

Ketamine, notorious club drug, shows promise as a treatment for depression, studies indicate

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Sabrina Misra suffered from depression for most of her life, but last summer, it became almost too heavy to bear.

Despite years of therapy and many medications, Misra, 36, had become so despondent that she started planning her suicide. But then her psychiatrist introduced her to a new treatment with an unusual back story.

The treatment was ketamine, an anesthetic used to sedate both people and animals before surgery. It's also a notorious street drug, abused by clubgoers seeking a trancelike, hallucinatory high.

But in recent years, numerous studies have found that ketamine can be an effective and speedy treatment for people with depression—particularly those who, like Misra, have found little relief from other medications.

"After the first couple of treatments it didn't seem to work, but after I hit my fourth one, everything started to change," said Misra, a therapist and college instructor who lives in Lisle, Ill. "I went from actively wanting to kill myself to being fine."

Though some researchers have found that ketamine can be a valuable antidepressant, no one has performed the large-scale clinical trials

necessary to get U.S. Food and Drug Administration approval to use it a psychiatric medication.

Consequently, most insurance plans won't pay for it, leaving patients to pay thousands of dollars out of pocket for a series of intravenous infusions.

Some warn that questions remain about ketamine's long-term safety and effectiveness. Dr. James Murrough, a psychiatrist at the Icahn School of Medicine at Mount Sinai in New York, said people who misuse the drug have developed cognitive problems, and high doses have proved toxic in rats.

And because ketamine has a history of abuse, he said, doctors and patients must consider the threat of addiction.

"We think the risk is low, but it's probably not zero, particularly if it gets scaled up," he said. "There's excitement but also a justified caution."

Nonetheless, demand for the drug is so great that dozens of specialty clinics are popping up around the country. The doctors who run them say ketamine has helped most of their patients.

"It's much better than anything we've had before," said Dr. Abid Nazeer, the psychiatrist who treated Misra at his Oak Brook clinic, Advanced Psychiatric Solutions. "I've seen it work so quickly that one infusion gets rid of suicidal thoughts that had been there for 20 years."

Ketamine was created as an anesthetic, and doctors including veterinarians and battlefield medics embraced it for its fast-acting properties and relative safety. But because it produces strong out-of-body sensations in high doses, it became a club drug, potent enough to send hundreds of people to emergency rooms each year.

In the 1990s, researchers discovered another use for ketamine: A small dose, they found, limits the concentration of a neurotransmitter called glutamate in the brain, and with startling speed, lifts the mood of many depression sufferers who haven't been helped by medications like Prozac or Lexapro.

"Our standard antidepressants can take six to eight weeks to be effective—ketamine can take just one hour," said Dr. Carlos Zarate of the National Institute of Mental Health, whose studies in the 2000s accelerated interest in the drug.

Over the past few years, doctors have opened specialty clinics that offer ketamine to patients who have depression or, to a lesser extent, chronic pain. Though the FDA has not approved those uses, the agency allows doctors to dispense drugs for "off-label" purposes if they believe it is medically appropriate.

The basic regimen calls for the intravenous infusion of a small dose—0.5 mg per kilogram of body weight, far less than someone would use to get high—six times over two weeks. After that, patients return every few weeks or months for booster doses.

Clinic operators say they screen clients to focus on those who have not improved with standard antidepressants.

"This is a last resort for those that are treatment-resistant," said Dr. June Lee of Lombard's Optimum Ketamine Center. "Most of the patients we've seen here have tried everything."

Zarate said research has shown ketamine to be effective for about 60 percent of people with treatment-resistant depression, though some local clinics say their results have been better.

"We've had about a 70 percent response rate, but it really works for them," said Dr. Vikas Patel, an emergency room physician who runs the Midwest Ketamine Center in Arlington Heights. "For the 30 percent it doesn't work for, there's no benefit at all. I would say there isn't a big in-between."

He charges \$500 per infusion. Insurance typically won't cover ketamine treatments, though Patel said he expects that to change. A pharmaceutical company is seeking FDA approval for a nasal spray, he said, and other companies are testing their own versions.

But for now, the out-of-pocket cost limits the number of people who can afford the treatment. Misra said that while she put the infusions on her credit card, seeing them as a life-or-death investment, others aren't so fortunate.

"I have patients who are struggling right now, and they actually can't swing it," she said. "I think that's a horrible thing. No one should have to die because they can't pay for treatment."

Dominic Sisti, who directs the Scattergood Program for Applied Ethics of Behavioral Health Care at the University of Pennsylvania, co-wrote a paper three years ago warning about the possible risks of using [ketamine](#) for depression.

The research that has come out since then has persuaded him that it is appropriate for many people, he said, but he still believes doctors should share data on their results to further knowledge of the drug and improve the protocols for using it.

"In a sense, each patient they treat is an experiment of one," he said. "It would be really helpful if all these clinics got together and figured out a way to report those outcomes. Without those data, I worry that

someone's going to get hurt."

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