

2019 Youth Tobacco Survey: Focus on Asthma

About Asthma

Asthma is a long-term disease that affects the lungs and is a major public health concern in the United States. In response to certain triggers, the airways of people with asthma become narrowed and swollen, making it difficult to breathe. This is known as an asthma attack. Symptoms of asthma include coughing, wheezing, shortness of breath, and chest tightness. Asthma can be mild or severe, and in some cases, an asthma attack can be a medical emergency. In Ohio, there were 52,955 asthma-related emergency department visits in 2016.

Children with asthma will typically have the condition for the rest of their lives. A family history of asthma and certain allergic conditions may make someone more likely to have asthma. Triggers for an asthma attack might include exercise, occupational exposures to chemicals, certain respiratory conditions, other health conditions, allergens, smoking, and exposure to secondhand smoke.

This report focuses on middle school and high school students with asthma and their experiences with and around tobacco products, as measured in the 2019 Ohio Youth Tobacco Survey.

About the Ohio Youth Risk Behavior Survey and Youth Tobacco Survey (YRBS/YTS)

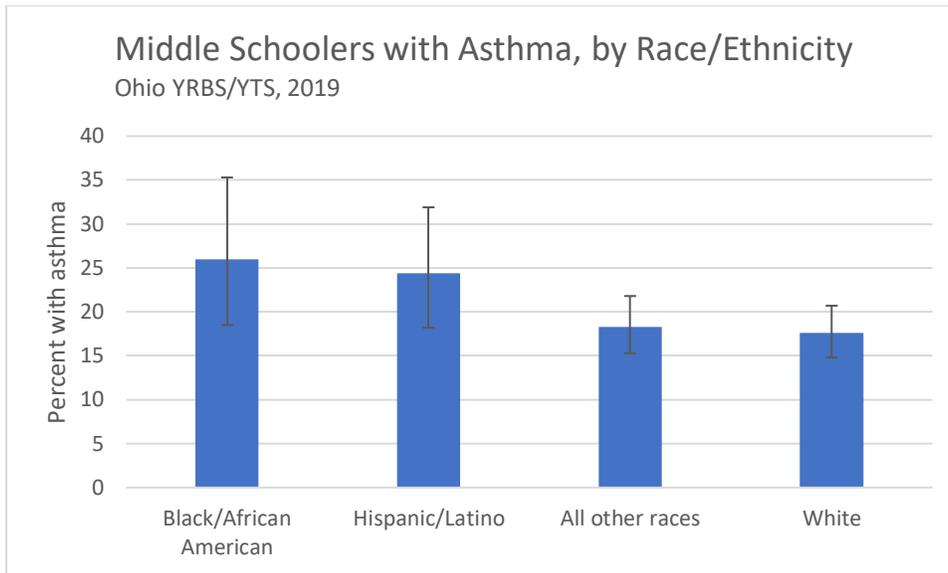
The Ohio Youth Tobacco Survey (OYTS) is a voluntary statewide survey that collects information on tobacco use and risk factors among Ohio students in grades 6 through 12. The survey provides data on prevalence of tobacco use, tobacco cessation, access to tobacco products, tobacco-related knowledge and attitudes, exposure to media and advertising, and exposure to environmental tobacco smoke. The 2019 OYTS took place in combination with the Youth Risk Behavior Survey (YRBS), which includes questions related to unintentional injuries and violence, sexual behaviors, alcohol and other drug use, dietary behaviors, and physical activity. The YRBS also measures asthma prevalence. In 2019, 1,304 high school students and 1,718 middle school students completed the combined YRBS/YTS survey, with overall response rates of 60% and 62%, respectively. The design of this survey helps us understand the health behaviors of middle school and high school students across Ohio, not just those surveyed.

