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VŠEOBECNÁ FAKULTNÍ
NEMOCNICE V PRAZE

NOVINKY V LÉČBĚ A HARM-REDUCTION V OBLASTI TABÁKU

NOVINKY V LÉČBĚ ZÁVISLOSTI NA TABÁKU

- Základ léčby: **psychobehaviorální intervence**
 - volně prodejná náhradní terapie nikotinem – efektivita srovnatelná s placebem^{1,2,3}
 - užití e-cigaret zvyšuje míru úspěšnosti léčby odvykání kouření ve Velké Británii (18 929 kuřáků, kteří v posledních 12 měsících podnikli alespoň 1 pokus přestat kouřit: OR = 1,95, 95% CI [1,69-2,24])³

¹Kotz D. et al. Real-world effectiveness of smoking cessation treatments: a population study. *Addiction* 2014;109:491–9.5.

²Kotz D. et al. Prospective cohort study of the effectiveness of smoking cessation treatments used in the real world. 'real world'. In: *Mayo Clinic Proceedings*. Oxford, UK: Elsevier;2014, pp. 1360–7.

³Jackson SE et al. Moderators of real-world effectiveness of smoking cessation aids: a population study. *Addiction* 2019; 114(9):1627-1638.

NOVINKY V LÉČBĚ ZÁVISLOSTI NA TABÁKU

- 3 léky první linie:
 - Náhradní Terapie Nikotinem (NTN) – náplasti, pastilky, žvýkačky, ústní sprej
 - ~~— Bupropion~~
 - Vareniklin

TOBACCO HARM REDUCTION

- kontroverzní témata
- e-cigarety (EC), vapování, HTP – heated tobacco products, snus

	Na bázi čistého nikotinu	Na bázi tabáku
Zahříváné	elektronické cigarety (vapování liquidů na bázi vody/alkoholu, nikoli oleje)	zahříváný/tlející tabák HTP – Heated Tobacco Products (IQOS, GLO)
Nezahříváné	náhradní terapie nikotinem (náplasti, žvýkačky, pastilky, ústní/nosní sprej a další formy – Nicorette, Niquitin)	porcovaný tabák, snus

TYPES OF E-CIGARETTE

Disposable E-cig

- One piece structure (tank, atomizer and battery) with prefilled e-liquid
- Ready to vape and will be thrown away once it runs out of charge or e-liquid
- Convenient to carry, easy to use
- For ex-smokers mostly



Pen Style Kit

- A three-piece mid-size device consisting of a battery, a tank to hold e-liquid and removable atomizer
- With 2 different types of vaping: MTL(mouth to lung if atomizer resistance >1 ohm), DTL(direct to lung if <1 ohm)
- For vape beginners



Mod Kit

- High power device, large battery, low coil resistance (<1 ohm)
- Produce more vapor, richer flavour and stronger throat hit
- For advanced or hobby vapers



Pod Kit

- Often comes with disposable Pod which houses both the atomizer and e-liquid. For replacement, simply snap a new Pod into place with a magnet(Now there is refillable Pod available also).
- By using Nicotine Salt type e-liquid instead of Freebase nicotine e-liquid provides a blood absorption rate closer to an actual cigarette.
- Convenient to carry, easy to use
- Relatively new to the market and became increasingly popular for smokers who want to quit smoking



