

Impact of Vaping: A Growing Public Health Concern

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INTRODUCTION

Through this letter, I wish to bring to attention the implications of the recent increase in the use of e-cigarettes or vapes. E-cigarettes are devices that heat a liquid until it becomes vapor, which is inhaled. Typically, e-cigarettes contain nicotine, propylene glycol and flavouring agents. They were initially developed as a smoking substitute to help with smoking cessation, but are now used by both adults and teens for recreational purposes. In this letter, I will go over the effectiveness of e-cigarettes as a smoking cessation tool, the possible health issues related to vaping and the popularity of vaping amongst adolescents.

Smoking Cessation Tool

A study published by the European Respiratory Society examined e-cigarettes as a tool for smoking cessation. They assessed the effect of vaping in the treatment context and on the overall population level. As a smoking cessation tool in the treatment context, the early models of e-cigarettes helped in long-term smoking cessation when compared to placebo e-cigarettes. Although the evidence for e-cigarettes is not strong when compared to licensed stop-smoking medications (such as Nicotine Replacement Therapies), due to the quality of studies done and the number of studies done being low. On the population level, they used data from the Eurobarometer Survey, which indicated that approximately 6% of ex-smokers in Europe quit with the help of e-cigarettes. In the UK, France and the USA, where data on both smoking and vaping exist, the rise in vaping has been accompanied by a decline in smoking.¹

The WHO, on the other hand, in a recent article have stated that e-cigarettes are ineffective for cessation at the population level and that evidence for adverse health effects on the population level is mounting. In conclusion, while there is some evidence to support the use of e-cigarettes as a smoking cessation aid, the research is at this point inconclusive, with the WHO recommending against it as NRTs have a similar success rate, whilst having more evidence of effectiveness and knowledge of side effects and relative safety of NRTs.²

Health Issues

The health-related concerns associated with vaping are being reported with increasing frequency. With studies reporting that vaping weakens the neutrophils, lung macrophages and airway epithelium, thus causing impaired phagocytosis. This can cause an increase in pathogenicity of common pathogens

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such as the influenza virus.³ A paper from NEJM in 2022 detailed a case series where chronic vaping had led to small airway fibrosis and constrictive bronchitis. In addition to this, 40% of e-cigarette users are reported to use normal cigarettes too, which can cause a higher risk of diseases when compared to normal smoking.⁴ There have also been physical injuries caused due to E Cigarettes explosion (53%), 24% by respiratory issues, and 12% by poisoning reported by the CDC. The biggest cause of concern, though, is that most long-term effects of Vaping have not yet been identified due to the recent rise in popularity.³

Popularity Amongst Adolescents

E-cigarettes have become increasingly popular amongst teenagers. This is thought to be due to aggressive marketing campaigns, which paint vaping as less harmful compared to cigarettes. They are also encouraged by social media, which allows them to be easily popularised. It is also aided by an awareness gap where most adolescents do not know the harmful effects of vaping, or that it is banned under the Prohibition of Electronic Cigarettes Act of 2019. Adolescents using vapes are also at an increased risk of starting traditional smoking. The nicotine in the e-cigarettes can lead to long-term impact on brain development, thus making adolescent use more dangerous. It also leads to anxiety, mood disorders and sleep disturbance.⁴

In Conclusion, I would like to summarise that e-cigarettes have little evidence to be beneficial as a smoking cessation when compared to proven methods like NRTs, and cause health issues which are rapidly being discovered, with the long-term effects still unknown. Finally, it is gaining an increasing amount of popularity amongst adolescents, raising cause for concern. While they are officially banned in India, they are

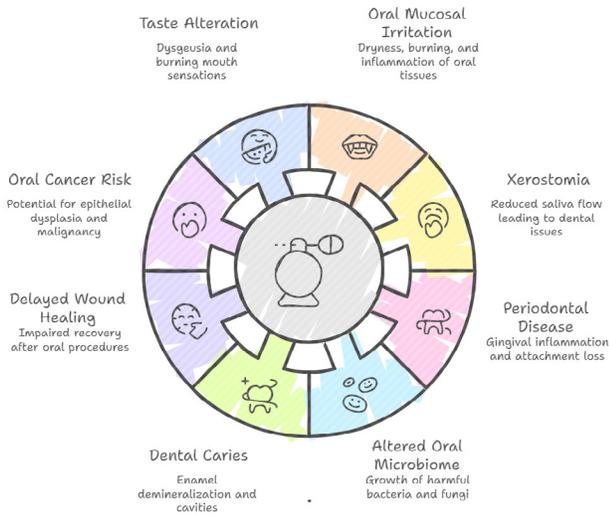


Figure 1: Harmful effect of vaping on oral cavity⁵⁻¹⁰

still easy to obtain and require greater monitoring, along with awareness programs to decrease the number of users (Figure 1).

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