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Association of Cannabis Use in Adolescence and Risk of Depression, Anxiety, and Suicidality in Young Adulthood

A Systematic Review and Meta-analysis

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Key Points

Question Is adolescent cannabis consumption associated with risk of depression, anxiety, and suicidality in young adulthood?

Findings In this systematic review and meta-analysis of 11 studies and 23 317 individuals, adolescent cannabis consumption was associated with increased risk of developing depression and suicidal behavior later in life, even in the absence of a premorbid condition. There was no association with anxiety.

Meaning Preadolescents and adolescents should avoid using cannabis as use is associated with a significant increased risk of developing depression or suicidality in young adulthood; these findings should inform public health policy and governments to apply preventive strategies to reduce the use of cannabis among youth.

Abstract

Importance Cannabis is the most commonly used drug of abuse by adolescents in the world. While the impact of adolescent cannabis use on the development of psychosis has been investigated in depth, little is known about the impact of cannabis use on mood and suicidality in young adulthood.

Objective To provide a summary estimate of the extent to which cannabis use during adolescence is associated with the risk of developing subsequent major depression, anxiety, and suicidal behavior.

Data Sources Medline, Embase, CINAHL, PsycInfo, and Proquest Dissertations and Theses were searched from inception to January 2017.

Study Selection Longitudinal and prospective studies, assessing cannabis use in adolescents younger than 18 years (at least 1 assessment point) and then ascertaining development of depression in young adulthood (age 18 to 32 years) were selected, and odds ratios (OR) adjusted for the presence of baseline depression and/or anxiety and/or suicidality were extracted.

Data Extraction and Synthesis Study quality was assessed using the Research Triangle Institute item bank on risk of bias and precision of observational studies. Two reviewers conducted all review stages independently. Selected data were pooled using random-effects meta-analysis.

Main Outcomes and Measures The studies assessing cannabis use and depression at different points from adolescence to young adulthood and reporting the corresponding OR were included. In the studies selected, depression was diagnosed according to the third or fourth editions of *Diagnostic and Statistical Manual of Mental Disorders* or by using scales with predetermined cutoff points.

Results After screening 3142 articles, 269 articles were selected for full-text review, 35 were selected for further review, and 11 studies comprising 23 317 individuals were included in the quantitative analysis. The OR of developing depression for cannabis users in young adulthood

compared with nonusers was 1.37 (95% CI, 1.16-1.62; $I^2=0\%$). The pooled OR for anxiety was not statistically significant: 1.18 (95% CI, 0.84-1.67; $I^2=42\%$). The pooled OR for suicidal ideation was 1.50 (95% CI, 1.11-2.03; $I^2=0\%$), and for suicidal attempt was 3.46 (95% CI, 1.53-7.84, $I^2=61.3\%$).

Conclusions and Relevance Although individual-level risk remains moderate to low and results from this study should be confirmed in future adequately powered prospective studies, the high prevalence of adolescents consuming cannabis generates a large number of young people who could develop depression and suicidality attributable to cannabis. This is an important public health problem and concern, which should be properly addressed by health care policy.

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
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