiazepines have not been carefully studied in older adults, the relationship between benzodiazepines and ataxia, sedation, drowsiness, and dizziness in older adults is cause for concern.
- Cocaine use rates in older adults may be underreported as well. While one survey found that usage increased from 0.2% to 0.3% from 2019-2020, studies involving hospitalized patients discovered use rates of 2.3% in patients in this demographic. Limited

information exists about adverse effects particular to older adults, but cocaine use is associated with many conditions that older adults are especially at risk for (e.g., stroke, cardiovascular disease, hemorrhage, and psychiatric conditions.)

- Increasingly prescribed to older adults, Opioids are the subject of critical attention, with 1.2% of older adults reporting misuse in 2015-2016. The death rate of adults 55 years and older due to opioid overdose has increased since 1999 from roughly 1 in 100,000 to almost 11 in 2019, with non-Hispanic Black men dying at rates of around 40 per 100,000. After medical hospitalization, 7% of older adults prescribed opioids had some form of adverse effect within 30 days of hospital discharge including, delirium, nausea, falls, urinary retention issues, and more.

Substance use disorder treatment in older adults is much the same as it is in the general population, though certain pharmacological interventions may be more or less effective (e.g., naltrexone may be more effective in older adults), or pose additional risks to this population. Few substance abuse treatment programs are specifically designed for elders and fewer still accept Medicaid.

The authors (2023) urged careful consideration of racial disparities and consideration of the ongoing impacts of COVID-19 in interventions, noting that “racial and socioeconomic disparities persist through age, and older age likely complicates such disparities further” (np). They also noted that the seismic shift to telehealth that happened as a result of COVID-19 may be a barrier to older adults with limited computer literacy and access.

Implications for Practice

- Develop substance treatment programs that specifically take the needs of older adults into account.
- Pharmacological interventions have special considerations for older adults.
- Older adults are getting their information about cannabis from sources other than their medical providers; this is a gap providers could fill.
- Older adults may struggle to participate in online interventions and tend to prefer in person treatment.
- Socioeconomic status is a barrier to treatment for older adults.

Citation

Lin, J., Arnovitz, M., Kotbi, N., & Francois, D. (2023). Substance Use Disorders in the Geriatric Population: a Review and Synthesis of the Literature of a Growing Problem in a Growing

Article 2 *Trends in Abuse and Misuse of Prescription Opioids Among Older Adults*

Summary

Use of opioids for pain management has been steadily increasing since the 1990s, and prescription opioid analgesics are a major driver of drug-related deaths. In 2011, this surpassed the number of deaths from heroin and cocaine combined. The current generation of older adults— i.e., those born between 1946 and 1964— is likely to strain public health resources, due to a combination of reasons. First, this generation is more likely to report use of psychoactive drugs compared to previous cohorts. Second, chronic pain is also a factor; opioid-related prescriptions from medical visits increased 9 times between 1995 and 2010.

Older adults suffer higher levels of chronic pain and are therefore more likely to seek prescription pain management. Opioid-related suicide is another risk that seems to disproportionately affect older people. Between 2000 and 2009, suicide rates increased in older adults, with the highest increases among people 75 years old and above. During this time period, death by opioids decreased for younger adults. The coexistence of multiple illnesses is also tied to increased suicide rate.

For the current study, adults older than age 60 were compared to younger adults aged 20-59. The authors analyzed data from 2006- 2013 from the U.S. Poison Centers U.S. Poison Centers of the Researched Abuse, Diversion and Addiction-Related Surveillance (RADARS) System. The authors found 184,136 cases, with 1149 deaths associated with prescription opioids, including oxycodone, fentanyl, hydrocodone, morphine, oxymorphone, hydromorphone, methadone, buprenorphine, tramadol, and tapentadol among those reported in the RADARS system.

