

Addressing the Risks of the New Tobacco Product Wave in Portugal

Abordando os Riscos da Nova Vaga de Produtos de Tabaco em Portugal

André VICENTE ¹, Luís NEVES ², Teresa LEÃO ^{3,4}
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INTRODUCTION

In recent decades, policies implemented across various countries have successfully reduced tobacco consumption.¹ However, the emergence of new tobacco and nicotine products, such as electronic cigarettes (e-cigarettes), heated tobacco products (HTPs) and oral forms of tobacco has been posing a challenge to sustaining this downward trend. Euromonitor International forecasts that the global sales of these emerging products, especially of e-cigarettes and HTPs, will continue to increase, offsetting much of the decline in traditional cigarette sales.²

Invented in China in 2003, e-cigarettes, commonly referred to as 'vapes', were later introduced to Europe and the United States in 2006. This has led to a dramatic increase in the number and diversity of new products, many deliberately designed to appeal to younger demographics. They are generally equipped with a mouthpiece, a sensor, a battery, a reservoir/tank, and a heating element/atomizer.

Unlike e-cigarettes, which vaporize a liquid, HTPs heat tobacco directly to produce a nicotine-containing aerosol. Heated tobacco products were first conceptualized in the 1980s by major tobacco companies, but the early prototypes failed due to technical issues and the lack of consumer interest. Modern popular HTPs were officially launched in 2014, and despite being initially available only in limited markets, it marked the beginning of their growing global popularity. They typically consist of a tobacco stick or capsule, a heating chamber, a power source, and a control unit regulating temperature to prevent combustion.

Why action is important

Tobacco consumption continues to pose a significant public health challenge worldwide. In 2021, tobacco was the fourth most important risk factor – the first behavioral factor – for the loss of healthy life years in Portugal, responsible for 8100 deaths in that year, about 15.1% of total fatalities.³

The impact of traditional tobacco products is indisputable, but the emergence of HTPs and e-cigarettes has been introducing new challenges to risk communication. These products are marketed as less harmful alternatives to traditional tobacco, with claims of 'reduced risk', 'cleaner', and 'smoke-free' alternatives. Nonetheless, according to the World Health Organization (WHO) and the current scientific literature, there is no evidence to support those claims.² It is crucial to emphasize that all these nicotine delivery devices induce dependence, including among adolescents, raising significant public health concerns. Beyond addiction, the evidence of their negative impact, particularly on respiratory and cardiovascular diseases, oral health, and mental health, questions their safety claims.^{2,4,5} As an example, an epidemic of severe pulmonary disease, named 'e-cigarette or vaping product use-associated lung injury' (EVALI), emerged in the United States in 2012. Although being marketed as non-combustion products, some HTPs devices may reach temperatures that cause partial combustion, sparking an ongoing debate on claims of their combustion-free aerosol.²

These new tobacco products are also marketed as effective cessation aids. Nonetheless, limited evidence supports this assertion. Data from several national studies in England showed that in stop-smoking services from 2020 to 2021, quit attempts involving a vaping product had only a slightly higher success rate (64.9%) compared to those that did not (58.6%).⁶ This modest difference may be insufficient to outweigh the potential health risks associated with vaping as an alternative to complete cessation. In fact, current data do not indicate that smokers who start using HTPs switch successfully to exclusive use of these products. Instead, most become dual users and do not substantially reduce their risk.^{2,5} This dual use is linked to higher health risks than smoking alone, increasing the odds of cardiovascular disease, stroke, metabolic dysfunction, asthma, chronic obstructive pulmonary disease, and oral disease.⁷

1. Serviço de Saúde Pública. Unidade Local de Saúde Gaia e Espinho. Vila Nova de Gaia. Portugal.

2. Unidade de Saúde Familiar Lusitana. Unidade Local de Saúde Viseu Dão Lafões. Viseu. Portugal.

3. EPIUnit ITR. Instituto de Saúde Pública. Universidade do Porto. Porto. Portugal.

4. Department of Forensic and Public Health Sciences and Medical Education. Faculdade de Medicina. Universidade do Porto. Porto. Portugal.

✉ Autor correspondente: André Vicente. andre.vicente@ulsge.min-saude.pt

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Despite these risks, misconceptions persist. In Portugal, according to a 2020 Eurobarometer poll, the primary reasons for vaping were to reduce or quit smoking (53%), followed by the belief that vaping is less harmful than smoking (32%). In the case of HTPs, the most common reason was the belief in their reduced harm compared to conventional tobacco products (48%), followed by influence from friends (40%). Other significant factors included their use as a smoking cessation aid (32%) and their appeal as being attractive/cool (27%).⁸

