

# *WATERPIPE SMOKING*

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## Waterpipe Smoking

Water pipe smoking is done through a device which is popularly known as a hookah but in Asian and Mediterranean regions where they originated, they are known as narghile, shisha or goza. These water pipes consist of a bowl where you put tobacco and charcoal, an ash tray, an air valve, and hose, a stem, and the water base where you put the water. The first step is to inhale via the hose which pulls air through the coal(s), which causes the tobacco to be heated and produces smoke that travels through the stem of the water pipe and cools down when it hits the water and then the smoke is drawn through the hose. This was my topic of choice because there are many misconceptions about waterpipe smoking being a safer alternative to cigarette smoking and the growing popularity it has gained in the past decade, especially among the youth.

There are many distinct types of tobacco that can be used with water pipe smoking such as regular tobacco, flavored tobacco, cannabis and opium and hashish which are less commonly used. The harmful effects of waterpipe smoking are caused due to these tobaccos along with the use of charcoal. “Smoke from the burning charcoal used as a heat source and waterpipe tobacco, including flavorings, contains a number of carcinogens and toxicants. These carcinogens and toxicants include tobacco-specific nitrosamines, polycyclic aromatic hydrocarbons (PAH) (e.g., benzo[a]pyrene, anthracene), volatile aldehydes (e.g., formaldehyde, acetaldehyde, acrolein), benzene, nitric oxide, carbon monoxide (CO) and heavy metals (arsenic, chromium, lead)” (Patil, Shankargouda et al). Tobacco used in waterpipes contains carcinogens which are substances or chemicals that can stimulate and boost the development of cancer. It also contains toxicants which are poisonous or toxic substances as stated in the name. “During a single 30–60-minute WTS episode, waterpipe tobacco smokers can inhale over 40 L of smoke as compared to 1 L or less for a single cigarette.” (Ramôa, C. P., Eissenberg, T., & Sahingur, S. E. (2017). Since sessions of waterpipe smoking are longer than cigarette smoking people are more exposed to these harmful substances and chemicals, and they are consuming a higher volume of smoke therefore consuming more carcinogens and toxicants.

Waterpipe smoking sessions have become widely popularized and it is openly used in restaurants, bars and lounges which spreads the misconception of safety. People think because they are not smoking cigarettes directly that they are not getting the same effect. “The combination of the water-cooled and flavored smoke with the incorrect perception of decreased toxicant content relative to cigarette smoke has contributed to a dramatic increase in prevalence of waterpipe tobacco smoking (WTS)” (Ramôa, C. P., Eissenberg, T., & Sahingur, S. E. (2017). The flavored tobacco and water used in waterpipe smoking are extremely misleading because people believe that the water is filtering out all the harmful substances and chemicals out of the smoke they are inhaling, but it is not. The flavor added to the tobacco used in hookah misleads people into thinking that it is healthier than consuming regular tobacco. “The aerosol that emerges from the waterpipe mouthpiece, which is inhaled by the user, is a combination of charcoal smoke and tobacco smoke exposing users to many of the same disease-causing toxicants and carcinogens as the smoke generated by tobacco cigarettes such as nicotine, carbon monoxide (CO), polyaromatic hydrocarbons, volatile aldehydes and tobacco-specific nitrosamines” (Ramôa, C. P., Eissenberg, T., & Sahingur, S. E. (2017). The purpose of the water in hookahs is just to cool and smooth the smoke, not filtering any harmful toxicants and carcinogens.

Another common misconception about waterpipe smoking is that it is not addictive like other forms of tobacco consumption since it is mostly used in public social settings as a past time rather than in private isolated places. Waterpipe smoke contains nicotine which is a very

addictive chemical which can create a chronic dependence on a substance. “In 1997, Macaron et al. [10] first showed nicotine exposure in waterpipe smokers by measuring cotinine in their urine, a finding that has been replicated repeatedly since. For example, in a recent laboratory study conducted by our team at the Syrian Center for Tobacco Studies (SCTS), 24-hour-abstinent waterpipe smokers were invited to the clinical lab for a one session of waterpipe while their venous blood was sampled for nicotine analysis. This study showed that waterpipe smoking led to about fivefold increase in plasma nicotine levels (from  $3.07 \pm 3.05$  ng/ml pre-smoking to  $15.7 \pm 8.7$  ng/ml post-smoking,  $p < .001$ )”. This shows that waterpipe smokers are consuming nicotine as it is shown in the analysis of their blood and urine. Waterpipe smoking is very addictive, and I noticed that with my family members and friends that smoke hookah. Since hookah became popular, I cannot recall one gathering that hookah was not involved. I have cousins that buy disposable forms of waterpipes to take them everywhere and claim that it is just for entertainment when they are clearly hooked. Nicotine is very addictive, especially when you are taking the longer and harder pulls of smoke that waterpipe smoking requires.

