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An Assessment of Current Resources to Help Adolescents Quit Vaping



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Background

- E-cigarette use, more commonly known as *vaping*, has been a growing epidemic for adolescents in the United States. The U.S. Surgeon General's recent advisory states we must act now to protect the health of our nation's youth from a lifetime of nicotine addiction¹.
- A 2018 Center for Disease Control MMWR reported more than 3 million high school students (grades 9 – 12) and 570,000 middle school students (grades 6 – 8) in the US are currently vaping, defined as using an e-cigarette on ≥ 1 the past 30 days².
- Researchers from the *Monitoring the Future Survey* (MTS) report current e-cigarette use of a nicotine substance among middle school and high school students increased nationally by 78% from the year 2017 to 2018. This is the largest increase ever recorded for any substance in the 44 years the MTF has tracked adolescent drug use³.
- The 2017 Massachusetts Youth Risk Behavior Survey (MYRBS) found 41.1% of high schoolers ever used an e-cigarette and 20.1% of high schoolers currently used an e-cigarette in the past 30 days. The prevalence rate for middle schoolers ever using an e-cigarette was 9.9%.
- Given this epidemic, we conducted a literature search to identify potential interventions to assist adolescents to quit vaping.

Prevalence

National Prevalence Estimated Prevalence of E-cigarette Use in High School and Middle School Student in Past 30 Days							
	Male	Female	White	Black	Hispanic	Other	Total
US High School Students							
Past 30 days E-cigarette	9.9%	13.3%	14.2%	4.9%	10.2%	5.5%	11.7%
US Middle School Students							
Past 30 days E-cigarette	2.9%	3.7%	3.4%	2.2%	4.0%	--	3.3%

Data Source: National Youth Tobacco Survey, U.S., 2017

Massachusetts Prevalence 2017 Estimated Prevalence of E-cigarette Use in High School and Middle School Students							
	Male	Female	White	Black	Hispanic	Other	Total
MA High School Students							
Ever using E-cigarette	42.2%	40.1%	43.4%	38.1%	41.8%	40.9%	41.1%
Past 30 days E-cigarette	21.9%	18.4%	23.2%	11.8%	17.7%	19.3%	20.1%
MA Middle School Students							
Ever using E-cigarette	10.0%	9.9%	6.7%	13.6%	21.6%	12.4	9.9%

Data Source: Massachusetts Youth Risk Behavior Survey 2017

Methods

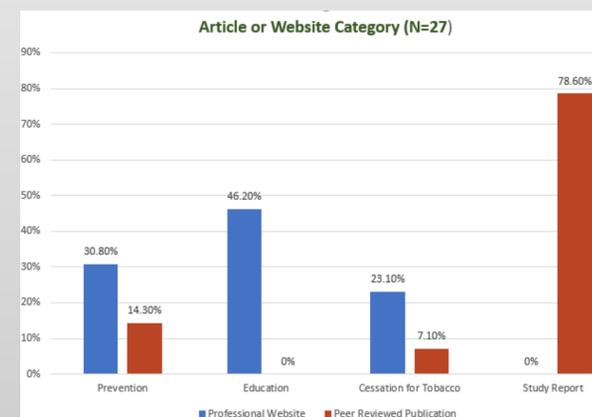
- Peer-reviewed articles published in 2018 from the PubMed database and materials retrieved from professional tobacco cessation organization websites in 2018 were reviewed. The search included "E-cigarette Cessation" and "Vaping Cessation" as Medical Subject Headings (MeSH) for the PubMed literature review. The following search terms were used to search for professional organization websites: 2018 + vaping cessation + adolescents, vaping cessation, vaping + teens, youth vaping cessation and adolescent vaping cessation.
- The research questions for this literature and website review were: 1. Does this article or website provide any vaping/e-cigarette cessation tools? 2. Do the authors recommend future research for vaping/e-cigarette cessation? and 3. Do the authors recommend using current tobacco cessation programs to help adolescents quit vaping?

"The recent surge in e-cigarette use among youth, which has been fueled by new types of e-cigarettes that have recently entered the market, is a cause for great concern. We must take action now to protect the health of our nation's young people."

