



Prevalence and characteristics of e-cigarette users in Great Britain: Findings from a general population survey of smokers



Jamie Brown^{a,b,*}, Robert West^{a,b,c}, Emma Beard^{a,b}, Susan Michie^{b,c,d}, Lion Shahab^{a,d}, Ann McNeill^{b,e}

^a Cancer Research UK Health Behaviour Research Centre, University College London, UK

^b UK Centre for Tobacco and Alcohol Studies

^c National Centre for Smoking Cessation and Training, London, UK

^d Department of Clinical, Educational and Health Psychology, University College London, London, UK

^e Addictions Department, Institute of Psychiatry, King's College London, UK

HIGHLIGHTS

- There is now near universal awareness of e-cigarettes.
- Use is common among smokers.
- Quarter of all smokers unsure as to whether they are less harmful than cigarettes.
- E-lites – a brand that delivers a low dose of nicotine – is the most popular.
- Users have higher SES, smoke more heavily and have attempted to quit recently.

ARTICLE INFO

Available online 12 March 2014

Keywords:

Smoking
Cessation
Quitting
E-cigarettes
Electronic cigarettes

ABSTRACT

Background: E-cigarettes may be effective smoking cessation aids and their use by smokers has been growing rapidly. It is important to observe and assess natural patterns in the use of e-cigarettes whilst experimental data accumulates. This paper reports the prevalence of e-cigarette awareness, beliefs and usage, including brand choice, and characterises the socio-demographic and smoking profile associated with current use, among the general population of smokers and recent ex-smokers.

Methods: Data were obtained from 3538 current and 579 recent ex-smokers in a cross-sectional online survey of a national sample of smokers in Great Britain in November and December 2012. Differences between current and recent ex-smokers in the prevalence of e-cigarette awareness, beliefs and usage were examined and the socio-demographic and smoking profile associated with current use of e-cigarettes was assessed in a series of simple and multiple logistic regressions.

Results: Ninety-three percent of current and recent ex-smokers ($n = 3841$) were aware of e-cigarettes. Approximately a fifth ($n = 884$) were currently using e-cigarettes, whilst just over a third ($n = 1507$) had ever used them. Sixty-seven percent of the sample ($n = 2758$) believed e-cigarettes to be less harmful than cigarettes; however, almost a quarter ($n = 994$) remained unsure. Among both current and recent ex-smokers, the most popular reasons for using were health, cutting down and quitting (each >80%) and 38% used the brand 'E-lites'. Among current smokers who were aware of but had never used e-cigarettes, approximately half ($n = 1040$) were interested in using them in the future. Among current smokers, their use was associated with higher socio-economic status (OR = 1.48, 95%CI = 1.25–1.75), smoking more cigarettes (OR = 1.02, 95%CI = 1.01–1.03) and having a past-year quit attempt (OR = 2.82, 95%CI = 2.38–3.34).

Conclusions: There is a near universal awareness of e-cigarettes and their use appears to be common among smokers in Great Britain although a quarter of all smokers are unsure as to whether e-cigarettes are less harmful than cigarettes. E-lites – a brand that delivers a low dose of nicotine – is the most popular. E-cigarette users appear to have higher socio-economic status, to smoke more cigarettes per day and to have attempted to quit in the past year.

© 2014 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/3.0/>).

* Corresponding author at: Health Behaviour Research Centre, Department of Epidemiology and Public Health, University College London, 1–19 Torrington Place, London WC1E 6BT, UK. Tel.: +44 20 7679 53179; fax: +44 20 7679 8354. E-mail address: jamie.brown@ucl.ac.uk (J. Brown).

1. Introduction

Smoking is one of the leading risk factors for premature death and disability (Lim et al., 2012). The mortality and morbidity associated with cigarette smoking arises primarily from the inhalation of toxins other than nicotine contained within the smoke. By providing a heated vapour containing nicotine without tobacco combustion, electronic cigarettes (e-cigarettes) appear to reduce the cravings and withdrawal symptoms associated with abstinence in smokers (Bullen et al., 2010; Dawkins, Turner, Hasna, & Soar, 2012; Vansickel, Cobb, Weaver, & Eissenberg, 2010) whilst being much safer than ordinary cigarettes (Goniewicz, Knysak, et al., 2013). Moreover, e-cigarettes may be more effective in helping with smoking reduction or cessation than traditional forms of nicotine replacement therapy (NRT) by more closely mimicking the sensory experience and/or nicotine delivery of cigarettes. Two recent randomised controlled trials have suggested that e-cigarettes may aid smoking cessation (Bullen et al., 2013; Caponnetto et al., 2013).

E-cigarettes provide nicotine via a vapour that is drawn into the mouth and upper airways as with cigarettes (Bullen et al., 2010). These devices use a battery-powered heating element to heat a nicotine solution and transform it into vapour. The nicotine is suspended in a mixture of glycerin, propylene glycol or other humectant with water and provided in a cartridge or tank that in some cases are replaceable or refillable (Goniewicz, Knysak, et al., 2013). The process of transforming the solution to vapour is usually activated by the act of inhaling through, or 'vaping', the device (Dawkins, Turner, Roberts, & Soar, 2013). The concentration of nicotine delivered to the bloodstream appears to depend upon the experience of users and the brand of e-cigarette (Etter & Bullen, 2011; Vansickel & Eissenberg, 2013). The reason for the latter is likely that different e-cigarette brands and models vary considerably in the efficacy and consistency with which they vaporise nicotine (Goniewicz, Hajek, & McRobbie, 2014; Goniewicz, Kuma, Gawron, Knysak, & Kosmider, 2013).