ELEKTRONICKÉ CIGARETY

- EC se nekouří!!! VAPOVÁNÍ

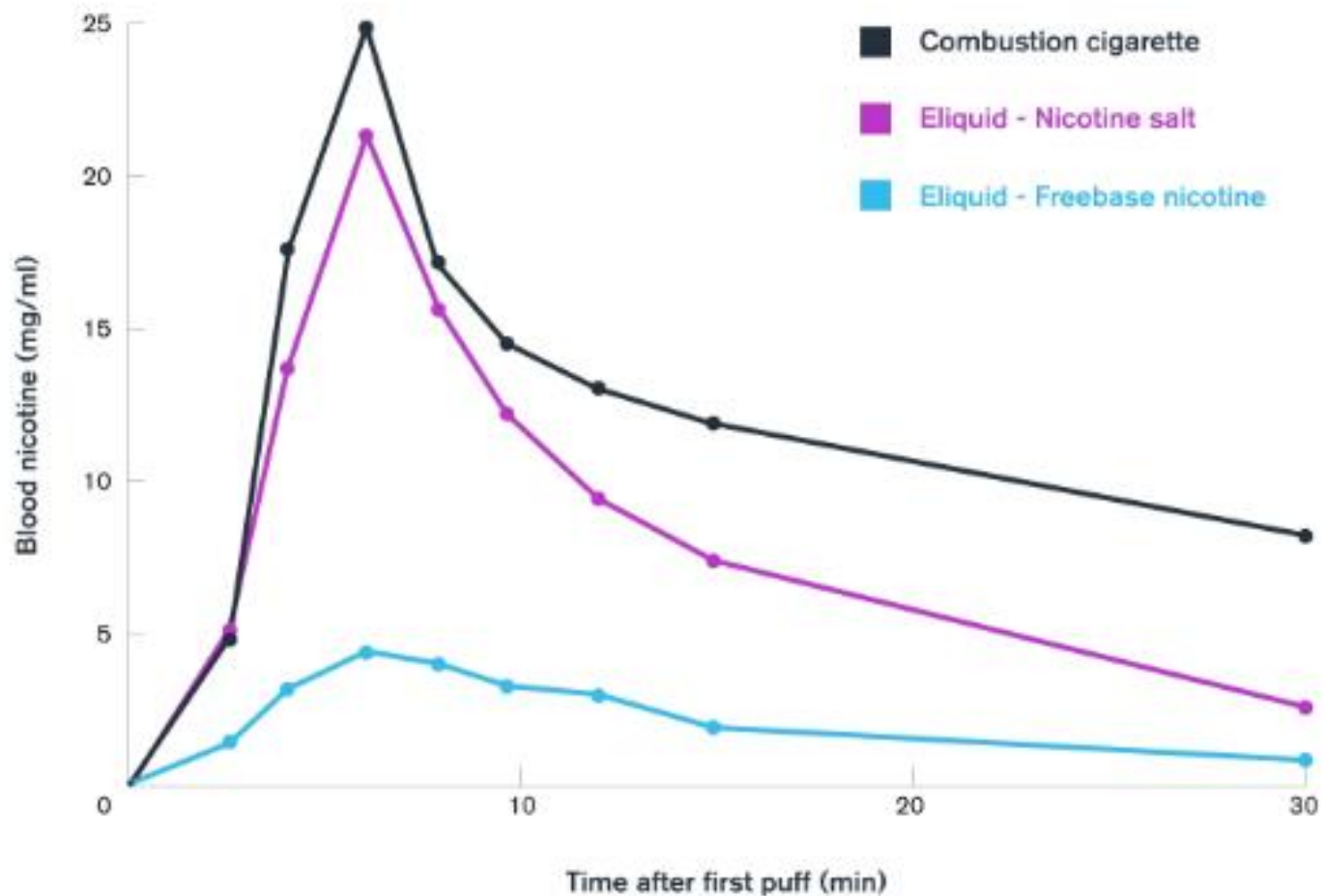
- složení: glycerin, propylenglykol, voda, příchuť, nikotin (ale i bez nikotinu), zahřátí na 100-150° C

+	-
Absence hoření, kouře, zápachu, tisíců chemikálií	Udržování/prohlubování, vznik závislosti
Absence nedopalků	Falešný dojem bezpečného kouření
Nehrozí požáry	Příchutě – lákavé pro děti, dojem neškodnosti
Minimalizace/absence rizika pasivního kouření	Nejasné složení, chybí regulace

JUUL, JUULING



VSTŘEBÁNÍ NIKOTINU



Data source: PAX Labs

Nicotine salt vs. freebase nicotine

ZAHŘÍVANÝ/NAHŘÍVANÝ/TLEJÍCÍ TABÁK, HEET-NOT-BURN (HNB)

IQOS (Phillip Morris), iGLO (BAT), PLOOM (JTI)

