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Shisha Has Deleterious Effects on the Oral Health of Many!

Elham Hazeim Abdulkareem

A waterpipe (WPS) (Shisha) is a nicotine-delivery device in which tobacco smoke is passed through water before being inhaled¹. Smoking a Shisha has been a traditional practice in Middle Eastern societies for hundreds of years². As is well known, the tar involved in a single inhalation of waterpipe smoking is about equivalent to that in five cigarettes. A waterpipe session can be equivalent to smoking about 100-200 cigarettes^{3,4}. The use of waterpipes is increasing around the world, especially among young people and women^{3,6}. It has become an endemic global phenomenon⁴. WPS have a false sense of safety because waterpipes are used casually in social gatherings and smoking them is a recreational activity both indoors and outdoors⁵. It is estimated that 70% of WPS believe waterpipes to be a safe alternative to cigarette smoking^{3,6}. Raj *et al.*² concluded that the mistakes of parents and the belief of the young that smoking WPS is not as dangerous as smoking cigarettes have enabled WPS to take the practice lightly, contributing to its growth and popularity in the Middle East.

The charcoal used to burn waterpipe tobacco includes carbon monoxide, metals and cancer-causing chemicals, which increases the health risks of WPS¹. Currently, most discussion regarding water pipes is about the risk of oral cancer, periodontal disease and peri-implantitis. El-Hakim *et al.*⁶ and Ramôa *et al.*⁷ noted that waterpipe smoke contains a juicy compound that causes chronic irritation, increasing the vulnerability to developing premalignant lesions and oral and oesophageal cancers. It has also been reported that the effects of waterpipe smoking were significantly associated with increased DNA damage in users' lymphocytes and buccal mucosa cells^{8,9}. In addition, there is a multitude of research on the oral and other health risks faced by WPS¹⁰. Soule *et al.*¹¹ reported that bacteria, viruses and fungi are passed among users who share the mouthpiece of a pipe. The potential existence of mycobacteria in the waterpipe tube can contaminate users. El-Barraway *et al.*¹² found that smokers who have gingival infections and who share a mouthpiece can spread *Helicobacter pylori*, the bacteria that cause stomach ulcers. Habib *et al.*¹³ found that the Hepatitis C virus could be transmitted by infected drops of blood that cling to waterpipe mouthpieces. Szyper-Kravitz *et al.*¹⁴ found that cultures grown from the humid tobacco from waterpipes were contaminated with spores of *Aspergillus*, a mold fungus that causes pneumonia. Other researchers have found increased incidence of candida infections among cigarette and waterpipe smokers and users of electronic cigarettes^{15,16}.

Reports of oral health risks abound. Al-Belasy¹⁷ found compromised periodontal health in WPS compared to non-smokers. Natto *et al.*⁴ reported that the relative risk of periodontal disease is increased 5.1-fold in WPS compared to non-smokers. The periodontal pathogens called 'black-pigmented bacteria' (*P. gingivalis* and *P. intermedia*) had higher incidences among WPS^{18,19}. In addition, they found changes in oral microflora that can be particularly pathogenic to humans. Mombelli *et al.*²⁰ found increased incidence of peri-implantitis, peri-implant bone loss and implant failure in dental patients who were WPS. AlQahtani *et al.*²¹ found that tobacco smokers higher levels of inflammatory cytokines may increase the process of peri-implant inflammation, which plays an important role in the progression of peri-implant tissue damage. In addition, these researchers found that waterpipe smoking was associated with the most-common complications following tooth extraction, including alveolar osteitis (dry socket)¹⁷.

Given the results of the studies above, we conclude that waterpipe smoking has detrimental effects on the health and life of many. Therefore, public awareness regarding these effects is needed. However, waterpipe smoke is an extremely addictive substance, and quitting a smoking habit is never easy. We must find an early, effective way to reduce the spread of waterpipe use. In the meantime, recommending smoking cessation is an important part of planning dental treatment and such a recommendation can be an important step toward improving overall health.

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