A note about sample size and confidence intervals

The proportions presented in the text and figures below are estimates. The estimated proportion can be thought of as a “best guess,” calculated using statistical methods and software. Each figure has 95% confidence intervals around this estimate, which indicate that we are “95% confident” that the true proportion lies somewhere in that interval. In general, proportions calculated from small sample sizes have wider confidence intervals, and proportions calculated from large sample sizes have narrower confidence intervals. Since most of the information presented here is specific to the relatively small proportion of students with asthma, many confidence intervals are quite wide. In cases where the interval is 20% or more, or the estimate is based on a sample size less than 100 students, we urge caution in interpreting the estimated proportion, since the estimate may not be reliable. This is noted with an asterisk (*) in the figures.

Demographics of Students with Asthma

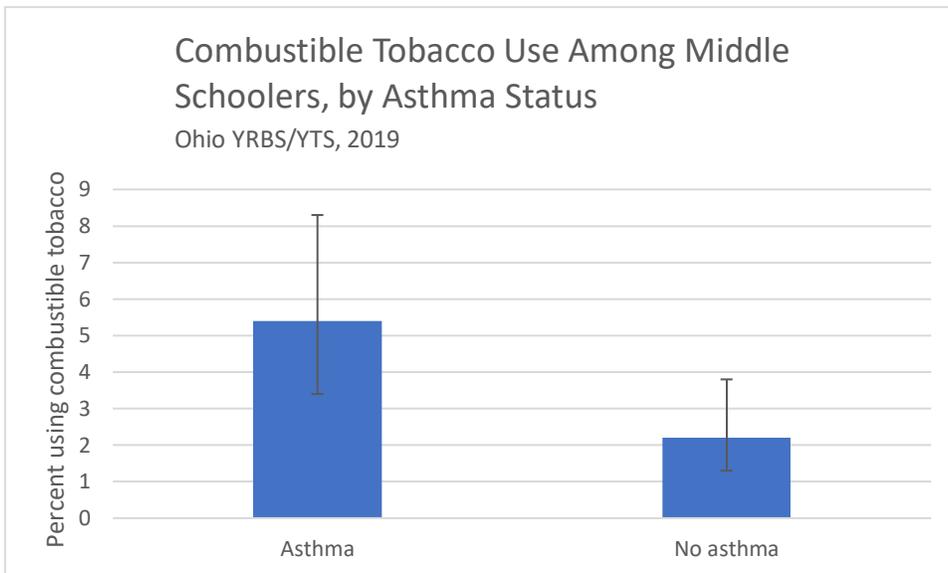
In 2019, almost 1 in 5 middle school students (18.8%) and almost 1 in 4 high school students (24.3%) reported having been told by a doctor or nurse that they had asthma. Asthma diagnoses were equally common among male and female students, but Black/African American and Hispanic/Latino middle school students were more likely to have asthma, compared to White middle school students. Hispanic/Latino high school students were more likely than Black/African American students and White students to have asthma (29.9%, 24.6%, and 24.2%, respectively), but this difference was not statistically significant. It may be that the sample size was not large enough to determine significance, but there may be a disparity in asthma by race among high school students in addition to middle school students.



