# Prevalence of depressive symptoms and cannabis use among adult cigarette smokers in Canada: cross-sectional findings from the 2020 International Tobacco Control Policy Evaluation Project Canada Smoking and Vaping Survey

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**Abstract**

Background: Tobacco smoking and cannabis use are independently associated with depression, and evidence suggests that people who use both tobacco and cannabis (co-consumers) are more likely to report mental health problems, greater nicotine dependence and alcohol misuse than those who use either product exclusively. We examined prevalence of cannabis use and depressive symptoms among Canadian adults who smoke cigarettes and tested whether co-consumers of cannabis and tobacco were more likely to report depressive symptoms than cigarette-only smokers; we also tested whether cigarette-only smokers and co-consumers differed on cigarette dependence measures, motivation to quit smoking and risky alcohol use by the presence or absence of depressive symptoms.

Methods: We analyzed cross-sectional data from adult (age ≥ 18 yr) current (≥ monthly) cigarette smokers from the Canadian arm of the 2020 International Tobacco Control Policy Evaluation Project Four Country Smoking and Vaping Survey. Canadian respondents were recruited from Leger's online probability panel across all 10 provinces. We estimated weighted percentages for depressive symptoms and cannabis use among all respondents and tested whether co-consumers (≥ monthly use of cannabis and cigarettes) were more likely to report depressive symptoms than cigarette-only smokers. Weighted multivariable regression models were used to identify differences between co-consumers and cigarette-only smokers with and without depressive symptoms.

Results: A total of 2843 current smokers were included in the study . The prevalence of past-year, past-30-day and daily cannabis use was 44.0%, 33.2% and 16.1%, respectively (30.4% reported using cannabis at least monthly). Among all respondents, 30.0% screened positive for depressive symptoms, with co-consumers being more likely to report depressive symptoms (36.5%) than those who did not report current cannabis use (27.4%, $p < 0.001$). Depressive symptoms were associated with planning to quit smoking ($p = 0.01$), having made multiple attempts to quit smoking ($p < 0.001$), the perception of being very addicted to cigarettes ($p < 0.001$) and strong urges to smoke ($p = 0.001$), whereas cannabis use was not (all $p ≥ 0.05$). Cannabis use was associated with high-risk alcohol consumption ($p < 0.001$), whereas depressive symptoms were not ($p = 0.1$).

Interpretation: Co-consumers were more likely to report depressive symptoms and high-risk alcohol consumption; however, only depression, and not cannabis use, was associated with greater motivation to quit smoking and greater perceived dependence on cigarettes. A deeper understanding of how cannabis, alcohol use and depression interact among people who smoke cigarettes is needed, as well as how these factors affect cessation activity over time.