IQOS: tyčinky z rozemletého tabáku, zahříváno
max. na 350 °C



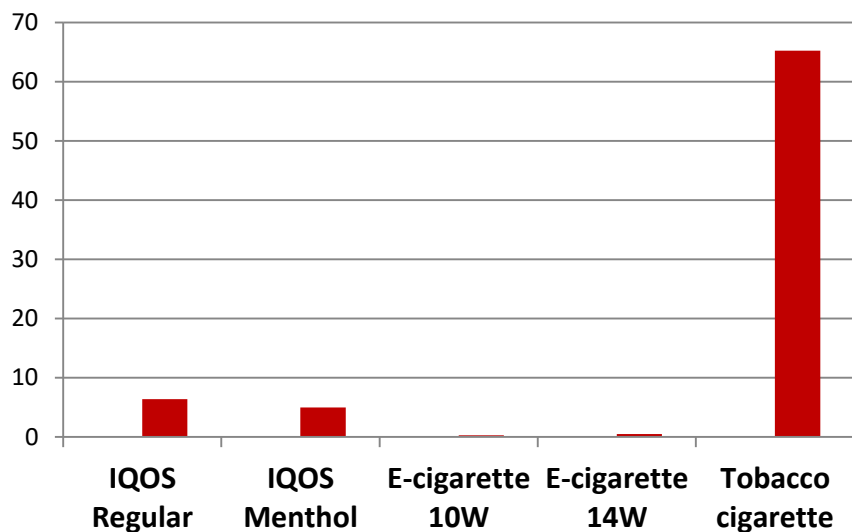
Source: Philip Morris International at the Morgan Stanley Global Consumer & Retail Conference, November 16, 2016



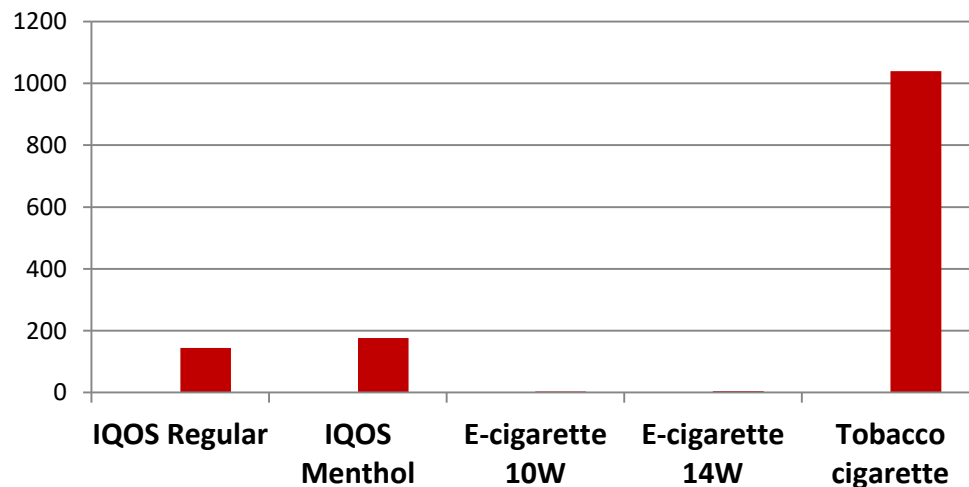


EMISE (μg /1 IQOS, 12 potažení z e-cigarety, 1 cigareta)

