Vaping – „paření“ v novom zmysle slova

Miroslav Grohol

Sekcia drogových závislostí SPsS SLS

Psychiatrické oddelenie NsP Sv. Jakuba, n.o., Bardejov

Disclosure

- žiadne potenciálne konflikty záujmov
- exfajčiar

Terminológia

- „vape“ (= „pariť“)
  – skr. od *angl.* vaporize = 1630s: to smoke (tobacco) = fajčiť (tabak)
  1803: to convert into vapor = premeniť na paru
  – od *lat.* vapor (para)

- 1983 – prvé použitie:
  Rob Stepney: „Why do people smoke“ *(New Society)*
  “an inhaler or ‘non-combustible’ cigarette, looking much like the real thing, but…delivering a metered dose of nicotine vapour. (The new habit, if it catches on, would be known as vaping.)”

- 2014 – slovo roka v *Oxford dictionaries*

- *fr.* „vapoter“, *nem.* „dampfen“

http://www.etymonline.com/index.php?term=vaporize&allowed_in_frame=0
http://blog.oxforddictionaries.com/press-releases/vape-named-oxford-dictionaries-word-year-2014/
http://blog.smoke-watchers.com/dou-vient-le-mot-vapoter/

Technický princíp

- tvorba aerosólu (nie para v pravom zmysle) z tekutiny

- *med.* vaporizátor (elektrický, zohrievanie)
- *med.* nebulizátor (mechanický, ultrazvukový)

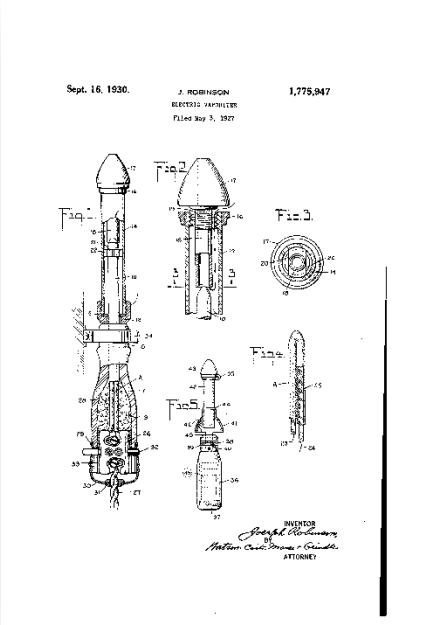
- použitie: fytoinhalácia, aromaterapia, aerosoloterapia, bronchodilatačná liečba a iné

Elektricky poháňaný (batériou nabíjaný) osobný nikotínový vaporizátor / inhalátor

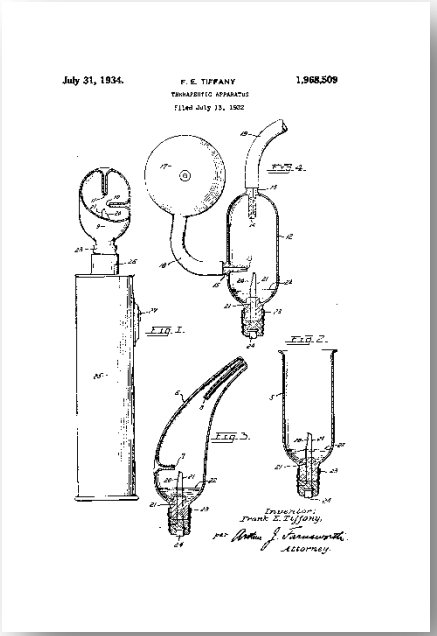
Zloženie

http://blog.etobb.com/wp-content/uploads/2015/10/0-3.jpeg

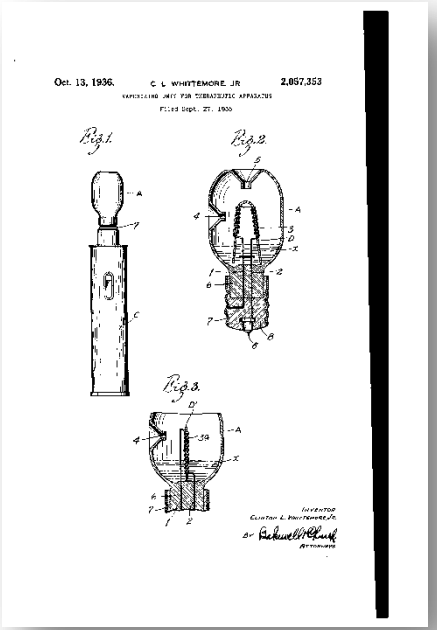
História



Joseph Robinson (1927)
Electric vaporizer
US1775947 A



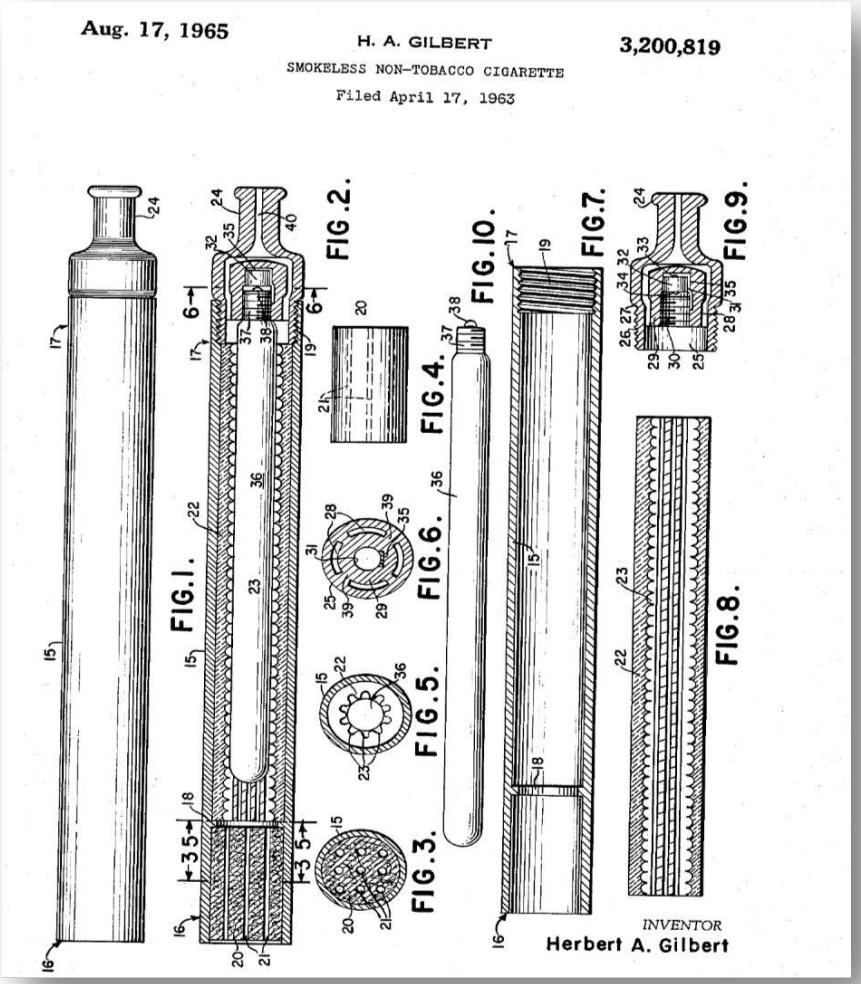
Frank E. Tiffany (1932)
Therapeutic apparatus
US1968509 A



Clinton L. Whittemore (1935)
Vaporizing unit for therapeutic
US2057353 A

„Smokeless non-tobacco cigarette“ *(Gilbert, 1965)*

Herbert A. Gilbert



Aug. 17, 1965 H. A. GILBERT 3,200,819

SMOKELESS NON-TOBACCO CIGARETTE

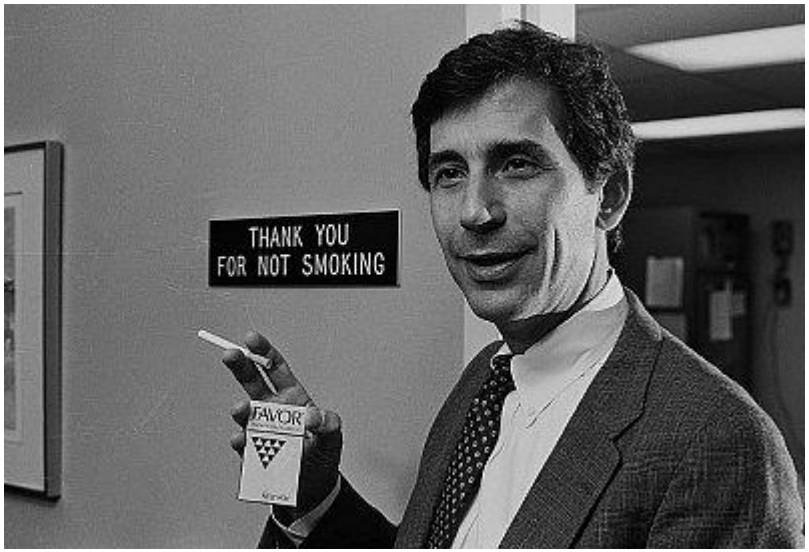
Filed April 17, 1963

FIG. 1. FIG. 2. FIG. 3. FIG. 4. FIG. 5. FIG. 6. FIG. 7. FIG. 8. FIG. 9. FIG. 10.

INVENTOR

Herbert A. Gilbert

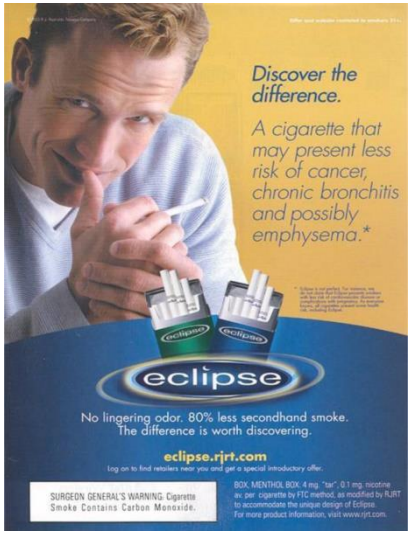
Favor cigarette (čistý nikotín)
(Phil Ray / Norman Jacobson, 1979)



„Do yourself a favor!“
Advanced Tobacco Products INC

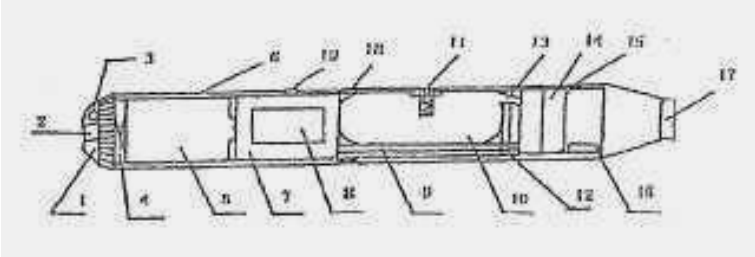
http://www.ecigarettedirect.co.uk/ashtray-blog/2014/06/favor-cigarette-interview-dr-norman-jacobson.html

„Heat-not-burn“ tobacco products (zn. *Premier* of f. *Reynolds* od r. 1988)



Electronic atomization cigarette
(Hon Lik, 2003)

„A flameless electronic atomization cigarette“ *(Hon Lik, 2003)*



Prvé cigarety zn. Ruyan, RY4

Dnešné e-cigary zn. Ruyan, model T110

v r. 2006 do Európy
v r. 2007 do USA

(19) **United States**
(12) **Patent Application Publication** (10) **Pub. No.: US 2007/0267031 A1**
Hon (43) **Pub. Date: Nov. 22, 2007**

(54) **ELECTRONIC ATOMIZATION CIGARETTE**

(76) Inventor: **Lik Hon**, Hong Kong (CN)

Correspondence Address:
PERKINS COIE LLP
POST OFFICE BOX 1208
SEATTLE, WA 98111-1208 (US)

(21) Appl. No.: **10/587,707**

(22) PCT Filed: **Mar. 18, 2005**

(86) PCT No.: **PCT/CN05/00337**

§ 371(c)(1),
(2), (4) Date: **Mar. 9, 2007**

(30) **Foreign Application Priority Data**

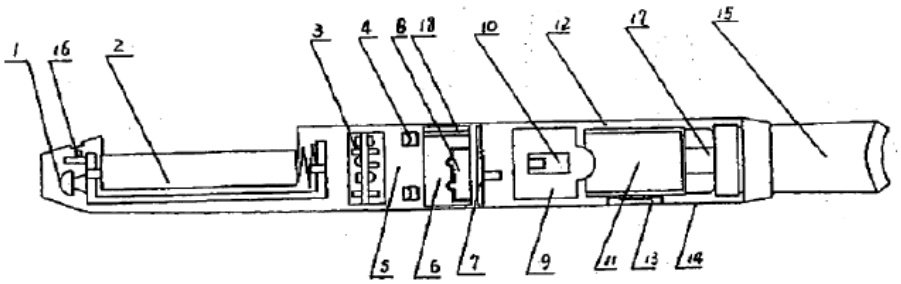
Apr. 14, 2004 (CN) 20040031182.0

Publication Classification

(51) **Int. Cl.**
A24F 47/00 (2006.01)
(52) **U.S. Cl.** 131/273; 131/359

(57) **ABSTRACT**

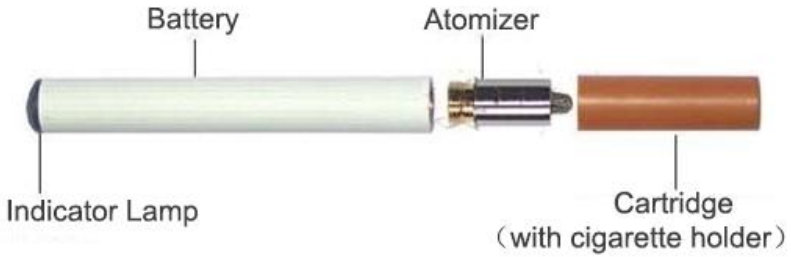
The present invention relates to an electronic atomization cigarette which only contains nicotine without harmful tar. The electronic atomization cigarette includes a shell and a mouthpiece. The external wall of the shell has an air inlet. An electronic circuit board, a normal pressure cavity, a sensor, a vapor-liquid separator, an atomizer, a liquid-supplying bottle are sequentially provided within the shell, wherein the electronic circuit board comprises an electronic switching circuit and a high frequency generator. A stream passage of the sensor is provided on one side of the sensor, and a negative pressure cavity is provided in the sensor. The atomizer and the liquid-supplying bottle is in contact with each other. An atomization cavity is arranged in the atomizer. A retaining ring for locking the liquid-supplying bottle is provided between one side of the liquid-supplying bottle and the shell, and an aerosol passage is provided on the other side of the liquid-supplying bottle. The air inlet, normal pressure cavity, vapor-liquid separator, atomizer, aerosol passage, gas vent and mouthpiece are sequentially interconnected. The advantages of the present invention include smoking without tar, significantly reducing the cancerogenic risk. Furthermore, users still feel as if they are smoking and experiencing the same excitement, and the cigarette is no need to be lit and is no fire risk.



