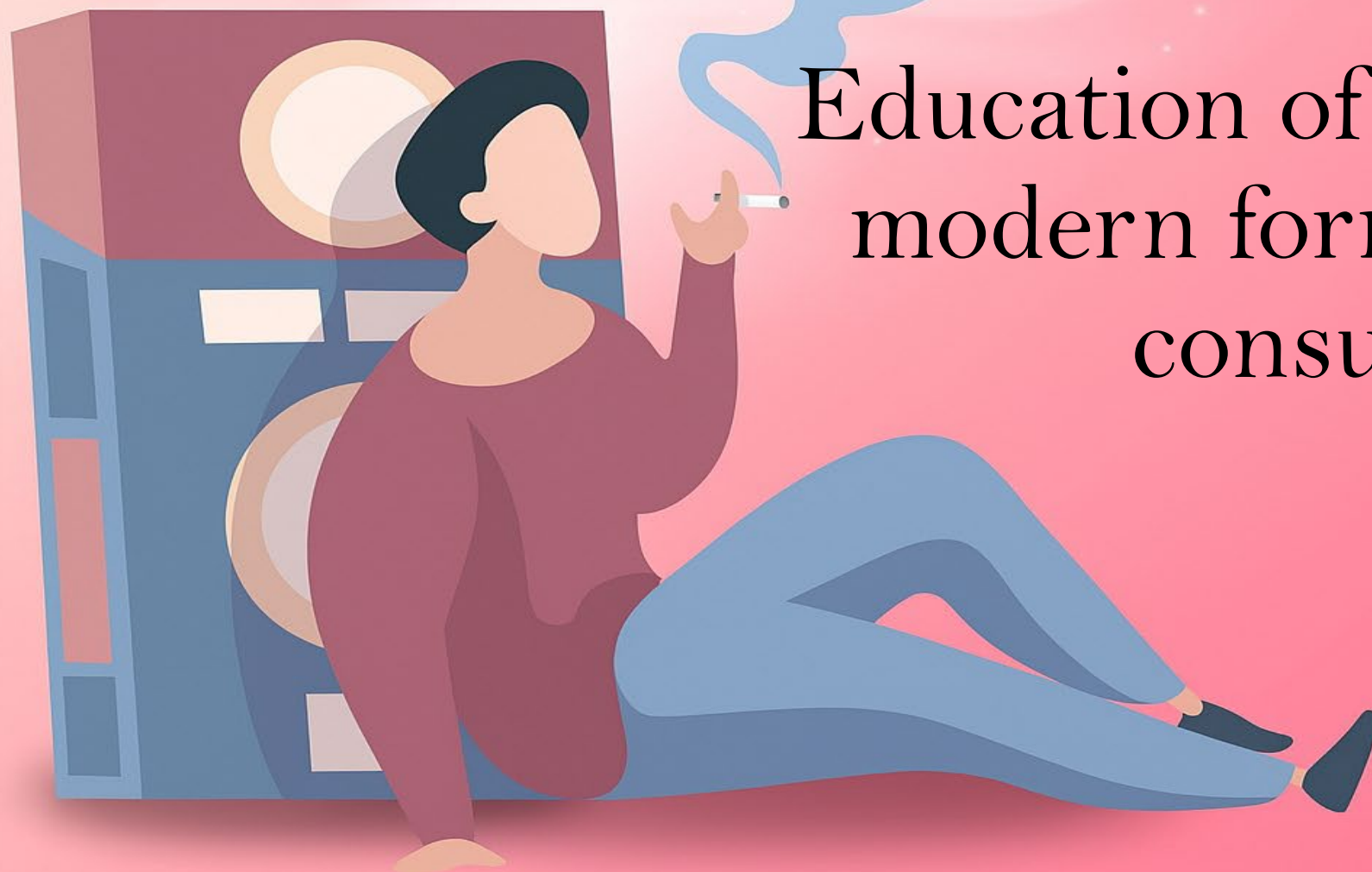
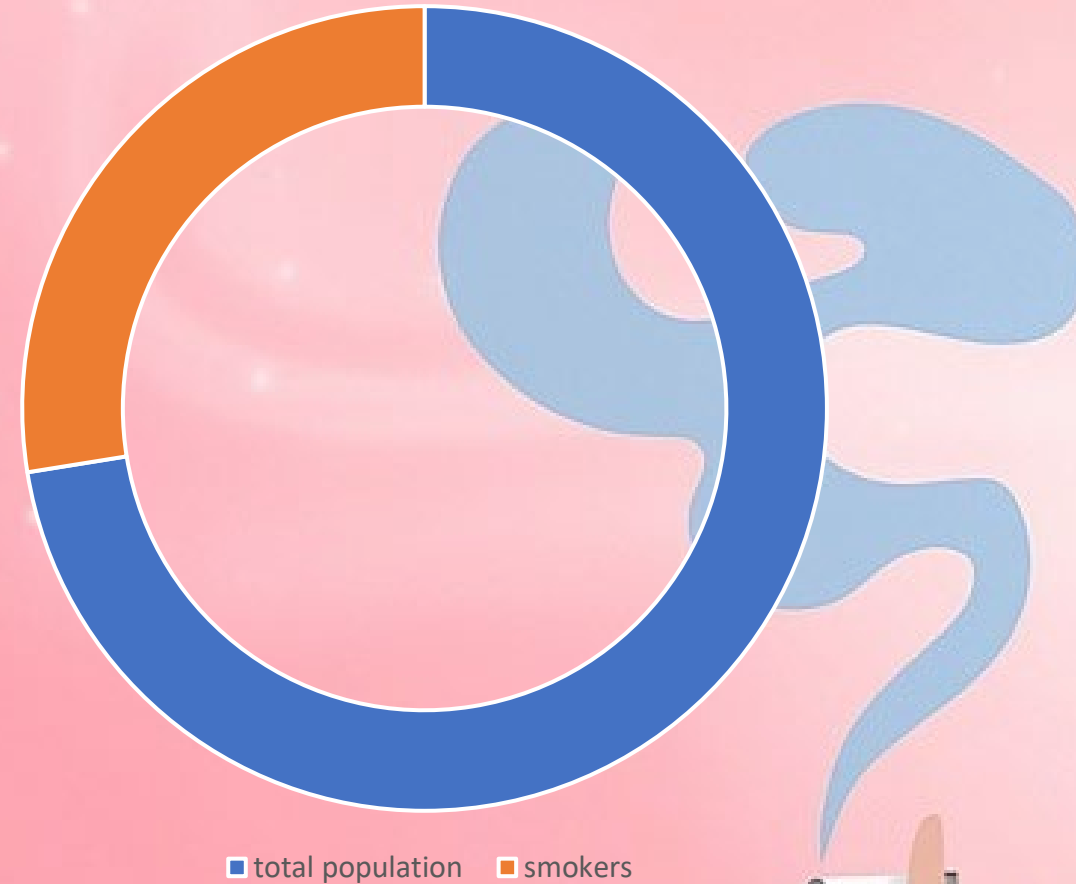