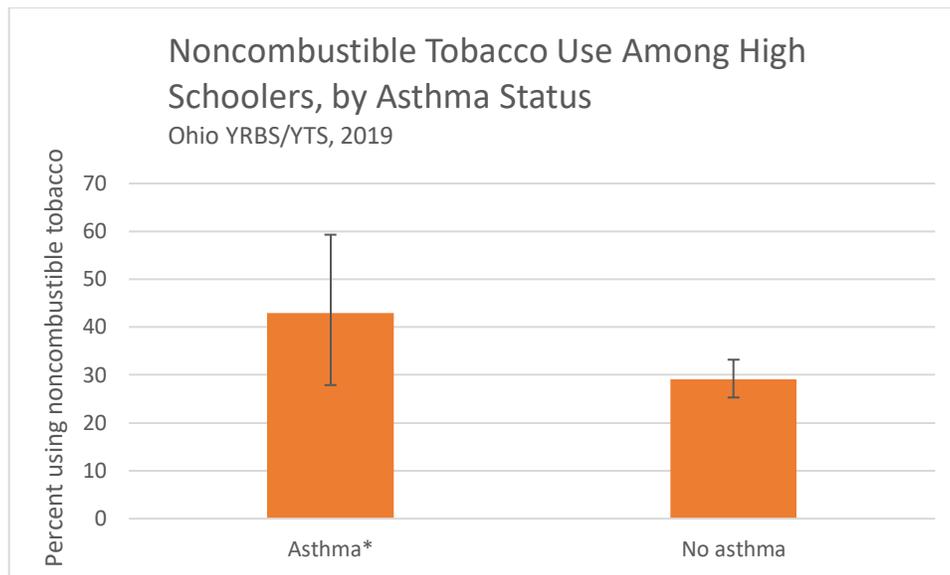
Asthma and Tobacco

Tobacco Use

Among middle schoolers, current use of combustible tobacco products was associated with asthma. Combustible tobacco products include cigarettes, cigars, and hookahs. About 5% of middle school students with asthma reported current use of combustible tobacco, which is twice the rate of combustible tobacco use among students without asthma. Among high schoolers, about one in ten students used combustible tobacco, and this was the same for students with and without asthma.



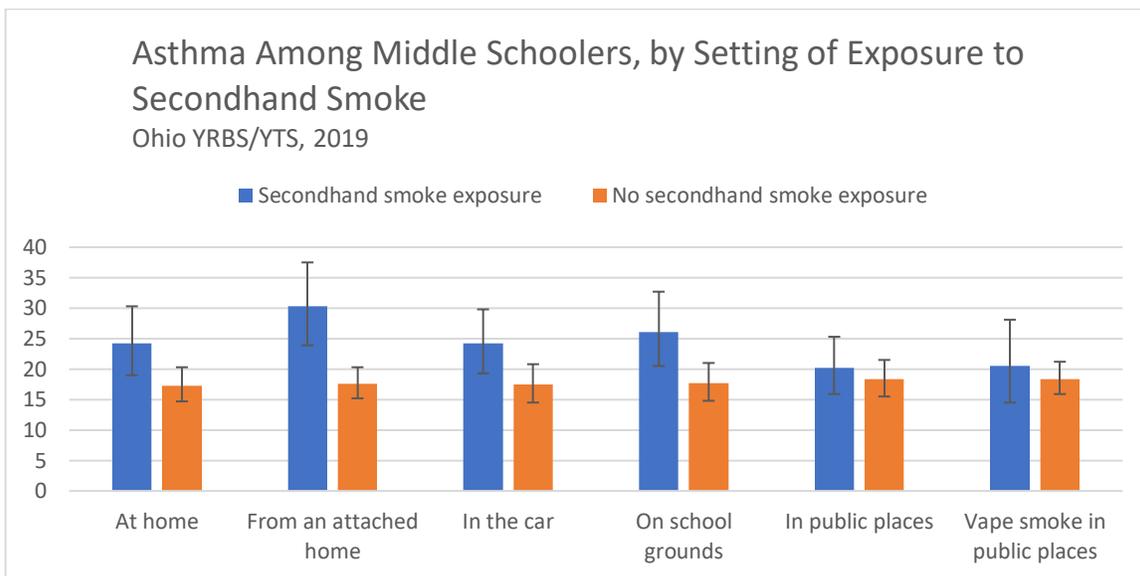
The use of electronic vapor products, also known as vapes or e-cigarettes, has increased enormously among youth over the past few years. The Centers for Disease Control & Prevention reports that the number of middle school and high school students using e-cigarettes increased from 3.6 million nationally in 2018 to 5.4 million in 2019. Current use of noncombustible tobacco, which includes vapes and smokeless tobacco, was associated with asthma among high schoolers, but not middle schoolers. Among high school students with asthma, nearly 43% reported current use of noncombustible tobacco, compared to 29% of those without asthma. Among middle schoolers, the percent of students using noncombustible tobacco was about the same among those with asthma and those without asthma (12.1% and 11.2%, respectively).



*Confidence interval is greater than 20%. Interpret with caution.