Electronic nicotine delivery systems (ENDS)

http://www.fda.gov/ucm/groups/fdagov-public/documents/image/ucm455606.png

1. generácia: *„cig-a-like“*



2. generácia (eGOs): *„pen-style“ (personal vaporizer, PV)*

2. generácia (eGOs): *„pen-style“ (personal vaporizer, PV)*

3. generácia: *„tank-style“* al. *„mods“ (advanced personal vaporizers, APVs)*

Joyetech Evic AIO

Munstro by 2Puffs

APVs

Variable voltage /wattage (VV/VW)

Innokin iTaste VV4

Innokin iTaste MVP 3.0 Pro

4. generácia (asi od r. 2014)

Sub-ohm tanks

Zephyrus YD-ZEP

Vaporfi Volt

Temperature control (TC)

Smiss OmniTC

Sigelei 213 TC

yihi sx s6 mini

https://www.govype.com/uk/

Rozdiely medzi vapingom a fajčením

e-liquid

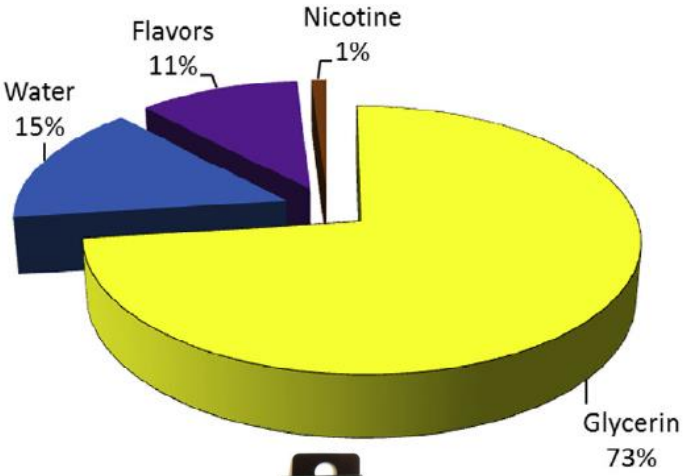
tabak

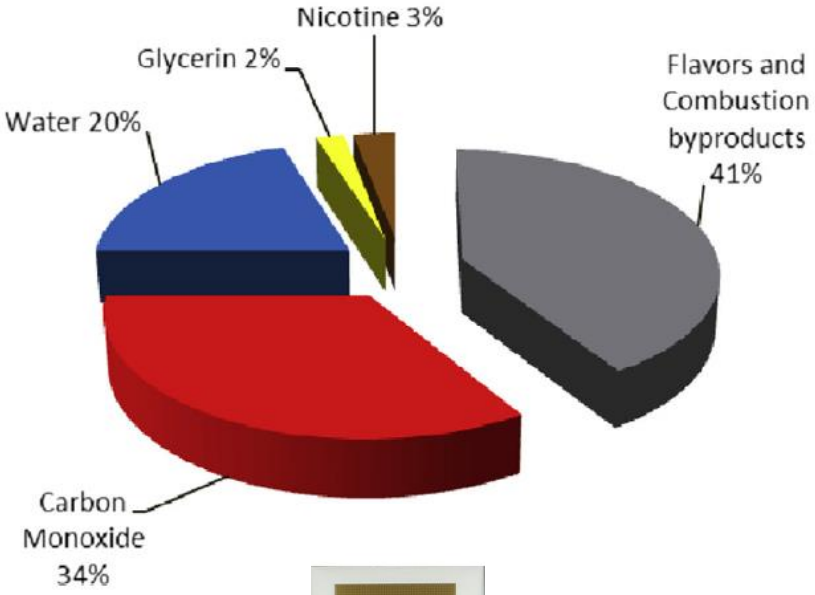
Rozdiely medzi vapingom a fajčením

cca < 300°C

až 800-900°C

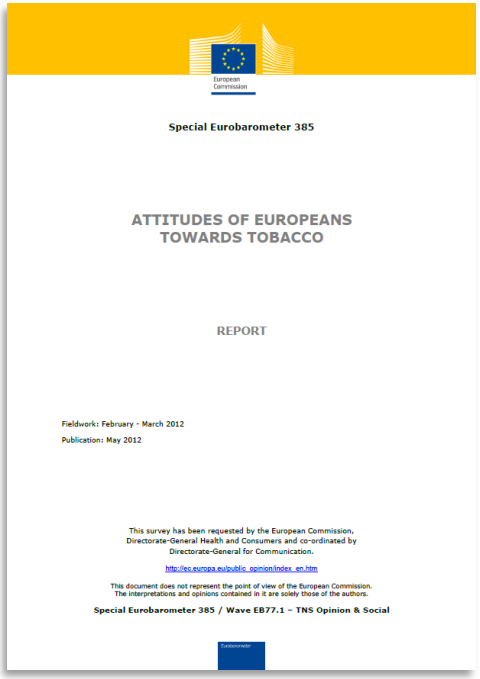
Rozdiely v zložení aerosólu z e-cigariet a klasických cigariet

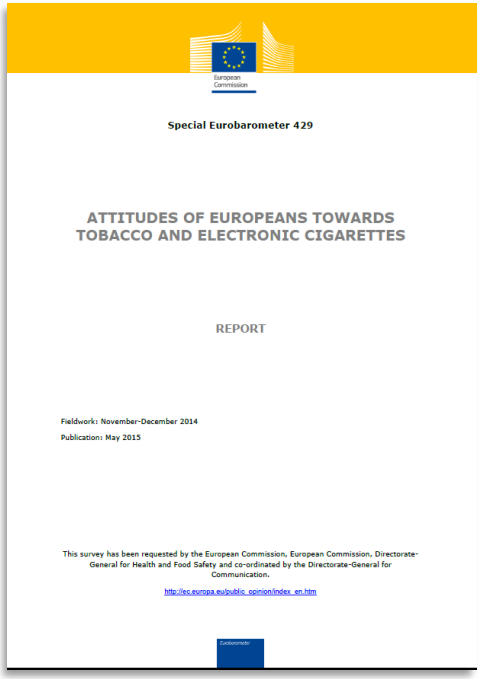




Tayyarahová a Long (2014). Toxicol Pharmacol. 2014 Dec;70(3):704-10

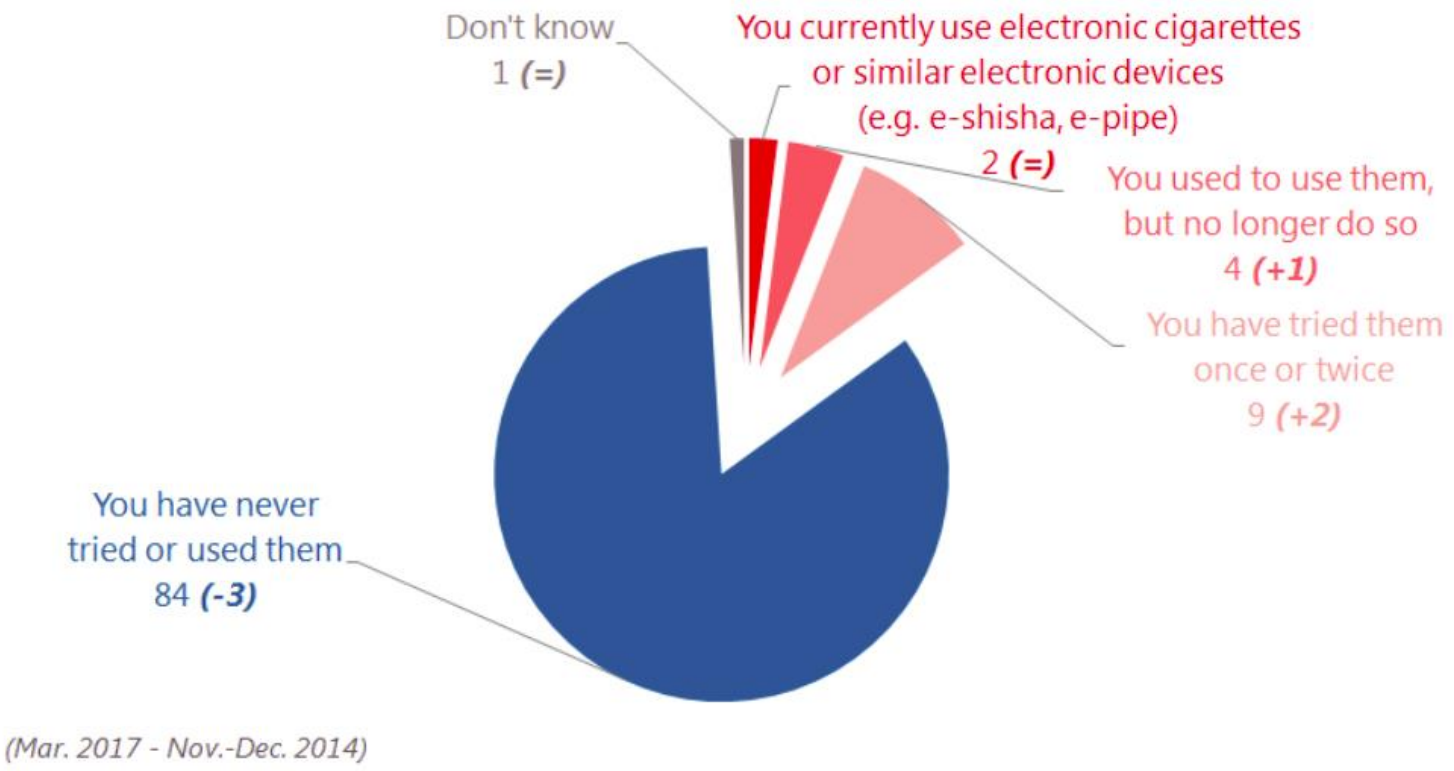
Attitudes of Europeans towards tobacco and electronic cigarettes





Special Eurobarometer No. 458

QB11 Which of the following statements about the use of electronic cigarettes or any similar electronic devices (e-shisha, e-pipe) applies to you?
(% - EU)

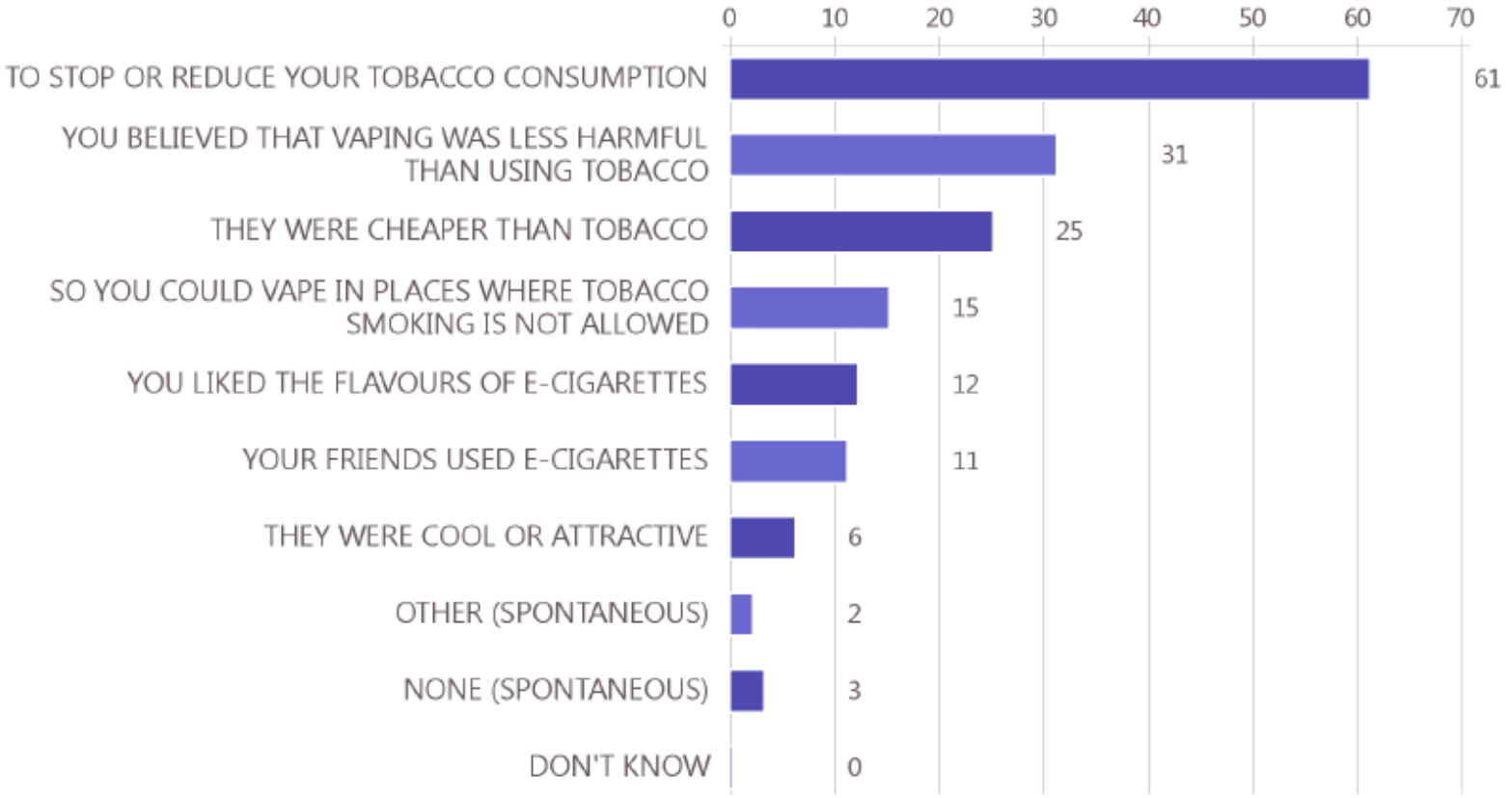


(Mar. 2017 - Nov.-Dec. 2014)

