

# Teen Marijuana Use and the Risks of Psychosis

*Doctors in Germany have noted an alarming rise in psychotic episodes linked to excessive marijuana use among young people, which follows other studies around the world raising alarms.*

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**BERLIN** — Miklos has survived the worst of it. He doesn't hear voices anymore. And if he did, he'd know it's just an hallucination. "This isn't real," he would tell himself.

The 21-year-old can also interact with people again — even look them in the eye. As soon as his therapist enters the room he starts smiling. This would have seemed impossible just a few weeks ago.

Miklos was admitted a while back to the psychiatric ward of the Hamburg University Hospital, which diagnosed him as having suffered from an "extreme psychotic episode after abuse of cannabis."

Initially the help he received there seemed to have little effect. He suffered from paranoia, and even broke out of the hospital and caused a major traffic accident while on the run. He had frequent violent outbursts, refused to speak to anyone, and was fixated on just one thought: "I want to leave, just leave, leave, leave." But he eventually came to embrace his treatment.

Miklos had slid into addiction three years earlier. Nothing in his life seemed to be working at the time. A girl he liked laughed in his face when he confessed his love for her. His math teacher let it be known she thought he was a failure. He was in constant conflict with his parents. "Every time things went wrong, I would hide in my room and smoke weed," he recalls.

Miklos smoked with a bong, or water pipe, so the relaxing effect of marijuana would kick in faster. He'd take his first puffs as soon as he woke up in the morning. Smoking pot became his full-time job.

Miklos stopped going to school and ended up failing his final exams. He became indifferent, avoided his friends and ultimately had virtually no social connections. And then the voices appeared. "Oh good God, you are such a loser, you never do anything right," they would say. Finally, he turned to his parents for help and was admitted to the university hospital.

**Playing with fire**

The number of patients admitted with psychotic episodes after having consumed cannabis has more than tripled in Germany over the last 15 years, from 3,392 in 2000 to 11,708 in 2013. More than half of the patients are younger than 25.

Andreas Bechdolf is the chief of medicine for psychiatry and psychotherapy at the Berlin Urban Hospital and heads a two-year-old facility called the Center for Early Intervention and Therapy, or FRITZ, which focuses specifically on adolescents. It is the country's only such project to date. "All major psychological disorders usually begin in adulthood," Bechdolf says. "But until now the welfare system has paid very little attention to young adults."

FRITZ employs psychologists, psychiatrists, care providers and social workers as well as young people who cannot, at first glance, be distinguished from patients. They don't wear white clothing. Some have nose piercings or large rings inserted in their earlobes. And they are purposely informal in how they relate with the patients. Bechdolf calls this a "subcultural" strategy.

"The truly awful thing is that it often takes years before young adults with psychoses receive treatment, and many feel stigmatized," Bechdolf says. "It often takes another year from the point they start hearing voices before they finally take the step to open up to a doctor." This is something FRITZ aims to change.

The program works with several hundred patients between the ages of 18 to 25. Some spend several weeks in the hospital ward. Others are outpatients, and some are treated at home. The vast majority (between 80% and 90%) were smoking marijuana on a regular basis before their treatment began. "Not all of them are addicted, but many of them are," Bechdolf says.

Those who start smoking marijuana on a regular basis before the age of 15 are six times more likely to suffer from psychosis in later years. Adolescent cannabis consumers suffer from more anxiety and depression than their non-consuming counterparts. Cognitive performance is diminished and the loss of concentration is a common side effect. Quite often, these adolescents are unable to recall the content of a text they read only a few days before.

British scientists have established that people who smoked cannabis on a regular basis when young ended up, 10 years later, in a lower social standing, had worse academic results and a lower income than people who didn't smoke.

### **"Dramatic effects"**

The active ingredient in cannabis is Tetrahydrocannabinol (THC), which has been shown to inhibit brain maturation. The connecting of nervous cells in the brain takes place until about 25 years of age. THC impedes certain connections and certain areas remain underdeveloped while others connections are made by mistake.

A University of Melbourne study has even shown that the amygdala area of the brain, responsible for regulating the feelings of anxiety and depression, shrinks with regular cannabis abuse.

The abuse of marijuana also causes an unusually large amount of the neurotransmitter dopamine to be distributed throughout the brain. This in turn causes the feeling of relaxation but can, if abused over a long period of time, lead to hallucinations. The THC content in artificially cultivated cannabis, the most common form of cannabis production nowadays, is often quite high, up to 20%.

"This cannot be compared to the joints that were smoked in the 1960s and 1970s," Bechdorf says. "The THC content of cannabis back then may have been only as high as 5%. But the cultivation of cannabis has become an industry that strives for optimization."

High THC levels are less of a problem for older people. "Those who are in their late 40s and smoke the occasional joint on the weekends don't need to fear any repercussions," the FRITZ head explains. "But the regular consumption of cannabis can have very dramatic effects on a 14- or 15-year-old."

Bechdorf believes that nearly 20% of people who suffer from psychoses — extreme psychological disorders and loss of the concept of reality — could be healthy had they not smoked cannabis.

### **Trying to refocus**

Psychoses often develop over several years. At first people have difficulty concentrating and putting thoughts together. Things that used to be second nature become increasingly difficult. People are unable to understand the meaning of once-familiar words. Perceptions begin to change. Colors become more intense. A car that is 10 meters away might seem to be right in front of you.

"Those are the early symptoms," Bechdorf explains. "This stage develops at a very slow pace over three or four years." Then, when the psychosis manifests itself perceptively, acoustic hallucinations are added to the mix. Often the voices divulge secrets or utter a running commentary on the person's shortcomings. People also feel they are being constantly followed or spied on.

The prognosis with a so-called substance-induced psychosis is usually relatively good. "Those who stop smoking pot have a very good chance of being healed," Bechdorf says. Continued outpatient therapy after being released from the hospital is part of this healing process. Instead of going back to thinking, "If I have a joint, everything will be fine," patients need to find a different approach to tackling their issues. "It is a huge challenge for those affected to re-learn how to deal with problems," he says.

For Miklos, that's meant nurturing a passion for longboarding. "It doesn't give you the same kick as smoking pot, but it's still pretty cool," he says.

If his condition continues to be stable for the next two weeks, he will be discharged from the clinic and will have sessions with his therapist twice weekly. Miklos will not be moving back in

with his parents when he's discharged. Instead, he'll be going to a supervised communal residence.

He even wants to try to repeat his final exams during the summer. Miklos says he's also now able to appreciate the help he's getting from the hospital's doctors and social workers. "I know that I never would have been able to get better without them."