

Study suggests increased risk of schizophrenia in heavy methamphetamine users

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In the first worldwide study of its kind, scientists from Toronto's Centre for Addiction and Mental Health (CAMH) found evidence that heavy methamphetamine users might have a higher risk of developing schizophrenia. This finding was based on a large study comparing the risk among methamphetamine users not only to a group that did not use drugs, but also to heavy users of other drugs.

The report will be published online on Nov. 8, 2011, at *AJP* in Advance, the advance edition of the [American Journal of Psychiatry](#), the official journal of the [American Psychiatric Association](#).

Methamphetamine and other amphetamine-type stimulants are the second most common type of [illicit drug](#) used worldwide.

"We found that people hospitalized for methamphetamine dependence who did not have a diagnosis of [schizophrenia](#) or [psychotic symptoms](#) at the start of our study period had an approximately 1.5 to 3.0-fold risk of subsequently being diagnosed with schizophrenia, compared with groups of patients who used cocaine, alcohol or [opioid drugs](#)," says Dr. Russ Callaghan, the CAMH scientist who led the study. Dr. Callaghan also found that the increased risk of schizophrenia in methamphetamine users was similar to that of heavy users of cannabis.

To establish this association, the researchers examined California

hospital records of patients admitted between 1990 and 2000 with diagnosis of dependence or abuse for several major abused drugs: methamphetamine, cannabis, alcohol, cocaine or opioids. They also included a [control group](#) of patients with [appendicitis](#) and no drug use. The methamphetamine group had 42,412 cases, while cannabis had 23,335.

Records were excluded if patients were dependent on more than one drug or had a diagnosis of schizophrenia or drug-induced psychosis during their initial hospitalization. Readmission records within California hospitals were analyzed for up to 10 years after the initial admission. The researchers then identified patients who were readmitted with a schizophrenia diagnosis in each drug group.

There has been a longstanding debate as to whether there is a connection between methamphetamine use and schizophrenia. Many Japanese clinicians have long believed that methamphetamine might cause a schizophrenia-like illness, based on their observations of high rates of psychosis among methamphetamine users admitted to psychiatric hospitals. However, they lacked long-term follow-up studies of methamphetamine users initially free of psychosis. In North America, this link has mostly been discounted, as psychiatrists believed that the psychosis was already present and undiagnosed in these methamphetamine users.

"We really do not understand how these drugs might increase schizophrenia risk," says Dr. Stephen Kish, senior scientist and head of CAMH's Human Brain Laboratory. "Perhaps repeated use of methamphetamine and cannabis in some susceptible individuals can trigger latent schizophrenia by sensitizing the brain to dopamine, a brain chemical thought to be associated with psychosis." Dr. Kish also cautions that the findings do not apply to patients who take much lower and controlled doses of amphetamines or cannabis for medical purposes.

Since this is the first such study showing this potential link, the researchers emphasize that the results need to be confirmed in additional research involving long-term follow-up studies of methamphetamine users.

"We hope that understanding the nature of the drug addiction-schizophrenia relationship will help in developing better therapies for both conditions," says Dr. Callaghan.

In an earlier study using California hospital records, the researchers found evidence for a possible association between heavy [methamphetamine](#) use and Parkinson's disease.

Provided by Centre for Addiction and Mental Health

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