Evidence to date suggests that e-cigarettes are increasing rapidly in popularity (Dawkins et al., 2012; Dockrell, Morison, Bauld, & McNeill, 2013; Pearson, Richardson, Niaura, Vallone, & Abrams, 2012). An international study (Adkison et al., 2013), which included the United Kingdom (UK), carried out in 2010/11, found high awareness of e-cigarettes, but low levels overall of trial and usage (3% overall, 4% in the UK). However, a population survey of a British sample found that current use more than doubled between the beginning of 2010 and the beginning of 2012 from approximately 3% to 7% (Dockrell et al., 2013). As a result of the speed with which e-cigarette prevalence is evidently increasing, it is important to continue monitoring the situation; the current study provides up-to-date figures on the latest prevalence.

Whilst assessments of the overall popularity of e-cigarettes are valuable, the variability in nicotine vaporisation between e-cigarettes (Goniewicz, Kuma, Gawron, Knysak, & Kosmider, 2013; Goniewicz et al., 2014) means that it is also useful to assess which e-cigarette brands are most prevalent. Such data could inform future real-world assessments of the public health impact of e-cigarettes. Inferences can be drawn on the leading e-cigarette brands by using sales figures from convenience stores, which appear to suggest that in the United States (US) the leading brands are 'NJOY', 'bluCigs' and 'Logic' (Esterl, 2013) and in the UK it is E-Lites and Nicolites (Eastwood, 2014). However, industry wide sales numbers are scarce (Esterl, 2013), and with e-cigarettes often purchased online, it is important to assess the popularity of different brands by asking users directly.

Data are limited on usage patterns and characteristics among representative samples of smokers. One population survey of a US sample in 2010 indicated that approximately 11% of current smokers and 2% of former smokers had ever used e-cigarettes and were more likely to be from higher socio-economic groups (Pearson et al., 2012). The international study, referred to above, found that well educated smokers were more likely to be e-cigarette users and their use was also associated

with two extremes of smoking frequency – nondaily smokers and heavier smokers (more than 20 cigarettes a day; Adkison et al., 2013).

In view of the growing popularity of e-cigarettes, there is a need for an up-to-date assessment in Great Britain among current and recent ex-smokers of i) beliefs about, awareness and prevalence of e-cigarette use, including different brands, ii) usage patterns of e-cigarettes, and iii) the socio-demographic and smoking characteristics associated with their use.

2. Methods

2.1. Study design

This was a cross-sectional online survey of a sample of the general population of smokers in Great Britain. The study sample was recruited from an online panel managed by Ipsos MORI. The panel consists of contact details for members of the public who have expressed an interest in taking part in research surveys in exchange for vouchers or entering prize draws. Members of the panel who had smoked in the past-year were invited to complete the full online survey. Approval was granted by the University College London ethics committee.

2.2. Participants

During November and December 2012, a total of 23,785 respondents were asked a screening question about their current smoking status of whom 25.9% ($n = 6165$) had smoked in the past year. This prevalence of past-year smoking was similar to that identified by a face-to-face survey of representative samples of the population in England during 2012 (West & Brown, 2013). Of these 6165 smokers, 4117 provided complete data on all survey items and were included in the current study.

2.3. Measures

Smoking status was assessed by asking: 'Which of the following best applies to you?': (a) 'I smoke cigarettes (including hand-rolled) every day'; (b) 'I smoke cigarettes (including hand-rolled) but not every day'; (c) 'I do not smoke cigarettes at all but I do smoke tobacco of some kind (e.g. pipe or cigar)'; and (d) 'I have stopped smoking completely in the last year'. Those responding 'Yes' to either (a), (b), or (c) were classified as current smokers and those responding 'Yes' to (d) were classified as recent ex-smokers.

Current and recent ex-smokers were subsequently asked questions that assessed gender, age and socio-economic status by the occupationally-based National Statistics Socio-Economic Classification (NS-SEC) self-coding method (Office for National Statistics, 2005). The 8-point NS-SEC classification was dichotomised into 'high' (managerial, professional & intermediate occupations) and 'low' (routine & manual occupations) socio-economic status. Cigarettes per day, previous attempts to quit smoking, and e-cigarette awareness, beliefs and usage were also assessed (see Appendix A for the questions).

2.4. Procedure

As members of an online panel maintained by Ipsos MORI, respondents were invited by email to participate in an online survey about smoking. Respondents were told that by completing the survey they would earn points which could be redeemed against high street vouchers or used to enter a prize draw.

2.5. Analysis

The analysis plan was agreed a priori and data were analysed using SPSS 21.0.0.0. Differences between current and recent ex-smokers in socio-demographic and smoking characteristics and in awareness, beliefs and usage relating to e-cigarettes were examined with χ^2 tests and one-way ANOVAs for categorical and continuous variables respectively.

Download English Version:

<https://daneshyari.com/en/article/10443305>

Download Persian Version:

<https://daneshyari.com/article/10443305>

[Daneshyari.com](https://daneshyari.com)