

New data show vaping during pregnancy is harmful to offspring through adulthood

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The use of e-cigarettes ("vaping") during pregnancy poses a significant health risk for the offspring, impairing blood vessel function even into adulthood, according to a new study by researchers at West Virginia

University's (WVU) School of Medicine. Diminished blood vessel capacity increases the risk of stroke, heart attack and other cardiovascular problems. The research article is published in the *American Journal of Physiology-Heart and Circulatory Physiology* and has been chosen as an APSselect article for August.

This study was conducted using a rat model. Female rats were exposed to [e-cigarette](#) aerosol one hour a day for five days a week during pregnancy. The offspring were examined at one month, three months and seven months (adulthood), at which time the adverse effects of [vaping](#) were discovered.

Study findings show the function of a major blood vessel in the brain (cerebrovascular function) was reduced by 50% at one-month-old and lasted all the way into adulthood. Physiologists conducting this study also learned the impaired brain blood vessel responses occurred regardless of whether vaping included nicotine.

The U.S. Centers for Disease Control and Prevention (CDC) has labeled vaping as a "public health concern." A 2018 survey by the CDC found an estimated 8.1 million adults used e-cigarettes.

"We know that there are many negative outcomes with smoking during pregnancy," said lead researcher I. Mark Olfert, Ph.D., FAPS, an associate professor at WVU. "These data are essentially showing that we have a very similar outcome from vaping."

These findings contradict the idea that e-cigarettes are "safe" or "safer" than cigarettes. The team of Olfert and Paul Chantler, Ph.D., hope this paper will lead to a closer evaluation of the effects of e-cigarettes on multiple organs and tissues before being recommended as an alternative to smoking by health care providers, especially during [pregnancy](#).

More information: E. N. Burrage et al, Long-term cerebrovascular dysfunction in the offspring from maternal electronic cigarette use during pregnancy, *American Journal of Physiology-Heart and Circulatory Physiology* (2021). [DOI: 10.1152/ajpheart.00206.2021](https://doi.org/10.1152/ajpheart.00206.2021)

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