Base: All respondents, N=27,901

Special Eurobarometer No. 458

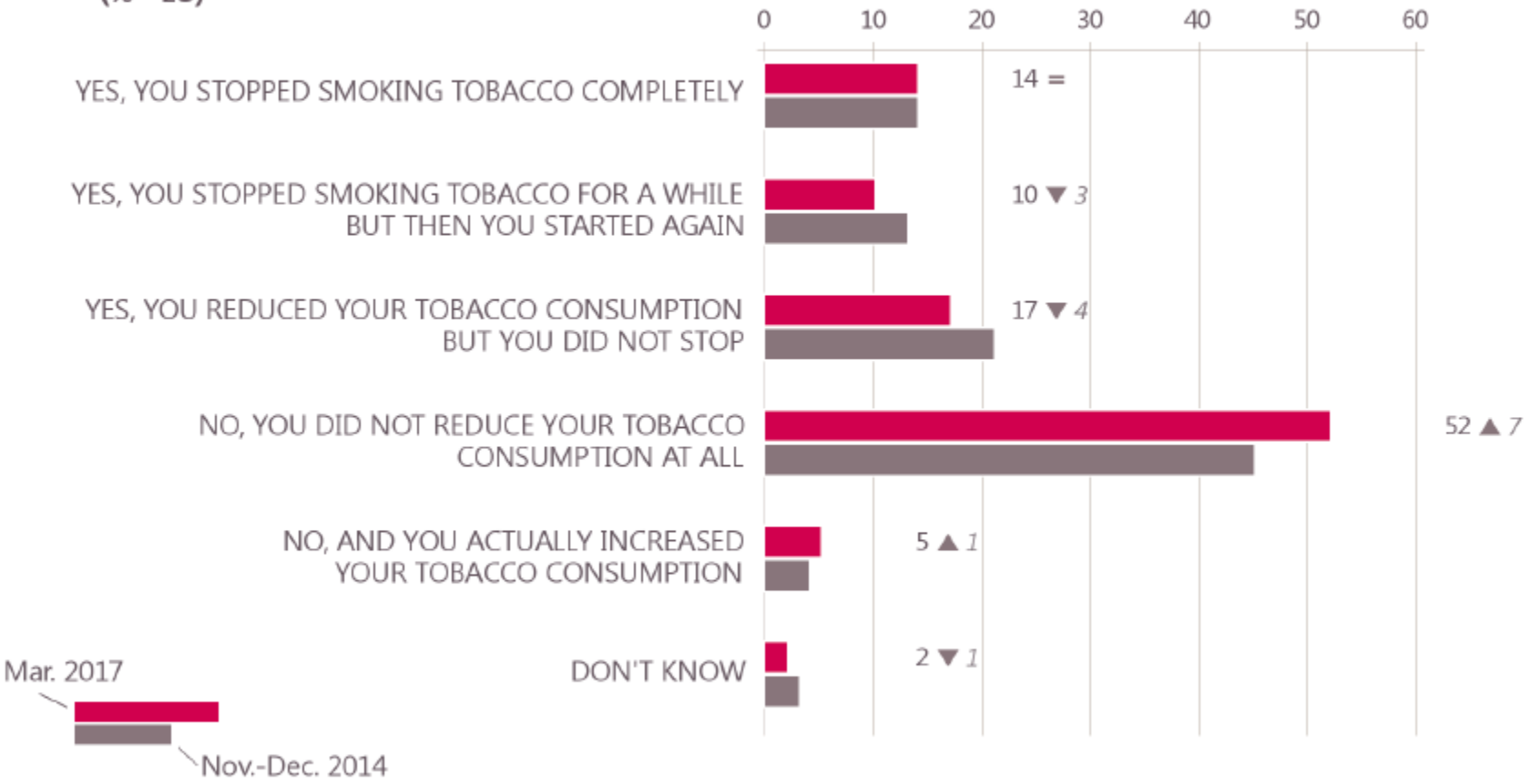
QB14 Which of the following factors, if any, were important in your decision to start using e-cigarettes? (MAX. 3 ANSWERS)
(% - EU)



Base: respondents who currently use or used e-cigarettes, N=1,565

Special Eurobarometer No. 458

QB15 You said that you smoke or used to smoke tobacco but also use, used or tried electronic cigarettes or a similar device. Did the use of electronic cigarettes or any similar device help you to stop or reduce your tobacco consumption?
(% - EU)



Base: respondents who smoke or used to smoke and have at least tried e-cigarettes, N=3,612

Do e-cigarettes have the potential to compete with conventional cigarettes?: a survey of conventional cigarette smokers' experiences with e-cigarettes.

prof. MUDr. Eva Králíková, CSc. [1]

Prof. Peter Hajek, MA, PhD, C Clin Psych [2]

Abstract

BACKGROUND:

Electronic cigarettes (ECs) are becoming increasingly popular globally. If they were to replace conventional cigarettes, it could have a substantial impact on public health. To evaluate EC's potential for competing with conventional cigarettes as a consumer product, we report the first data, to our knowledge, on the proportion of smokers who try ECs and become regular users.

METHODS:

A total of 2,012 people seen smoking or buying cigarettes in the Czech Republic were approached to answer questions about smoking, with no mention made of ECs to avoid the common bias in surveys of EC users. During the interview, the volunteers' experience with ECs was then discussed.

RESULTS:

A total of 1,738 smokers (86%) participated. One-half reported trying ECs at least once. Among those who tried ECs, 18.3% (95% CI, 0.15.7%-20.9%) reported using them regularly, and 14% (95% CI, 11.6%-16.2%) used them daily. On average, regular users used ECs daily for 7.1 months. The most common reason for using ECs was to reduce consumption of conventional cigarettes; 60% of regular EC users reported that ECs helped them to achieve this. Being older and having a more favorable initial experience with ECs explained 19% of the variance in progressing to regular EC use.

CONCLUSIONS:

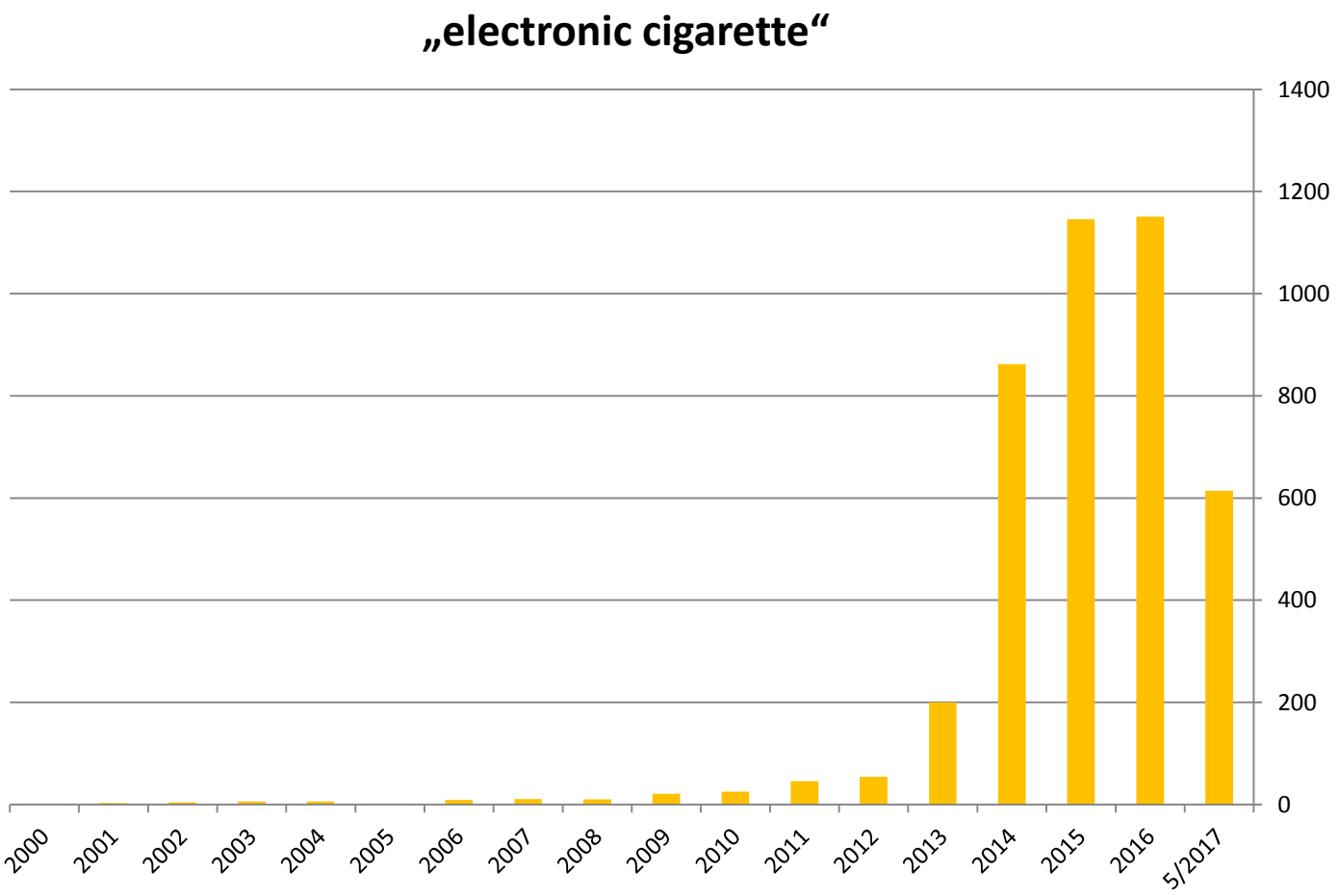
Almost one-fifth of smokers who try ECs once go on to become regular users. ECs may develop into a genuine competitor to conventional cigarettes. Government agencies preparing to regulate ECs need to ensure that such moves do not create a market monopoly for conventional cigarettes.

[1] Centrum pro závislé na tabáku III. interní kliniky 1. LF UK a VFN v Praze na Karlově náměstí

[2] Tobacco Dependence Research Unit, Wolfson Institute of Preventive Medicine, Queen Mary University of London, London, UK.

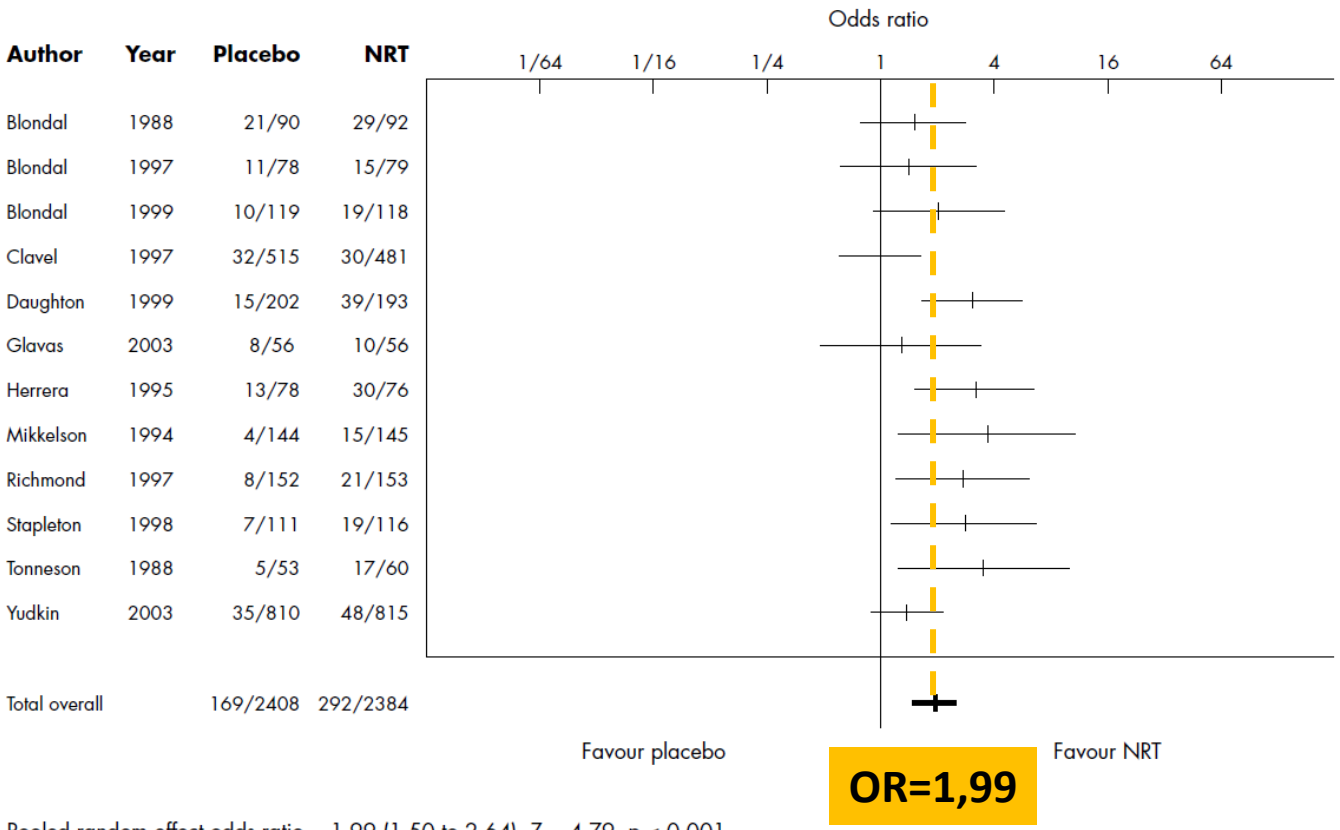
Kralikova et al. (2013). Chest. 2013 Nov;144(5):1609-14

PubMed


„electronic cigarette“
1400
1200
1000
800
600
400
200
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
5/2017

Nicotine replacement therapy for long-term (2-8y.) smoking cessation: a meta-analysis

Effect of nicotine replacement therapy (NRT) on longer term smoking cessation.



