

First trial to compare e-cigarettes with nicotine patches shows comparable success in helping smokers to quit

September 7 2013

The first ever clinical trial to compare e-cigarettes with nicotine patches has found that both methods result in comparable success in quitting, with roughly similar proportions of smokers who used either method remaining abstinent from smoking for six months after a 13 week course of patches or e-cigarettes.

The study, published in *The Lancet*, and due to be presented at the European Respiratory Society (ERS) Annual Congress 2013 in Barcelona, Spain, is only the second [controlled trial](#) to be published which evaluates e-[cigarettes](#), and is the first ever trial to assess whether e-cigarettes are more or less effective than an established smoking cessation aid, nicotine patches, in helping smokers to quit.

Led by Associate Professor Chris Bullen, Director of the National Institute for Health Innovation at The University of Auckland in New Zealand, a team of researchers recruited 657 smokers to the trial through adverts in [local newspapers](#). Study participants were all people who wanted to quit smoking, and were divided into three groups: just under 300 (292) received 13 weeks' supply of commercially available e-cigarettes, each of which contained around 16mg nicotine. The same number (292) received 13 weeks' supply of nicotine patches, and a smaller number of participants (73) received placebo e-cigarettes, which contained no nicotine.

Over 13 weeks of using the cessation aids, and 3 months further follow-up, participants underwent testing to establish whether they had managed to remain abstinent from cigarettes. At the end of the six-month study period, around one in twenty [study participants](#) (overall, 5.7%) had managed to remain completely abstinent from smoking.

While the proportion of participants who successfully quit was highest in the e-cigarettes group (7.3%, compared to 5.8% for those in the nicotine patches group, and 4.1% in the placebo e-cigarettes group), these differences were not statistically significant. The results suggest that e-cigarettes are comparable to nicotine patches in helping people to quit for at least six months.

Among those who had not managed to quit after six months, cigarette consumption was markedly reduced in the nicotine e-cigarettes group, compared to the patches and placebo groups; well over half (57%) of the participants in the e-cigarettes group had reduced their daily consumption of cigarettes by at least half after six months, compared to just over two fifths (41%) of the patches group.

In both the nicotine and placebo e-cigarettes groups, a third of participants were still using the devices after six months, compared to under one in ten (8%) of those in the patches group. When asked whether they would recommend their allocated product to a friend one month after finishing the course, around 9 out of 10 participants in both the e-cigarettes and the placebo groups said they would, compared to just over half (56%) in the patches group; these proportions were little changed after six months.

The study is also the first to evaluate whether there are any adverse health effects associated with using e-cigarettes in a large (300+) group of people, and in a real life, rather than laboratory, situation. Comparing the e-cigarettes users to the group who were using nicotine patches –

whose clinical safety has already been established – the researchers found no difference in rates of occurrence of adverse health events overall, and no difference in serious adverse events. This suggests that e-cigarettes are comparable to nicotine patches in terms of safety, although the authors caution that data from trials with much longer follow up periods will be needed to establish the long-term safety of e-cigarette use.

"While our results don't show any clear-cut differences between e-cigarettes and patches in terms of quit success after six months, it certainly seems that e-cigarettes were more effective in helping smokers who didn't quit to cut down," says Professor Bullen. "It's also interesting that the people who took part in our study seemed to be much more enthusiastic about e-cigarettes than patches, as evidenced by the far greater proportion of people in both of the e-cigarette groups who said they'd recommend them to family or friends, compared to patches."

"Our study establishes a critical benchmark for e-cigarette performance compared to nicotine patches and placebo e-cigarettes, but there is still so much that is unknown about the effectiveness and long-term effects of e-cigarettes. Given the increasing popularity of these devices in many countries, and the accompanying regulatory uncertainty and inconsistency, larger, longer-term trials are urgently needed to establish whether these devices might be able to fulfil their potential as effective and popular smoking cessation aids."

Writing in a linked Comment, Professor Peter Hajek, Director of the Tobacco Dependence Research Unit at the Wolfson Institute of Preventive Medicine, Queen Mary University of London, UK, says that, "This is a pioneering study which has generated new and useful information. The key message is that in the context of minimum support, e-cigarettes are at least as effective as [nicotine patches](#). E-cigarettes are also more attractive than patches to many [smokers](#), and can be accessed

in most countries without the restrictions around medicines that apply to [nicotine](#) replacement therapy or the costly involvement of health professionals. These advantages suggest that e-cigarettes have the potential to increase rates of [smoking cessation](#) and reduce costs to quitters and to health services."

Provided by Lancet

Citation: First trial to compare e-cigarettes with nicotine patches shows comparable success in helping smokers to quit (2013, September 7) retrieved 3 July 2023 from <https://medicalxpress.com/news/2013-09-trial-e-cigarettes-nicotine-patches-success.html>

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