

**ELECTRONIC CIGARETTES AMONG UNIVERSITY STUDENTS: THE NECESSARY CONVERGENCE BETWEEN PUBLIC HEALTH AND TECHNOLOGICAL INNOVATION**

**CIGARRILLOS ELECTRÓNICOS EN UNIVERSITARIOS: LA CONVERGENCIA NECESARIA ENTRE SALUD PÚBLICA E INNOVACIÓN TECNOLÓGICA**

**CIGARROS ELETRÔNICOS ENTRE UNIVERSITÁRIOS: A CONVERGÊNCIA NECESSÁRIA ENTRE SAÚDE PÚBLICA E INOVAÇÃO TECNOLÓGICA**

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The consumption of Electronic Nicotine Delivery Systems (ENDS) among university students has consolidated as a critical public health challenge, transcending geographic boundaries and cultural heterogeneities. In the Brazilian context, the prevalence of use reaches alarming levels, exceeding 24% in certain student populations. This phenomenon is primarily driven by curiosity and psychosocial peer pressure, persisting resiliently despite the normative rigor of national sanitary legislation, which prohibits their commercialization<sup>(1)</sup>.

Complementing this scenario, investigations into students' health literacy levels reveal a concerning cognitive gap: misinformation regarding the intrinsic risks of vaping promotes the normalization of the habit. This reality converges with international evidence highlighting social and behavioral determinants, notably academic stress and transmedia exposure to pro-vaping content, as fundamental vectors for the initiation and maintenance of nicotine dependence<sup>(2,3)</sup>.

Notwithstanding the commercial discourse that historically positioned electronic cigarettes as harm reduction tools, the scientific evidence accumulated this decade points in the opposite direction. Recent clinical studies establish robust correlations between e-cigarette use and the development of respiratory and cardiovascular pathologies, as well as psychological disorders. Furthermore, a "gateway effect" is observed, in which the use of these devices increases the propensity for conventional smoking and other high-risk behaviors<sup>(4)</sup>. In Brazil, the persistence of

consumption despite the current prohibition configures a "silent epidemic" of nicotine that compromises individuals in the midst of their professional formation, including future actors in the health and science sectors<sup>(5)</sup>.

From this perspective, it is imperative that coping strategies evolve beyond conventional passive education interventions. Given the digital omnipresence in the daily lives of young people, health promotion must be mediated by disruptive and user-oriented technologies. Digital interventions, ranging from personalized messaging systems to interactive platforms based on social support, have demonstrated superior efficacy in smoking cessation, providing continuous and scalable monitoring that significantly increases abstinence rates<sup>(6)</sup>.

In this context, the university ecosystem offers a fertile environment for the implementation of these tools. The integration of cessation protocols into institutional platforms, combined with the use of Artificial Intelligence for behavioral data analysis, allows for the identification of vulnerability patterns and the execution of proactive, personalized interventions. Moreover, the employment of gamification elements and telemedical support can catalyze student engagement, transforming educational institutions into active agents of wellbeing promotion.

In summary, mitigating the impact of electronic cigarettes requires a transdisciplinary response that articulates scientific rigor, technological innovation, and robust educational policies. Only through a modern approach, sensitive to digital dynamics and grounded in evidence, will it be possible to reverse the trajectory of dependence among university students, ensuring the physical and mental health of future generations of professionals.

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