Reply to "Smoke free, but dependent on nicotine"

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In the context of defining smoking behaviour and abstinence, where e-cigarette use falls is an issue that continues to attract debate (1,2). In our study of the real-world effectiveness of popular smoking cessation aids (3), we defined our outcome as abstinence from smoking, rather than abstinence from nicotine. The excess risks of morbidity and premature mortality associated with tobacco smoking are primarily driven by inhalation of toxins contained within the smoke (4–8); nicotine, while highly addictive, does not carry the same risks to health (9).

In his letter to the editor (10), Karam-Hage requested additional data distinguishing between (i) total abstinence from smoking and nicotine use and (ii) abstinence from smoking, but continued use of nicotine – in particular, via e-cigarettes. We have examined the proportion of participants who had successfully quit smoking using an e-cigarette who were still using an e-cigarette at the time of the survey, and the proportion who had successfully quit smoking using NRT either obtained on prescription or bought over the counter who were still using NRT at the time of the survey. We were not able to look at use of e-cigarettes/NRT one year after the quit date, because our cross-sectional study was based on retrospective reports of use of these products in a quit attempt any time in the year prior to the survey, but we analysed data for all successful quitters and those whose quit attempt started at least 6 months prior to the survey.

As was observed in Hajek et al.'s trial (11), people who had quit with e-cigarettes were more likely than those who had quit with NRT to still be using their chosen product at the time of the survey. Of the 503 participants who reported using an e-cigarette in their most recent quit attempt and were abstinent at the time of the survey, 87.3% (95% CI 84.4-90.2%) were still using an e-cigarette at the time of the survey. Of those whose most recent quit attempt started at least 6 months prior (*n*=183), 81.4% (95% CI 75.8-87.0%) were still using an e-cigarette at the time of the survey. Of the 807 participants who reported using NRT in their most recent quit attempt and were abstinent at the time of the survey, 35.2% (95% CI 31.9-38.5%) were still using NRT at the time of the survey. Of those whose most recent quit attempt started at least 6 months prior (*n*=275), 22.9% (95% CI 17.9-27.9%) were still using NRT at the time of the survey.

With e-cigarettes found to be both associated with the highest odds of success in quitting smoking and one of the most commonly used cessation aids in our study (despite not having become available until mid-way through the 12-year study period), their potential for reducing smoking prevalence is substantial. While they are not without risk, the available evidence suggests they offer a much safer alternative to cigarette smoking (9). When considering the potential downside of continued use of e-cigarettes past the point of medium-term smoking cessation in evaluating their role as a quitting aid, it is important to consider two points: i) whether continued use will influence long-term relapse rates and ii) whether these smokers would have quit by other means had they not used an e-cigarette. If not using an e-cigarette to support a quit attempt means the smoker quits successfully with support of a different aid (e.g. varenicline), this may be preferable as it avoids long-term nicotine use. However, if not using an e-cigarette to support a quit attempt means the smoker is unsuccessful and continues to smoke, using an e-cigarette would be preferable even if this results in long-term use and continued nicotine use. In England, the use of other methods has been declining in recent years but time-series analyses provide little evidence that this decline is associated with the popularity of e-cigarettes (12). As with smoking, any major health risks from e-cigarettes would arise from use over many years or decades, so an important research question will be what happens to e-cigarette users in the longer term.

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