

New study finds that e-cigarettes increase cardiovascular risk as much as cigarettes

9 July 2018



Credit: CC0 Public Domain

The usage of e-cigarettes containing nicotine has a significant impact on vascular functions claims new study. Research published in the SAGE journal, *Vascular Medicine*, has brought new research to light on the significant health risks of e-cigarettes with nicotine. The study revealed that smokers of e-cigarettes experienced the same, if not higher level of cardiovascular elevation for prolonged periods after smoking the e-cigarette. The findings have significant implications for our understanding of the use of e-cigarettes on long-term cardiovascular risk.

Conducted by Franzen et al., results were obtained by monitoring participant's vitals during and after they had smoked a cigarette, [e-cigarette](#), or nicotine-free e-cigarette. The smoking lasted for one cigarette, at least 5 minutes, and the vaping lasted for one session for 5 minutes. Vitals were monitored for 2 hours from when smoking commenced.

Researchers found that using e-cigarettes and cigarettes, in comparison to nicotine-free e-cigarettes, had the same significant impact on

vitals, with participant's blood pressure and [heart rate](#) being affected. Peripheral systolic blood pressure was raised significantly for 45 minutes after using an e-cigarette and 15 minutes after smoking a cigarette. Heart rate also remained elevated for 45 minutes for e-cigarettes, with the increase being higher than 8% for the first 30 minutes. In comparison, traditional cigarettes only raised heart rate for 30 minutes and there was again no change when using nicotine-free e-cigarettes. Franzen et al. use this data to state that the e-cigarettes can be as dangerous as cigarettes, simply concluding that:

"The increased parameters within the nicotine containing devices might be a link to an increased cardiovascular risk which is well known for cigarettes."

As one of the first trials studying [blood pressure](#) and heart rate elevation in relation to e-cigarette use, the authors emphasized the need for further studies in the area, stating:

"Future trials should focus on chronic effects of vaping nicotine-containing or nicotine free liquids on peripheral and central blood pressures as well as on arterial stiffness. Since no endothelial dysfunction nor gender differences were described for three different arms in literature, it would be important for future trials to address these items."

Along with highlighting further areas of discussion the study has provided clear evidence of the potential cardiovascular issues from acute e-cigarette use and diminishes the common thought that e-cigarettes are a lower risk than tobacco products.

More information: Klaas Frederik Franzen et al, E-cigarettes and cigarettes worsen peripheral and central hemodynamics as well as arterial stiffness: A randomized, double-blinded pilot study, *Vascular Medicine* (2018). [DOI:](#)

[10.1177/1358863X18779694](https://doi.org/10.1177/1358863X18779694)

Provided by SAGE Publications

APA citation: New study finds that e-cigarettes increase cardiovascular risk as much as cigarettes (2018, July 9) retrieved 29 May 2021 from <https://medicalxpress.com/news/2018-07-e-cigarettes-cardiovascular-cigarettes.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.