

Review questions link between methamphetamine and cognitive impairment

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Carl Hart (left), says that flawed research may be preventing meth addicts from getting effective treatment for substance abuse. Credit: Eve Vagg.

(Medical Xpress) -- A review of recent research on methamphetamine use suggests that claims the drug causes significant cognitive problems are exaggerated. The study by Carl Hart, PhD, and colleagues at Columbia University and the New York State Psychiatric Institute (NYSPI) was released in this month's [Neuropsychopharmacology](#).

Methamphetamine belongs to a class of drugs called amphetamines that are used for a variety of illnesses, among them attention-deficit hyperactivity disorder and narcolepsy. The drug, which has grown in notoriety over the last decade, has been popularized in the general media with provocative images depicting its devastating effects on the body. More than 60 studies have reported findings linking methamphetamine

abuse to cognitive impairment.

Hart, an associate professor in the Departments of Psychiatry and Psychology and a research scientist at NYSPI, focused his review on three critical areas: (1) short-term effects of methamphetamine use while the drug is still in the body (2) long-term consequences and (3) neuroimaging data of brain changes in response to taking the drug.

With regard to data from imaging studies, Hart and his colleagues found that researchers generally pathologized any brain difference between users and non-users despite the fact that cognitive functioning in methamphetamine users typically fell within the normal range. The data failed to support claims of long-term deleterious effects on cognition in relation to methamphetamine. Overall, acute, short-term drug use produced improvements in cognition for both users and non-users; they experienced faster response speed, better attention and enhanced visuospatial perception, that is, the ability to orient oneself visually.

The danger of relying on flawed data lies in its application to treatment guidelines and public policy.

“The assumption that methamphetamine causes a broad range of cognitive impairments, has led many treatment providers to negate cognitive-behavioral therapy (CBT) as a treatment option. This is sad on multiple levels. Most importantly, however, CBT is arguably the most effective substance abuse treatment, and the current dominant perspective decreases the likelihood that methamphetamine abusers will be permitted access to this important treatment that could facilitate their drug abstinence,” warned Hart. “This review and what we now know about effects on cognition show that CBT may well be an option for people seeking treatment.”

In their review, the authors noted similarities between cocaine drug

policy in the 1980s and the readiness to link methamphetamine abuse to impairments in cognition. "Of course, as is the case with any substance of abuse, [methamphetamine](#) abuse is associated with multiple deleterious effects including increased hospital admissions and arrests. But, this does not absolve us of our responsibility as objective scientists."

As a further cautionary note, Hart said, "Science drives policy and the politics of treatment and punishment. We need be critical and careful about our interpretation of the scientific data investigating the effects of substances of abuse to truly understand the best way to treat those affected."

Provided by Columbia University

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