These addictive products have many negative impacts on one’s oral and systemic health. Smoking can affect the oral mucosa in various ways and the consequences are due to the substances that are being consumed and the constant exposure to hot temperatures. Waterpipe smoking “... has been consistently associated with increased prevalence of periodontal disease as measured by increased periodontal pocket depth, loss of clinical attachment and vertical bone defects compared to non-smokers. While periodontal disease severity tends to increase in waterpipe smokers, similar to cigarette smoking, WTS also results in decreased gingival bleeding” (Ramôa, C. P., Eissenberg, T., & Sahingur, S. E. (2017). This shows that waterpipe smoking contributes to periodontal diseases such as deep pockets which are deeper than 3mm, loss of clinical attachment and other gum diseases that are related to inflammation and bleeding of the periodontium. Smoking hookah is “...associated with many of the similar systemic conditions as cigarette smoking including cancer, respiratory and cardiovascular problems, and adverse pregnancy outcomes” (Ramôa, C. P., Eissenberg, T., & Sahingur, S. E. (2017). There are many health conditions and diseases that are associated with cigarette smoking that are linked to waterpipe smoking as well. The types of cancer associated with tobacco use include those that affect the lung, mouth, nasal passages/nose, larynx, pharynx, breast, esophagus, stomach, pancreas, bladder, kidney, cervix, etcetera. Some adverse pregnancy outcomes include miscarriages, low birth weight and others. These are only some of the ways that waterpipe smoking can impact one’s health.

Providing smoking counseling is essential for patients during their dental hygiene visit. Dental hygienists work closely with patients, making them very accessible in contrast with other health care professionals. People listen and take advice from knowledgeable health professionals, many interventions and counseling about smoking cessation can make a difference and can serve as motivation for patients. Smoking is considered the fifth vital sign since most of the preventable deaths are caused by smoking, which makes smoking counseling a priority for health care workers. If I had to provide counseling to a teenager who just started two months ago, I would advise them to quit as soon as possible because the longer they wait to quit the harder it would be for them to do so. I would talk to them about the impact waterpipe smoking has on their oral and systemic health. I would tell them how difficult it is to reverse periodontal diseases and that is better to prevent than to regret. If I had to provide smoking counseling to a thirty-year-old who has been smoking for twelve years, I would start off by telling them that it is never too late to quit. If they want to quit, I will refer them to institutions, cessation programs and websites that can better guide them through the process. I would reassure them that quitting is hard but worth it because smoking cessation can have a positive impact on a long-term smoker’s health, since their bodies start healing right away. If they have any periodontal diseases developed, I will explain how smoking can get

in the way of treating these diseases since it leads to poor healing of the periodontium. For both patients I will emphasize that smoking cessation is a way they can save their own lives.

To conclude, this assignment was an important learning experience for me because like many others I believed some of the misconceptions about waterpipe smoking. I believed that waterpipe smoking was not as harmful as cigarette smoking because of the flavors and how widely accepted it is. I got so used to seeing people smoking hookah and somewhat became desensitized to the effects of it. From this assignment I learned that waterpipe smoking is just as dangerous as cigarette smoking or even worse since the sessions of waterpipe smoking are longer. I learned why smoking is considered the fifth vital sign, since I have heard about that phrase before but never bothered to research it, and most importantly I learned how helpful smoking counseling could be in a patient's life. I did not know that as a dental hygienist our duty as educators extended to providing counseling and motivating people to quit smoking. I feel more comfortable now about giving advice to future patients about smoking cessation because I am more knowledgeable in the topic, so I can provide higher quality counseling and really prioritize it since I understand the importance of it. In all, this assignment was beneficial because it was extremely educational and eye opening.

#### References:

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