Household Rules about E-Ciaarette Use & Beliefs about Harms to Children

Robert McMillen, PhD^{1, 2}; Mark Gottlieb, JD^{1, 3}; Susanne Tanski, MD, MPH^{1, 4}; Karen Wilson, MD, MPH^{1, 5}; Jonathan P. Winickoff, MD, MPH^{1, 6}; Jonathan D. Klein, MD, MPH^{1, 4}

(1) AAP Richmond Center, Elk Grove Village, IL; (2) Mississippi State University, Starkville, MS; (3) Public Health Advocacy Institute at Northeastern University School of Law, Boston, MA; (4) Geisel School of Medicine at Dartmouth, Hanover, NH; (5) Icahn School of Medicine at Mount Sinai, New York, NY; (6) Mass General Hospital for Children, Boston, MA

ABSTRACT

Purpose: The aerosol from e-cigarettes contains nicotine and carcinogens that deposit, on indoor surfaces. This study examines adults' household rules about e-cigarette use and beliefs about the harms of these products to children.

Methods: The Social Climate Survey of Tobacco Control was administered in 2015 to respondents recruited from a nationally representative dual-frame sample. Adults were asked about household rules and beliefs about e-cigarette harms to children.

ults: Of 3,070 respondents, 67.9% report that the use of e-cigarettes is not allowed inside the home and 76.9% report car prohibitions, 65.4% prohibit use in both settings. Most adults (83.7%) believe that e-cigarette use should not be allowed in places that prohibit smoking and that it is not acceptable for parents to use e-cigarettes in front of children (73.8%). Many adults were uncertain about the potential harms of e-cigarettes. While more than a third of adults (37.1%) believe that exhaled e-cigarette vapor contains nicotine and that using e-cigarettes indoors deposits nicotine on surfaces (37.1%), more than half have reported "don't know" (55.2%, 52.3%, respectively). Roughly the same percentage of adults said that using e-cigarettes around children exposes them to nicotine (44.3%) as said "don't know" (46.1%). Chi-square analyses revealed that smokers, e-cigarette users, males, younger adults (18-24), adults with lower levels of education, and adults without children in the household were less likely to have household rules against e-cigarette use, and less likely to support use restrictions. Smokers, e-cigarette users, and adults with lower levels of education tended to be less likely to believe that these products posed harms for children, while older adults and adults with children in the household tended to have higher levels of uncertainty about potential harms.

Conclusions: The vast majority of adults agree that e-cigarette use should not be allowed in places where smoking is prohibited. About one third of households allow the use of e-cigarettes in the home and half of adults are uncertain about whether e-cigarette aerosol is harmful to children. These data suggest an opportunity to educate parents about toxic exposure risks from e-cigarette aerosols and to advise parents to keep their homes and vehicles free from both tobacco smoke and e-cigarette emissions.

{INTRODUCTION}

E-cigarettes are a rapidly evolving category of batteryoperated devices that heat nicotine, flavor additives, and chemicals to the point of areolation. Users generally refer to the inhalation of the aerosolized nicotine and chemicals as "vaping." According to a recent survey by the Centers for Disease Control and Prevention, more than 13% of high school students in the United States have tried e-cigarettes. In our research, we found substantial annual increases in e-cigarette use among adults from 2010 to 2013. The prevalence of having tried an e-cigarette increased from 1.8% to 13.0%, and the prevalence of current e-cigarette use increased from 0.3% to 6.8%.

The aerosol from e-cigarettes contains nicotine and carcinogens that deposit, on indoor surfaces. This study examines adults' household rules about e-cigarette use and beliefs about the harms of these products to children.

> POSTER DESIGNED BY: MIRANDA ROBERTSON

METHODS

- Data are from the 2015 Social Climate Survey of Tobacco Control, a cross-sectional dual-frame survey administered to national probability samples of U.S. adults.
- The design included a Random Digit Dialing (RDD) frame and an internet panel frame developed from a probability sample of U.S. adults, in order to reduce non-coverage issues arising from wireless substitution.
- Respondents were asked if vaping is allowed inside the home, inside the vehicle, if vaping should be allowed in places that prohibit smoking, if it is acceptable for parents to use an e-cigarette in front of children, if exhaled e-cigarette vapor contains nicotine, and if using e-cigarettes indoors deposits nicotine on surfaces.
- Data were weighted to adjust for age, race, sex, and region.

AMERICAN ACADEMY OF PEDIATRICS Julius B. Richmond Center of Excellence



ACKNOWLEDGEMENTS

FUNDED BY GRANTS FROM THE FLIGHT ATTENDANT MEDICAL RESEARCH INSTITUTE (FAMRI) AND THE TRUTH INITIATIVE TO THE AMERICAN ACADEMY OF PEDIATRICS JULIUS B. RICHMOND CENTER OF EXCELLENCE.