Author	Year	Placebo	NRT
Blondal	1988	21/90	29/92
Blondal	1997	11/78	15/79
Blondal	1999	10/119	19/118
Clavel	1997	32/515	30/481
Daughton	1999	15/202	39/193
Glavas	2003	8/56	10/56
Herrera	1995	13/78	30/76
Mikkelson	1994	4/144	15/145
Richmond	1997	8/152	21/153
Stapleton	1998	7/111	19/116
Tonneson	1988	5/53	17/60
Yudkin	2003	35/810	48/815
Total overall		169/2408	292/2384

Pooled random effect odds ratio = 1.99 (1.50 to 2.64) Z = 4.79, p < 0.001

Etter & Stapleton (2006). Tob Control. 2006 Aug;15(4):280-5.

Prehľad prehľadov

Naratívne a systematické prehľady

1. Orellana-Barrios et al. (2016a). Am J Med Sci. 2016 Oct;352(4):420-426.
2. Malas et al. (2016). Nicotine Tob Res. 2016 Oct;18(10):1926-1936.
3. Knight-West & Bullen (2016). Subst Abuse Rehabil. 2016 Aug 18;7:111-8.
4. Orellana-Barrios et al. (2016b). Lancet Respir Med. 2016 Jun;4(6):e24.
5. MacDonald et al. (2016). Syst Rev. 2016 May 21;5:85.
6. Leduc & Quoix (2016). Ther Adv Respir Dis. 2016 Apr;10(2):130-5.
7. Glasser et al. (2016) Am J Prev Med. 2017 Feb;52(2):e33-e66.
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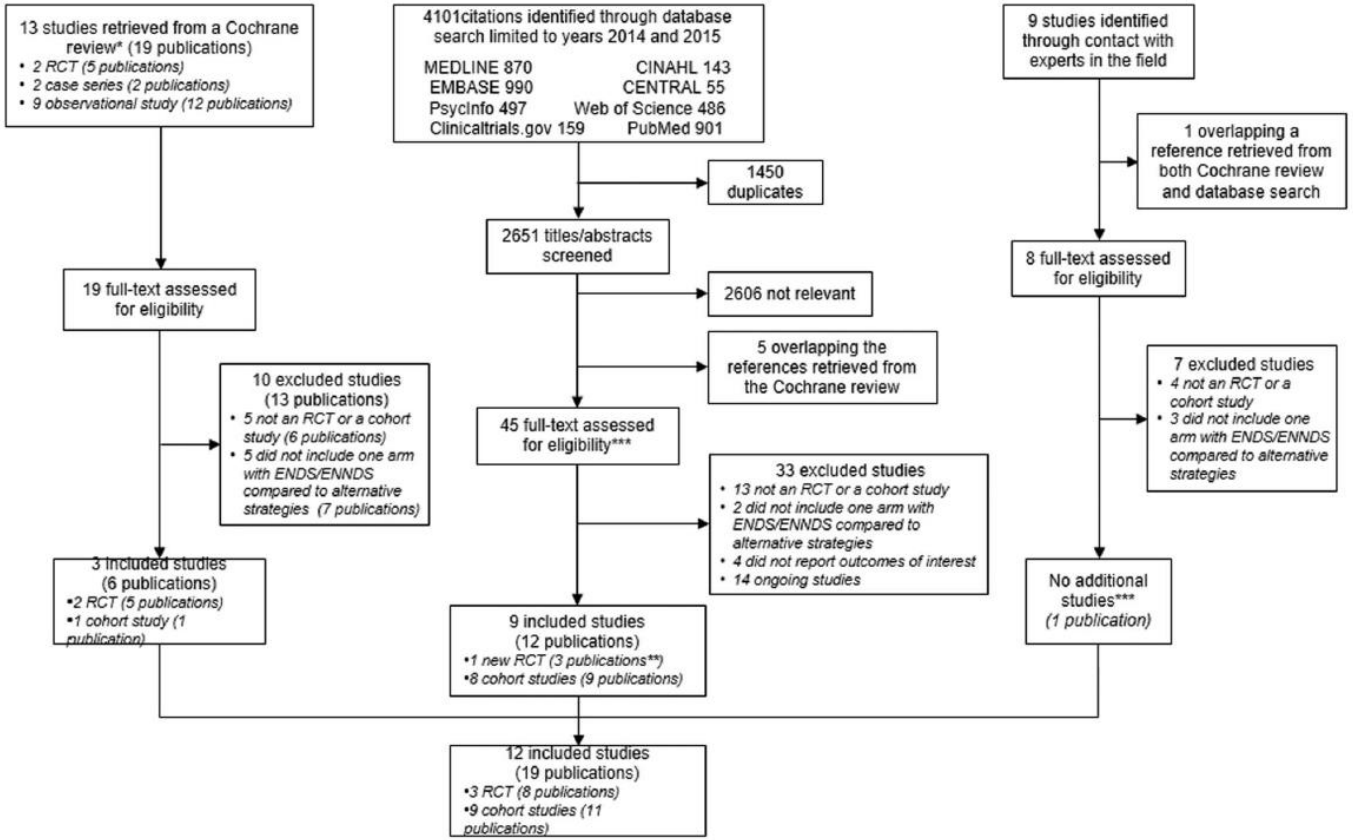
11. Rahman et al. (2014). Tob Induc Dis. 2014 Dec 15;12(1):21.
12. Orr & Asal (2014). Ann Pharmacother. 2014 Nov;48(11):1502-6.
13. Hajek et al. (2014). Addiction. 2014 Nov;109(11):1801-10.
14. Harrell et al. (2014). Otolaryngol Head Neck Surg. 2014 Sep;151(3):381-93.
15. Breland et al. (2014). J Addict Med. 2014 Jul-Aug;8(4):223-33.
16. Franck et al. (2014). Circulation. 2014 May 13;129(19):1945-52.
17. Odum et al. (2012). J Pharm Pract. 2012 Dec;25(6):611-4.
18. Caponnetto et al. (2012). Expert Rev Respir Med. 2012 Feb;6(1):63-74.

Systematické prehľady a meta-analýzy

1. El Dib et al. (2017). BMJ Open. 2017 Feb 23;7(2):e012680.
2. El Dib et al. (2016) for WHO: Electronic nicotine delivery systems and/or electronic non nicotine delivery systems for tobacco smoking cessation or reduction: a systematic review and meta-analysis
3. Vanderkamp et al. (2016). Presse Med. 2016 Nov;45(11):971-985.
4. Lindson-Hawley et al. (2016). Cochrane Database Syst Rev. 2016 Oct 13;10:CD005231.
5. Hartmann-Boyce et al. (2016). Cochrane Database Syst Rev. 2016 Sep 14;9:CD010216.
6. Scott-Sheldon et al. (2016). JMIR Mhealth Uhealth. 2016 May 20;4(2):e49.
7. Khoudigian et al. (2016). Int J Public Health. 2016 Mar;61(2):257-67.
8. Kalkhoran & Glantz (2016). Lancet Respir Med. 2016 Feb;4(2):116-28.
9. Rahman et al. (2015). PLoS One. 2015 Mar 30;10(3):e0122544.
10. Allehebi et al. (2015). Am J Respir Crit Care Med 191;2015:A3715
11. McRobbie et al. (2014). Cochrane Database Syst Rev. 2014;(12):CD010216.

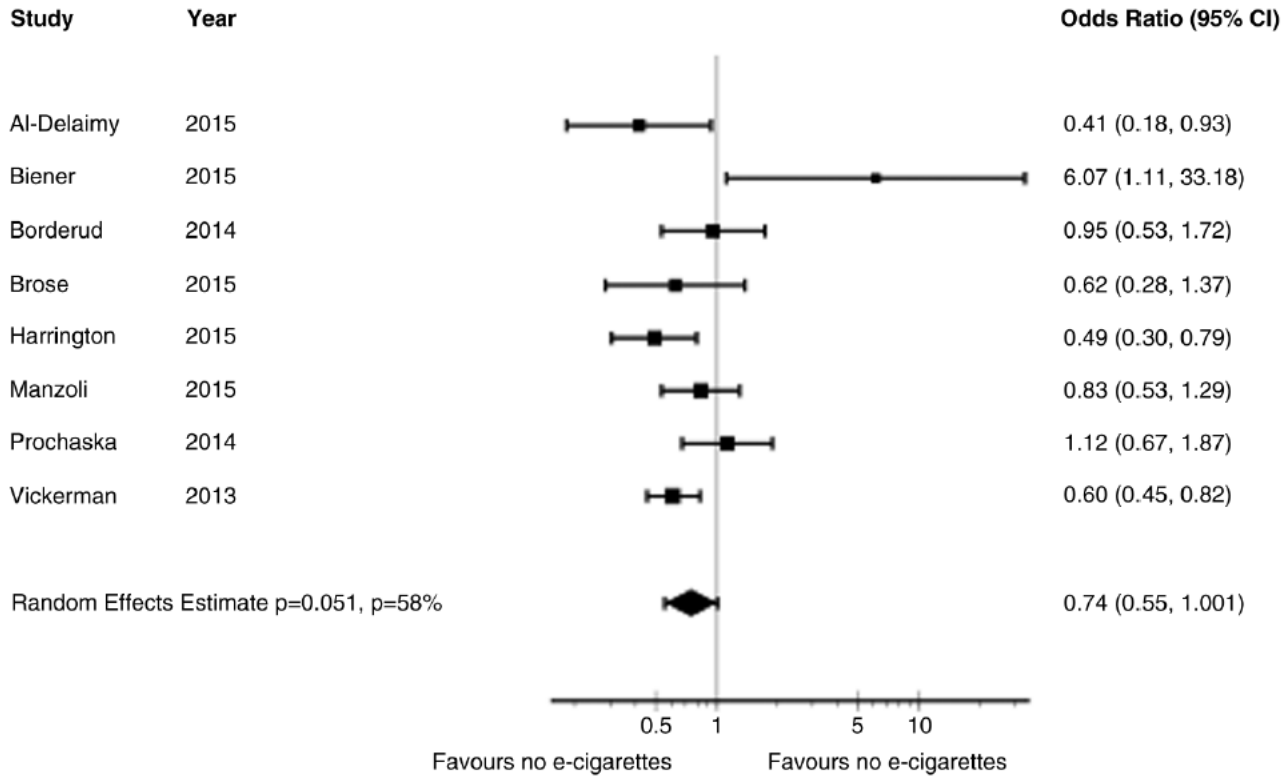
ENDS for tobacco smoking cessation / reduction *(PRISMA flow diagram)*



El Dib et al. (2017). BMJ Open. 2017 Feb 23;7(2):e012680.
El Dib et al. (2016) for WHO Prevention of Noncommunicable Diseases

ENDS for tobacco smoking cessation *(cohort studies – OR)*

Regina El Dib [1, 2]



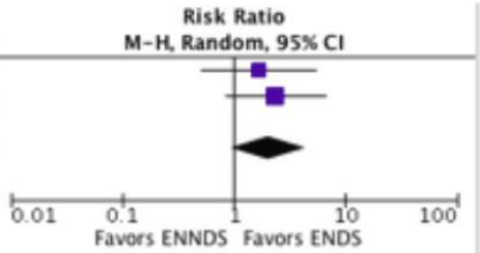
[1] McMaster Institute of Urology, McMaster University, Hamilton, Ontario, Canada
[2] UNESP—Univ Estadual Paulista, São Paulo, Brazil

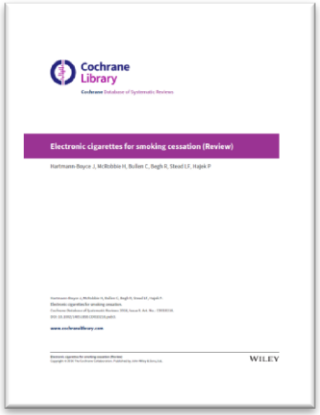
El Dib et al. (2017). BMJ Open. 2017 Feb 23;7(2):e012680.
El Dib et al. (2016) for WHO Prevention of Noncommunicable Diseases

ENDS for tobacco smoking cessation *(RCTs – RR)*

Study or Subgroup	ENDS Events	ENDS Total	ENNDS Events	ENNDS Total	Weight	Risk Ratio M-H, Random, 95% CI
Bullen 2013	21	241	3	57	42.9%	1.66 [0.51, 5.36]
Caponnetto 2013	22	128	4	55	57.1%	2.36 [0.85, 6.54]
Total (95% CI)		**369**		**112**	**100.0%**	**2.03 [0.94, 4.38]**
Total events	43		7			

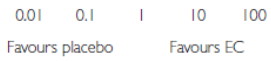
Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 0.20$, df = 1 (P = 0.65); $I^2 = 0\%$
Test for overall effect: Z = 1.80 (P = 0.07)





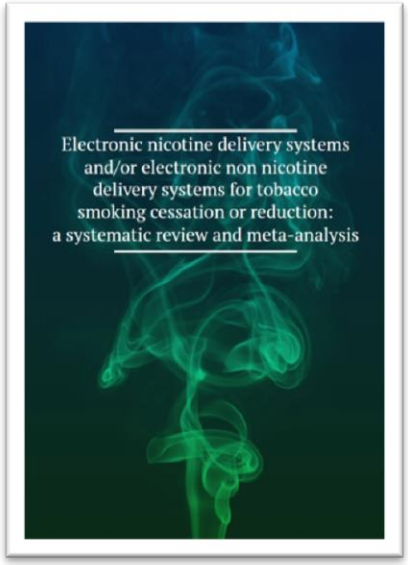
Study or subgroup	Experimental n/N	Control n/N	Risk Ratio M-H,Fixed,95% CI	Weight	Risk Ratio M-H,Fixed,95% CI
Bullen 2013	21/289	3/73		47.3 %	1.77 [0.54, 5.77]
Caponnetto 2013a	22/200	4/100		52.7 %	2.75 [0.97, 7.76]
Total (95% CI)	**489**	**173**		**100.0 %**	**2.29 [1.05, 4.96]**

Total events: 43 (Experimental), 7 (Control)
Heterogeneity: $Chi^2 = 0.30$, df = 1 (P = 0.58); $I^2 = 0.0\%$
Test for overall effect: Z = 2.09 (P = 0.037)
Test for subgroup differences: Not applicable



El Dib et al. (2017). BMJ Open. 2017 Feb 23;7(2):e012680.
El Dib et al. (2016) for WHO Prevention of Noncommunicable Diseases
Hartmann-Boyce et al. (2016). Cochrane Database Syst Rev. 2016 Sep 14;9:CD010216.