U.S. Surgeon General, Vice Admiral (VADM) Jerome M. Adams, M.D., M.P.H., December 17, 2018

Results

- The review identified 14 published articles and 13 websites. Among the articles and websites reviewed, only one website was identified as providing a vaping/e-cigarette cessation tool.
- Future research to provide evidence-based vaping cessation was recommended by 35.7% of the published article authors and 7.7% of the professional website organizations.
- 23.1% of the websites reviewed recommend using current tobacco cessation programs to quit vaping, while in comparison, only 7.7% of the authors of the published articles made a recommendation to use current cessation tools to help adolescents quit vaping.



Results

Literature Search and Professional Organization Review Questions (Total N = 27)	Professional Websites (Total N=13) N (%)	Peer Reviewed Publications (Total N = 14) N (%)
Does this article or website provide any vaping cessation tools?		
Yes	1 (7.7%)	0 (0%)
No	12 (92.3%)	14 (100%)
Which category best describes this article or website?		
prevention	4 (30.8%)	2 (14.3%)
education	6 (46.2%)	0 (0%)
cessation	3 (23.0%)	1 (7.1%)
study/report	0 (0%)	11 (78.6%)
Do the authors recommend future research for vaping/e-cigarette cessation?*		
Yes	1 (7.7%)	5 (35.7%)
No	12 (92.3%)	9 (64.3%)
Do the authors recommend using current tobacco cessation programs to quit vaping?*		
Yes	3 (23.1%)	1 (7.7%)
No	10 (76.9%)	13 (92.3%)

Red Cap was used for data collection and analysis

Recommendations for future research on vaping cessation include:

- Adolescent use and long term health effects
- Vaping cessation using evidence-based methods
- Reduction of multiple tobacco/nicotine product use
- Frequency and intensity of e-cigarette use in association with dependence and cessation-related outcomes
- Routine screening on vaping use for adolescents at both sick and well visits
- Vaping warnings directed towards and targeted to teenagers and their unique concerns
- Enhanced regulations
- Determining if different approaches to cessation are needed for e-cigarette users compared to conventional cigarette smokers

Resources to help adolescents quit vaping

quitSTART App
Smokefreeteen.org



QUITTING

"So, You're Ready to Quit Vaping"
thetruth.org
www.thisisquitting.com
#vaping

SMOKE SCREEN

www.smokescreengame.org
by Yale University



Stanford Medicine
http://med.stanford.edu/tobaccopreventiontoolkit/E-Cigs.html

Massachusetts Department of Public Health
Tool Kit for Schools
Makesmokinghistory.org
Getoutraged.org



TALK WITH YOUR KIDS ABOUT

Conclusion

- Based on the literature and website reviews, only one cessation tool was found that specifically targets vaping among adolescents. No other websites and no peer-reviewed published literature presented cessation tools to support teens in their efforts to quit vaping.
- This presents a significant gap in resources to assist adolescents who are already dependent on nicotine through vaping. It was interesting that less than 10% of professional organizations and one third of publications recommended research on vaping cessation, given the current dearth in evidence-based cessation tools.
- And lastly, it is striking that less than a quarter of the professional organizations and only a fraction of the peer-reviewed articles recommended using existing combustible tobacco cessation programs to assist adolescents in quitting vaping. One possible reason is that the professional organizations are focused on supporting individuals in their efforts to quit and recognize that, in the absence of tools specific to vaping, tailoring existing programs is the best available resource while programs specific to vaping are developed and tested.

Acknowledgements

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References:
¹Surgeon General's Advisory on E-cigarette Use Among Youth, 2018, <https://e-cigarettes.surgeongeneral.gov/documents/surgeon-generals-advisory-on-e-cigarette-use-among-youth-2018.pdf>
²Wang TW, Gentzke A, Sharapova S, Cullen KA, Ambrose BK, Jamal A. Tobacco Product Use Among Middle and High School Students — United States, 2011–2017. MMWR Morb Mortal Wkly Rep 2018;67:629–633.
³Johnston, L. D., Miech, R. A., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2019). Monitoring the Future national survey results on drug use 1975-2018: Overview, key findings on adolescent drug use. Ann Arbor: Institute for Social Research, University of Michigan.