E-Cigarettes Use among Teens

EPI DATA BRIEF

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Overview

Tobacco use is the leading cause of preventable disease, disability, and death in the United States. Nearly 40 million US adults still smoke cigarettes. About 4.7 million middle and high school students use at least one tobacco product. Every day, more than 3,800 youth younger than 18 years smoke their first cigarette.[1] Conventional cigarette smoking has however declined markedly over the past several decades among youth and young adults in the United States (U.S. Department of Health and Human Services).[5]

There are different types of tobacco products, including e- cigarettes. E- Cigarettes are now the most commonly used tobacco product among youths in the United States. It has increased at alarming rate and is now a public health concern. E-cigarettes are a rapidly emerging and diversified product class. These devices are referred to by a variety of names, including juul vaporize (stylized as "JUUL"), "e-cigs," "e-hookahs," "mods," "vape pens," "vapes," "tank system," and "electronic nicotine delivery system (ENDS)." The JUUL looks like a USB flash drive and is the new trend of vaping among teens. All of these devices, including "JUUL" typically deliver nicotine, flavorings, and other additives to users via an inhaled aerosol. Bystanders can also breathe in these aerosols when the user exhales into the air. The aerosol can contain harmful and potentially dangerous substances, including nicotine, ultrafine particles, flavoring such as diacetyl, a volatile organic compound, and heavy metals such as nickel, tin, and lead.


FIGURE 1. Estimated percentage of high school students who currently use any tobacco products,* any combustible tobacco products,† ≥2 tobacco products,§ and selected tobacco products — National Youth Tobacco Survey, United States, 2011–2016¶,**,††
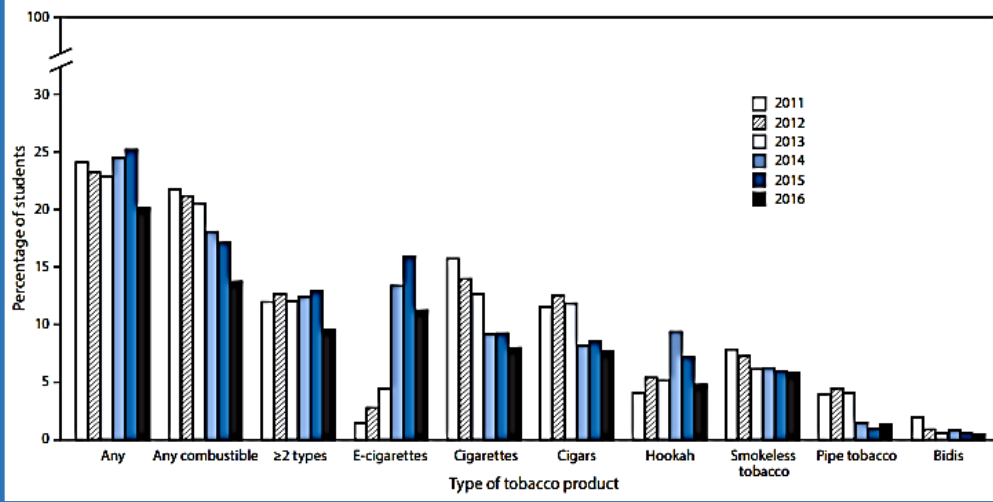
According to the Centers for Disease Control and Prevention (CDC), more than two million middle and high school students were current users of e-cigarettes in 2016. It was stated that 11% of high school and 4.3% of middle school students were current users of e-cigarettes in 2016. About four of every 100 middle school students (4.3%) reported in 2016 that they used electronic cigarettes in the past 30 days, an increase from 0.6% in 2011. Within the same period, about 11 of every 100 high school students (11.3%) reported that they used electronic cigarettes in the past 30 days, an increase from 1.5% in 2011. In 2016, 3.2% of U.S. adults were current e-cigarette users.[4] Youths are more likely than adults to use e-cigarettes.

