

E-Cigarettes: A 3.5-Year Study Shows No Negative Health Impact, With Caveats



By Alex Berezow — November 28, 2017



Credit: Lindsay Fox/Wikipedia [1]

Like most topics in America these days, e-cigarettes are controversial. The reason stems largely from the fact that the debate is driven less by science and more by religious zealotry.

On the one side is the pro-vaping lobby, who seems to believe that e-cigarettes are the greatest invention since the wheel. Not only are e-cigarettes effective for quitting smoking, they are safe and fun.

On the other side is the prohibitionists, who believe that the mere thought of vaping is blasphemous. According to them, e-cigarettes are just as bad as tobacco, and therefore the only acceptable public health policy is total abstinence.

Both sides are wrong. While the vapers are right that e-cigarettes can help smokers quit, it is unlikely that they are as safe as breathing fresh air. The prohibitionists are even more misguided; e-cigarettes are far safer than cigarettes; even the [UK's NHS agrees](#) [2]. As usual, abstinence is a terrible public health or education policy. If it doesn't work for sex or alcohol, then why should it work for tobacco?

The reality is that some people are going to smoke no matter what doctors and other public health officials say. Therefore, we should prepare them to make better decisions, namely through harm reduction. E-cigarettes are a useful tool to achieve those ends.

A Cohort Study of E-Cigarette Users

If we can convince policymakers to accept data over ideology, what should help clarify the issue is more research. Now, a team of mostly Italian scientists has reported on a 3.5-year study following

a group of 9 vapers and a group of 12 non-vapers, neither of whom ever smoked cigarettes.

All 21 participants had various measurements taken at baseline and every year thereafter for 3.5 years. There were no significant changes between the two groups in regard to weight, blood pressure, heart rate, or lung function. Additionally, CT scans of the vapers' lungs revealed no abnormalities, such as signs of COPD or "popcorn lung."

Major Caveats

There are at least two major caveats.

The first is that the study is only 3.5 years long. Perhaps it takes decades for the potentially negative health effects of vaping to manifest.

The second is that the sample sizes were way too small. To the authors' credit, they calculated and reported the power of their study (which isn't typical). In statistics, power refers to the chance -- if there is a real difference between two groups (in this case, the health of vapers and non-vapers) -- that the researchers will detect it. Traditionally, 80% is considered the standard. For this study, the authors calculated a power of merely 6.7%.

In other words, if vapers had health problems compared to non-vapers, there is only a 6.7% chance this study would have detected it. The authors say the sample size problem stems from the fact that it is nearly impossible to find vapers who have never smoked cigarettes.

So, while this study is certainly interesting, it should be thought of as preliminary.

Source ^[3]: Riccardo Polosa, Fabio Cibella, Pasquale Caponnetto, Marilena Maglia, Umberto Prosperini, Cristina Russo, Donald Tashkin. "Health impact of E-cigarettes: a prospective 3.5-year study of regular daily users who have never smoked." *Scientific Reports* 7, Article number: 13825. Published: 17-Nov-2017. doi: 10.1038/s41598-017-14043-2

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Links

[1] <https://ecigaretterevue.com/>

[2] <https://www.acsh.org/news/2017/08/29/e-cigarettes-cdc-should-learn-uks-nhs-11761>

[3] <https://www.nature.com/articles/s41598-017-14043-2>