ENDS for tobacco smoking cessation *(relative risk / odds ratio)*



Typ štúdií	Počet štúdií	Počet osôb	OR / RR	p	GRADE
kohortové	9 (8)	13115	**0,74**	0,051	Very low
RCT	3 (2)	1007	**2,03**	0,07	Low

El Dib et al. (2017). BMJ Open. 2017 Feb 23;7(2):e012680.
El Dib et al. (2016) for WHO Prevention of Noncommunicable Diseases

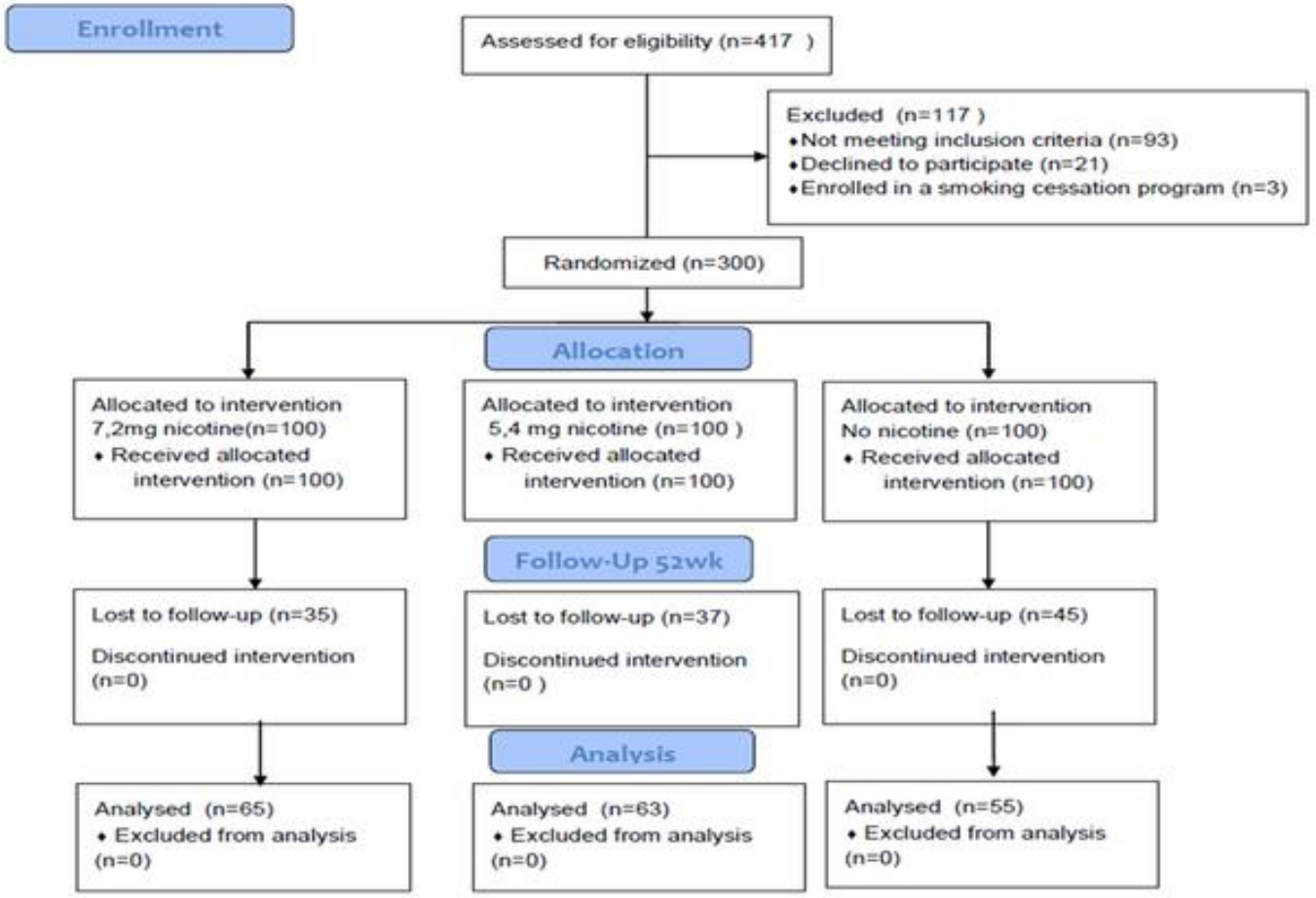
RCT

Autori publikácie	Registračné číslo štúdie	Názov registrovanej štúdie	Počet účastníkov	Dĺžka štúdie	Podiel kontinuálne abstinujúcich na konci štúdie
Caponnetto et al. (2013)	NCT01164072	EffiCiency and Safety of an eLectronic cigAreTte (ECLAT) as tobacco cigarettes substitute: a prospective 12-month randomized control design study.	300 (1:1:1)	12 mesiacov	13,0 : 9,0 : 4,0%
Bullen et al. (2013)	ACTRN12610000866000	ASCEND: A Study of Cessation using Electronic Nicotine Devices	657 (4:4:1)	6 mesiacov	7,3 : 5,8 : 4,1%
Adriaens et al. (2014)		Effectiveness of the Electronic Cigarette: An Eight-Week Flemish Study with Six-Month Follow-up on Smoking Reduction, Craving and Experienced Benefits and Complaints	48 (1:1:1)	8 týždňov + 6 mesiacov	19% vs. 25%

Caponnetto et al. (2013). PLoS One. 2013 Jun 24;8(6):e66317.
Bullen et al. (2013). Lancet. 2013 Nov 16;382(9905):1629-37.
Adriaens et al. (2014). Int J Environ Res Public Health. 2014 Oct 29;11(11):11220-48.

EffiCiency and Safety of an e**L**ectronic cig**A**re**T**te (**ECLAT**) as Tobacco Cigarettes Substitute: A Prospective12-Month Randomized Control Design Study

Pasquale Caponnetto



Official title: Randomised Controlled Trial Investigating the Efficacy and Safety of an Electronic Nicotine Delivery Device (E-Cigarette) in Smokers

[1] Universita` di Catania, Catania, Italy

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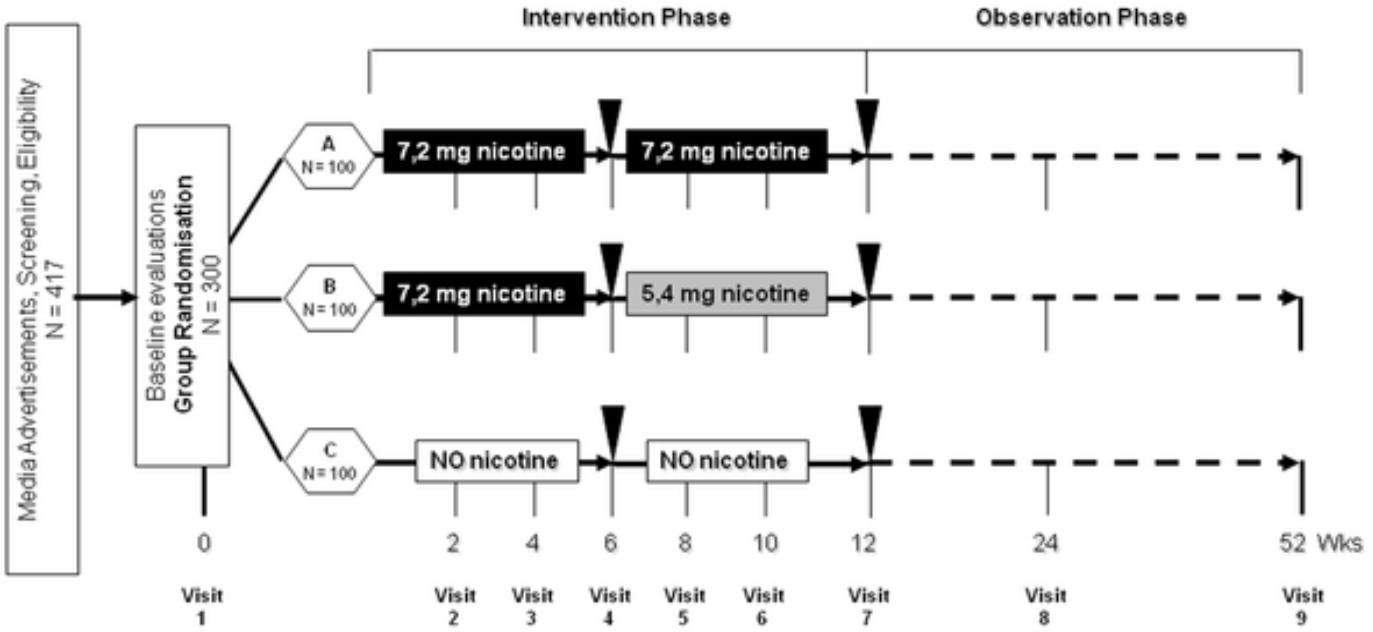

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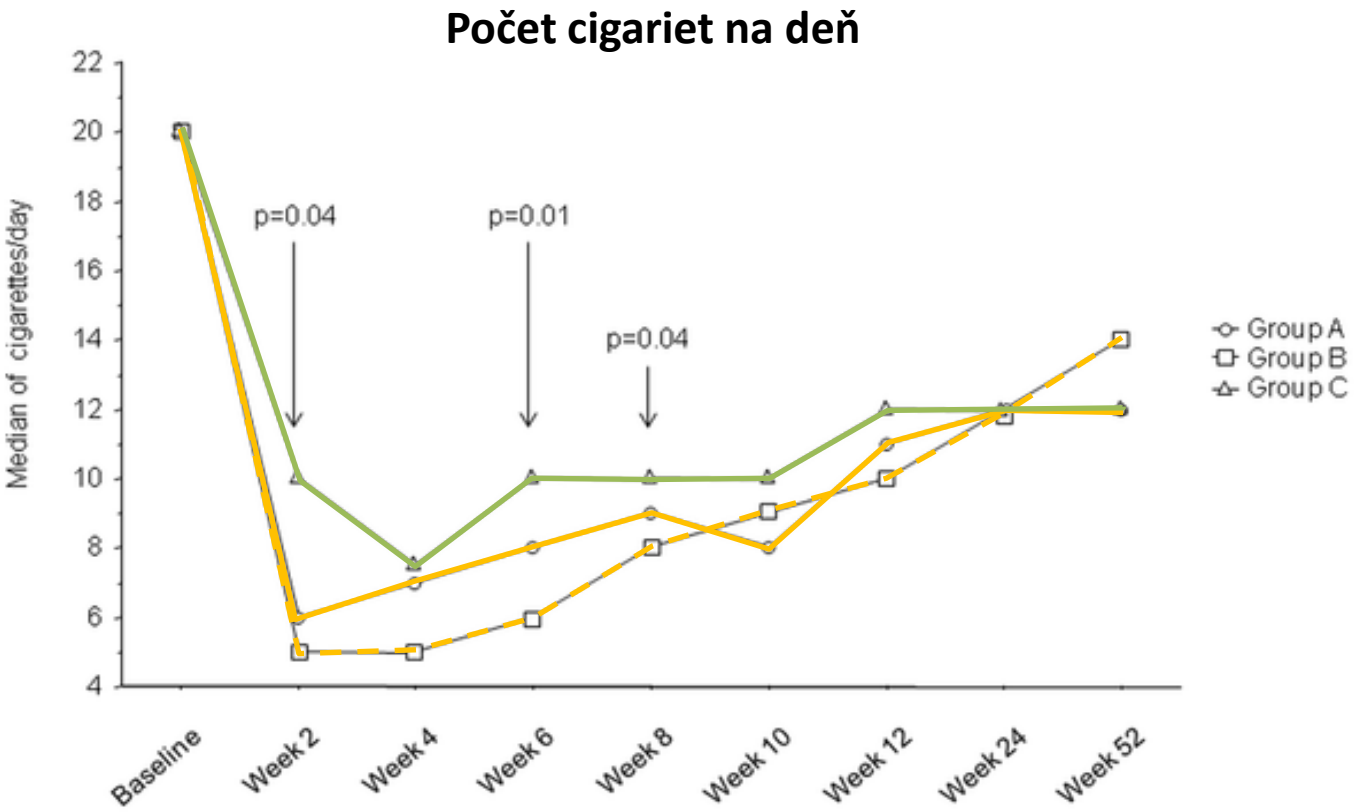

