

CORRELATES OF E-CIGARETTE USE DEPENDENCE AMONG REGULAR ADULT E-CIGARETTE USERS

Presenter: Qinghua Nian

Background

E-cigarette use dependence may vary by age of initiation, use frequency and liquid nicotine concentration. Little is known about the correlation between dependence and e-cigarette device type, nicotine formulation and flavor.

Methods

- 1209 adult (21+) regular ECIG users (5+ days of use per week) completed an online survey and uploaded photos of their most used device and liquid
- E-cigarette dependence was measured by PROMIS-E: range 1-5, 5 being most dependent
- Bivariate Spearman correlation, independent t-test, and analysis of variance were used to examine the correlation and test for significance

Results

- Dependence was positively correlated with first use of e-cigarettes before age 21 ($r=0.12$, $p<0.001$), use of disposable pod/cartridge device ($r=0.11$, $p<0.001$), use of device without adjustable wattage/voltage ($r=0.09$, $p<0.01$), greater liquid nicotine concentration ($r=0.15$, $p<0.001$), nicotine salt-containing liquid ($r=0.11$, $p<0.001$), and use of menthol-flavored liquid ($r=0.08$, $p<0.01$).



Institute for Global Tobacco Control



Leave Empty

This space will be automatically filled with a QR code and number for easy sharing

Using disposable pod/cartridge device, device without adjustable settings, nicotine salt-containing liquid, and menthol-flavored liquid are correlated with higher e-cigarette use dependence among regular e-cigarette adult users.

	%/Mean	Mean of E-cig Dependence (SD)	Corr. with E-cig Dependence	p*
Age of first e-cig use (<21 yrs old)	22.9%	3.40 (0.94)	0.12	<0.001
Device type				
Disposable device	9.3%	3.29 (1.09)	0.03	0.25
Disposable pod/cartridge	25.5%	3.37 (0.85)	0.11	<0.001
Refillable tank/pod/cartridge	65.2%	3.13 (0.92)	-0.12	<0.001
Device WITHOUT adjustable wattage/voltage	50.6%	3.28 (0.92)	0.09	<0.01
Nicotine concentration (mg/mL)	25.71 (21.91)	3.21 (0.92)	0.15	<0.001
Nicotine salt ("Yes")	48.1%	3.31 (0.91)	0.11	<0.001
Primary flavor of e-liquid ("Tobacco menthol or menthol")	13.6%	3.40 (0.86)	0.08	<0.01

*Correlation coefficient and corresponding p-value were obtained using Spearman's correlation; $p<0.05$ significance bolded.

Discussion

- Findings from this study suggest that initiating e-cigarette use at an early age, use of disposable pod/cartridge device, device without adjustable settings and menthol-flavored liquid are correlated with higher e-cigarette use dependence among adults.
- Knowledge of correlates of e-cigarette use dependence among regular e-cigarette users can inform product regulations

Authors

Qinghua Nian, PhD; Joshua Sinamo, BS; Jeffrey J. Hardesty, MPH; Elizabeth Crespi, BA; Kevin Welding, PhD; Ryan Kennedy, PhD; Vikas Vattipally, BS; Joanna E. Cohen, PhD

www.jhsph.edu/igtc | www.cstp.vcu.edu

Acknowledgements: Research reported in this publication was supported by NIDA and FDA Center for Tobacco Products (CTP) under Award Number U54DA036105. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the Food and Drug Administration.