

## THE ASSOCIATION BETWEEN CANNABIS USE AND DEPRESSION: A SYSTEMATIC REVIEW AND META-ANALYSIS OF LONGITUDINAL STUDIES

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**Background:** Longitudinal studies reporting the association between cannabis use and developing depression provide mixed results. The objective of this study was to establish the extent to which different patterns of use of cannabis are associated with the development of depression using meta-analysis of longitudinal studies.

**Methods:** Peer-reviewed publications that compared the risk of development of depression in cannabis users and non-users were located using searches of EMBASE, MEDLINE, PsychINFO and ISI Web of Science. Data on measures of cannabis use, measures of depression and control variables were extracted. Odds ratios were extracted by age and length of follow-up.

**Results:** After screening 3,905 articles, 55 articles were selected for full-text review, of which 12 were included in the quantitative analysis. The odds for cannabis users developing depression compared to controls was 1.26 (95%CI=1.10-1.44). The odds for heavy cannabis users developing depression was 1.72 (95%CI=1.27-2.34), compared to non-users or light users. Meta-regression revealed no significant differences in effect based on age of subjects or length of follow-up in the individual studies. There was large heterogeneity in the number and type of control variables in the different studies.

**Conclusions:** Cannabis use, and particularly heavy cannabis use, may be associated with an increased risk for developing depressive disorders. Despite limitations due to heterogeneity in control variables, this study represents the current state of knowledge on this association. In order to establish a more precise dose-response relationship between cannabis use and the risk of developing depression, future longitudinal exploration should take into account cumulative exposure to cannabis.