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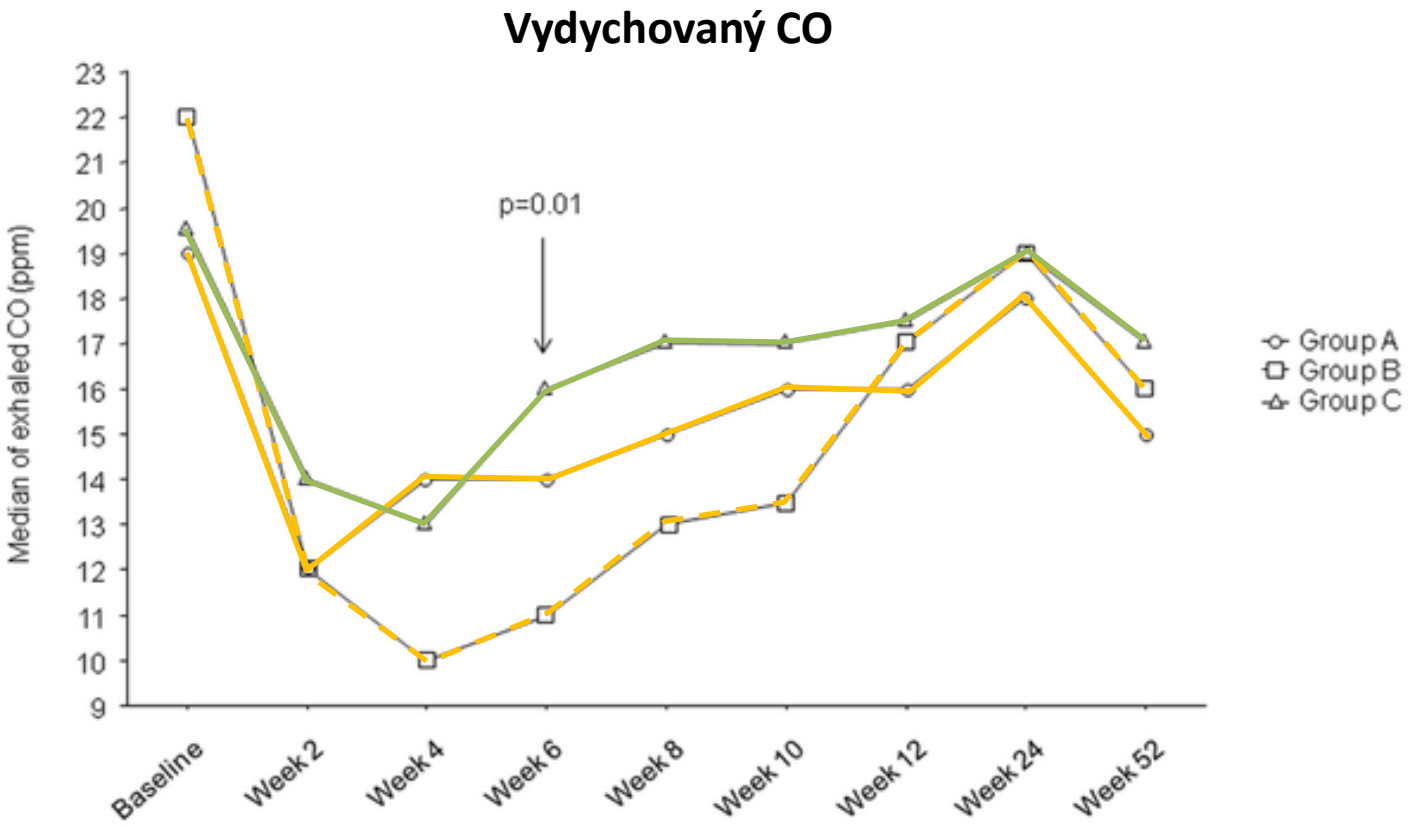

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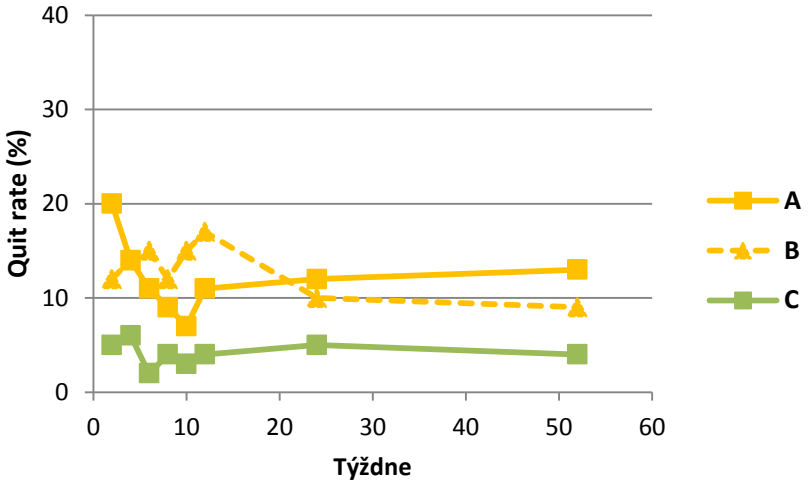
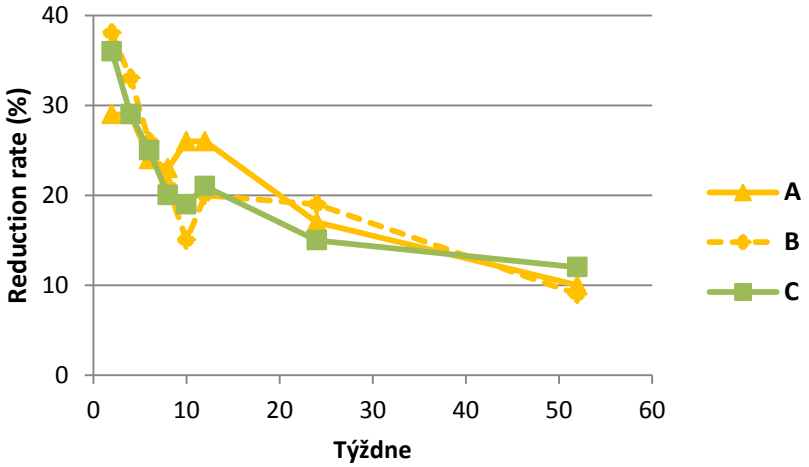


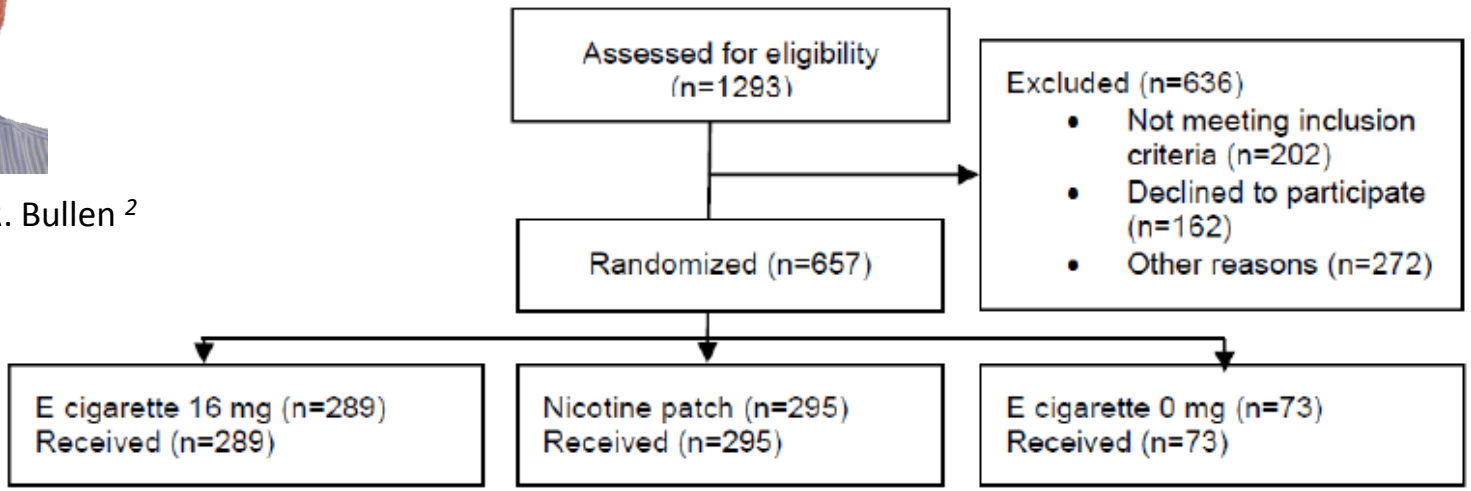


Grafy z údajov podľa:
Caponnetto et al. (2013). PLoS One. 2013 Jun 24;8(6):e66317.

ASCEND:
A Study of Cessation using Electronic Nicotine Devices [1]

Prof. Christopher R. Bullen [2]

Electronic cigarettes for smoking cessation: a randomised controlled trial *(Bullen et al., 2013)*



[1] Full scientific title: A three arm single blind parallel group randomised controlled clinical trial to evaluate the efficacy, acceptability, utilisation and safety of an electronic cigarette (ENDS) as a smoking cessation aid (ASCEND) - https://www.anzctr.org.au

[2] National Institute for Health Innovation, School of Population Health, The University of Auckland, Auckland, New Zealand

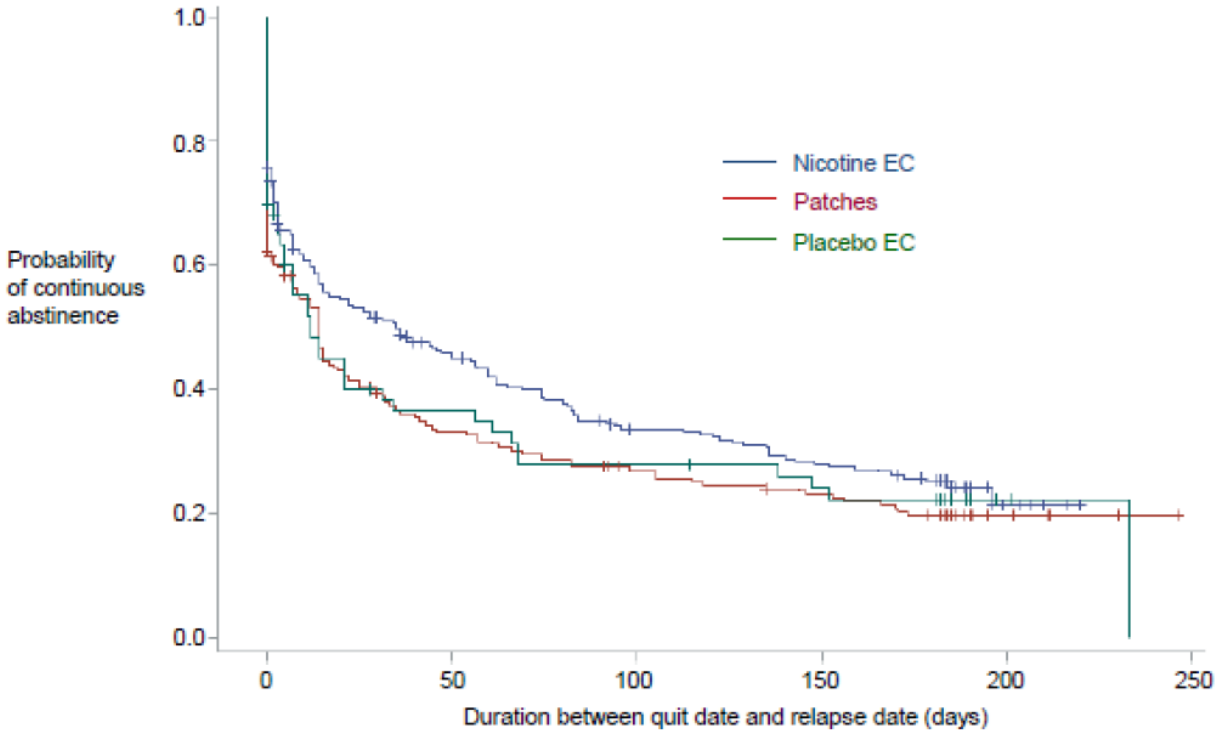
ASCEND: A Study of **C**essation using **E**lectronic **N**icotine **D**evices

Time to relapse (days)

Prof. Christopher R. Bullen

Duration between quit date and relapse date (days)

	No. of subjects	Event	Censored	Median relapse duration (95% CI)
Nicotine EC	289	197 (68%)	92 (32%)	35 (15, 56)
Patches	295	200 (68%)	95 (32%)	14 (8, 18)
Placebo EC	73	51 (70%)	22 (30%)	12 (5, 34)



National Institute for Health Innovation, School of Population Health,
The University of Auckland, Auckland, New Zealand

Bullen et al. (2013). Lancet. 2013 Nov 16;382(9905):1629-37.