Protecting younger generations

These misconceptions are particularly dangerous for adolescents, who are heavily targeted by marketing strategies, well described by Tobacco Tactics - a platform developed by the University of Bath that investigates and exposes the strategies of the tobacco industry to support public health and transparency. Young people may underestimate the risks of nicotine addiction and the harmful substances contained in these products. Its designs, aromas, flavors, and youth-targeted advertising are some of the examples the industry uses to create a gateway for early nicotine ad-

diction, ensuring a new wave of lifelong consumers.²

Since 83% of smokers start smoking between the ages of 14 and 25, this age range presents a critical window for targeted prevention efforts.⁹ In Portugal, 59% of smokers start before the age of 17, with this figure rising to 95% by the age of 25.⁸ Effective prevention efforts, especially among young people, can save millions of lives, prevent morbidity, and significantly reduce healthcare costs. In many countries, including Portugal, the prevalence rate of smoking among individuals aged 15 to 24 exceeds 20%.⁹ Between 2015 and 2019, the 12-month prevalence rate of e-cigarette use among Portuguese adolescents aged 13 to 18 increased from 12.5 to 13.4%, emphasizing the growing appeal of these products to younger demographics and highlighting the need for action. For HTPs, the 12-month prevalence rate for 2019 was 3.8%.¹⁰ It is important to note that these are outdated data points that do not fully reflect current trends, especially given the rapid market dissemination of these products.

Preventing the use of tobacco products among younger age groups is also relevant since adolescence is a critical period for brain growth and development, especially of the

Table 1 – List of the proposed solutions, in alignment with the World Health Organization Framework Convention on Tobacco Control (WHO FCTC). Full table with details on current policy gaps can be read in the Appendix (Appendix 1: <https://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/23143/15747>).

Solution	WHO FCTC
The nicotine content should be aligned with traditional cigarette regulations, limiting <u>each tobacco stick of HTPs to 1 mg</u> and reducing the content for <u>each e-cigarette's reservoir to the equivalent of one pack of cigarettes (20 mg)</u> , making this information clear to the consumer.	Article 9
Ensure <u>clear labeling</u> , particularly for e-cigarettes, so consumers are fully informed about nicotine levels.	Articles 10 and 11.2
<u>Ban flavorings</u> on e-cigarettes for their appealing and harmful effects.	Article 9
Mandate neutral and standardized design (<u>plain packaging</u>) for vaping and heated tobacco devices, making them less attractive, such as in terms of colors or coloring properties, attractive or misleading imagery and descriptors, including names.	Article 11.1(a)
<u>Establish two tobacco-free zones</u> around educational institutions: one with a smaller radius where tobacco consumption is strictly prohibited, <u>to prevent exposure</u> and one with a larger radius where the sale of tobacco products is banned, <u>to prevent access</u> .	Articles 8.2 and 16.1(d)
Introduce <u>different types of text advertising</u> on all tobacco or nicotine delivery products to inform on their harms.	Article 11
<u>Set a maximum battery power</u> for e-cigarettes and HTPs, to limit the influence of power on nicotine and toxicant delivery.	Article 9
Prevent medical and scientific journals from publishing studies <u>generated or funded by the tobacco industry</u> .	Article 5.3
<u>Invest in studies on the long-term impact</u> of heated tobacco and vaping, particularly considering the challenges in generating evidence due to the wide variety of products on the market.	Article 20.1
Establish a national system to <u>enforce the existing legislation and monitor</u> the trends of use, sales, and marketing strategies of emerging tobacco products, particularly for young people.	Article 20.3
The issue of smoking prevention and control, including the risks of new tobacco products, <u>should be addressed within the health education framework</u> at the primary and secondary education level by properly trained professionals.	Article 12
<u>Improve understanding</u> regarding the tax burden differences between traditional tobacco products and newer alternatives to better assess whether alternative products are taxed effectively to discourage use.	Article 6
<u>Ban disposable vapes</u> due to their environmental impact, following other European countries.	Article 18

prefrontal cortex, responsible for executive functions, decision-making, and self-regulation.⁵ This means that adolescents are particularly vulnerable to environmental toxicants like nicotine, which can trigger rewarding effects more intensely and lead to addiction more rapidly than in adults, even at lower or intermittent levels.^{4,5} Nicotine exposure can also have lasting negative impacts on higher cognitive function and emotional regulation.

Taking action

In recent years, Portugal has implemented stricter regulations on emerging tobacco products. For instance, Law 5/2024, transposed the European Union (EU) Delegated Directive 2022/2100, extending some of the restrictions applied to traditional tobacco products to HTPs, namely banning aromas or flavorings (such as vanilla or menthol) and imposing health warnings. Furthermore, the Portuguese legislation aligns policies for traditional tobacco, HTPs, and vaping regarding smoking prohibitions in public spaces, advertising and sponsorship restrictions, and the ban on sales to minors under 18.

However, there are still notable gaps. Addressing them presents an opportunity for Portugal to strengthen its policies, safeguard vulnerable populations (particularly youth), and reduce environmental damage. Table 1 outlines specific solutions to consider, aligned with the WHO Framework Convention on Tobacco Control (WHO FCTC),

ratified by Portugal in 2005. Further details on the current policy or legislation gaps, along with the rationale for each proposed solution, can be found in the Appendix (Appendix 1: <https://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/23143/15747>).

As such, navigating through the wave of emerging tobacco products requires a coordinated and robust effort to provide a health-enabling environment to younger generations, enabling children and adolescents to live healthy, long, fulfilling lives.

AUTHOR CONTRIBUTIONS

AV: Study conception and design, writing and critical review of the manuscript.

LN: Writing and critical review of the manuscript.

TL: Critical review of the manuscript.

All authors reviewed and approved the final version to be published.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest related to this work.

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