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Association Between Electronic Cigarette Use and Smoking Reduction in France

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ABSTRACT

IMPORTANCE - The electronic cigarette (EC) has become popular among smokers who wish to reduce their tobacco use levels or quit smoking, but its effectiveness as a cessation aid is uncertain. **OBJECTIVE** - To examine the association of regular EC use with the number of cigarettes smoked per day, smoking cessation among current smokers, and smoking relapse among former smokers. **DESIGN, SETTING, AND PARTICIPANTS** - The CONSTANCES (Consultants des Centres d'Examens de Santé) cohort study, based in France, began recruiting participants January 6, 2012, and is currently ongoing. Participants were enrolled in CONSTANCES through 2015, and included 5400 smokers (mean [SD] follow-up of 23.4 [9.3] months) and 2025 former smokers (mean [SD] follow-up of 22.1 [8.6] months) at baseline who quit smoking in 2010, the year in which ECs were introduced in France, or afterward. Analyses were performed from February 8, 2017, to October 15, 2018. **MAIN OUTCOMES AND MEASURES** - The association between EC use and the number of cigarettes smoked during follow-up was studied using mixed regression models. The likelihood of smoking cessation was studied using Poisson regression models with robust sandwich variance estimators. The association between EC use and smoking relapse among former smokers was studied using Cox proportional hazards regression models. All statistical analyses were adjusted for sociodemographic characteristics, duration of follow-up, and smoking characteristics. **RESULTS** - Among the 5400 daily smokers (2906 women and 2494 men; mean [SD] age, 44.9 [12.4] years), regular EC use was associated with a significantly higher decrease in the number of cigarettes smoked per day compared with daily smokers who did not use ECs (−4.4 [95%CI, −4.8 to −3.9] vs −2.7 [95%CI, −3.1 to −2.4]), as well as a higher adjusted relative risk of smoking cessation (1.67; 95%CI, 1.51-1.84)). At the same time, among the 2025 former smokers (1004 women and 1021 men; mean [SD] age, 43.6 [12.1] years), EC use was associated with an increase in the rate of smoking relapse among former smokers (adjusted hazard ratio, 1.70; 95%CI, 1.25-2.30). **CONCLUSIONS AND RELEVANCE** - This study's findings suggest that, among adult smokers, EC use appears to be associated with a decrease in smoking level and an increase in smoking cessation attempts but also with an increase in the level of smoking relapse in the general population after approximately 2 years of follow-up.

KEYWORDS: -

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