E-cigarettes versus NRT for smoking reduction or cessation in people with mental illness: *secondary analysis of data from the ASCEND trial*

Brigid O'Brien

Outcome	21 mg nicotine patch (n = 35, 40%)	16 mg nicotine e-cigarette (n = 39, 45%)	0 mg nicotine e-cigarette (n =12, 14%)	Difference (p-value)
Biochemically verified continuous abstinence at six months % (n)	14% (5)	5% (2)	0	0.245 (patch vs. 16 mg e-cig)[a] - (16 mg vs. 0 mg e-cig) 0.115 (patch vs. combined e-cig)[a]
Relapse rate at six months % (n)	71% (25)	85% (33)	83% (10)	0.169 (patch vs. 16 mg e-cig) 1.000 (16 mg vs. 0 mg e-cig) 0.149 (patch vs. combined e-cig)
Mean reduction in CPD from baseline to six months in those that did not quit Mean (SD)	5.7 (6.3)	9.9 (7)	4.7 (3.5)	0.035 (patch vs. 16 mg e-cig) 0.068 (16 mg vs. 0 mg e-cig) 0.083 (patch vs. combined e-cig
Percentage reduction in CPD from baseline to six months in those that did not quit Mean (SD)	29% (30%)	49% (30%)	31% (30%)	0.025 (patch vs. 16 mg e-cig) 0.153 (16 mg vs. 0 mg e-cig) 0.049 (patch vs. combined e-cig)

For people with mental illness, e-cigarettes may be as effective and safe as patches, yet more acceptable, and associated with greater smoking reduction

National Institute for Health Innovation, School of Population Health,
The University of Auckland, Auckland, New Zealand

O´Brien et al. (2015). Tob Induc Dis. 2015; 13(1): 5.
Published: 24 March 2015

Effectiveness of the Electronic Cigarette:
An Eight-Week Flemish Study with Six-Month Follow-up on Smoking Reduction, Craving and Experienced Benefits and Complaints

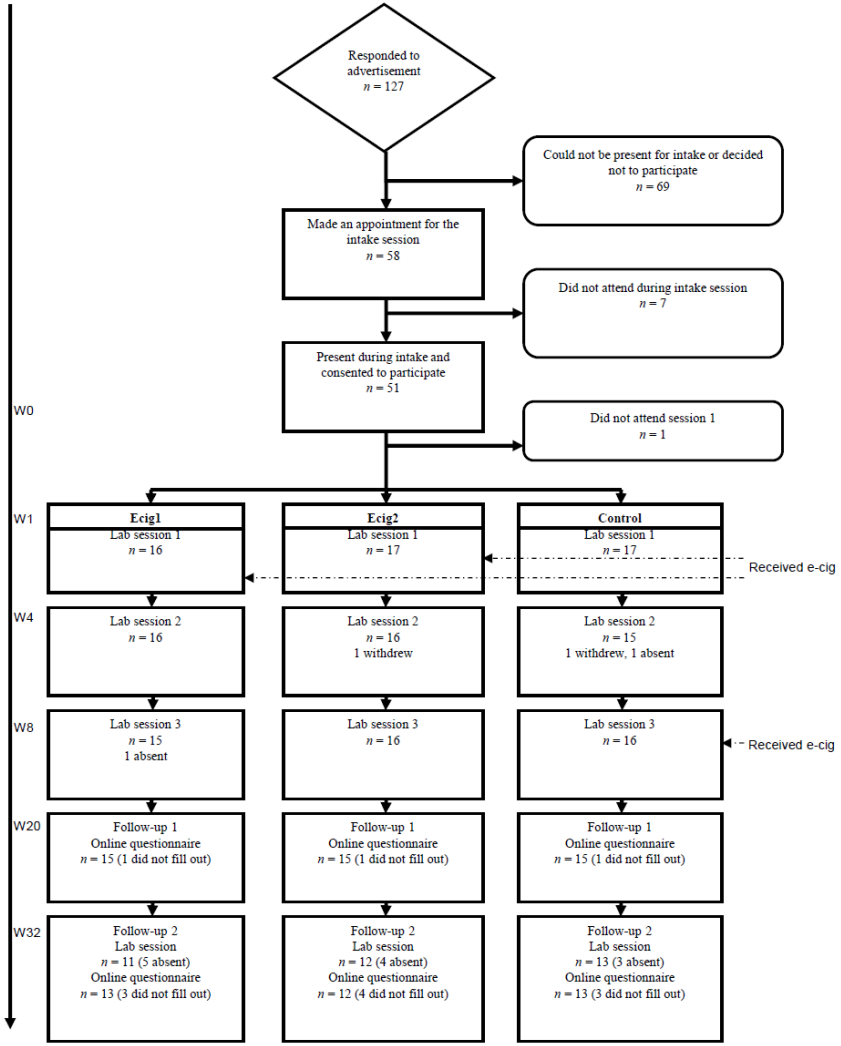

Karolien Adriaens


Paul Declerck


Dinska Van Gucht


Frank Baeyens

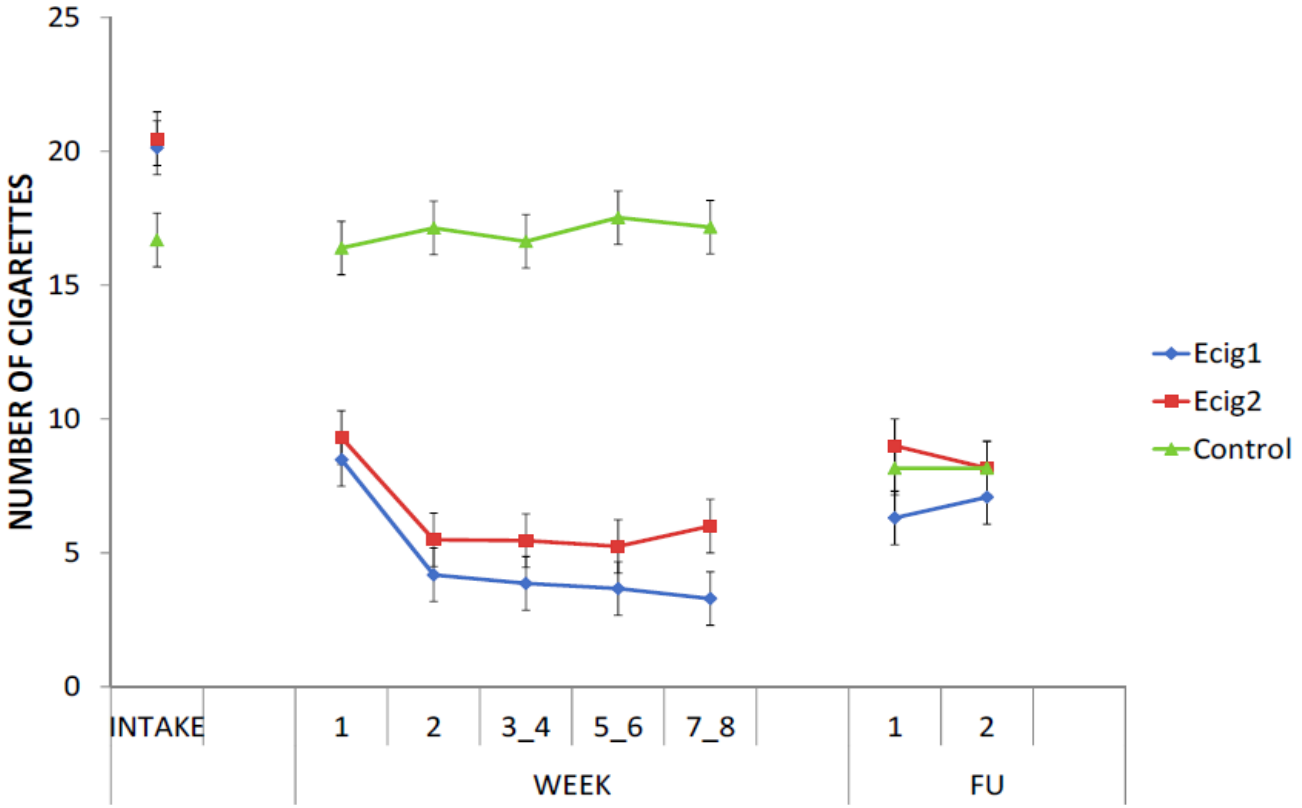
Note: Joyetech eGO-C [35] on the left side and Kanger T2 CC [36] on the right side.



Behavioural Science, Clinical Psychology, Experimental Psychology
University of Leuven , Leuven

Adriaens et al. (2014). Int J Environ Res Public Health. 2014 Oct 29;11(11):11220-48.

Effectiveness of the Electronic Cigarette:
An Eight-Week Flemish Study with Six-Month Follow-up on Smoking Reduction, Craving and Experienced Benefits and Complaints



Note: all values mean (+/− 1 SEM) number of cigarettes; $n_{Ecig1—Intake} = 15$, $n_{Ecig1—W1–W7\_8} = 12$, $n_{Ecig1—FU1} = 13$, $n_{Ecig1—FU2} = 13$; $n_{Ecig2—Intake} = 15$, $n_{Ecig2—W1–W7\_8} = 13$, $n_{Ecig2—FU1} = 12$, $n_{Ecig2—FU2} = 12$; $n_{Control—Intake} = 16$, $n_{Control—W1–W7\_8} = 15$, $n_{Control—FU1} = 12$, $n_{Control—FU2} = 12$.

Adriaens et al. (2014). Int J Environ Res Public Health. 2014 Oct 29;11(11):11220-48.

Effectiveness of the Electronic Cigarette:
An Eight-Week Flemish Study with Six-Month Follow-up on Smoking Reduction, Craving and Experienced Benefits and Complaints

Table 3. Complaints and benefits of the cigarette or e-cig.

Item relevant for	Complaints	Benefits
Cigarette and e-cig	Bad taste	Pleasant sensation when inhaling
	Dry mouth / throat	Improved breathing
	Irritated mouth / throat	Pleasant taste when inhaling
	Dizziness	Less coughing or sore throat
	Headache	Improved health and fitness
	Nausea	Helps to reduce or stop smoking
	Increased heart rate/palpitations	Improved taste and smell
	Increased weight	Less unpleasant smells
	Concerns about health risks	Improved sleep
E-cig	Technical problems	Pleasure of vaping
		Less desire for cigarettes
		Fresher breath
		Can be used in more places
		I bother others less with the e-cig

A Randomized Trial Comparing the Effect of Nicotine Versus Placebo Electronic Cigarettes on Smoking Reduction Among Young Adult Smokers (n=99)

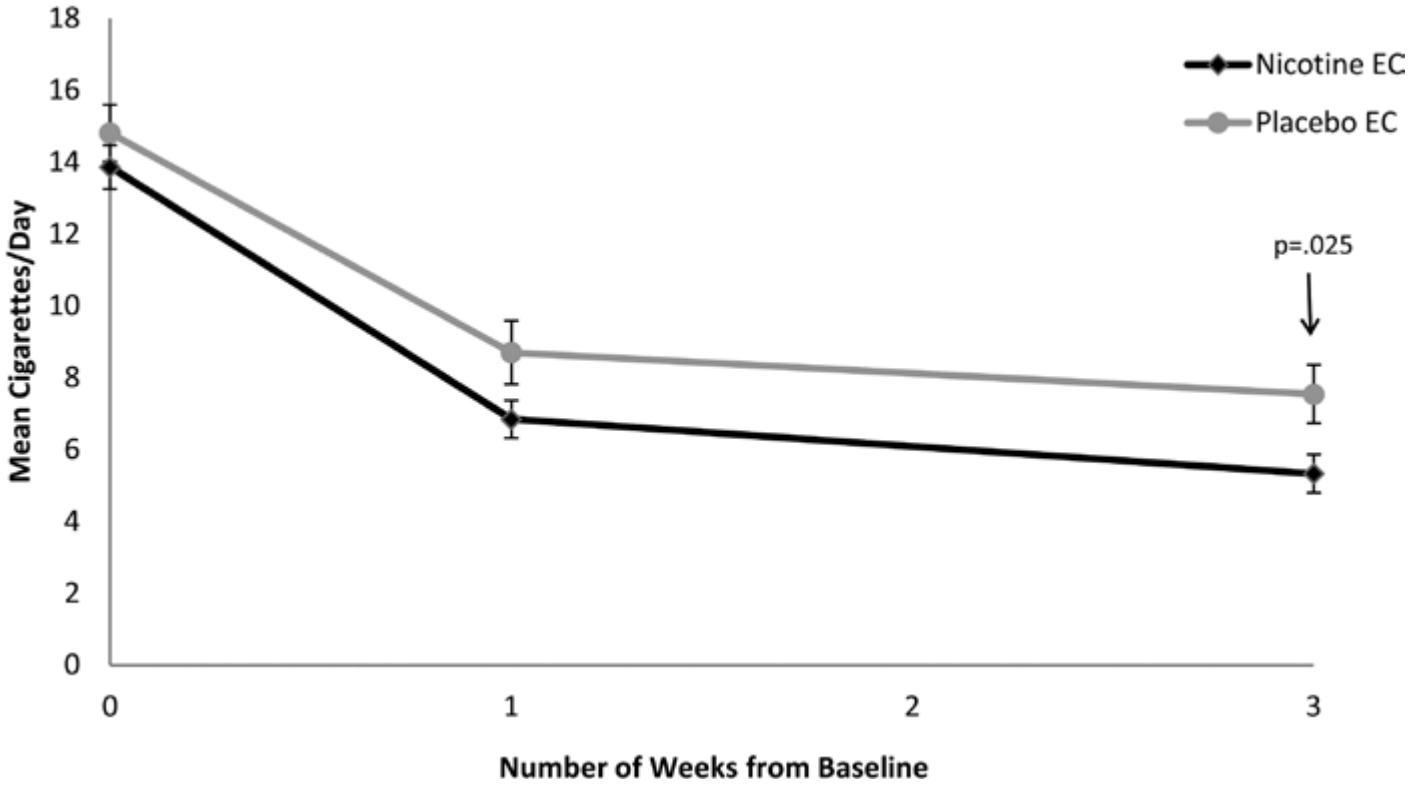


Figure 1. Time-course of changes in cigarettes consumption from baseline. Note: Error bars represent standard errors to the mean. Per-protocol evaluation of within-subject analyses showed significant reduction from baseline at each study visit for both groups (repeated-measure analysis of variance, P < .001 for Nicotine electronic cigarette [EC] and Placebo EC groups at both visits). When significant, between-group difference was indicated.

RR (long-term cessation/reduction) u pacientov, ktorí neplánujú prestať fajčiť

Nicola Lindson-Hawley

	Počet účastníkov / počet RCT	ukončenie	Ukončenie + redukcia>50 %
Nikotínové preparáty (spolu)	3081 / 8	1,87	1,75
Bupropión	594 / 1	1,27	1,01
Vareniklín	218 / 1	1,95	-
Snus	319 / 1	3,06	0,94
Computerized programme	93 / 1	1,86	0,99
Behavioural reduction advice	320 / 1	1,49	1,34
EC (Caponnetto 2013)	300 / 1	2,75	1,28

Cochrane Tobacco Addiction Group
Nuffield Department of Primary Care Health Sciences, University of Oxford, UK

Lindson-Hawley et al. (2016). Cochrane Database Syst Rev. 2016 Oct 13;10:CD005231.

Závery prehľadov a odporúčania

- **More research—especially independent, high-quality RCTs** with appropriate measures and control groups—is needed to further determine whether and how ENDS can be an effective cigarette-cessation or -reduction aid.