Education of dentists about modern forms of tobacco consumption



Statistics

- general population in Croatia: 3,86 million
- smokers in Croatia 38%
- Out of all smokers, only 8% use e-cigarettes or heated tobacco products – the majority still consume traditional tobacco.



- 5530 licensed **dentists**
 - 34% smokers amongst dentists
 - under 50% educated on the topic of modern tobacco products
- 1246 dental **students** in all dental schools in Croatia
 - 36% smokers (39% during final year)
 - 74% educated on the topic of modern tobacco products



Why did we decide to educate dentists?

- Research shows that most dental professionals' knowledge of tobacco products is **largely limited** to conventional cigarettes.
- Scientific literature provides sufficient evidence on the harmful effects of tobacco use.
- In Croatia, despite years of tobacco control programs and product bans, consumption has decreased **only marginally**.
At the same time, new tobacco and alternative products are becoming increasingly common in everyday use.
- Patients often get their information online and are the ones asking questions in dental offices.
However, dentists are not adequately educated to provide informed and accurate answers.



New Tobacco Products on the Market

- Heated tobacco products (HTPs)
- Electronic cigarettes (E-cigarettes / Vapes)
- Nicotine pouches (tobacco-free)



Heated tobacco products (HTPs)

- A new type of electronic tobacco product that generates an aerosol by heating tobacco, delivering nicotine along with harmful substances such as **additives and flavorings**.
- Contain additional toxic compounds **not found in traditional cigarettes**, many of which are not currently regulated or analyzed under existing legislation.
 - Croatia recently expanded its legislation to cover new nicotine products, but the regulations focus on users — not product composition.
The law now restricts use to adults (18+), with no specific requirements regarding ingredients.
- Not a safe or acceptable alternative to cigarettes and do not help prevent or treat nicotine addiction.



