

Excess medications and alcohol misuse by people with HIV raise delirium risk

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Delirium is a transient but serious condition that complicates as many as one in five hospitalizations, and those living with human immunodeficiency virus (HIV) are especially at risk. Limiting the use of neurocognitively active medications (NCAMs) and consumption of alcohol can help mitigate this risk, new research shows.

In the recently published study, a team led by Kathleen Akgün, MD,

associate professor of pulmonary, [critical care](#) & [sleep medicine](#), characterized how NCAMs and [alcohol use](#) may synergistically increase the risk for delirium events among aging individuals with and without HIV. They published their findings in the *Journal of the American Geriatrics Society* on February 14.

"We frequently encounter a change in mental status or delirium in people as they come into the hospital. And it's been a really difficult condition to prevent from happening, despite our best efforts once people are in the hospital," says Akgün. "I became interested in working with my team to understand what opportunities we had to address this when serious health events requiring hospitalization occur based on my experiences in the intensive care unit (ICU)."

NCAMs and alcohol use linked to delirium risk

Delirium is the sudden onset of a confused and disoriented mental state that sometimes includes visual or auditory hallucinations. Hospital-acquired delirium is very common and can lead to longer stays and poorer health outcomes.

Because HIV can impact the central nervous system and cause neurocognitive decline, individuals living with the condition face an increased risk of delirium. While the advent of antiretroviral therapies has been largely successful in achieving viral suppression and preserving cognitive function, people with HIV also typically start taking five or more medications [polypharmacy] about a decade earlier than those without it, which may also make them more susceptible to delirium.

NCAMs are frequently used to treat conditions such as depression, anxiety, and pain, but they may also increase the risk for delirium, especially when taken with multiple other medications. Unhealthy alcohol use is another risk factor. However, the combined effects of

NCAMs and alcohol use are poorly understood, especially among people with HIV.

"Health care providers tend to overlook the hazards of alcohol misuse in outpatient settings, myself included," says Akgün. "When we think about alcohol use and delirium, we likely think of the most extreme versions such as delirium from alcohol withdrawal syndrome. But there are a lot of harms that could be accumulating in patients, especially people living with HIV, who are chronically exposed to alcohol."

NCAMs and alcohol misuse predict delirium events in both HIV-infected and uninfected patients

In their latest study, the team used the Veterans Aging Cohort Study (VACS), which consists of more than 50,000 veterans living with HIV and 100,000 uninfected veterans. Within the cohort, each veteran with HIV is matched to two uninfected controls based on age, race, sex, and site of clinical care. First, they studied rates of delirium using ICD-9 and ICD-10 diagnosis codes to identify cases between October 1, 2007, and December 31, 2017.

They then conducted a nested case-control study in which for every delirium case, they selected 5 controls without delirium who were matched on age within 1 year, race/ethnicity, sex, baseline year of cohort entry and years observed in the cohort. They looked for NCAMs use between 3 and 45 days prior to the delirium event, as well as self-reported alcohol use based on the Alcohol Use Disorder Identification Test-Consumption (AUDIT-C).

The study showed that persons living with HIV on [antiretroviral therapy](#) experienced higher rates of delirium compared with uninfected patients. Furthermore, regardless of HIV status, NCAMs and alcohol misuse were

important predictors of delirium events.

"What's exciting about these findings is that we can do something about it," says Akgün.

"For instance, medication deprescribing may be a good target if the neurocognitively active medications aren't necessarily helping the patient but may very well be contributing to a greater health decline in future settings." Likewise, clinicians may have another opportunity to reduce [delirium](#) events through helping patients access alcohol use counseling and risk reduction strategies. Akgün hopes that over time, these measures will lead to shorter hospital stays and help patients have greater independence and functionality.

"Delirium events are something we can proactively anticipate and try to counsel patients on to avoid harms of unnecessary medications and [alcohol](#) misuse," she says. "There are a lot of opportunities to do better."

More information: Kathleen M. Akgün et al, Delirium among people aging with and without HIV : Role of alcohol and Neurocognitively active medications, *Journal of the American Geriatrics Society* (2023). [DOI: 10.1111/jgs.18265](https://doi.org/10.1111/jgs.18265)

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