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UPDATED COCHRANE REVIEW SHOWS ELECTRONIC CIGARETTES CAN HELP PEOPLE QUIT SMOKING; MORE EVIDENCE IS NEEDED ON LONG-TERM HARMS

14 OCTOBER 2020 - Newly updated Cochrane evidence published today in the Cochrane Library finds that electronic cigarettes containing nicotine could increase the number of people who stop smoking compared to nicotine replacement therapy – such as chewing gum and patches – and compared to no treatment, or electronic cigarettes without nicotine. More information is needed on harms.

Smoking is a significant global health problem. Many people who smoke want to quit, but find it difficult to succeed in the long term. One of the most effective and widely used strategies to help people to give up smoking is to combat the cravings associated with nicotine addiction by delivering nicotine through patches and chewing gum.

Electronic cigarettes have been around in some form for a number of years, but recently their popularity has increased significantly, and they have begun to look and feel less like conventional cigarettes. Unlike chewing gum and patches, they mimic the experience of cigarette smoking because they are hand-held and generate a smoke-like vapour when used. This helps to recreate sensations similar to smoking without exposing users or other people to the smoke from conventional cigarettes, and can be used to provide people who smoke with nicotine.

A team of researchers have updated a Cochrane Review that compares the effects of electronic cigarettes with other ways of delivering nicotine – such as patches and chewing gum – or with dummy electronic cigarettes that do not contain nicotine or no treatment. This updated review now includes 50 studies, an increase of 35 studies since it was last published in 2016. Twenty-four of these are uncontrolled studies, but their results support the data from the randomised controlled trials.

The researchers identified three studies, in 1498 people, that compared nicotine-containing electronic cigarettes with nicotine replacement therapy given as patches or gum. The results showed that more people quit smoking if they used electronic cigarettes containing nicotine than if they used another form of nicotine replacement. If six people in 100 quit by using nicotine replacement therapy, 10 people in 100 would quit by using electronic cigarettes containing nicotine. This means an additional four people in 100 could potentially quit smoking with nicotine containing electronic cigarettes.

Similar results were seen in another three studies, involving 802 people, that compared nicotine-containing electronic cigarettes with electronic cigarettes that did not contain nicotine.

Evidence from four studies (2312 people) showed that more people who used nicotine-containing electronic cigarettes quit smoking than those who received only behavioural support or no support. If four people in 100 quit with no support, an additional six people in 100 might quit by using nicotine electronic cigarettes.

The review authors did not detect any clear evidence of serious harms from nicotine electronic cigarettes. However, evidence about serious harms is uncertain because the overall number of studies was small and serious health problems were very rare in both users and non-users of nicotine electronic cigarettes. There was no information about the effects of long-term use (more than two years) of nicotine-containing electronic cigarettes. The studies showed that throat and mouth irritation, headache, cough, and nausea are the most commonly reported side effects in the short- to medium-term (up to two years). The studies assessed the potential harms of electronic cigarettes when used to help people who smoke quit smoking, so did not assess other potential harms such as whether electronic cigarettes encourage nicotine use among people who do not smoke.

The lead author of this updated Cochrane Review, Jamie Hartmann-Boyce from the Cochrane Tobacco Addiction Group, said, "The randomised evidence on smoking cessation has increased since the last version of the review and there is now evidence that electronic cigarettes with nicotine are likely to increase the chances of quitting successfully compared to nicotine gum or patches.

Electronic cigarettes are an evolving technology. Modern electronic cigarette products have better nicotine delivery than the early devices that were tested in the trials we found, and more studies are needed to confirm whether quit rates are affected by the type of electronic cigarettes being used.

While there is currently no clear evidence of any serious side effects, there is considerable uncertainty about the harms of electronic cigarettes and longer-term data are needed. Scientific consensus holds that electronic cigarettes are considerably less harmful than traditional cigarettes, but not risk-free.

We are encouraged to see that 20 trials are now underway, and we will be looking for newly published evidence every month from December 2020. It is important that the review continues to provide up-to-date information to people who smoke, healthcare providers and regulators about the potential benefits and harms of electronic cigarettes."

Full Citation: Hartmann-Boyce J, McRobbie H, Lindson N, Bullen C, Begh R, Theodoulou A, Notley C, Rigotti NA, Turner T, Butler AR, Hajek P. Electronic cigarettes for smoking cessation. Cochrane Database of Systematic Reviews 2020, Issue 10. Art. No.: CD010216. DOI: 10.1002/14651858.CD010216.pub4.