Electronic Nicotine Delivery Systems (ENDS)

- Also known as **vaping devices** or **vape pens**, these are electronic devices used to inhale ("vape") flavored nicotine-containing solutions.
- The main components of e-cigarette liquids include **nicotine, propylene glycol**, with or without **glycerol**, and various **flavoring agents**.
- There are **thousands of combinations** of chemical compounds and flavorings used in e-liquids.
- Contrary to marketing claims, **e-cigarette aerosol is not "just water vapor."**
It contains **potentially harmful substances** and poses **significant health risks**, especially for **children, adolescents, and pregnant women**.



Nicotine Pouches

- Marketed as alternatives to conventional tobacco-based products but may pose **similar or even greater health risks**, particularly due to the **potentially high nicotine content**.
- They contain **dehydrated nicotine in the form of a white powder**, often combined with **flavorings**.
- Designed to be placed **between the lip and gum**, they **do not require spitting** and **do not contain tobacco leaf**.
- Nicotine is absorbed into the bloodstream via the **oral mucosa**.
- In addition to nicotine, pouches typically contain **plant fibers, flavoring agents, and sweeteners**.



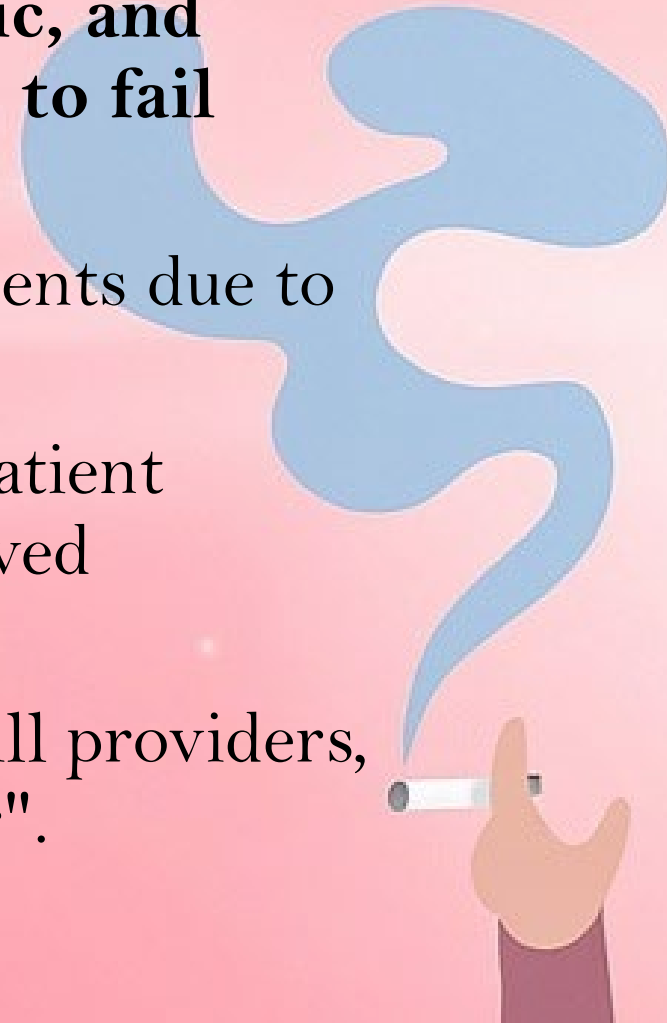
STRATEGY: How to Motivate Dentists to Actively Engage in Smoking Cessation Education

- **Step 1: Give Dentists a Clear “Why”**
- For any initiative to succeed, the dentist must understand why smoking cessation is relevant to their clinical practice. In our program, we focus on **key messages** that make this clear.



Key Message to Dentists

- "Smokers are your most frequent, most problematic, and highest-paying patients – but also your most likely to fail treatment."
- If we don't help them quit, we risk losing them as patients due to failed therapy.
- Prevention leads to better clinical outcomes, greater patient satisfaction, more word-of-mouth referrals, and improved professional reputation.
- Patients begin to see the dentist not just as drill-and-fill providers, but as a true **healthcare provider** – not a „smile seller".



Translated Into Numbers...

- Smokers have $3\times$ higher risk of **implant failure**.
- Patients are aware of this, and that's often why they ask about it – failure here means bad reviews, complaints, frustration for both patient and dentist.
- Regular smokers have $2\times$ greater risk of **tooth loss**.
- **Periodontal disease** is on the rise, requiring more interventions – both esthetic and surgical.



Contemporary Tobacco Products – A Hidden Risk

- Despite a large body of published research, **modern nicotine delivery systems** (e.g., e-cigarettes, heated tobacco, pouches) are **not less harmful** to oral health than traditional tobacco. Dentists must be aware of this.

