Do consumers look for terpenes in their cannabis products? Findings from a pilot study of concurrent vapers of nicotine and cannabis

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Introduction

Terpenes are aromatic compounds found in nicotine and cannabis vaping products. Terpenes are promoted by the cannabis industry as having beneficial health effects, yet the evidence on this topic is still evolving. We examined whether vapers consider terpenes as a factor in their cannabis purchasing decisions, and their awareness of terpenes in their vaping products.

Methods

A sample of n=112 concurrent users of vaped nicotine and cannabis were recruited from Amazon Mechanical Turk from June-August 2020 for a survey on inhaled nicotine and cannabis use behaviors.

- Eligible participants were aged 18 or older, residents of the country of Canada or a U.S. state with medical or recreationally-legal cannabis, reported past 30-day use of vaped nicotine *and* vaped cannabis, and usually used their vaping products at least monthly.
- All participants responded to questions about nicotine and cannabis vaping behaviors, while participants who reported smoking cannabis or tobacco cigarettes answered additional questions about use of those products.
- The survey took 25-30 minutes to complete, and participants were paid a total of $5.00 for their time.

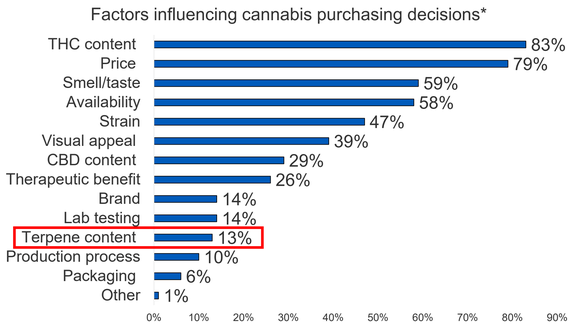
Study Measures

- Participants were asked to select from a list of 14 non-mutually exclusive factors that influence their cannabis purchases, including terpene content.
- Those who endorsed terpenes as a factor in their cannabis purchases were asked to identify specific terpenes they sought.
- A subset of vapers who used cannabis e-liquids (n = 86) were asked to identify ingredients present in their products from a list of six pre-specified constituents, including terpenes.

Data Analysis

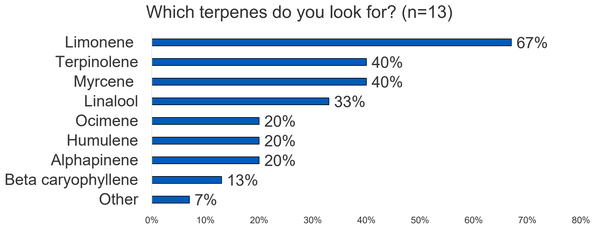
- Frequencies were examined to identify users' prioritization of terpenes in cannabis purchasing decisions, specific terpenes sought out, and presence of terpene in cannabis oil vaping products.
- Logistic regression was used to estimate the odds of seeking out terpenes when purchasing cannabis.

Results



*Participants were permitted to select more than one answer.

Results



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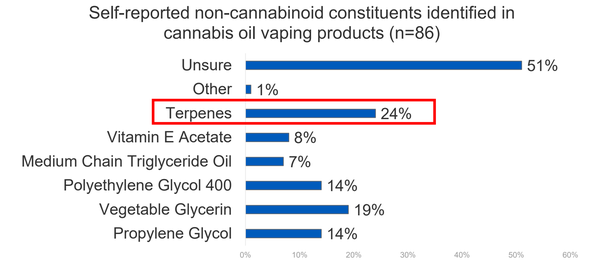

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Odds of seeking out terpenes when purchasing cannabis (n=109)

	aOR	95%L	95%U
Age	0.98	0.91	1.06
Female	0.91	0.27	3.08
GAIN-SS substance use problems score	1.04	0.67	1.60
Nicotine vaping days per month	1.01	0.94	1.09
Cannabis vaping days per month	1.01	0.93	1.09
Cannabis smoking days per month	**1.10***	**1.01**	**1.22**

*p<0.05. GAIN-SS and use frequency measures entered as continuous covariates.

Summary of Findings

- Most vapers did not cite terpenes as a major factor in their cannabis purchases.
- Among those that did, limonene was the most commonly sought after terpene.
- Nearly one-quarter of those vaping cannabis oils reported awareness of terpenes as a constituent in their vaping product, which ranked highest of named constituents.
- Odds of looking for terpenes when purchasing cannabis increased as cannabis smoking days per month increased.

Conclusions

- While consumers don't cite terpenes as a major factor when purchasing cannabis, they are aware terpenes are present in their cannabis vaping products.
- Findings support evaluating consumer awareness and use of terpene-containing products as the cannabis market evolves.

Acknowledgements

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Disclosures

Maciej L. Goniewicz has served on an advisory board to Johnson & Johnson, and has received funding from Pfizer, a manufacturer of smoking cessation medications. The other authors have no conflicts to declare.