Secondhand Smoke Exposure

Almost one quarter (23.6%) of middle school students reported secondhand smoke exposure at home. Middle school students with secondhand smoke exposure at home, from an attached home, in the car, and on school grounds were significantly more likely to report an asthma diagnosis than students without these types of secondhand smoke exposures.

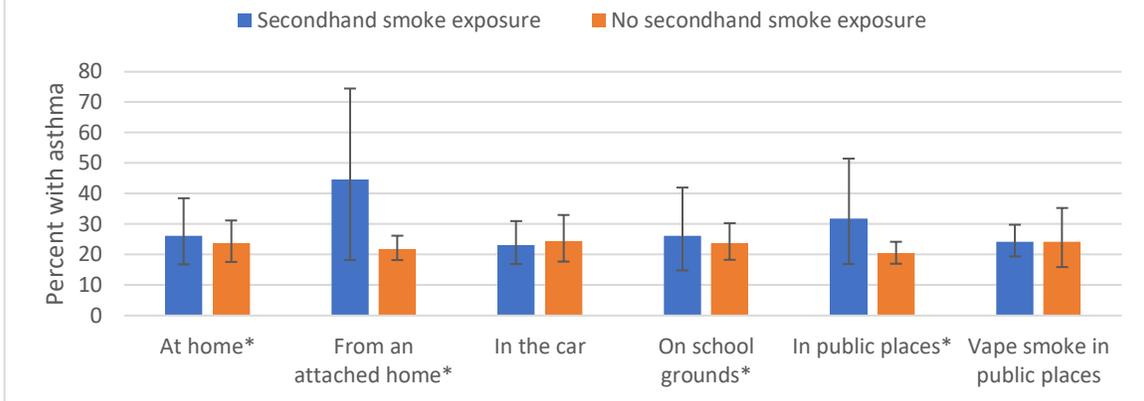


There was no difference in reported asthma among middle school students with and without secondhand smoke or vape smoke exposure in public places.

Among high school students, exposure to secondhand smoke in most settings was not associated with having asthma. However, high school students who reported secondhand smoke exposure from an attached home were about twice as likely to have asthma (44.7% vs. 21.9%).

