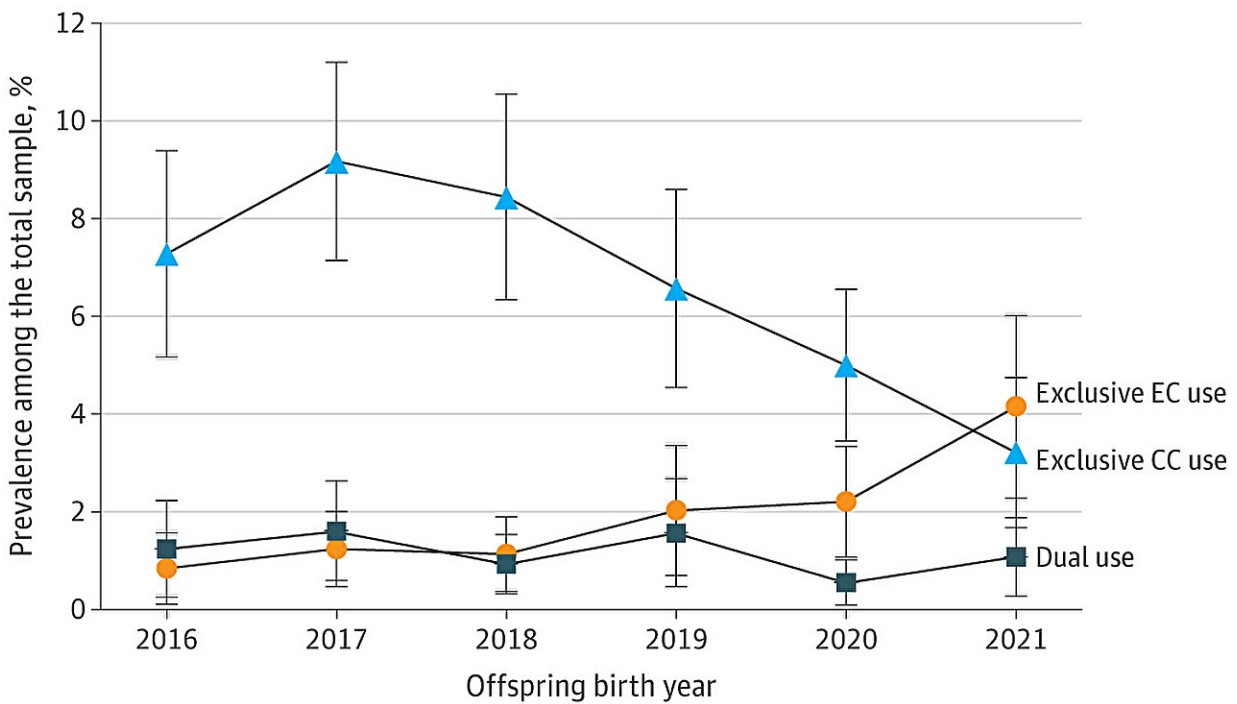


E-cigarette use is rising among pregnant adolescents, study finds

December 20 2023, by Ellen Goldbaum



Prevalence of e-cigarette (ec) or combustible cigarette (cc) use during late pregnancy among adolescents by birth year, 2016–2021. Credit: *JAMA Network Open* (2023). DOI: 10.1001/jamanetworkopen.2023.47407

The increased use of electronic cigarettes (e-cigarettes) among adolescents is a relatively recent phenomenon; not surprisingly, University at Buffalo researchers have now determined that e-cigarette use is also rising among pregnant adolescents, according to their study

[published](#) Dec. 13 in *JAMA Network Open*.

The researchers were interested in e-cigarette use among pregnant [adolescents](#) since more adolescents in general use e-cigarettes than use combustible cigarettes.

"We know that there has been a rapid increase in e-cigarettes among adolescents in recent years," says Xiaozhong Wen, Ph.D., first and senior author on the paper and associate professor of pediatrics in the Jacobs School of Medicine and Biomedical Sciences at UB. "But there's limited research on e-cigarette use among pregnant adolescents, a subpopulation with high health vulnerability, since these expectant mothers are still kids themselves."

The research was conducted as an observational study of data gathered from 10,428 pregnant people through the U.S. Pregnancy Risk Assessment Monitoring System (PRAMS) between 2016 and 2021.

E-cigarette use has spiked in this population

Wen and his colleagues found that exclusive use of e-cigarettes among pregnant adolescents more than quintupled, from 0.8% in 2016 to 4.1% in 2020, while the exclusive use of combustible cigarettes in this population fell from 9.2% in 2017 to 3.2% in 2021. That spike, he says, is partially the result of a trend toward replacing combustible cigarettes with e-cigarettes, as they are seen as a safer nicotine product, with exclusive use of e-cigarettes during pregnancy highest among white adolescents.

The UB researchers were especially interested in the potential impact of how [e-cigarette](#) use by pregnant individuals might impact the growth of the baby. While it's generally accepted that conventional smoking correlates with small-for-gestational-age weight babies, the impact of e-

cigarettes on the weight of a baby has not been well studied.

"Experimental studies in animals suggest that prenatal nicotine exposure can restrict fetal growth, possibly through reduced [blood flow](#) to the uterus and placenta," explains Wen. "However, evidence of how the baby might be affected when a pregnant person uses [nicotine replacement therapy](#) such as patches, gums, nasal sprays, tablets or lozenges is not conclusive. E-cigarettes share some features with nicotine replacement therapy products, such as delivering nicotine in the absence of combustion."

The UB study found no statistically significant difference in the risk of small-for-gestational-age birth among pregnant adolescents who either used e-cigarettes exclusively or used both e-cigarettes and combustible cigarettes, compared to those who did not use either product; however, the risk was twice as high among pregnant adolescents who exclusively smoked combustible cigarettes as among those who did not use either product.

Wen says that while the study's findings support the use of e-cigarettes over combustible cigarettes as a less risky option among pregnant adolescents, there is a better option. "The healthiest choice is complete abstinence from any tobacco/[nicotine](#) products," says Wen. "E-cigarettes have a potential role in assisting existing cigarette users to discontinue smoking as a transitional aid. However, [e-cigarette use](#) should eventually be discontinued as well."

More information: Xiaozhong Wen et al, Use of E-Cigarettes and Cigarettes During Late Pregnancy Among Adolescents, *JAMA Network Open* (2023). [DOI: 10.1001/jamanetworkopen.2023.47407](https://doi.org/10.1001/jamanetworkopen.2023.47407)

Provided by University at Buffalo

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