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How to Have the “Vape Talk” with Adolescent Patients

Helen Gandler

Colchester, VT

April – May, 2021

Dr. Anya Koutras

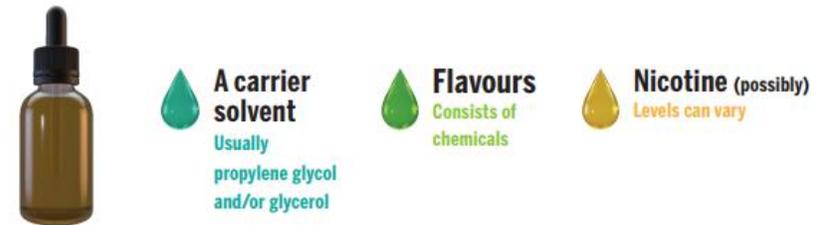
What's the big deal with vaping, anyways?

- Most e-cigarettes contain nicotine, which is highly addictive and can harm brain development, which continues until about age 25 (cdc)
- As of February 18, 2020, a total of 2,807 hospitalized lung injury cases or deaths due to electronic vapor products have been reported to CDC from the US
- The 2020 Monitoring the Future Survey found that vaping prevalence by adolescents finally leveled, but more than 3.6 million US youth still use e-cigarettes
- 1/5 high school and 1/20 middle school students currently use e-cigarettes
- In 2019, 50% of all high school respondents had tried an electronic vapor product (EVP), and 26% were currently using one
- In the 2019 Vermont Youth Risk Behavior Survey (YRBS), more students in Chittenden County reported using an EVP than cigarette smoking or marijuana (VT YRBS)

Components of a Vaping Device (e-cigarettes, vape pens, vapes, mods, tanks, e-hookahs)



Contents of Vaping Liquid (e-liquid)



How it Works: From liquid to vapour



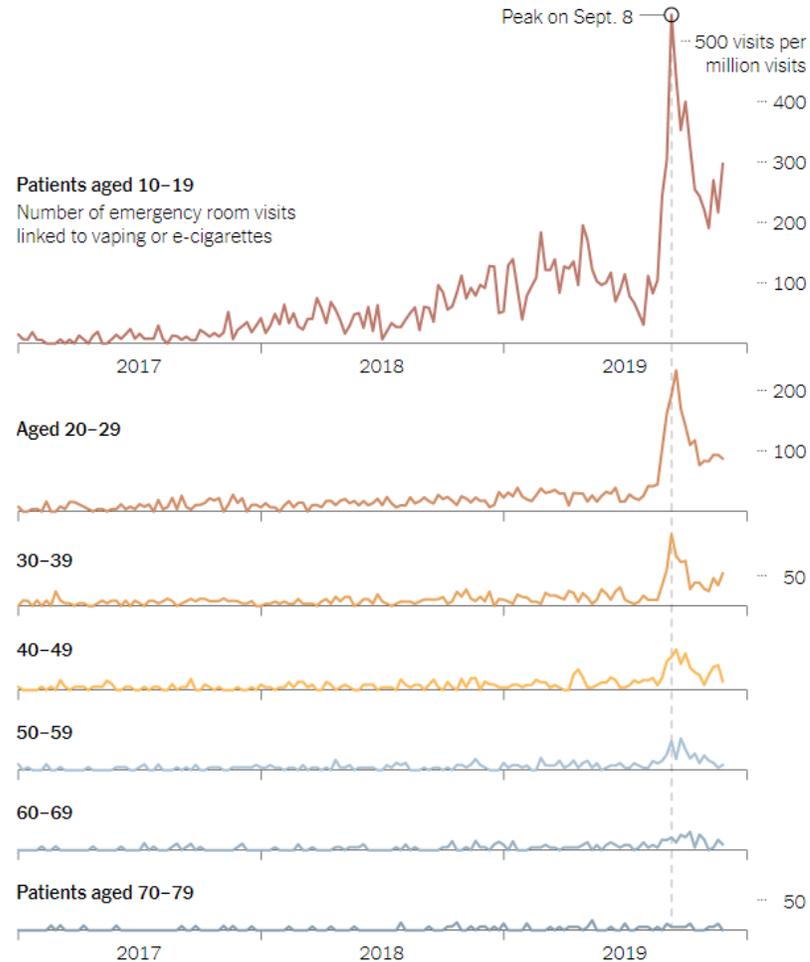
1 Vaping liquid, which contains chemicals, is heated to become an aerosol

2 The aerosol is inhaled through the mouth and lungs where it is absorbed into the bloodstream

3 The remaining aerosol is exhaled

Public Health Cost of E-Cigarettes

Vaping-related emergency room visits



By The New York Times | Source: New England Journal of Medicine

- From 2014-2016, the FDA's "The Real Cost" campaign for tobacco prevention was shown to prevent up to 587,000 youths from becoming adult smokers, saving more than \$53 billion dollars in costs to society. In 2017, the FDA focused this campaign on e-cigarettes.
- A pack a day smoker might spend \$2,000 per year on cigarettes, but if using a mid-range priced e-cigarette (\$20) and a refill tank a week (\$15), that cost could be just \$800 per year
- A total of 68,149 nonelective hospital admissions associated with the use of e-cigarettes and 6 cases of e-cigarette or vaping product use-associated lung injury (EVALI) were recognized in 2016. Overall, the total AVERAGE cost of hospitalization was \$12,217.
- Legislation proposed in the VT senate that sought to ban the sale of flavored vaping and tobacco products estimated that VT spends \$350 million per year to treat tobacco-related illnesses.