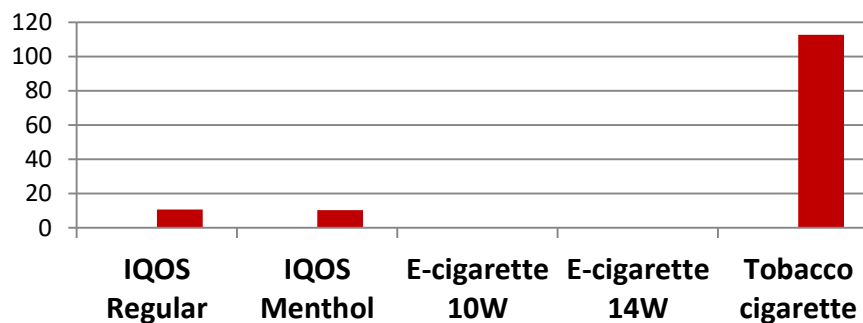
Formaldehyd



Acetaldehyd

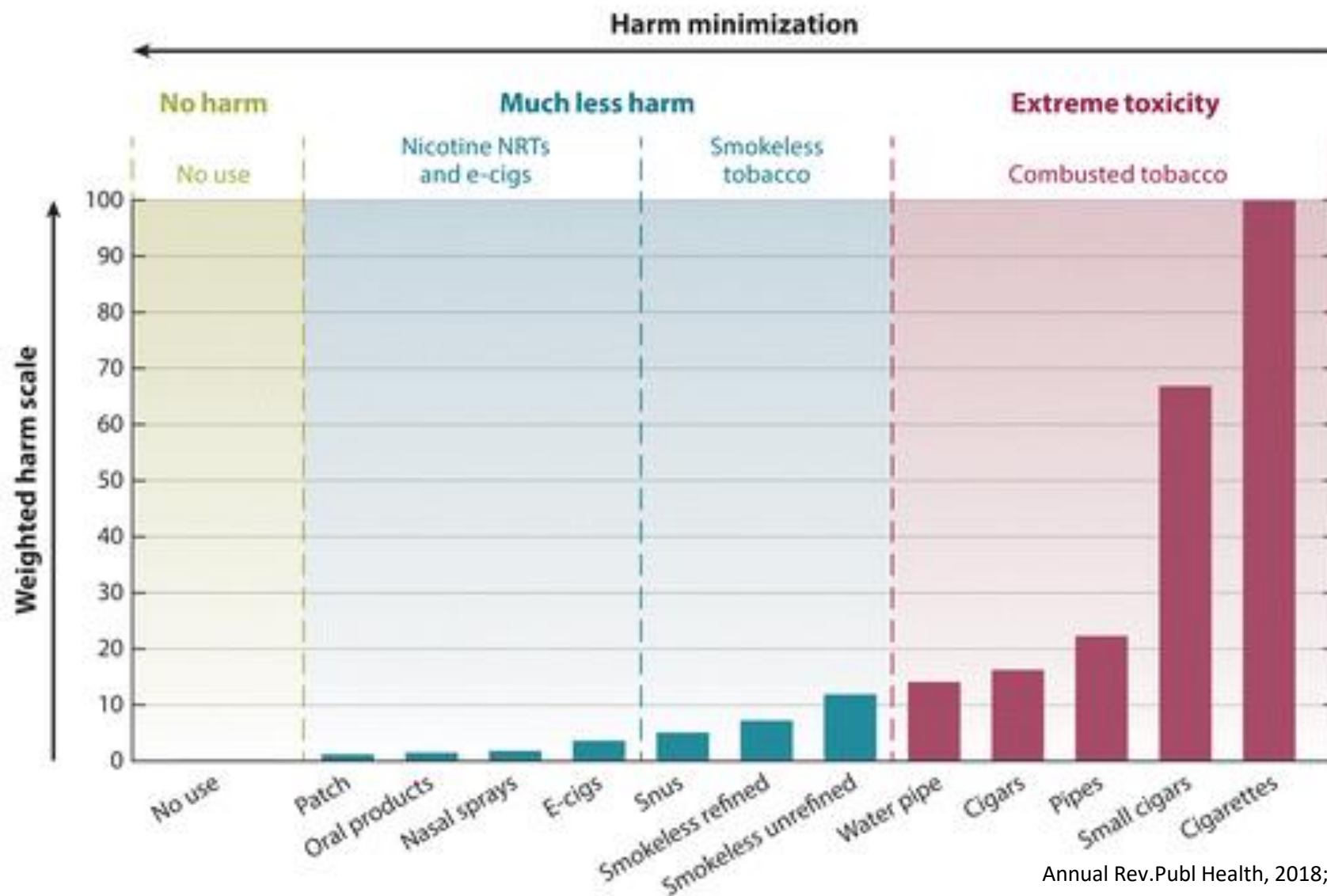


Akrolein



Farsalinos K. et al., 2018

MÍRA RIZIKA



Annual Rev. Publ Health, 2018;39:193-213.

