

## Electronic cigarettes efficacy and safety at 12 months: cohort study

Maria Elena Flacco

ME Flacco<sup>1,2</sup>, M Fiore<sup>3</sup>, C La Vecchia<sup>4</sup>, C Marzuillo<sup>5</sup>, MR Gualano<sup>6</sup>, G Liguori<sup>7</sup>, G Cicolini<sup>8</sup>, L Capasso<sup>1,9</sup>, S Boccia<sup>10</sup>, R Siliquini<sup>6</sup>, W Ricciardi<sup>10</sup>, P Villari<sup>5</sup>, L Manzoli<sup>1,2,9</sup>

<sup>1</sup>Department of Medicine and Aging Sciences, University of Chieti, Italy

<sup>2</sup>Local Health Unit of Pescara, Italy

<sup>3</sup>Department 'G.F. Ingrassia' - Hygiene and Public Health, University of Catania, Italy

<sup>4</sup>Department of Clinical Sciences and Community Health, University of Milan, Italy

<sup>5</sup>Department of Public Health and Infectious Diseases, Sapienza University of Rome, Italy

<sup>6</sup>Department of Public Health Sciences, University of Turin, Italy

<sup>7</sup>Department of Movement Sciences and Wellbeing, University Parthenope of Naples, Italy

<sup>8</sup>Local Health Authority of Lanciano-Vasto-Chieti, Chieti, Italy

<sup>9</sup>University G. d'Annunzio' Foundation, Chieti, Italy

<sup>10</sup>Institute of Public Health, Università Cattolica del Sacro Cuore, Rome, Italy  
Contact: elena.flacco@gmail.com

### Background

We carried out a multicentric cohort study to evaluate the safety and efficacy as a tool of smoking cessation of electronic cigarettes (e-cigarettes), directly comparing users of e-cigarettes only, smokers of tobacco cigarettes only, and smokers of both. Although the final results are expected in 2019, given the urgency of data to support policies on electronic smoking, we are reporting the results of the 12-month follow-up.

### Methods

Adults (30-75 years) were included if they were smokers of >1 tobacco cigarette/day (tobacco smokers), users of any type of e-cigarettes, inhaling >50 puffs weekly (e-smokers), or smokers of both tobacco and e-cigarettes (dual smokers). Data were collected through direct contact and structured questionnaires by phone or via internet. Carbon monoxide levels were tested in a sample of those declaring tobacco smoking abstinence.

### Results

Follow-up data were available for 236 e-smokers, 491 tobacco smokers, and 232 dual smokers (overall response rate 70.8%). All e-smokers were tobacco ex-smokers. At 12 months, 61.9% of the e-smokers were still abstinent from tobacco smoking; 20.6% of the tobacco smokers and 22.0% of the dual smokers achieved tobacco abstinence. Adjusting for potential confounders, tobacco smoking abstinence or cessation remained significantly more likely among e-smokers (adjusted OR 5.19; 95% CI: 3.35-8.02), whereas adding e-cigarettes to tobacco smoking did not enhance the likelihood of quitting tobacco and did not reduce tobacco cigarette consumption. E-smokers showed a minimal but significantly higher increase in self-rated health than other smokers. Non significant differences were found in self-reported serious adverse events (eleven overall).

### **Conclusions**

Adding e-cigarettes to tobacco smoking did not facilitate smoking cessation or reduction. If e-cigarette safety will be confirmed, however, the use of e-cigarettes alone may facilitate quitters remaining so.

### **Key messages**

- Adding e-cigarettes to tobacco smoking may not facilitate smoking cessation or reduction
- If e-cigarette safety will be confirmed, however, the use of e-cigarettes alone may facilitate quitters remaining so