

E-cigarette use among high school students – a cross-sectional study of associated individual risk factors for the use of flavour-only and nicotine vapes.

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Background: E-cigarette use (vaping) has rapidly increased among young people recently, creating global public health concern due to associated short- and potentially long-term harms. We aimed to examine e-cigarette use among high school students and the individual risk factors associated with flavour-only or nicotine e-cigarette use.

Method: N=855 Grade 12 students ($M_{age}=17.17$, $SD=0.41$; 60% male) from nine high schools in Queensland, Australia completed a self-report survey during class in 2020. Individual risk factor correlates included age, gender, Aboriginal or Torres Strait Islander status, parental and family characteristics, truancy, mental health, alcohol use, and cigarette smoking.

Results: Overall, 26% reported using an e-cigarette in their lifetime, with 12.5% and 13.5% having used a vape containing flavour-only and nicotine, respectively. The average age of e-cigarette uptake ($M=15.80$, $SD=1.29$; t -test $p=0.044$) was slightly higher than the average age reported for first smoking a full cigarette ($M=15.43$, $SD=1.54$). Multinomial adjusted logistic regressions revealed that males were over twice as likely ($OR=2.26$ [1.28-3.99]) to have tried flavour-only vapes than females. Students frequently using alcohol were twice as likely to have used flavour-only vapes ($OR=2.14$ [1.28-3.57]), and over three times more likely to have used nicotine vapes ($OR=3.26$ [1.37-7.80]). Students who smoked cigarettes occasionally had almost 4 times higher odds of using flavour-only vapes ($OR=3.92$ [2.20-6.99]), and over 15 times higher odds of using nicotine vapes ($OR=16.07$ [6.29-41.08]).

Conclusions: Of the adolescents who had used e-cigarettes, over half had used a vape containing nicotine. Males were more likely than females to have tried a flavour-only vape and students who engaged in risky drinking or cigarette smoking were most likely to use e-cigarettes.

Implications for Practice or Policy: Adolescents who engage in risky drinking and cigarette smoking may present as a high-risk group for e-cigarette use. Developing early-intervention programs that target high-risk groups is important in reducing the potential harms associated with e-cigarette use.

Disclosure of Interest Statement: *RE and this work was supported by the National Centre for Youth Substance Use Research (NCYSUR) funded by the Commonwealth Department of Health.*