

High Potency Cannabis Tied to 50% of New Psychosis Cases

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Daily use of cannabis, particularly high potency cannabis, is associated with higher rates of psychosis, new research shows.

In the first study to show the impact of cannabis use at a population level, investigators found daily users of high potency cannabis were up to five times more likely to have a first episode of psychosis than noncannabis users.

"Differences in frequency of daily cannabis use and in use of high potency cannabis contributed to the striking variation in the incidence of psychotic disorder across the 11 sites we studied across Europe," lead investigator Marta Di Forti, MD, PhD, of the Institute of Psychiatry, Psychology, and Neuroscience, at King's College London, UK, told *Medscape Medical News*.

In cities where high potency cannabis is widely available, such as London and Amsterdam, a significant proportion of new cases of psychosis are associated with daily cannabis use and high potency cannabis. High potency cannabis use may be linked to half of all new cases of psychosis in Amsterdam and about a third in London, the findings suggest.

"This has important implications for public health, given the increasing availability of high potency cannabis," said Di Forti.

The study was [published online](#) March 19 in *Lancet Psychiatry*.

Mental Health Harms

The researchers examined detailed measures of cannabis use from 901 patients with first-episode psychosis (FEP) and 1237 healthy matched controls.

Daily cannabis use was more common in people with FEP compared with controls (29.5% vs 6.8%). High potency cannabis use (delta-6-tetrahydrocannabinol [THC] \geq 10%) was also more common among people with FEP compared with controls (37.1% vs 19.4%).

Across the 11 sites, daily cannabis users were three times more likely to have FEP than never users (adjusted odds ratio [aOR], 3.2; 95% CI, 2.2 to 4.1). Daily users of high potency cannabis were nearly five times more likely to have FEP than never users (aOR, 4.8; 95% CI, 2.5 - 6.3).

"Our findings are consistent with previous studies showing that the use of cannabis with a high concentration of THC has more harmful effects on mental health than the use of weaker forms," said Di Forti.

Additionally, the authors calculated the "population attributable fraction", which estimates the contribution of cannabis use to psychosis rates in a population and the proportion of cases that would be prevented if the exposure were removed.

Across all 11 cities, they estimate that 1 in 5 new cases (20.4%) of psychosis may be linked to daily cannabis use and 1 in 10 (12.2%) to use of high potency cannabis.

In Amsterdam, 1 in 4 (43.8%) new cases of psychosis may be due to daily cannabis use and 5 in 10 (50.3%) due to high potency cannabis use. Corresponding rates in London were 21.0% for daily use and 30.3% for high potency use.

Assuming causality, if high potency cannabis were no longer available, the incidence of psychosis would drop significantly, from 37.9 to 18.8 per 100,000 people per year in Amsterdam and from 45.7 to 31.9 per 100,000 people per year in London, the researchers calculate.

Cautionary Notes

Commenting on the findings for *Medscape Medical News*, Suzanne Gage, PhD, University of Liverpool, UK, offered two "key cautionary notes" on the study.

"Firstly, THC levels in cannabis were not measured directly but rather ascertained through a combination of self-report and what is known about the levels of seized cannabis in the areas in question from other sources. And secondly, the comparisons of cannabis use and prevalence of psychosis in the different regions are based on very small samples of cannabis users," she told *Medscape Medical News*.

In an [accompanying editorial](#), Gage questions whether the study provides certainty that daily and high potency cannabis use causes psychosis.

"Unfortunately, not all the evidence utilizing different methods is consistent about causality. It is perfectly possible that the association between cannabis and psychosis is bidirectional," she writes.

"Di Forti and colleagues' study adds a new and novel study design to the evidence available, which consistently indicates that for some individuals there is an increased risk of psychosis resulting from daily use of high potency cannabis. Given the changing legal status of

cannabis across the world, and the associated potential for an increase in use, the next priority is to identify which individuals are at risk from daily potent cannabis use, and to develop educational strategies and interventions to mitigate this," Gage concludes.

The study was funded by the Medical Research Council, the European Community's Seventh Framework Program grant, Sao Paulo Research Foundation, National Institute for Health Research (NIHR) Biomedical Research Centre (BRC) at South London and Maudsley NHS Foundation Trust and King's College London, and the NIHR BRC at University College London, and the Wellcome Trust. Di Forti has reported receiving personal fees from Janssen unrelated to the study. Gage has reported no relevant financial relationships.

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