

Single dose of ketamine plus talk therapy may reduce alcohol use

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One 10 ml vial of 1000 mg ketamine. Credit: Psychonaught/Wikipedia

A single infusion of ketamine, combined with outpatient behavioral

therapy, helped alcohol-dependent individuals abstain from drinking for a few weeks after the treatment, researchers at Columbia University Vagelos College of Physicians and Surgeons and New York State Psychiatric Institute have found. The findings could lead to a new approach to the treatment of alcohol use disorder.

Results of the trial were published online on December 2 in the *American Journal of Psychiatry*.

"Our findings add to a growing body of evidence that a single dose of medications with powerful psychoactive effects, such as MDMA, psilocybin, and ketamine, may have immediate and long-lasting effects on behavior, especially when integrated with psychotherapy," says lead author Elias Dakwar, MD, associate professor of clinical psychiatry at Columbia University Vagelos College of Physicians and Surgeons.

In 2017, [alcohol](#) use disorder affected an estimated 14.1 million adults and 443,00 adolescents in the U.S., resulting in 88,000 deaths, according to the National Institute of Alcohol Abuse and Alcoholism. Those with alcohol use disorder are unable to stop or control alcohol use despite adverse social, occupational, or health consequences.

In a previous study, Dakwar and his colleagues showed that one dose of the anesthetic ketamine combined with behavioral modification therapy promoted abstinence and reduced cravings in people dependent on cocaine. "Based on those findings, we thought it would be valuable to test this combination of therapies in people with alcohol use disorder, which is much more pervasive," says Dakwar.

In the new study, 40 people with alcohol use disorder who were seeking treatment were randomized to receive either a single sub-anesthetic dose of ketamine or midazolam (a drug used to treat alcohol withdrawal). All participants also received motivational enhancement treatment, a type of

psychotherapy that has shown only modest success in helping people with alcohol use disorder. The researchers hypothesized that motivational therapy may work better when combined with a single ketamine infusion at the beginning of therapy.

Ketamine plus therapy reduced alcohol use

The ketamine group had a higher likelihood of abstinence; 82% remained abstinent at the end of the study, 3 weeks after getting the infusion, compared to 65% of the midazolam group. The ketamine group also took longer to relapse and had fewer heavy drinking days than the midazolam group.

In addition, those who stopped drinking after the ketamine infusion were more likely to resume abstinence after relapse than the midazolam group.

Ketamine treatment was well tolerated, without any adverse effects or misuse of the study drugs, the researchers reported.

Ketamine may improve motivation

Researchers are not certain how ketamine helps people abstain from drinking. "One possibility is that ketamine addresses addiction-related vulnerabilities, like low motivation and low resilience, that contribute to problematic use. This may create a window where they can benefit more from behavioral treatment and lay the groundwork to meet their goals," says Dakwar.

"In our participants, ketamine appears to have increased resilience and reduced demoralization after a lapse," says Dakwar. "Participants may have been better able to bounce back after slipping, and they may have

been more motivated to resume the work of recovery. In the midazolam group, on the other hand, there was a higher likelihood of escalating use after slipping and either relapsing or dropping out."

The researchers are currently studying whether multiple doses of [ketamine](#) can further improve abstinence in people with [alcohol use disorder](#).

"It's gratifying and hopeful to see [innovative research](#) making progress in developing new treatments for substance use [disorders](#)," says Jeffrey A. Lieberman, chair of the Department of Psychiatry at Columbia University Vagelos College of Physicians and Surgeons.

More information: Elias Dakwar et al, A Single Ketamine Infusion Combined With Motivational Enhancement Therapy for Alcohol Use Disorder: A Randomized Midazolam-Controlled Pilot Trial, *American Journal of Psychiatry* (2019). [DOI: 10.1176/appi.ajp.2019.19070684](https://doi.org/10.1176/appi.ajp.2019.19070684)

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