Long-Term Approach - Not a Campaign

- We deliberately avoided the “campaign model.” Most past campaigns showed **short-term results** while active, but failed to produce lasting impact – especially among health professionals. In Croatia, smoking rates among professionals remain high, showing that *campaigns alone don't work*.



We Provide Dentists With Ready-to-Use Tools

- We're launching the campaign with a letter to dental professionals, sharing materials on tobacco cessation and new nicotine products. The initiative is supported by our professional society and includes access to tools, guidance, and communication via our mailing list and Facebook page.
- The first phase includes a **series of emails**:
 - 1) **Why** talk to patients about smoking
 - 2) **How** to approach the conversation
 - 3) **Tools** for daily practice





NI DIM. NI PARA. NI VREĆICE

Ni dim, ni para, ni vrećice – svi nose rizik za Vaš osmijeh

Mislite da su e-cigarete, grijani duhan ili nikotinske vrećice bezopasni? Iako ne stvaraju dim poput klasičnih cigareta, ovi proizvodi i dalje negativno utječu na zdravlje usne šupljine. Suha usta, povlačenje desni, iritacije i povećan rizik od karijesa – sve su to učinci koje stomatolozi sve češće primjećuju.

Razgovarajte sa svojim stomatologom već danas. Informirana odluka prvi je korak prema zdravijem osmijehu.



Hrvatsko stomatološko društvo
Hrvatskog liječničkog zbora



What's in it for the Dentist?

- Explain the direct **benefits** of engaging in smoking cessation education:
 - **Smokers want whiter, better-looking teeth** – this makes them **frequent, loyal patients**.
 - Smoking patients are often seeking **esthetic treatment**, and quitting enhances their outcomes.
 - There's also a growing base of **periodontal and implant patients** where tobacco use is a **critical treatment factor**.



Integrating the Topic into Everyday Dental Practice

- Rather than large-scale, short-lived campaigns, our goal is to **organically embed smoking-related discussions** into daily dental routines.
- We aim to continuously support dentists through:
 - **Short and convenient updates** (emails, notices, brief memos)
 - Tailored communication such as:
“**How to talk to patients about smoking – without the drama**”
 - Aligning messaging naturally with conversations around implants, periodontics, and esthetics



What Were Our Goals? What Have We Achieved?

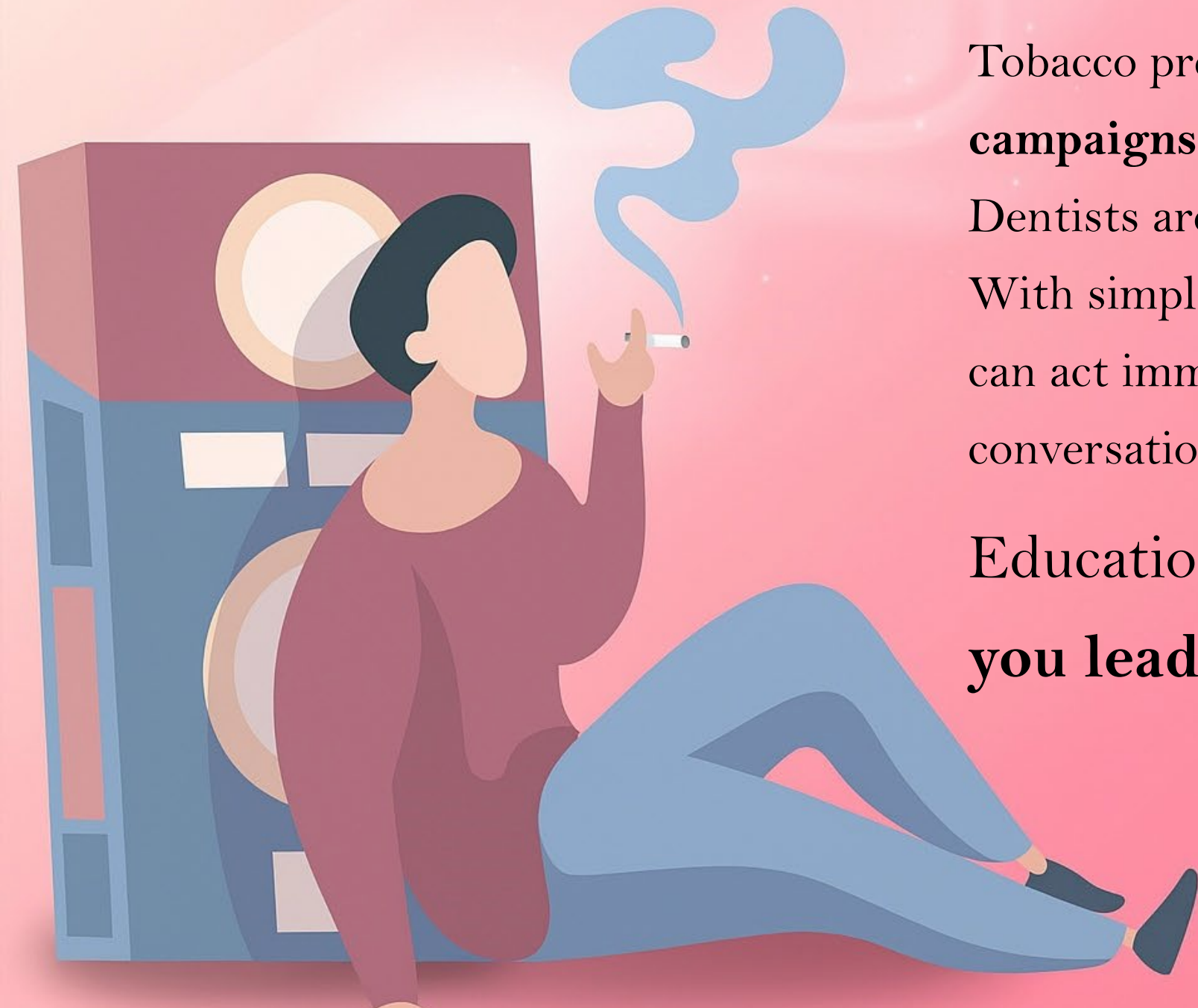
- Address growing clinical confusion:
 - Many dentists report being unable to identify certain products or explain their impact – often relying on incomplete internet sources
- Leverage the recent expansion of national legislation in Croatia to include non-combustible nicotine products, aligning with strong governmental support for anti-smoking initiatives
- Emphasize that Croatia has no economic benefit from these products – only rising oral health damage



