

Trends in Mental Health Symptoms, Nicotine Product Use, and their Association Over Time Among Adolescents in Canada, England, and the US: Findings from the ITC Adolescents Tobacco and Vaping Survey, 2020-2023

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Abstract

Introduction: There is a well-established bi-directional relationship between cigarette smoking and internalizing mental health (IMH) symptoms (e.g., symptoms of depression, symptoms of anxiety). However, it is unclear whether IMH symptoms are associated with using different types or combinations of nicotine products (e.g., combustible, non-combustible, exclusive product use or multi-product use). The purpose of this study is to improve our understanding of the relationship between adolescent IMH symptoms and use of a wide variety of nicotine products by examining the association between IMH symptoms and current nicotine use from 2020-2023.

Methods: Data come from the 2020-2023 waves of the International Tobacco Control (ITC) Adolescents Tobacco and Vaping Survey, an online repeat cross-sectional survey of adolescents aged 16-19 in Canada, England, and the US (n=80,427). Current nicotine use was examined in four categories: 1) no use, 2) exclusive non-combustible product use, 3) exclusive combustible product use, and 4) use of both product types. Respondents reported current symptoms of depression or anxiety, and we generated a dichotomous IMH symptoms variable (yes vs. no). We examined the association between IMH symptoms and current nicotine use using multinomial logistic regression models that adjusted for covariates.

Results: IMH symptoms were most strongly associated with use of both product types (adjusted relative risk ratio [ARRR]: 1.91, 95% confidence interval [CI] 1.80-2.03), followed by exclusive non-combustible use (ARRR: 1.70, 95% CI=1.61-1.80), and then exclusive combustible use (ARRR: 1.29, 95% CI=1.21-1.37).

Conclusions: Adolescents with IMH symptoms are more likely to use nicotine products in general than adolescents without IMH symptoms. Specifically, non-combustible product use may have a particularly strong relationship with poor mental health among adolescents. Longitudinal research is needed to better understand directionality.

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