(Glasser 2016)

- There is a lack of evidence to support the use of other (than NRT) harm reduction aids to reduce the harm caused by continued tobacco smoking... It is therefore important that **more high-quality RCTs** are conducted.

(Lindson-Hawley 2016)

- There is **very limited evidence** regarding the impact of ENDS or ENNDS on tobacco smoking or reduction: data from RTCs are of low and observational studies of very low certainty. The available data provide little support for the use of ENDS or ENNDS as a smoking reduction strategy.

(El Dib 2016, 2017)

1.Glasser et al. (2016) Am J Prev Med. 2017 Feb;52(2):e33-e66.
2.Lindson-Hawley et al. (2016). Cochrane Database Syst Rev. 2016 Oct 13;10:CD005231.
3.El Dib et al. (2017). BMJ Open. 2017 Feb 23;7(2):e012680.
4.El Dib et al. (2016) for WHO: Electronic nicotine delivery systems and/or electronic non nicotine delivery ...

Clinical Trials Registries

- https://clinicaltrials.gov
- http://www.isrctn.com
- https://www.clinicaltrialsregister.eu
- http://onlinelibrary.wiley.com/cochranelibrary/search
- http://www.anzctr.org.au
- https://drks-neu.uniklinik-freiburg.de
- https://www.ukctg.nihr.ac.uk/clinical-trials/search-for-a-clinical-trial
- https://www.evidence.nhs.uk/Search?om
- http://www.trialregister.nl

Ongoing, unpublished... studies *(1-10)*

Kód štúdie (názov)	Primary contact, principal investigator	Trial title	Fáza	Počet	Dĺžka	Dátum registrácie
NCT01979796	Pasquale Caponnetto, Ricardo Polosa, ITA	Smoking cessation and reduction In schizophrenia (the SCARIS study)		153	12m	9/2014
ACTRN12612001210864	Coral Gartner, Fraser, AUS	An open-label randomized pragmatic policy trial examining effectiveness of short-term use of Nicotine Replacement Therapy (NRT) vs short- or long-term use ofNRT vs short- or long-term use of NRT or electronic nicotine delivery systems for smoking cessation in cigarette smokers	3	1600	12m	2/2014
KCT0001277	Yoo-Seok Cheong, ROK	Effect of an electronic cigarette for smoking reduction and cessation in Korean male smokers: a randomized, controlled study		-	24t	5/2012
NCT02342795	Thomas Eisenberg, Lopez USA	Randomized controlled trial methods for novel tobacco products evaluation	1/2	520	24t	6/2015
NCT02422914	Claudio Lucchiari, Marianna Masiero, ITA	Benefits of tobacco free cigarette among heavy smokers undergoing a lung cancer screening program: a randomized controlled study		210	12m	9/2014
NCT01842828	Peter Hajek, UK, SP, CZ	Spain-UK-Czech E-cigarette Study (SUKCES)		220	4-24t	12/2013
NCT01989923	Laura A Beebe, USA	Smoking cessation in women with gynaecological conditions		30	12t	6/2013
NCT02004171	Barney Vaughan, USA	Electronic cigarettes or nicotine inhaler for smoking cessation		40	4t	12/2013
NCT02029196	Robert Turner	A study to evaluate the safety profile of an e-vapour product		420	12t	12/2013
NCT02124187	Pasquale Caponnetto, ITA	Smoking cessation and reduction in depression (SCARID)		129	12m	2/2015

Ongoing, unpublished... studies – pokračovanie *(11-20)*

Kód štúdie (názov)	Contact, principal investigator	Trial title	Fáza	Počet	Dĺžka	Dátum registrácie
NCT02143310	Robert Turner,	A study to evaluate the safety of electronic vapour products for 2 years		420	24m	5/2014
NCT02212041	Rocio Perez-Iglesias, UK	Acceptability, patterns of use and safety of electronic cigarette in people with mental illness: a pilot study		50	24t	8/2014
NCT02261363	Jennifer Pearson, USA	A mixed method EMA assessment of cognition and behavior among new ENDS users: an observational cohort study		120	3t	8/2014
NCT02328794	Scott Halpern, USA	Randomized clinical trial to reduce harm from tobacco		6000	6-12m	1/2015
NCT02357173	Matthew Carpenter, USA	A trial of e-cigarettes: natural uptake, patterns and impact of use		68	3m	11/2014
NCT02398487	Riccardo Polosa, ITA	Head-to-head comparison of personal vaporizers versus cigalike: prospective 6-month randomized control design study (VAPECIG 2)	4	200	24t	11/2014
NCT02417467	Mark Eisenberg, Canada	Evaluating the efficacy of e-cigarette use for smoking cessation (E3) Trial	3	486	12m	9/2016
NCT02482233	Susan Lee, USA	A pilot randomized controlled clinical trial - “Electronic nicotine delivery device (e-cigarette) for perioperative smoking cessation in veterans”		30	6t	8/2015
NCT02487953	Al Salley, USA	Electronic nicotine delivery systems (ENDS) as a smoking cessation treatment		300	6m	1/2016
NCT02498145	Stephen Baldassari, USA	Short term effects of electronic cigarettes in tobacco dependent adults	2	40	6m	10/2014

Ongoing, unpublished... studies – pokračovanie *(21-30)*

Kód štúdie (názov)	Contact, principal investigator	Trial title	Fáza	Počet	Dĺžka	Dátum registrácie
NCT02521662	Natalie Walker, NZ	A randomized-controlled clinical trial to evaluate the effectiveness and safety of combining nicotine patches with e-cigarettes (with and without nicotine) plus behavioural support, on smoking abstinence	3	1809	6m	3/2015
NCT02527980	PI Megan Piper, USA	E-cigarettes: dynamic patterns of use and health effects		450	2r	9/2015
NCT02590393	Jed Rose, USA	The role of nicotine and non-nicotine alkaloids in e-cigarette use and dependence		375	8t	5/2016
NCT02628964	Donna Shelley, USA	Assessing the use of electronic cigarettes (e-cigarettes) as a harm reduction strategy		100	3t	5/2015
NCT02635620	Tobias Rüther, D	Changes in lung function parameters, bronchial reactivity, state of health and smoking behaviour associated with changing from conventional smoking to electronic cigarettes		80	?	10/2015
NCT02648178	Katie H Rice. PI James Sargent, USA	Evaluation of appeal and impact of e-cigarettes among chronic smokers with smoking-related cancers		?	12t	1/2016
NCT01733706	Carlo Cipolla, ITA	Early Smoking Reduction or Cessation by Means of no Nicotine Electronic Cigarette Added to Standard Counselling		75	?	6/2011
NCT01925781	Amy J Arouni, USA	e-Cigarettes Versus NRT Gum for Smoking Cessation	4	10	12t	8/2013
NCT01785537	Lamberto Manzoli, ITA	Multicentric 5-year Follow-up Study to Assess the Efficacy of E-cigarettes as a Tool for Smoking Cessation and to Compare the Risk of Smoking-related Diseases Among Electronic and Traditional Cigarette Smokers, and Smokers of Both.		1050	5r.	10/2013
NTR6224	Karolien Adriaens, NE	Electronic cigarettes: An intervention for dual-users		100	6m	2/2017

Ongoing, unpublished... studies – pokračovanie *(31-34)*

Kód štúdie (názov)	Contact, principal investigator	Trial title	Fáza	Počet	Dĺžka	Dátum registrácie
ISRCTN13288677	Marzena Orzol, UK	EC-CRUK: Can electronic cigarettes and nicotine replacement treatment help reduce smoking in smokers who struggle to quit? A pilot randomised control trial		200	24t	1/2017
ISRCTN62025374	Dunja Przulj , UK	PREP: Helping pregnant smokers quit: a multi-centre randomised controlled trial of electronic cigarettes and nicotine patches		1142	3m postpartum	5/2017
ISRCTN11111428	Anna Phillips, UK, AUS	RP Trial: Helping people cope with temptations to smoke to reduce relapse: A factorial randomised controlled trial		1400	12m	4/2016
ISRCTN60477608	Anna Philips, UK	TEC (Trial of Electronic Cigarettes): The efficacy of e-cigarettes compared with nicotine replacement therapy, when used within the UK stop smoking service		886	12m	4/2015

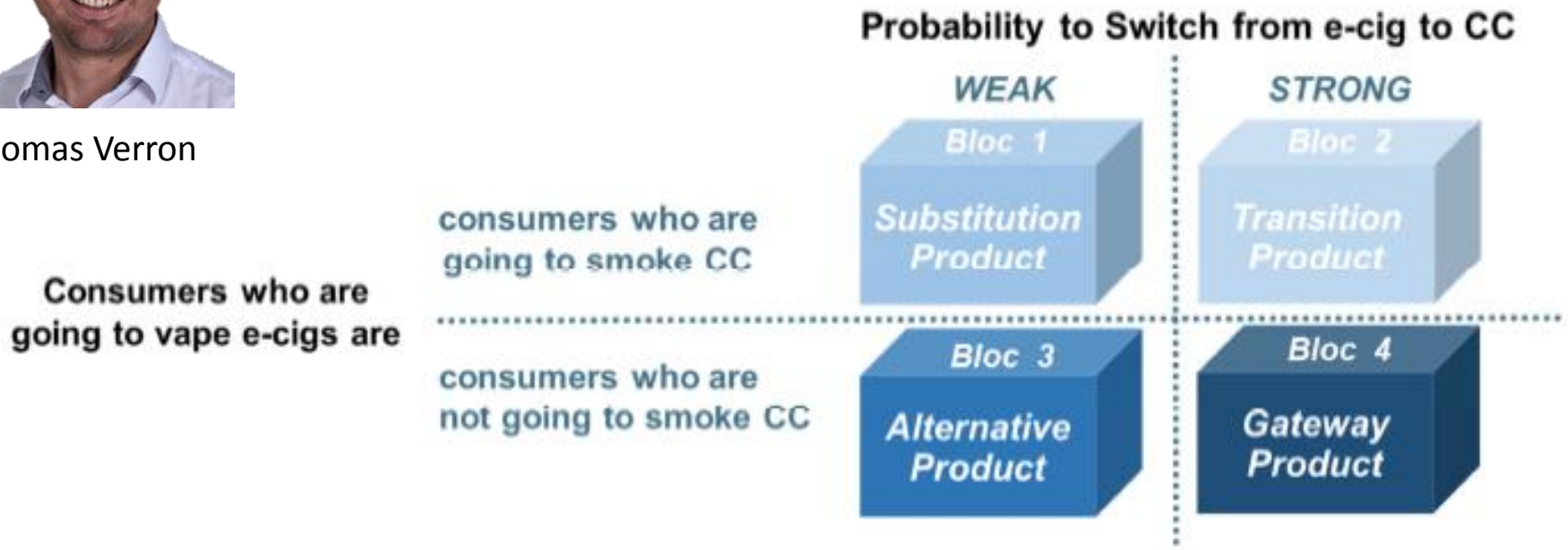
Vyššie uvedené štúdie sú uvedené v týchto publikáciách a sú doplnené o prieskum web stránok registrov s heslom "electronic cigarette" AND "smoking cessation“ :

El Dib et al. (2016) for WHO Prevention of Noncommunicable Diseases
Hartmann-Boyce et al. (2016). Cochrane Database Syst Rev. 2016 Sep 14;9:CD010216.

Záver?

tabak ↔ e-cigareta ?

Thomas Verron



SEITA - Imperial Tobacco Group

Progression to Traditional Cigarette Smoking After Electronic Cigarette Use Among US Adolescents and Young Adults (16-26 yo „never-smokers“)

Brian E. Primack

Otázky:

1. “If one of your friends offered you a cigarette, would you try it?”
2. “Do you think you will smoke a cigarette sometime in the next year?”

Table 2. Transitions From Baseline to Follow-up According to Baseline Use of e-Cigarettes

	No. (%)		
		e-Cigarette Use at Baseline	
Trajectory From NSNS	All Participants (N = 694)	Yes (n = 16)	No (n = 678)
Remain NSNS	555 (80.0)	5 (31.3)	550 (81.1)
Progress to SNS	68 (9.8)	5 (31.3)	63 (9.3)
Progress to smoker	71 (10.2)	6 (37.5)	65 (9.6)

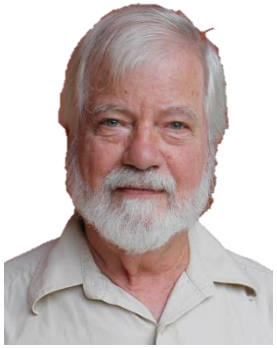
Abbreviations: NSNS, nonsusceptible nonsmoker; SNS, susceptible nonsmoker.

Table 3. Multivariable Associations Between e-Cigarette Use at Baseline and Progression Along the Cigarette Smoking Trajectory by Follow-up

	Adjusted Odds Ratio (95% CI)[a]	
Characteristic	NSNS to SNS	NSNS to Cigarette Smoking Initiator
e-Cigarette use at baseline (yes vs no)	8.5 (1.3-57.2)	8.3 (1.2-58.6)
Age, y[b]	0.8 (0.7-0.96)	0.9 (0.8-1.04)
Sex (male vs female)	1.0 (0.6-1.9)	0.8 (0.4-1.5)

Primack et al. (2015). JAMA Pediatr. 2015 Nov;169(11):1018-23

Adolescents who use e-cigarettes are more likely to start smoking cigarettes



Thomas Wills

2338 students (9th and 10th graders, mean age 14.7 years)

surveyed in 2013 (time 1, T1) and followed up 1 year later (time 2, T2).

OR=2.87, 95% CI 2.03 to 4.05, p<0.0001

University of Hawaii, Cancer Center, Honolulu, Hawaii, US

Wills et al. (2017). Tob Control. 2017 Jan;26(1):34-39.
Wills et al. (2016). Tob Control. 2016 Aug 19. pii: tobaccocontrol-2016-053116.

10. Bojnická AT konferencia *(Dni prof. V. Novotného)*

29.9. – 1.10.2017

www.psychiatry.sk

www.adzpo.sk

miro.grohol@gmail.com