

Editorial

Rising Electronic Cigarette Use: Alarming Health Implications and Social Impact

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As the popularity of electronic cigarettes (e-cigarettes) continues to rise, the implications for public health and their social consequences are becoming increasingly pronounced. Initially considered and marketed as a safer alternative to traditional smoking (tobacco smoking), e-cigarettes have attracted a diverse group of people, particularly younger populations. This editorial aims to focus on the growing concerns surrounding e-cigarettes, their diverse health effects, and broader societal implications. Electronic cigarettes, or e-cigarettes, are battery-powered devices that vaporize a liquid solution typically containing nicotine, flavorings, and other chemicals. Unlike traditional cigarettes, which burn tobacco to produce smoke, e-cigarettes employ a heating element to convert the liquid (e-liquid) into an aerosol that users inhale. This operational difference has led to the perception that e-cigarettes are a safer choice. However, research-based evidence suggests that this perception may be misleading.⁽¹⁾

The health effects of e-cigarette use and an in-depth understanding of their mode of action are still being studied, but preliminary research indicates several concerning trends. Users are often exposed to harmful substances, including nicotine, which can lead to addiction, poisoning, toxicity from inhalation (including seizures), cardiovascular issues, negative impacts on brain development in adolescents, and even trauma and burns. Additionally, the aerosol produced by e-cigarettes contains various toxicants, including heavy metals and volatile organic compounds, which pose risks to respiratory health.^(1,2) Recent studies have highlighted a potential link between e-cigarette use and increased susceptibility to respiratory infections. Furthermore, e-cigarette use can cause several problems such as oxidative stress, genetic changes, DNA damage, and epigenetic alterations.⁽³⁾

One of the most alarming concerns about e-cigarettes is their rapid adoption among younger generations. Since e-cigarettes entered the global market in 2007, the marketing strategies employed by manufacturers—with appealing flavors and sleek designs—have gained popularity among cigarette smokers, especially adolescents. According to the 2022 National Youth Tobacco Survey, approximately 6% (1.63 million) of youth in the USA use e-cigarettes.⁽⁴⁾ Early exposure to nicotine can lead to addiction and an increased likelihood of transitioning to traditional cigarette smoking or other drug-related activities. Furthermore, the normalization of vaping among young generations, especially adolescents, can change perceptions of smoking, making it more socially acceptable and potentially leading to a new generation of nicotine users.

The rise in e-cigarette use is not merely a public health issue; it represents a cultural shift in how society views smoking, nicotine use, and the practice of using other drugs. The perception of smoking has changed dramatically over the past few decades, with increasing awareness, widespread smoking bans, and anti-smoking campaigns. However, e-cigarettes have introduced a new narrative in society that normalizes vaping and blurs the lines between smoking and non-smoking behaviors. This cultural shift poses a threat to public health by altering social norms while we aim to promote a smoke-free society. As we address the complexities of e-cigarette use, it is imperative that stakeholders—including researchers, public health personnel, educators, policymakers, and community leaders or social influencers—collaborate to address the threat posed by these newly adopted smoking devices. This includes in-depth research to better understand the mode of action of e-cigarettes on human health, effective regulation to limit access for young people, and sustained public health campaigns to increase awareness about the potential health risks associated with e-cigarettes. The future of smoking and nicotine use in society is at a critical juncture. Prioritizing research in this field and using evidence-based approaches in public dialogue can help mitigate the

health effects of e-cigarettes and promote a healthier society for future generations.

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Conflict of Interest

The authors declare no conflict of interest.

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