EPIDEMIE POŠKOZENÍ PLIC V SOUVISLOSTI S VAPOVÁNÍM

- EVALI** = E-cigarettes, or Vaping, Associated Lung Injury
K 20. 11.: **2 290 případů** ve 49 státech USA, **47 úmrtí** ve
24 státech, www.cdc.gov/tobacco (aktualizace ve čtvrtek)
- věkový medián 24 let (13-78 let), 77% mladší 35 let
 - většinou bez komorbidit, většinou muži
 - kolem 90 % vapovalo oleje s výtažky marihuany (THC, CBD), většinou ilegální
- + asociace s nálezem acetátu vitaminu E v BAL**

EVALI

- testované ilegální EC s obsahem THC z roku 2019 – potvrzen obsah acetátu vitaminu E
- ilegální EC s obsahem THC z roku 2018 – acetát vitaminu E nenalezen
- acetát vitaminu E by neměl být do EC přidáván
- možné další toxické látky – probíhají analýzy

Centers for Disease Control and Prevention

MMWR

Early Release / Vol. 68

Morbidity and Mortality Weekly Report

November 26, 2019

Characteristics of E-cigarette, or Vaping, Products Used by Patients with Associated Lung Injury and Products Seized by Law Enforcement — Minnesota, 2018 and 2019

Joanne Taylor, PhD^{1,2}; Terra Wiens, MPH²; Jason Peterson, MS²; Stefan Saravia, MPH²; Mark Lunda²; Kaila Hanson, MS²; Matt Wogen²; Paige D'Heilly, MPH²; Jamie Margetta, MPH²; Maria Bye, MPH²; Cory Cole, MPH^{2,3}; Erica Mumm, MPH^{2,3}; Lauren Schwerzler, MPH²; Roon Makhit²; Richard Danila, PhD²; Ruth Lynfield, MD²; Stacy Holzbaumer, DVM^{2,4}; Lung Injury Response Task Force

During August 9–October 31, 2019, 96 patients were classified as having e-cigarette, or vaping, product use–associated lung injury (EVALI) by the Minnesota Department of Health (MDH); other patients are being investigated for case classification and exposures. Among 58 patients interviewed, 53 (91%) reported obtaining tetrahydrocannabinol (THC)–containing products from informal sources such as friends, family members, or in-person or online dealers. Using gas chromatography–mass spectrometry (GCMS), the MDH Public Health Laboratory (PHL) analyzed 46 THC-containing e-cigarette, or vaping, products obtained from 12 EVALI patients for various potential toxicants, including vitamin E acetate, which has recently been detected in some THC-containing products and in samples of lung fluid from EVALI patients (1–4). To explore whether vitamin E acetate is a recently added component in

[e-cigarettes/assets/2019-Lunda-Iniurv-Surveillance-Case-Definition-508.pdf](#)

of the EVALI outbreak and during the outbreak might provide valuable information about a dynamic market. These Minnesota findings highlight concerns about e-cigarette, or vaping, products that contain THC acquired from informal sources. Because local supply chains and policy environments vary, CDC continues to recommend not using e-cigarette, or vaping, products that contain THC or any e-cigarette, or vaping, products obtained from informal sources. E-cigarette, or vaping, products should never be used by youths, young adults, or pregnant women.* Until the relationship between inhaled vitamin E acetate and lung health is better characterized, vitamin E acetate should not be added to e-cigarette, or vaping, products.

On August 12, the Minnesota Commissioner of Health requested that patients with EVALI be reported. Medical records of suspected cases were reviewed, and patients were classified using CDC case definitions.† EVALI patients or their

PŘÍKLAD KONTROVERZNÍHO PŘÍSTUPU



Recommendations

- CDC recommends that you should not use e-cigarette, or vaping, products that contain THC.
- CDC also recommends that people should **not**:
 - Buy any type of e-cigarette, or vaping products, particularly those containing THC, off the street.
 - Modify or add any substances to e-cigarette, or vaping, products that are not intended by the manufacturer, including products purchased through retail establishments.

CDC (USA), plakáty v obchodech, doporučení

<https://publichealthmatters.blog.gov.uk/2019/10/29/vaping-and-lung-disease-in-the-us-phes-advice/>

Vaping and lung disease in the US: PHE's advice

John Newton, 29 October 2019 - Health Improvement



Newton, J.: Vaping and lung disease in the US: PHE's advice, 2019

ÚMRTÍ V DŮSLEDKU KOUŘENÍ V USA

1300/den

480 000/rok

CDC: Smoking and Tobacco Use

https://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm

KOLEKTIV CENTRA PRO ZÁVISLÉ NA TABÁKU



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