While overall rates of opioid usage were higher for younger adults during this time period, fatal outcomes for older adults using opioids with suicidal trended upwards. The size and current life expectancy of this cohort, combined with the increasing rates of opioid prescription to older adults and higher rates of suicide for people 75+ mean that opioid misuse and opioid-related suicide poses an increasing concern for public health.

Implications for Practice

- The scope of this problem is only likely to increase and is an important concern for public health going forward.
- Identify populations at risk for suicidal intent- opioid use, death for targeted prevention strategies.
- Poisoning centers offer high quality data for this type of research.

Citation

West, N. A., Severtson, S. G., Green, J. L., & Dart, R. C. (2015). Trends in abuse and misuse of prescription opioids among older adults. *Drug and Alcohol Dependence*, 149, 117–121. <https://doi.org/10.1016/j.drugalcdep.2015.01.027>.

Article 3 *Factors Associated with High-Risk Alcohol Consumption Among LGB Older Adults: The Roles of Gender, Social Support, Perceived Stress, Discrimination and Stigma*

Summary

Although sexual minority adults of all ages face an increased risk of high-risk drinking, and although alcohol use and misuse is an important public health concern in older adults, few studies have been undertaken to understand drinking behaviors in lesbian, gay and bisexual (LGB) adults. These authors surveyed 2,351 LGB adults (aged 50 - 98) in the United States about their health, including their history of personal and social experiences with substances. From this survey, they found that one-fifth of LGB older adults engage in high-risk drinking, with men drinking at slightly higher rates than women (22% compared to 18%). This rate is almost double the rate of risky drinking observed in national studies of the general population of older US adults. While the rate of older LGB men's and women's drinking is effectively the same, the factors associated with and protective against high-risk drinking differ across genders. Being a current smoker was associated with high risk drinking for both men and women, while being in recovery for addiction pointed to lower risk across the board. Higher income was a predictor of increased drinking in men and decreased drinking in women.

For women, perceived social support and drinking norms were predictive of higher levels of alcohol use. Researchers theorized that while increased drinking is stigmatized in heterosexual women, it is less so in sexual minority women, who are more likely to participate in social activities and find social support at bars and parties— environments that facilitate and tacitly

encourage increased levels of alcohol consumption. Increased alcohol use in men was tied to stress related to day-to-day discrimination. After controlling for other factors, being transgender was associated with low-risk and non-drinking in men. On a final note, the authors concluded that their sample size was too small to draw meaningful conclusions about risk and protective factors specifically in transgender LGB adults and called for this to be a direction for future research.

Implications for Practice

- LGB adults are at higher risk of high-risk drinking behaviors.
- Interventions should take into account the protective and risk factors that affect LGB adults.
- Interventions must understand and account for the differences in protective and risk factors for LGB women compared to LGB men.
- More research is needed, particularly to understand the risks and protective factors particular to transgender LGB people.

Citation

Bryan, A. E., Kim, H. J., & Fredriksen-Goldsen, K. I. (2017). Factors Associated with High-Risk Alcohol Consumption Among LGB Older Adults: The Roles of Gender, Social Support, Perceived Stress, Discrimination, and Stigma. *The Gerontologist*, 57(suppl 1), S95–S104.
<https://doi.org/10.1093/geront/gnw100>.

Article 4 *Effectiveness of Interventions to Reduce Potentially Inappropriate Medication in Older Patients: A Systematic Review*

Summary

More than half of older adults suffer from at least two chronic illnesses, increasing their risk of use of potentially inappropriate medicines (PIM). PIMs are defined as medicine that prescribers should avoid because the risks of adverse events outweigh the potential clinical benefits, particularly when better alternatives exist. It is not just the presence of multiple chronic illnesses that increase this risk; chronic diseases are typically treated using single disease-centered guidelines, meaning each illness will be treated with multiple medications, increasing

the risk for PIM. The authors set out to evaluate the effectiveness of PIM interventions targeted to this population, examining 47 studies that ranged from 52 to 124,802 patients. They found numerous methodological and design limitations in many of the reviewed studies, precluding replication and may have impacted the success of the targeted interventions. Overall, they found that medication review was the most successful intervention, particularly in hospital settings. Inclusion of pharmacists in PIM interventions was also tied to greater success.

