



Mini-Review Article

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E-Cigarette Usage Among Youth: Potential Harm and Implications

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Introduction

Tobacco use is one of the leading causes of death in the world and is a preventable risk factor of noncommunicable diseases for example cancer and heart disease. There is no safe level for consumption of tobacco and all forms of tobacco are damaging and toxic. The most common form of tobacco use worldwide is cigarette smoking. However, other tobacco products that are equally popular are waterpipe tobacco, cigar, pipe tobacco, bidis, and smokeless tobacco products.

In recent years, E-smoking is gaining wide acceptance among youth and is becoming a trend as e-cigarettes do not cause bad breath and they do not produce or carbon monoxide when compared to conventional tobacco cigarettes. It is believed that E-cigarette vapor contains fewer toxins, in lower quantities, than cigarette smoke [1].

Although many experts consider vaping as being less harmful than smoking tobacco cigarettes, e-cigarette use still poses health risks. For example, e-liquids contain toxic chemicals which have been associated with DNA damage and serious health issues, such as acute-onset bronchiolitis obliterans (popcorn lung) and seizures. In addition, several reports have also documented e-cigarette device explosions exposure to e-cigarette liquids which can cause burns, and fire-related injuries [2].

Another key concern about e-cigarette use has to do with nicotine exposure and addiction. Constant exposure to nicotine through use of e-cigarettes could eventually lead to addiction to combustible cigarettes and other tobacco products. Another negative impact has shown that young adults who started off with e-cigarette became addicted and started heavier cigarette smoking [3]. E-cigarette

aerosols have concentrated several heavy metals such as nickel, lead, and chromium that causes cytotoxicity to oral epithelial cells through an oxidative stress response. The most common periodontal problems associated with use of e-cigarette result in increased accumulation of plaque, deeper probing depths, an increased bone loss, higher concentrations of localized inflammatory markers, and a higher volume of sulcular fluid. [4].

It has been detected that the use of e-cigarettes raises the incidence of complications in existing oral pathologies. More information on electronic cigarettes should be spread through campaigns and mainstream media should be used to raise awareness readily and help the public to access the information. The use of e-cigarettes has a negative impact on the antioxidant capacity of saliva as vape pen can introduce certain bacteria that contribute to the development of oral diseases. This decreases antioxidant capacity and the defensive capacity of the immune system in the oral cavity.

When considering an attempt of smoking cessation people usually have limited information about the risks and effects of e-cigarettes. Therefore, people involved indispensably in tobacco abstinence need to be completely aware of alternative pharmacological (like nicotine replacement therapy) and nonpharmacological tools to encourage and guide patients in tobacco cessation [5].

It is currently unknown how much consumers know about the risks associated with e-cigarettes and which risks are most likely to deter people from vaping. Therefore, efforts are needed to look at health risks associated with e-cigarettes that tobacco users once aware of could discourage use of e-cigarettes [6] as e-cigarettes were supposedly designed to facilitate smoking cessation. E-cigarette marketing and flavoring tactics have faced criticism for potentially tempting a population already prone to addiction,

notably adolescents. As indirect aerosols, some of these chemicals may pose risks to children and individuals with pre-existing health conditions [7]. Furthermore, the ubiquitous use of e-cigarettes in public spaces surfaces to normalize smoking behaviors, markedly amongst youth who increasingly perceive vaping acceptable within society as an alternative.

Acknowledgement

None.

Conflict of Interest

None.

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