Substance Use Disorders Linked to Increased COVID-19 Risk

People with an opioid use disorder, in particular, had a tenfold higher risk of being diagnosed with COVID-19.

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People with a substance use disorder (SUD)—meaning they are dependent on opioids, cocaine, cannabis, alcohol or tobacco—were more likely to be diagnosed with the new coronavirus and to have worse COVID-19 outcomes, according to a recent study. The findings suggest that health care providers should consider people with SUDs to be at higher risk and develop plans to help protect them from infection and severe outcomes.

“The lungs and cardiovascular system are often compromised in people with SUD, which may partially explain their heightened susceptibility to COVID-19,” lead study author Nora Volkow, MD, director of the National Institute on Drug Abuse, said in a National Institutes of Health press release.

“Another contributing factor is the marginalization of people with addiction, which makes it harder for them to access health care services,” she continued. "It is incumbent upon clinicians to meet the unique challenges of caring for this vulnerable population, just as they would any other high-risk group.”

As described in the journal Molecular Psychiatry, Volkow and her colleagues conducted a retrospective case-control study using electronic health records from the IBM Watson Health Explorys database. They looked at records from 73,099,850 people at 360 hospitals across the United States through June 15, 2020, after the initial COVID-19 peak in the Northeast but before the mid-summer surge in much of the rest of the country.

Of these, 7,510,380 had ever been diagnosed with SUDs, including 722,370 who had a recent diagnosis within the past year. The analysis included:

- 6,414,580 people with a tobacco use disorder (611,750 recent)
- 1,264,990 people with an alcohol use disorder (83,100 recent)
- 490,420 with a cannabis use disorder (27,650 recent)

- 471,520 with an opioid use disorder (43,160 recent)
- 222,680 with a cocaine use disorder (14,800 recent).

The definition of substance use disorders is controversial, and their diagnosis is subject to interpretation. For this study, the authors included people who had a recorded diagnosis, based on a standard classification system, of opioid dependence or nondependent opioid abuse; alcohol, cocaine or cannabis dependence or abuse; or nicotine dependence.

As many as 80% of current smokers meet the criteria for nicotine dependence, suggesting that around 85% of the people with SUDs in this study may have been regular smokers who aren't particularly marginalized or lacking in access to health care.

Of the more than 73 million people in the health records database, 12,030 were diagnosed with COVID-19, defined as having coronavirus infection. While people with SUDs made up 10% of the total study population, they accounted for 16% of COVID-19 cases.

A total of 1,880 people had both SUDs and COVID-19; of these, 1,050 had a recent SUD diagnosis. These included 1,470 people with tobacco use disorder (840 recent), 320 with alcohol use disorder (130 recent), 210 with opioid use disorder (90 recent), 80 with cannabis use disorder (30 recent) and 70 with cocaine use disorder (30 recent); some people had more than one type of SUD.

People with any recent SUD diagnosis were "at significantly increased risk for COVID-19" after adjusting for age, race/ethnicity and insurance status, with an adjusted odds ratio of 8.7, or nearly nine times higher risk, the researchers reported.

This effect was strongest for people with a recent diagnosis of opioid use disorder (adjusted odds ratio of 10.2, or more than 10 times higher risk), tobacco use disorder (adjusted odds ratio of 8.2, or eight times higher risk) or alcohol use disorder (adjusted odds ratio of 7.8, or nearly eight times higher risk). Cocaine and cannabis use disorders were associated with adjusted odds ratios of 6.5 and 5.3, respectively.

The study did not see a significant difference in the risk of COVID-19 among people with recorded prescriptions for medication-assisted treatment for opioid use disorders, but the data did not include methadone administered through specialized clinics.

Compared to people without SUDs, those with SUDs had significantly higher rates of chronic kidney, liver, lung and cardiovascular disease, type 2 diabetes, cancer and obesity—all of which are associated with heightened susceptibility to COVID-19.

Among people with a recent SUD diagnosis, African Americans had a significantly higher risk of COVID-19 compared with whites, and this effect was strongest for those with opioid use disorder (more than four times higher risk). Black people also had higher rates of comorbidities linked to COVID-19.

What's more, COVID-19 patients with SUDs had significantly worse outcomes than people with COVID-19 overall, including higher rates of hospitalization (41% versus 30%, respectively) and death (10% versus 7%). Among people with both SUD and COVID-19, Black people fared worse than white people with regard to hospitalization (51% versus 35%) and death (13% versus 9%).

Although people with SUDs had a higher prevalence of known risk factors for COVID-19 overall, the rate was not higher for those with opioid use disorder compared to those with other types of SUDs, suggesting that specific pharmacological effects of drugs, such as opioid-induced respiratory depression, could facilitate COVID-19 infection and increase the risk of adverse outcomes, the researchers noted.

"Our findings at a macroscopic level provide evidence that SUD should be considered a condition that increases risk for COVID-19, a comorbidity that has particularly deleterious effects [for] African Americans," the study authors concluded. "They also highlight the exacerbation of healthcare disparities from COVID-19 driven by social and economic factors that place certain groups at increased risks for both SUD as well as risk and adverse outcomes from COVID-19."

"[O]ur findings also underscore the importance of providing support for the treatment and recovery of individuals with SUD as part of the strategy to control the COVID pandemic," they added.

Click here to read the study abstract.
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