In primary care settings, medication review was less successful, which the authors attributed to three factors: low acceptance rate of doctor recommendations; failure on the part of physicians to use checklists, and computer programs available to evaluate potential interactions; and contamination between control and intervention groups. Clinical Decisions Support Systems (CDSS) were also more effective in hospital settings than in outpatient settings; the studies that evaluated CDSS in primary care settings attributed the low success rate to the outdated user interfaces available in these settings. In primary care settings, educational strategies were the most effective intervention. In hospital settings, patient education was less successful which these authors ascribe to the lack of interactivity. In no context was the success of the intervention tied to the overall number of medicines a patient was prescribed.

Implications for Practice

- Older adults are at higher risk of issues stemming from PIM.
- Further research is needed particularly into the economic impact of PIM.
- Effectively managing PIM differs in hospitals and primary care settings.
- Knowledgeable clinicians are essential to effective educational interventions.
- Education interventions may need to be interactive to be successful.
- Including pharmacists in medication review can improve the outcome.

Citation

Rodrigues, D. A., Plácido, A. I., Mateos-Campos, R., Figueiras, A., Herdeiro, M. T., & Roque, F. (2022). Effectiveness of Interventions to Reduce Potentially Inappropriate Medication in Older Patients: A Systematic Review. *Frontiers in Pharmacology*, 12, 777655.
<https://doi.org/10.3389/fphar.2021.777655>.

Summary

Though substance abuse is on the rise in older adults— defined in this study as age 50 and older— treatment programs specifically targeting elders are getting harder to find, leaving older people underserved. Screening, Brief Intervention, and Referral to Treatment (SBIRT) is an evidence-based universal screening program applied in healthcare settings, which aims to identify patients with active and potential substance use disorders. Identification is followed by application of the appropriate brief intervention for those patients (e.g., high-risk patients are offered education, and patients in active abuse are referred to treatment).

The authors evaluated the Florida BRITE (BRief Intervention and Treatment of Elders) Project, which aimed to adapt SBIRT's national requirements to an elder-specific population during a 3-year pilot study. Compared to typical SBIRTs, BRITE made 4 adaptations for the elder-specific population:

- Non-health care agencies conducted the screenings, including 1 substance abuse treatment program, 2 behavioral health programs, and 1 behavioral health and aging services program.
- Screenings were conducted where elders lived (e.g., senior housing) or were already receiving services.
- Depression and suicide risk were also screened for.
- Screenings asked about prescription and OTC drug misuse in addition to alcohol.

The study encountered challenges in the second year, when researchers discovered that screening sites failed to record data from patients who didn't require additional intervention (i.e., low- and no- risk patients), creating an inaccurate picture of total interventions. Once this data-collection error was corrected, the study found that elder-specific care was more effective than standard delivery (i.e., in health-care settings) for older patients. Initially, non-health-care agencies' access to patients was slowed, due to the difficulty to obtain agreements with hospital and clinic administrators. At the time of the follow-up survey, physicians, nurses, and hospital staff expressed appreciation for BRITE healthcare educators' work and services provided to patients.

The authors highlighted what they saw as a flaw in the SBIRT administration—the definition of any prescription drug misuse as “illegal drug use.” They argued that elders can misuse appropriately prescribed medication for a myriad of reasons, including the complexity

and number of medications they are taking, memory impairment, cost, and too many prescribers prescribing without communicating with each other. In short, many opportunities for human error exist for older people to accidentally misuse their prescription drugs. Intentional misuse needs to be understood separately from unintentional misuse, as appropriate interventions will vary based on the cause.