TABLE 1. WEIGHTED SAMPLE CHARACTERISTICS

	2015 Unweighted N = 3,070
Smoking Status	
Never Smokers	60.7%
Former Smokers	26.1%
Current Smokers	13.2%
Region	
Northeast	18.1%
Midwest	21.4%
South	37.0%
West	23.5%
Race	4.5.004
White	65.0%
Black	11.8%
Other	23.3%
Age	10 10/
18-24 25-44	13.1% 34.0%
45-64	35.5%
65+	17.4%
Sex	17.470
Males	48.3%
Females	51.7%
Education	01.7 70
Less than HS	7.4%
High School	19.7%
Some College	29.0%
College Degree	44.0%
Housing	
Lives in Multiunit Housing	26.3%
Lives in Detached Housing	73.7%
Subsidized Housing	
Yes	3.6%
No	96.4%

LIMITATIONS

- Self-report data
- Internet panel survey may also have bias

TABLE 2. HOUSEHOLD RULES

Vaping is not	67.9%
allowed inside of home	
*Smoking Status	0.4.00/
Smoker	34.2%
Nonsmoker	73.1%
E-Cigarette Use	
Current User	14.8%
Non User	72.0%
	7 2.070
Age	FO 19/
18-24	59.6%
25-44	68.5%
45-64	66.7%
65+	74.3%
Education	
Less than HS	46.9%
High School	60.5%
Some College	65.5%
College or More	76.2%
	70.270
Child in the Home	
Yes	75.1%
No	64.2%
Vaping is not	
allowed in vehicle	76.9%
*Smoking Status	25 20/
Smoker	35.3%
Nonsmoker	83.0%
E-Cigarette Use	
Current User	16.9%
Non User	81.5%
Race	
White	75.7%
Black	83.3%
Other	76.8%
	7 0.0 /0
Age	40.00/
18-24	62.2%
25-44	74.4%
45-64	78.3%
65+	88.3%
Sex	
Male	74.2%
Female	79.4%
Education	
Less than HS	68.3%
High School	70.8%
<u> </u>	
Some College	69.6%
College or More	85.4%
Child in the Home	
Yes	80.1%
No	75.2%
Believe that people should not	
be allowed to use e-cigarettes	83.7%
in places that prohibit smoking	
Believe that exhaled e-cigarette	
vapor contains nicotine	
Yes	37.1%
Don't Know	55.2%
	JJ.Z /0
Believe that using e-cigarette in-	
doors deposits nicotine on surfaces	
	27 10/

Don't Know

p < .05 for all comparisons.

oing is not inside of home oking Status Smoker onsmoker	67.9% 34.2% 73.1%		Believe that people should not be allowed to use e-cigarettes in places that prohibit smoking	83.7%
rrent User Ion User Age 18-24	14.8% 72.0% 59.6%		Smoking Status Smoker Nonsmoker	63.4% 86.8%
25-44 45-64 65+ ducation	68.5% 66.7% 74.3%		E-Cigarette Use Current User Non User	47.3% 86.5%
s than HS gh School ne College ege or More	46.9% 60.5% 65.5% 76.2%		Age 18-24 25-44	79.9% 81.3%
in the Home Yes No	75.1% 64.2%		45-64 65+	83.2% 91.7%
ed in vehicle	76.9%		Sex Male	81.2%
oking Status Smoker onsmoker	35.3% 83.0%		Female Education	86.0% 75.6%
garette Use rrent User Ion User	16.9% 81.5%		Less than HS High School Some College	79.8% 81.6%
Race White Black Other	75.7% 83.3% 76.8%		College or More	88.0%
Age 18-24 25-44 45-64 65+	62.2% 74.4% 78.3% 88.3%			
Sex Male Female	74.2% 79.4%		{CONCLUSIO	NS}
ducation	40 20/			

TABLE 3.

BELIEFS

The vast majority of adults agree that e-cigarette use should not be allowed in places where smoking is prohibited. However, about one third of households allow the use of e-cigarettes in the home and half of adults are uncertain about whether e-cigarette aerosol is harmful to children. These data suggest an opportunity to educate parents about toxic exposure risks from e-cigarette aerosols and to advise parents to keep their homes and vehicles free from both tobacco smoke and e-cigarette emissions.

RESULTS }

- 3,070 adults completed the survey. Weighted sample characteristics are presented in Table 1.
- 67.9% report that the use of e-cigarettes is not allowed inside the home and 76.9% report car prohibitions
- 65.4% prohibit use in both settings.
- Most adults (83.7%) believe that e-cigarette use should not be allowed in places that prohibit smoking and that it is not acceptable for parents to use e-cigarettes in front of children (73.8%).
- Many adults were uncertain about the potential harms of e-cigarettes.
- While more than a third of adults (37.1%) believe that exhaled e-cigarette vapor contains nicotine and that using e-cigarettes indoors deposits nicotine on surfaces (37.1%),
- More than half have reported "don't know" (55.2%, 52.3%, respectively).
- Roughly the same percentage of adults said that using e-cigarettes around children exposes them to nicotine (44.3%) as said "don't know"
- Chi-square analyses revealed that smokers, e-cigarette users, males, younger adults (18-24)
- Adults with lower levels of education, and adults without children in the household were less likely to have household rules against e-cigarette use, and less likely to support use restrictions.
- Smokers, e-cigarette users, and adults with lower levels of education tended to be less likely to believe that these products posed harms for children, while older adults and adults with children in the household tended to have higher levels of uncertainty about potential harms.