

**NICOTINE CONCENTRATIONS
OF E-CIGARETTE LIQUIDS
WITH AND WITHOUT
NICOTINE SALTS**

Presenter: Jeffrey J. Hardesty

Background

We examined the labeled nicotine concentrations in ECIG liquids by type of nicotine formulation (salt vs free-base) used by adults who are regular ECIG users

Methods

- 256 adult (21+) regular ECIG users (5+ days of use per week) completed an online survey
- Participants were recruited from 40 US cities between May and July 2020 using social media and Craigslist ads and were asked to submit a photo of their most commonly used ECIG liquid container
- The Mann Whitney U test was used to test for significance

Results

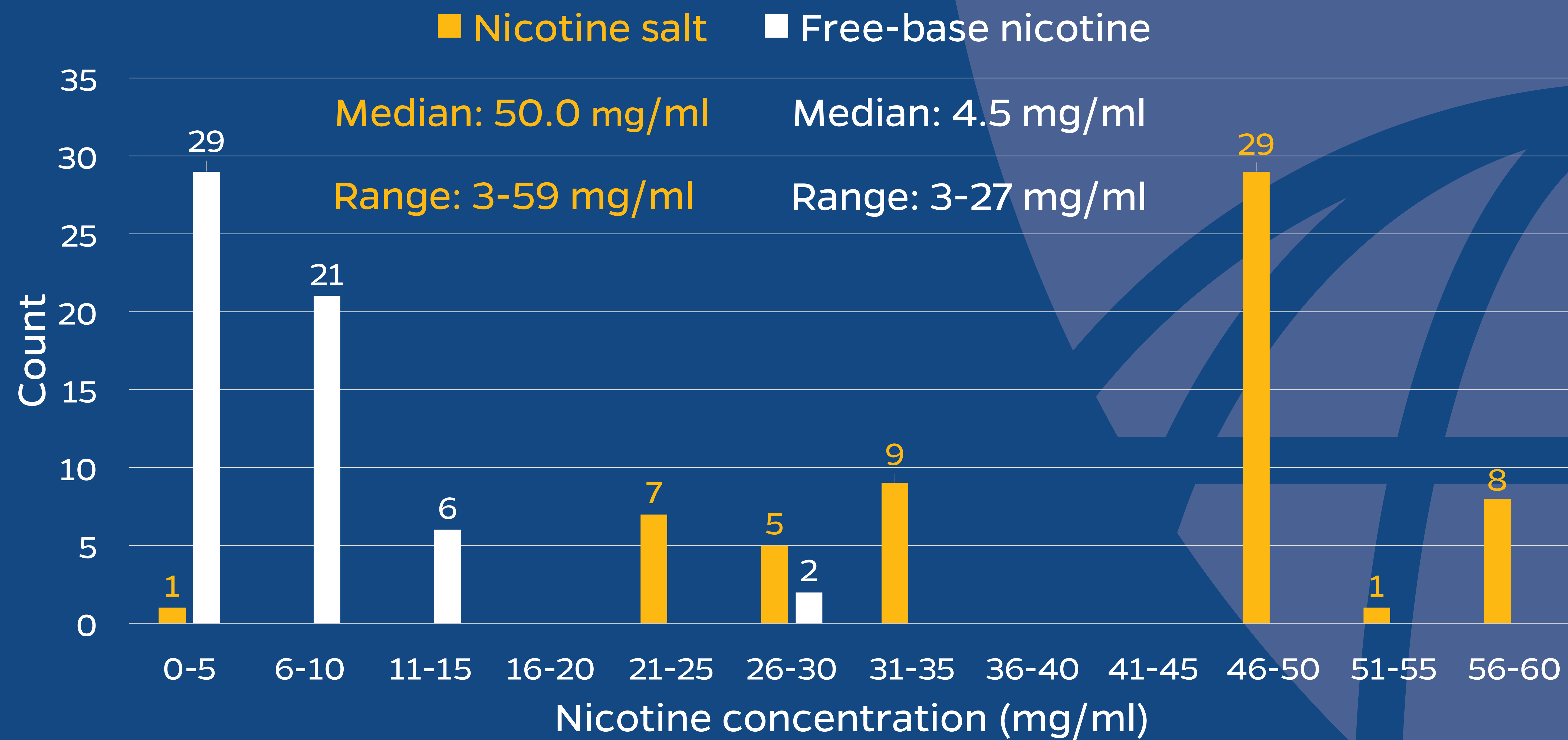
- Of the 256 participants, 118 submitted photos of ECIG liquids with sufficient detail to ascertain nicotine concentration and formulation (46%)
- 51% of these participants were using nicotine salt liquids (n=60) whereas 49% were using free-base nicotine (n=58)
- The difference between the median nicotine concentration of nicotine salts (50 mg/ml) and free-base nicotine (4.5 mg/ml) was significant (p<0.0001)



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ECIG users who use nicotine salt liquids tend to vape higher nicotine concentrations than those who use free-base nicotine liquids



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Discussion

- Our results suggest that nicotine salts are used by adults who are regular ECIG users
- Those using salt-containing ECIG liquids typically were using nicotine concentrations nearly 17-fold higher than those using free-base nicotine-containing liquids

Authors

Jeffrey J. Hardesty, MPH; Elizabeth Crespi, BA; Ryan Kennedy, PhD; Kevin Welding, PhD; Alison B. Breland, PhD; Thomas Eissenberg, PhD; Joanna E. Cohen, PhD

Competing interests

Dr. Eissenberg is a paid consultant in litigation against the tobacco industry and also the electronic cigarette industry and is named on one patent for a device that measures the puffing behavior of electronic cigarette users and on another patent for a smartphone app that determines electronic cigarette device and liquid characteristics