Asthma Among High Schoolers, by Setting of Exposure to Secondhand Smoke

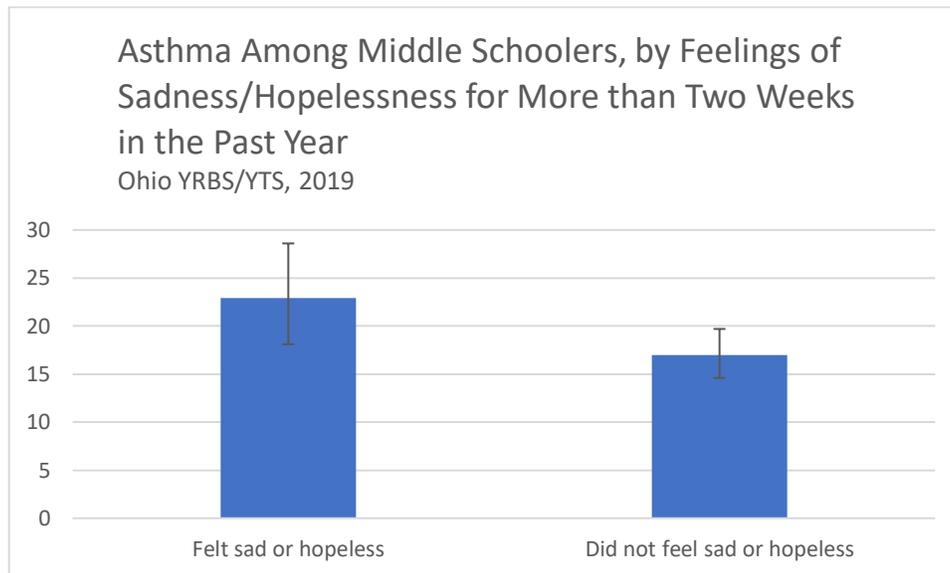
Ohio YRBS/YTS, 2019



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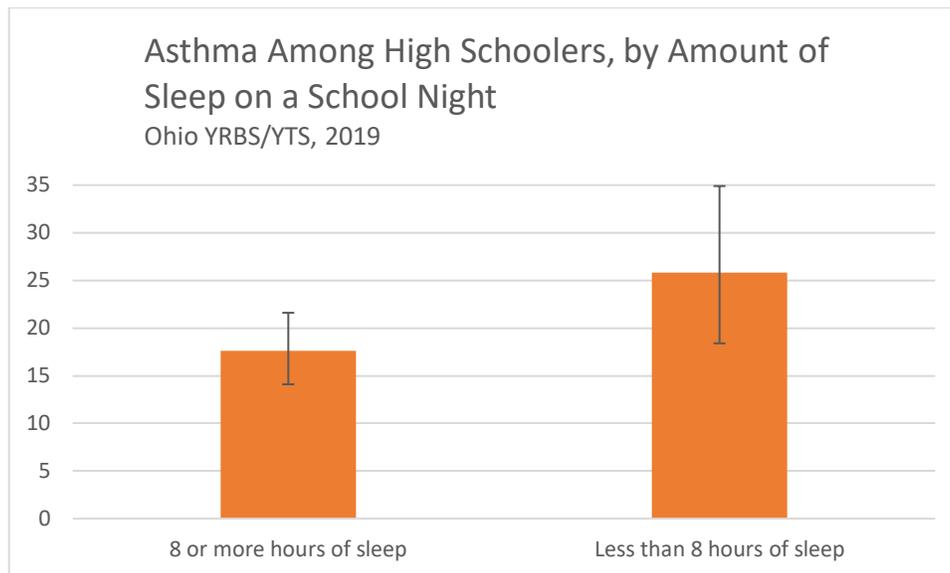
Asthma and Other Health-related Behaviors

While certain smoking behaviors and exposures to secondhand smoke are associated with asthma diagnoses among middle schoolers, having asthma does not seem to be related to most other health-related behaviors examined in the 2019 Ohio YRBS/YTS. However, middle school students who reported having felt sad or hopeless for two or more weeks during the month prior to completing the survey were more likely to have asthma, compared to students who did not feel sad or hopeless for two or more weeks (22.9% and 17%, respectively).



Asthma diagnoses among middle schoolers did not vary between those with and without a medical check-up in the past year, those who were and were not physically active on all seven days of the week, those who did and did not get eight hours of sleep or more on a school night, those who did and did not play on a sports team in the past year, and those who did and did not receive mostly A and B grades in the past year.

Among high school students, those who got less than 8 hours of sleep per night were more likely to have an asthma diagnosis, compared to those who got 8 or more hours of sleep (25.8% vs. 17.6%).



However, rates of asthma were not associated with other health-related behaviors among high schoolers, such as feeling sad or hopeless for more than two weeks, being physically active on all seven days of the week, having a medical checkup in the past 12 months, playing on a sports team in the past year, and receiving mostly A and B grades in the past year.

Summary

The percent of high school students with asthma is slightly higher than the percent of middle school students with asthma. Male and female students had about the same rate of asthma, but asthma was more common among Black and Hispanic/Latino students, and this difference was statistically significant among middle schoolers. Certain tobacco-related behaviors and exposures are associated with asthma diagnoses, though this is more often true for middle school students than it is for high school students. Middle school students with asthma were more likely to report current use of combustible tobacco products, while high school students with asthma were more likely to report current use of noncombustible tobacco products. Most other health-related behaviors examined in the Ohio YRBS/YTS are not associated with asthma.

The 2019 YRBS/YTS was the first combined YRBS/YTS survey in Ohio. Future surveys will allow the Ohio Department of Health to assess and monitor trends in youth risk behaviors, including those related to tobacco use, and help to target efforts aimed at protecting and improving the health of Ohio’s youth with asthma.

References

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