

Public Health Impact of Hookahs (Water Pipes)

Testimony of:

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Introduction

My name is Won Choi, I am a Professor in the Department of Preventive Medicine and Public Health and Executive Director of the Master of Public Health Program at the University of Kansas Medical Center. Thank you for the opportunity to be here today to briefly discuss the public health impact of hookahs or water pipes.

What are Hookahs or Water Pipes?

Hookahs are devices used to smoke flavored tobacco, also called shisha or maassel. [1] Shisha is a wet mixture of tobacco, sweetener, and flavorings. It comes in different flavors including apple, mint, strawberry, cherry, chocolate, cappuccino, cotton candy, and others. Although Hookahs vary in size, shape, and style, the typical hookah has a fired-clay head that holds the shisha, a glass or acrylic bowl filled with water, leather or plastic hose to inhale the smoke, a metal screen or piece of aluminum foil with holes to cover the shisha, and a piece of burning coal placed on top. Finally, when the user inhales through the hose, the smoke passes through the water, which cools the smoke. [1]

Water pipe smoking is typically done in groups with the same mouthpiece shared and usually lasts about 45 to 60 minutes a session. Many youth and young hookah smokers believe that smoking a water pipe is less harmful than cigarette smoking; however, it contains many of the same harmful carcinogens as well as nicotine as cigarette smoking. [2]

Recent Trends in Hookah Use

Data from a national survey of youth (8th, 10th, and 12th graders) indicate that although the prevalence of current cigarette smoking (use in the past month) has decreased from its peak of 28.3% in 1996 to 8% in 2014, the prevalence of other tobacco products, including E-Cigarettes (14%) and Hookah use has increased.[3] The Monitoring the Future study is a long-term study of American adolescents, high school students and college students and

has been conducted annually by the University of Michigan's Institute for Social Research since 1975.

High School Students

In 2014, the current prevalence of cigarette smoking was 4% in 8th graders, 7% in 10th graders, and 14% among 12th graders. The corresponding percentages for E-Cigarettes were: 9%, 16%, and 17%, respectively. For Hookah use, there was no national data for 8th and 10th graders, however for 12th graders, Hookah use in the past year increased from approximately 17% in 2010 to 23% in 2014. [3]

In Kansas, during the 2011-2012 school year, 10.3% of 9th -12th graders reported using hookah in their lifetime. [4] The correspond percentages by grade were: 9th grade= 3.9%, 10th grade=9.2%, 11th grade=10.6% and 12th grade=18.2%. The percentage of Kansas high school students who currently use hookah was 3.5% [4]

College students

The prevalence of hookah use is higher among college students, with several studies reporting ever use as high as 54% and current hookah use as high as 25% for past 30 day use. [5]

In Kansas, 30.3% of 18-24 year olds reported that they have ever tried hookah in 2013. The corresponding percentage for current use of hookah was 7.8%.

Although the majority of hookah users smoke the tobacco mixture (shisha), few studies of college students have reported that some users smoke marijuana. Little is known about other non-tobacco substances smoked in hookahs so further research is needed.

Health Effects of Hookah Use

Hookah users are exposed to high concentrations of carbon monoxide, nicotine, tar, tobacco-specific nitrosamines, carcinogenic polycyclic aromatic hydrocarbons, and volatile aldehydes in water pipe smoke. [2] All of these are important classes of carcinogens, toxicants, and irritants present in tobacco smoke. A recent study reported an average 73-fold increase in nicotine, 4-fold increase in cotinine, 2-fold increase in the metabolite of the lung-selective carcinogen among all study participants immediately after a single session of hookah smoking. [2] Hookah tobacco and smoke contain many agents known to cause lung, bladder, oral cancers and heart disease. Although many youth and young adults believe that hookah use is less harmful than cigarettes, studies have shown that hookah use results in similar or higher levels of these toxic agents.

Conclusion

Although significant progress has been made toward decreasing the tobacco epidemic in the United States, newer alternative products like the Hookah raise concerns, especially among youth and young adults. The recent increases in Hookah use by youth and college students and the potential problem of dual use may reverse the decline in smoking and perpetuate nicotine dependence.

Thank you again for this opportunity. I would be happy to answer any questions.

References

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