Reported patterns of vaping to support long term abstinence from smoking: 1-year follow-up survey

Part of the Electronic Cigarette Trajectories (ECtra) Study

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Background

• E cigarettes are now the most popular aid to quitting smoking in the UK
• Although many smokers quit, most attempts result in relapse
• None of the traditional options for support (e.g. nicotine replacement therapy) can meet all dimensions of smoking - physical, psychological, social, cultural and identity
• Much relapse prevention evidence predates widespread use of e-cigarettes
• Might e-cigarettes play a role in relapse prevention?
The ECtra Study

• Explored in-depth participant perspectives on patterns of e-cigarette use over time in the context of smoking cessation or relapse
• Qualitative interviews and thematic analysis
• Photo elicitation to explore patterns of use
• Vape shop observations.
The ECtra Qualitative Study – Key Findings

• Vaping meets the long term needs of ex-smokers for all dimensions of addictive behaviour
• Vaping can be incorporated easily into daily routines – substituting smoking patterns or allowing ‘little and often’ use to satisfy cravings
• E-cigarettes are pleasurable to use, encouraging long term use
• Vaping may encourage those who never intended to quit to eventually quit (‘accidental quitting’)
• Evidence of ‘permissive lapses’ that don’t necessarily slide towards full relapse, providing a ‘no pressure’ quit strategy.
ECtra Survey

• Qualitative study recruited very well
• Additional participants directed to online survey – convenience sample
• Qualitative and quantitative data collected – this presentation is focused on the quantitative
• Topics covered included device types, e-liquid strengths and flavours and relapse after initial device choice
• Conducted initially in 2018, followed up 1 year later.
Participants entered online interview Version 1 (n=249)

Did not consent V1 (n=66)

Participants consented to participate (n=183)

Total participants in online interview (T1) (n=371)

Retained at 1-year follow-up (T2) (n=147)

Participants entered online interview Version 2 (n=260)

Did not consent V2 (n=249)

Participants consented to participate (n=188)
### Demographics

<table>
<thead>
<tr>
<th></th>
<th>Time 1 online survey (n=371)</th>
<th>Time 2 online survey (n=147)</th>
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<tbody>
<tr>
<td>Gender</td>
<td>23.63% Female</td>
<td>24.4% Female</td>
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<tr>
<td>Mean age</td>
<td>49 (SD 11.61)</td>
<td>51 (10.70)</td>
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<tr>
<td>Ethnicity</td>
<td>96.19% White</td>
<td>96.2% White</td>
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<td>Mean CPD prior to cessation</td>
<td>33.8</td>
<td>27.1</td>
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<tr>
<td>Vaping status</td>
<td>96.7% Vaping and abstinent from tobacco &lt;1% Abstinent from both vaping and tobacco 3.1% Dual using</td>
<td>95.2% Vaping and abstinent from tobacco 3.4% Abstinent from both vaping and tobacco 1.4% Dual using</td>
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Hypotheses at T1

1. Those who initiate vaping with an earlier generation device will be more likely to relapse

2. Those who start on a low nicotine strength, after controlling for cigarettes per day, will be more likely to relapse

3. There will be a relationship between device type and nicotine strength
Results at T1

- Most participants initiated e-cigarette use with a vape pen (45.8%) or cig-a-like (38.7%) before moving onto a tank device (89%).

- Those using a tank or vape pen were less likely to relapse than those using a cig-a-like (tank vs. cig-a-like OR = 0.06, 95% CI 0.01 to 0.64, p = 0.019).

- Inverse association between starting nicotine strength and relapse, interacting with device type (OR = 0.79, 95% CI 0.63 to 0.99, p = 0.047). Suggests risk of relapse was greater if starting with a low nicotine strength and/or less sophisticated device.

- Moved from higher strength, earlier generation, tobacco flavoured devices onto lower strength, later generation, food flavours over time.
Hypotheses at T2

1. The proportion of respondents who report using a mod and tank device will be higher at 1-year follow-up than in the initial survey

2. Self-reported e-liquid nicotine concentration will be lower at 1-year follow-up than in the initial survey

3. The proportion of respondents who report using a non-tobacco flavours will be higher at 1-year follow-up than in the initial survey.
Device types

* P<0.01
Self-report e-liquid nicotine concentration

* $P<0.001$
E-liquid flavours over time

*May include tobacco flavours
Limitations

• Cross-sectional survey
• Recall bias
• Convenience sample
• Sample size
• Not all participants completed all questions
• Two versions of the T1 survey
• Attrition at T2.
Implications

• Those initiating vaping with a less sophisticated device and lower nicotine strength e-liquid appeared to potentially be at higher risk of relapse to tobacco smoking.

• Patterns of use changed over time, moving away from higher nicotine, earlier generation devices and tobacco flavours to more modern, lower nicotine sweet flavours.

• May be possible to make some recommendations to those wishing to avoid smoking relapse through vaping based on this.
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