

Reduced drug use is a meaningful treatment outcome for people with stimulant use disorders, data show

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Reducing stimulant use was associated with significant improvement in measures of health and recovery among people with stimulant use

disorder, even if they did not achieve total abstinence. This finding is according to an [analysis](#) of data from 13 randomized clinical trials of treatments for stimulant use disorders involving methamphetamine and cocaine.

Historically, total [abstinence](#) has been the standard goal of [treatment](#) for substance use disorders, however, these findings support the growing recognition that a more nuanced perspective on measuring treatment success may be beneficial.

The study, published in *Addiction*, was led by scientists at the Johns Hopkins Bloomberg School of Public Health, Baltimore, in collaboration with researchers at the National Institute on Drug Abuse (NIDA), part of the National Institutes of Health.

Researchers found that transitioning from high use (five or more days a month) to lower use (one to four days a month) was associated with lower levels of drug craving, depression, and other drug-related challenges compared to no change in use.

These results suggest that reduction in use of methamphetamine or cocaine, in addition to abstinence, is a meaningful surrogate or intermediate clinical outcome in medication development for stimulant addiction. Unlike other substance use disorders, such as opioid use disorder or alcohol use disorder, there are currently no U.S. Food and Drug Administration-approved pharmacological treatments for stimulant use disorders.

"These findings align with an evolving understanding in the field of addiction, affirming that abstinence should be neither the sole aim nor only valid outcome of treatment," said NIDA Director Nora Volkow, M.D. "Embracing measures of success in addiction treatment beyond abstinence supports more individualized approaches to recovery, and

may lead to the approval of a wider range of medications that can improve the lives of people with substance use disorders."

Temporary returns to use after periods of abstinence are part of many recovery journeys, and relying exclusively on abstinence as an outcome in previous clinical trials may have masked beneficial effects of treatment. To help address this research gap, investigators analyzed data from previous clinical trials to study the effects of transitioning to reduced drug use or abstinence on a broad range of health measures.

Researchers analyzed data from 13 randomized clinical trials evaluating the impact of potential pharmacological medications for stimulant use disorders, which included more than 2,000 individuals seeking treatment for cocaine or methamphetamine use disorders at facilities across the United States. The trials were of varying duration and were undertaken from 2001 to 2017.

Researchers compared "no reduced use," "reduced use," and "abstinence" in association with multiple health outcomes, such as severity of drug-related symptoms, craving, and depression. The study found that more participants reduced the frequency of primary drug use (18%) than achieved abstinence (14%).

While abstinence was associated with the greatest clinical improvement, reduced use was significantly associated with multiple measures of improvements in psychosocial functioning at the end of the trials, such as a 60% decrease in craving for the primary drug, 41% decrease in drug-seeking behaviors, and a 40% decrease in depression severity, compared to the beginning of the trial.

These findings suggest that improvements in health and functioning can occur with reduced use and should be considered in the development and approval of treatments for substance use disorders.

Research on alcohol use disorder has shown similar results, with studies finding that transitioning from high-risk to low-risk drinking is associated with functional improvement and fewer mental and general health consequences caused by alcohol. As a result, a reduced number of heavy drinking days is already recognized as a meaningful clinical outcome in medication development for alcohol use disorder.

"With addiction, the field has historically acknowledged only the benefits of abstinence, missing opportunities to celebrate and measure the positive impacts of reduced substance use," said Mehdi Farokhina, M.D., M.P.H., a staff scientist in the NIDA Intramural Research Program, and author on the paper.

"This study provides evidence that reducing the overall use of drugs is important and clinically meaningful. This shift may open opportunities for medication development that can help individuals achieve these improved outcomes, even if complete abstinence is not immediately achievable or wanted."

The authors note that the study did not include behavioral treatment trials, which were too varied to harmonize their data. In addition, the study featured only people who enrolled in clinical trials, which could limit generalizability. Additional research is needed to understand the potential clinical benefits of reduced drug use, along with other harm reduction-based indicators of clinical improvement in real-world populations.

The authors highlight that the findings of this study should encourage researchers to re-evaluate treatment outcome measures in their studies and consider non-abstinence treatment outcomes in the development of new medications for the treatment of stimulant use disorders.

The authors also write that these new findings need to be replicated in

other contexts with additional [substance use disorders](#) such as opioid use disorder.

"By promoting an understanding of addiction as a treatable disorder with multifaceted causes, society can work towards providing better support, resources, and care for individuals on their way to recovery," said Masoumeh Aminesmaeili, M.D., lead author of the paper. "This approach is not only compassionate, but also clinically valid in addressing the complex nature of addiction."

More information: M Aminesmaeili, et al. Reduced drug use as an alternative valid outcome in individuals with stimulant use disorders: Findings from 13 multisite randomized clinical trials, *Addiction* (2024). DOI: [10.1111/add.16409](https://doi.org/10.1111/add.16409).
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