Cannabis Use Linked to More Severe Schizophrenia

Daniel M. Keller, PhD  |  Apr 10, 2013

NICE, France — Cannabis use not only increases the risk for schizophrenia but new research suggests it is associated with more severe schizophrenic psychosis.

A large, longitudinal cohort study shows that schizophrenia patients with a history of cannabis use had longer hospital stays, a higher rate of hospital readmission, and a type of schizophrenia "that may be more severe than schizophrenia cases in general," according to study investigator Peter Allebeck, MD, PhD, professor of social medicine in the Department of Public Health Sciences at the Karolinska Institute in Stockholm, Sweden.

The findings were reported here at EPA 2013: 21st European Congress of Psychiatry.

Greater Severity, Poorer Prognosis

The researchers note that although there is increasing evidence of a link between cannabis use and schizophrenia, it is unclear whether the prognosis and outcomes in these patients differ from their non-cannabis-using counterparts.

To determine whether there are differences between these 2 patient populations, the investigators performed a longitudinal study of 50,087 male Swedish army conscripts aged 18 to 19 years between 1969 and 1970.

Participants underwent medical assessments as well as structured interviews by psychologists, including questions on family and socioeconomic background, work, leisure activities, and use of alcohol, drugs, and tobacco.

At baseline, there were no statistically significant differences between cannabis users and nonusers in terms of various psychiatric diagnoses. Follow-up through 2007 identified schizophrenia diagnoses, number of hospital admissions, and total durations of hospital stays, using an inpatient register.

Of the 50,087 patients, 5391 used cannabis. During follow-up, a total of 350 patients were identified as having schizophrenia, and of these, 58 used cannabis.

At first admission for schizophrenia, the only schizophrenia subtype showing a difference was paranoid schizophrenia (n = 56), for which cannabis users had a lower rate compared with nonusers (n = 6 [8%] vs n = 50 [17%]; \( P = .02 \)).

The median duration of first hospital admission was almost twice as long for users as for nonusers (59 days vs 30 days). One third of users (34%) required more than 90 days, whereas only 20% of nonusers were hospitalized that long on first admission.

Similarly, cannabis users had a median of 10 readmissions vs 4 readmissions for nonusers. Nearly a third of the cannabis users had more than 20 readmissions — 29% of users vs 10% of nonusers.

"Those who had schizophrenia after cannabis use had many more hospital days...more than a third [38%] of those who had cannabis use had more than 2 years in total in hospital stay" compared with 21% of nonusers, said Dr. Allebeck. The median number of hospital days was 547 for cannabis users and 184 for nonusers.

After controlling for socioeconomic factors, personality disorders, IQ, and other factors associated with cannabis use, "there was more than 3-fold increased risk of such long hospital days among cannabis users," Dr. Allebeck said (more than 730 hospital days for users vs nonusers; odds ratio, 3.4; 95% confidence interval, 1.3 - 7.3).
"The number of readmissions is also about 3-fold increased of those with many readmissions after the first admission for schizophrenia," he said.

"Schizophrenia caused by or contributed by cannabis may be more severe than schizophrenia in general," he concluded. "Patients with cannabis history seem to have more severe and more persistent history of schizophrenia, as indicated by duration of first admission, total duration of hospital days, number of readmissions. And these of course are true measures of severity and prognosis."

Outstanding Questions

Session chair Pierre Michel Llorca, MD, PhD, professor and chairman of psychiatry at the University of Auverge in Clermont-Ferrand, France, who was not involved with the study, commented to Medscape Medical News that although the study showed a higher risk for more severe schizophrenia among cannabis users, he remained a bit sceptical.

"For example, in France, you have an increase in the consumption of cannabis, which is incredible during the last 20 years," he noted and said that if cannabis use were directly related to schizophrenia, there should be an increase in its incidence. "And it's not the case."

The study cohort at baseline consisted of young army conscripts, but that does not really define it. He said he would like to have seen more precision about the study population "and the comparison that we can have with the whole population."

Dr. Llorca also questioned how the researchers defined the actual doses of tetrahydrocannabinol received, because it is very hard to tell just on the basis of the amount of cannabis consumed, owing to the varying strengths and how it was delivered (eg, depth and length of inhalation).

Other unevaluated variables were the heterogeneity of the cohort, the subtypes of schizophrenia, and the possible consumption of other drugs or supplements. Still, he praised the study for its length of follow-up and added that methodologic issues in such longitudinal studies are not unusual.

Dr. Allebeck reports no relevant financial relationships. Dr. Llorca is a speaker for Otsuka, Janssen, and Roche, and he has received research support from Lundbeck.


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Cite this article: Cannabis Use Linked to More Severe Schizophrenia. Medscape. Apr 10, 2013.