

Electronic cigarettes: beneficial for smoking cessation but harmful to public health?

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Since electronic cigarettes (e-cigarettes) first appeared in the tobacco product marketplace over a decade ago, they have been evaluated as another tool for promoting successful smoking cessation. The randomised controlled trial by Pope *et al* reported in this issue of the *Emergency Medicine Journal*, adds to a growing literature on the use of e-cigarettes as a smoking cessation intervention, providing evidence in a novel, pragmatic setting—emergency departments (EDs).¹ A 2024 Cochrane review reported high-certainty evidence for their effectiveness, primarily from randomised controlled trials, showing that nicotine e-cigarettes are more effective in helping smokers to quit than nicotine replacement therapy (NRT), a cessation modality approved by the US Food and Drug Administration.² Although the evidence is increasingly compelling, its generalisability to other healthcare settings is uncertain.

This study is a step toward addressing that uncertainty about how e-cigarettes could be used to promote smoking cessation among patients visiting EDs.¹ In this comparative effectiveness study, the high rate of trial participation suggests that the ED could be a fruitful setting for engaging patients with cessation interventions; over half of the patients and those accompanying them who were current smokers agreed to participate in the trial. Considering that these participants were not seeking cessation treatment, the surprisingly high rate of participation suggests that provision of e-cigarettes might have motivated some patients to take part. The high uptake of the trial interventions makes a compelling argument for the potential of a cessation package that includes e-cigarettes for ED patients.

The trial was conducted in the UK and included e-cigarettes with nicotine (20 mg/dL) and tobacco, berry, and menthol flavours. Current e-cigarette regulations in the UK include no sales to minors, a maximum nicotine strength, limits on refill bottles and tank sizes and mandatory package labelling.³ However, these regulations apply only to those e-cigarettes that contain nicotine. The intervention included flavoured e-cigarettes, which are increasingly subject to bans because of their appeal to the younger population. More information on whether flavours have an impact on the effectiveness of e-cigarettes as cessation tools is needed to inform both cessation treatment practices and policy.⁴ In markets other than the UK, there are a variety of e-cigarettes with different nicotine types and concentrations that might have different risks and benefits as cessation tools.^{5,6} Those considering applying this evidence outside the UK should question the generalisability of these findings to products with flavours and concentrations differing from the e-cigarettes studied by Pope *et al*.¹

The trial by Pope *et al* incorporated tailored cessation advice at the time of randomisation and electronic referral to a stop smoking service which provides follow-up support with advice and free NRT. The authors do not report NRT use during the trial in this paper, although review of the protocol shows that information on the use of nicotine products and cessation services at 6 months was collected.⁶ We encourage the future reporting of the data on participants' use of e-cigarettes and NRT together. The combination of e-cigarettes and other evidence-based cessation tools is an area in need of further study.

An ongoing concern with e-cigarette trials is the finding that most participants randomised to receive e-cigarettes were still using them at the long-term follow-up.⁷ In the trial conducted by Pope *et al*, almost 40% of participants in the intervention arm were using e-cigarettes daily and over half at least

weekly during the 6month follow-up period.¹ We need more information on the long-term use of e-cigarettes after cessation of combustible cigarettes, owing to concerns that persistent use is likely to be seen as a favourable finding by the e-cigarette industry that would profit from continued nicotine dependence.

Finally, any comment on e-cigarettes is incomplete without consideration of the public health impact beyond their use among adults who smoke. While the evidence for using e-cigarettes as a cessation intervention is growing, not enough research is being done to understand how to most effectively prevent e-cigarette use among adolescents, while making them available in a targeted way for cessation. We need to measure the harms to adolescents hand in hand with the potential for benefits to combustible cigarette users⁸ if we are to generate informed policies and practices about these devices.

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