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[Mini-review] Impact on Oral Health of Smoking Cigarettes, Cigars or Hookahs

C.S. Santinoni¹, Gabriel Leonardo Magrin¹, Ariadne Cristiane Cabral da Cruz¹, Marco Aurélio Bianchini¹, Gláucia Santos Zimmermann¹, Cesar Augusto Magalhães Benfatti¹, Ricardo de Souza Magini¹

¹ Universidade Federal de Santa Catarina

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Abstract

This mini-review explores the extensive impacts of smoking cigarettes, cigars, and hookahs on oral health. It synthesizes research findings to highlight various oral consequences ranging from tooth pigmentation to oral cancer, emphasizing the dose-dependent effects of smoking. The review further discusses the specific risks associated with different smoking methods, including cigars' direct oral contact and the high toxic exposure from hookahs. Additionally, it addresses the legal status and health risks of electronic cigarettes in Brazil. The paper concludes by stressing the importance of healthy habits and dental follow-ups in mitigating smoking-related oral health issues, underscoring prevention as the primary strategy against smoking-induced diseases.

Carolina dos Santos Santinoni¹, Gabriel Leonardo Magrin¹, Ariadne Cristiane Cabral da Cruz¹, Marco Aurélio Bianchini¹, Gláucia Santos Zimmermann¹, Cesar Augusto Magalhães Benfatti¹, and Ricardo de Souza Magini¹

¹ Professor at Dental School of Federal University of Santa Catarina – UFSC, Brazil

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Smoking has several consequences on the oral cavity, from the simplest, such as tooth pigmentation, to the most complex, such as cancer. It also has a negative influence on the health of the supporting tissues of the teeth (periodontium) and can even lead to their early loss. The same consequences can be observed with dental implants.

The effects of smoking on smokers (active and passive) are still dose dependent. The greater the number of substances absorbed, the greater the effects on general and oral health. According to the Brazilian National Cancer Institute of the Ministry of Health, smokers must be aware that the smoke from their cigarette or other tobacco products can cause illnesses in people they live with at home, at work and in other collective spaces and that there is no safe level of exposure to smoke.

In recent years, the habit of smoking cigars and electronic cigarettes, in addition to using hookah, has become even more common. In this context, it is important to consider that, regardless of the device, the consumption of these inputs can also cause dependence and is as harmful to oral and general health as the use of regular cigarettes.

The cigar does not have a filter (like a regular cigarette) and has direct contact with the mouth, also promoting direct exposure to toxic components and increasing the risk of oral cancer (for example, cancer of the lips and tongue). The amount of tobacco present in a cigar can be almost 20 times greater than the amount of tobacco present in a cigarette. Compounds in direct contact with oral tissues can be easily dissolved by saliva and taken to other parts of the body, increasing the risk of harm to general health (for example, esophageal cancer).

Electronic cigarettes are illegally sold in Brazil by ANVISA (National Health Surveillance Agency) and, like hookahs, can cause nicotine dependence and damage cardiovascular, pulmonary and neuronal health. In addition to exposure to nicotine, electronic cigarettes contain other substances that may pose health risks, such as polycyclic aromatic hydrocarbons, whose effects on the body have not yet been fully elucidated. A 50-minute hookah session corresponds to exposure to the toxic components of smoke from approximately 100 cigarettes. Both electronic cigarettes and hookahs are often shared with other people. This can also favor the transmission of different types of microorganisms present in the oral cavity, related to cavities, periodontal disease and more serious diseases such as hepatitis and COVID-19.

Healthy habits are part of building good oral and general health. Eliminating or reducing the smoking habit and having follow-up appointments with a dentist helps to restore oral (and general) health. Prevention remains the best treatment for all diseases.

References

- Apatzidou DA. The role of cigarette smoking in periodontal disease and treatment outcomes of dental implant therapy. *Periodontol 2000*. 2022 Oct;90(1):45-61. doi: 10.1111/prd.12449. Epub 2022 Aug 11. PMID: 35950749.
- Robbins J, Ali K. How do periodontal indices compare among non-smokers, tobacco and e-cigarette smokers? *Evid Based Dent*. 2022 Sep;23(3):116-117. doi: 10.1038/s41432-022-0809-y. Epub 2022 Sep 23. PMID: 36151288.
- Chaffee BW, Couch ET, Vora MV, Holliday RS. Oral and periodontal implications of tobacco and nicotine products. *Periodontol 2000*. 2021 Oct;87(1):241-253. doi: 10.1111/prd.12395. PMID: 34463989; PMCID: PMC8444622.
- Ramôa CP, Eissenberg T, Sahingur SE. Increasing popularity of waterpipe tobacco smoking and electronic cigarette use: Implications for oral healthcare. *J Periodontal Res*. 2017 Oct;52(5):813-823. doi: 10.1111/jre.12458. Epub 2017 Apr 10. PMID: 28393367; PMCID: PMC5585021.
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- Brazilian National Cancer Institute - visited 29/08/2023.
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