

Study Finds Cannabis Triggers Transient Schizophrenia-like Symptoms

ScienceDaily (June 15, 2004) — *New Haven, Conn. -- The principal active ingredient in marijuana causes transient schizophrenia-like symptoms ranging from suspiciousness and delusions to impairments in memory and attention, according to a Yale research study.*

Lead author D. Cyril D'Souza, M.D., associate professor of psychiatry at Yale School of Medicine, said the study was an attempt to clarify a long known association between cannabis and psychosis in the hopes of finding another clue about the pathophysiology of schizophrenia.

"Just as studies with amphetamines and ketamine advanced the notion that brain systems utilizing the chemical messengers dopamine and NMDA receptors may be involved in the pathophysiology in schizophrenia, this study provides some tantalizing support for the hypotheses that the brain receptor system that cannabis acts on may be involved in the pathophysiology of schizophrenia," he said. "Clearly, further work is needed to test this hypothesis."

D'Souza and his co-researchers administered various doses of delta-9-THC, the main active ingredient in cannabis, to subjects who were screened for any vulnerability to schizophrenia. Some subjects developed symptoms resembling those of schizophrenia that lasted approximately one half hour to one hour. These symptoms included suspiciousness, unusual thoughts, paranoia, thought disorder, blunted affect, reduced spontaneity, reduced interaction with the interviewer, and problems with memory and attention. THC also induced euphoria and increased levels of the **stress hormone cortisol**. There were no side effects in the study participants one, three and six months after the study.

The findings of this study go along with several other lines of evidence that suggest a contribution of cannabis and/or abnormalities in the brain cannabinoid receptor system to the pathophysiology of schizophrenia.

Co-authors included Edward Perry, M.D., Lisa MacDougal, Yola Ammerman, Yu-Te Wu, Gabriel Braley, Ralitz Gueorguieva, and John Krystal, M.D., of Yale, and Thomas Cooper of Columbia College of Physicians and Surgeons.

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