City of St. Louis Surveillance

In 2016, 26% of adults in the City of St. Louis were smokers, which was higher than the state of Missouri, 22.1%.[6] During the same period, the youth smoking prevalence was 11.0%.[2] In 2015, the prevalence of cigarette use among high school male students was 13.7% compared to female students, 8.1% in the state of Missouri.[7] The prevalence of e-cigarette use among high school students in the state is an alarming, 22.0%. Every year, there
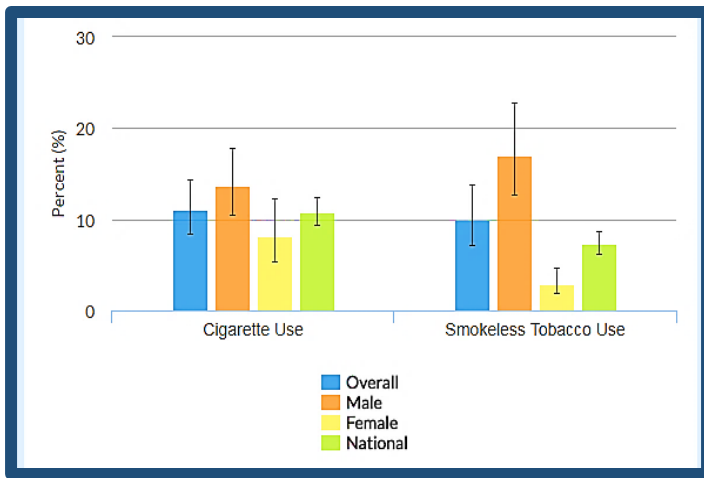
**Cigarette Use/Smokeless Tobacco Use among
High School Students in Missouri, 2015**

are 3,100 new youth smokers in the state. Based on a projection, 398,600 kids that are now alive will become smokers and, 128,000 kids now under 18 and alive in the Missouri will die prematurely from smoking.[2] There are so many factors associated with youth tobacco use including social and physical environments, and biological or genetic. Others include low self-image or self-esteem, lower socioeconomic status, lack of skills to resist influences to tobacco use, lack of support from parents, accessibility, availability, and the price of tobacco products.

Health effects of e- cigarette use among U.S. youth and young adults
Although e-cigarettes do not burn tobacco like the regular cigarette, the device still holds plenty of nicotine, and can lead to the same nicotine related problems. Nicotine is a highly addictive substance, and many of today youths who are using e-cigarette could become tomorrow cigarette smokers. Nicotine exposure can harm brain development in ways that may affect the physical and mental health of adolescent. While e-cigarettes do not contain smoke, they do expose others to secondhand emissions. Nicotine is a health danger for pregnant women because it crosses the placenta and has known effects on fetal and postnatal development. Aside from nicotine, e-cigarette contains substances that are linked to cancer and a serious lung disease. Ingestion of e- cigarette liquids containing nicotine can cause acute toxicity and possibly death if the contents of the refill cartridges or bottle containing nicotine are consumed. Unintended injuries such as fire and explosions can also occur from defective e-cigarette batteries, which may result in serious injuries.

According to the CDC, e-cigarettes are less harmful than regular cigarettes, but, the aerosols emitted are not harmless. Tobacco use among youth and young adults in any form, including e-cigarettes, is not safe. E- Cigarette use among youth and young adults is associated with use of other tobacco products, including conventional cigarette.[1] Because most tobacco use is established during adolescence, actions to prevent young people from a potential of a lifetime addiction are critical. Many e-cigarette companies market their product as a tool to help smokers quit. However, the FDA's Center for Drug Evaluation and Research has not approved any e-cigarette as a safe or effective method to help smokers' quit.[8]

Preventing e-cigarette use among youth and young adults.
- Educational initiatives targeting youth and young adults
- Regulation of e-cigarette marketing likely to attract youth
- Incorporating e-cigarette into smoke free policies
- Preventing access to e-cigarette by youth
- Price and tax policies
- Retail licensure

Sources:
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4. National Youth Tobacco Survey 2011–2016
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6. www.countyhealthrankings.org/app/missouri/2017/rankings
7. Youth Risk Behavior Surveillance System (YRBSS), 2015
8. Food and Drug Administration