Implications for Practice

- State SBIRT funding is limited to physicians and specific approved healthcare providers; expanding this funding to non-healthcare settings, especially elder-care services, can offer additional value.
- For future research, ensure that providers and research sites are clear on the criteria for data inclusion.
- Define prescription and OTC drug misuse and differentiate from “illegal drug use” as understood by SBIRT. This will help to understand intentional versus unintentional misuse, in order to develop and appropriately recommend interventions.
- Refer to this study to generate support for expanding to non-health care settings in hospital and health care staff.
- Future research should define the difference between accidental and intentional misuse of prescription and OTC medications; these may be different for older populations than for the general population and will have an impact on effectiveness of interventions.

Citation

Schonfeld, L., Hazlett, R. W., Hedgecock, D. K., Duchene, D. M., Burns, L. V., & Gum, A. M. (2015). Screening, Brief Intervention, and Referral to Treatment for Older Adults with Substance Misuse. *American Journal of Public Health, 105*(1), 205–211. <https://doi.org/10.2105/AJPH.2013.301859>.

Conclusion

This review attempted to explicate a growing area of concern: the increasing use of substances, including alcohol, cannabis, opioids, and other drugs, by elderly populations—i.e., those over age 50 (or 55). Scholars in this review described the negative consequences of this drug use, or misuse, and made recommendations for practice.

First, Lin et al (2023) described increasing use of substances by elderly populations, noting that consequences are more severe for this age group, including hypertension and heart failure, adverse cardiovascular events, stroke, dizziness, delirium, and falls. The authors noted that “racial and socioeconomic disparities persist through age, and older age likely complicates such disparities further.”

Next, West and colleagues (2015) examined trends in the misuse of prescription drugs, finding that this generation of older adults is particularly at risk for such misuse, with high rates of psychoactive drugs and opioid use. The scholars suggested that the scope of this problem is only likely to increase and is an important concern for public health going forward and recommended paying attention to the potential for premature death and harm.

Bryan et al (2017) investigated the risk factors of dangerous alcohol consumption among LGB populations and showed that one-fifth of LGB older adults engage in high-risk drinking, with men drinking at slightly higher rates than women (22% compared to 18%). The authors recommended that interventions take into account differing risk and protective factors for LGB men and women.

In a study exploring the effectiveness of interventions to reduce potentially inappropriate medicine use, Rodrigues and colleagues (2022) found that medication review was the most successful intervention, particularly in hospital settings. In addition, they demonstrated that, in primary care settings, educational strategies were the most effective intervention.

Finally, Schonfeld et al (2015) examined SBIRT (Screening, Brief Intervention, and Referral to Treatment), a universal screening program, often in healthcare settings, that aims to identify patients with active and potential substance use disorders. SBIRT commonly aims to educate high-risk patients, and to refer those actively using to treatment.

Looking across these studies, the authors explored the potential harms that could come as a result of increased use of alcohol and other drugs among older populations, i.e., those age 50 or older. This review suggested a number of effective interventions and recommendations for practice.

Author Biographies

Benjamin Gleason, PhD is the Director of Applied Research for the Prospectus Group. He earned a PhD in Educational Psychology & Educational Technology from Michigan State University, researching how to best support communities of learners through educational technology. An

assistant professor of educational technology at Iowa State University, he has published over 20 peer-reviewed articles in research journals. Before academia, Benjamin worked in youth and adult-serving learning spaces, designing youth-initiated community service projects and teaching high school in Richmond, California, and working as a university instructor in Guatemala. Benjamin is also a co-founder of the Prospectus Group.

Dr. Marie Heath (she/her/hers) is Assistant Professor of Educational Technology at Loyola University Maryland. Prior to her work in higher education, Marie taught high school social studies in Baltimore County Public Schools. Her teaching experiences influenced her research which focuses on the intersection of education, civic engagement, and technology in order to foster social change. As an organizer and educator, Marie has run political campaigns, led collective actions for education, and organized political action groups in Baltimore City and the surrounding regions. She co-facilitates the *Civics of Technology* project.