

Impact of e-cigarette sampling on cigarette dependence and reinforcement value

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Abstract

Introduction: E-cigarettes have risen in prevalence in recent years, and most public health experts agree they deliver fewer toxicants than combustible tobacco products such as cigarettes. Thus, it is important to understand how use of e-cigarettes by current smokers impacts dependence on combustible cigarettes.

Methods: The present study is a secondary analysis of a randomized pilot trial of e-cigarette sampling. Nontreatment seeking current smokers were randomized in a 2:1 ratio to either receive or not receive a weekly supply of e-cigarettes for 3 weeks. Participants completed the Brief Wisconsin Inventory of Smoking Dependence Motives (WISDM) scale and the cigarette purchase task before and after the sampling period and at monthly follow-up visits for 3 months. **Results:** Individuals assigned to receive an e-cigarette had significantly lower mean WISDM scores at the end of sampling and the end of the follow-up period compared with those in the control group. Both frequency of e-cigarette use as well as nicotine concentration of the e-cigarette given to smokers were significant predictors of changes in the mean WISDM score. E-cigarette sampling significantly reduced the demand parameter Omax, which measures the maximum amount of money participants estimate they would spend on cigarettes in a single day.

Conclusions: These data suggest that current smokers who try using an e-cigarette may experience reductions in dependence on combustible cigarettes. Implications: The present analysis suggests that providing an e-cigarette to current cigarette smokers is likely to reduce cigarette dependence, especially if the e-cigarette delivers sufficient nicotine and is used frequently.

Recommended Citation

Smith, T., Wahlquist, A.E., Heckman, B.W., Cummings, K.M., Carpenter, M.J. (2020). Impact of e-cigarette sampling on cigarette dependence and reinforcement value. *Nicotine and Tobacco Research*, 22(2), 297-301.

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