Community Perspectives

District Nursing Supervisor at Colchester School District

“The principal and I used to catch kids vaping in the bathroom all the time, but it’s more rare now with COVID precautions. It’s hard to know if [vaping] is still as much of an issue because kids are not able to just drop into my office like they used to.”

Fourteen-year-old high school student:

“Recently a close friend of mine has started vaping. I tried my best trying to make him rethink this horrible decision but he responded with the argument that vaping is completely harmless, especially since the vape he uses has no nicotine.”

Intervention and Methodology

1. Creation of a Smartphrase in Epic that pulls up a template to interview adolescents on electronic vapor product usage. Questions were based off of the CDC's National Youth Tobacco Survey and the Vermont Youth Risk Behavior Survey.

2. Creation of an infographic on vaping directed towards adolescents to educate them on the risks of vaping and the resources for quitting. This infographic was put into a separate Smartphrase in Epic so that providers could pull it up in patient instructions and print it out if the patient prefers.

3. All providers at the Colchester practice were given access to both the Smartphrase template and infographic so that they can use both to facilitate conversations and education around vaping with adolescent patients.

Results

Template to guide interviews with adolescent patients about vaping:

Electronic vapor products include e-cigarettes, vapes, vape pens, e-cigars, e-hookahs, hookah pens, and mods.
-Exs: JUUL, Vuse, MarkTen, and blu.

Electronic vapor product usage: {EVP Usage:38412}

- What type of EVP: {EVP type:38416}
- Frequency in last 30 days: {Frequency:38414}
- How they obtained EVP: {Obtain EVP:38415}
- Reason they use EVP: {EVP Reason:38417}
- Knows someone else who uses EVP: {EVP Contact:38413}
- If never tried, has been curious about using EVP: {EVP Curious:38418}
- Will they try/use EVP in the next year: {EVP interest:38420}
- Questions about EVP: {EVP questions:38419}

Infographic about vaping to distribute to adolescent patients

Is vaping *actually* that bad?
Read this before trying your friend's vape

Vape aerosol often has harmful chemicals
Vaping can expose the user's lungs to harmful chemicals like **formaldehyde, acrolein, and acetaldehyde**, which are known to cause **irreversible lung damage**.

Watch out for flavors!
Vapes get their flavors from chemicals. While these flavorings are safe to eat in food, they're not safe to inhale. Inhaling flavor chemicals can harm your lungs.
Want an example? Some buttery-flavored vapes like caramel contain diacetyl and acetoin. Inhaling diacetyl has been linked to popcorn lung, a lung disease that **doesn't have a cure**.

If that vape has nicotine, you may become ADDICTED
Vaping delivers nicotine to the brain in as little as 10 seconds. Nicotine exposure during your teen years can mess with your brain development. Having fun vaping in middle or high school may lead to increased impulsivity and mood disorders down the road.

It's all fun and games until you inhale metal particles
Vape aerosol could be delivering metal particles like chromium, nickel, lead, tin and aluminum right into your lungs. Some of these metals are **toxic!**

You have options if you want to quit, or to help a friend quit!

- Ask a trusted adult or friend for support
- Talk to a doctor about treatment options (they can keep this COMPLETELY CONFIDENTIAL)
- Visit smokefree.gov and teen.smokefree.gov/quit-vaping
- Text DITCHJUUL to 88709
- Call 1-800-QUIT-NOW

Source: www.fda.gov/tobacco

Evaluation of effectiveness and limits

Effectiveness:

- Success is two-fold: if these resources help patients, and if they help providers
- The Smartphrase template for interviewing patients will prove effective if providers report ease with use, and find it helpful in keeping track of their patient's vape usage
- The infographic will prove effective if patients find it informative, easy to understand, and helpful in their decision-making

Limitations:

- Adolescent patients are hesitant to be honest about drug usage, especially when their answers may appear in a note that can be viewed by their guardians
- It will be difficult to impossible to determine whether these interventions helped decrease electronic vapor product usage
- The Smartphrases created are only directly shared with the providers at the Colchester family practice

Use a survey to evaluate adolescent patients on knowledge about vaping before and after receiving the infographic

Use a survey to determine how frequently providers had conversations around vaping with their adolescent patients before and after the implementation of the interview template. This survey could also evaluate how helpful they reported the template and infographic to be.

Collaborate with middle and high schoolers in the community to ensure that the infographic has all of the information that adolescents consider to be important

Recommendations for Future Interventions/Projects

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