Next Steps: Measuring Impact

- Our program is ongoing. We are:
 - Monitoring progress through **follow-up testing of dentists and dental students**
 - Planning a repeat of the **Google Survey** to measure growth in awareness and knowledge
- Evaluating whether our approach led to **greater recognition of nicotine products** and more confident patient communication





Tobacco prevention **doesn't need campaigns — it needs consistency.**

Dentists are on the front line.

With simple tools and clear messages, you can act immediately, during real conversations.

Education starts chairside — and **you lead it.**



Resources

- Croatian Institutes of Public Health <https://www.hzjz.hr/>
- Facebook: Croatian Dental Society <https://www.facebook.com/hsdhlz/>

- **Periodontal Health Status in Adults Exposed to Tobacco Heating System Aerosol and Cigarette Smoke vs. Non-Smokers: A Cross-Sectional Study (2024)**
- **Impact of the Tobacco Heating System and Cigarette Smoking on the Oral Cavity: A Pilot Study (2024)**
- **Ecigarettes and heated tobacco products impact on dental color parameters (2023)**
- **Electronic Cigarettes, Heated Tobacco Products, and Oral Health: A Systematic Review and MetaAnalysis (2021)**
- **Cichońska, Kusiak & Goniewicz – The Impact of ECigarettes on Oral Health—A Narrative Review (2024)**
- **Effects of prolonged stimulation with heated tobacco products on gingival epithelial cells (2023)**

- **The Impact of ECigarettes on Oral Health – A Narrative Review (2024)**
- **Potential oral health effects of ecigarettes and vaping: A review and case reports (2020)**
- **Oral health risks in adults who use electronic nicotine delivery systems and oral nicotine pouches (2024)**
- **Is the use of tobacco products, especially electronic nicotine delivery systems (ENDS), associated with the incidence of oral health outcomes among US adults? (Cohort study, 2023)**
- **The risk profile of electronic nicotine delivery systems, compared to traditional cigarettes, on oral disease: a review (2023)**
- **Modifications in Human Oral Fibroblast Ultrastructure, Collagen Production, and Lysosomal Compartment in Response to Electronic Cigarette Fluids (2023)**

- **What is the impact of nicotine pouches on oral health: a systematic review (2024)**
- **Emerging Oral Nicotine Products and Periodontal Diseases (2023)**
- **The Effects of Nicotine Pouches and ECigarettes on Oral Microbes: A Pilot Study (2024)**
- **Oral mucosal changes caused by nicotine pouches: case series (2024)**
- **The Correlation of Swedish Snus, Nicotine Pouches and Other Tobacco Products with Oral Mucosal Health and Salivary Biomarkers (2022)**
- **Oral nicotine pouches with an aftertaste? Part 2: in vitro toxicity in human gingival fibroblasts (2023)**



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