

## Hookah Use Widespread Among College Students; Study Reveals Mistaken Perception of Safety in Potential Gateway Drug

ScienceDaily (Apr. 6, 2011) — Despite a growing number of cities instituting smoking bans across the country, hookah bars are cropping up everywhere -- from chic downtown cafes to locations near college campuses, where they've found a loyal customer base in young adults.

A new study done by researchers at Wake Forest Baptist Medical Center sheds light on the increasingly popular pastime, and the results are discouraging.

"The popularity of hookah smoking among young adults is quite alarming given the potential for negative health effects," said Erin L. Sutfin, Ph.D., an assistant professor in the Department of Social Sciences and Health Policy and lead author on the study. "Unfortunately, many young adults are misinformed about the safety of hookah smoking and some mistakenly believe it to be safer than cigarette smoking."

Little research has been done to date on hookah use by young adults in the United States, so researchers set out to expand knowledge on the activity.

They sent a web-based survey to a random sample of students from eight North Carolina colleges and universities asking about smoking patterns, drug habits, and the students' knowledge about these activities.

The researchers found that 40.3 percent -- more than one-third of the students surveyed -- reported having ever smoked tobacco from a hookah, while only a slightly higher percentage (46.6) reported having ever smoked a cigarette. Nearly 25 percent of students reported being current smokers of cigarettes, and 17.4 percent said they actively use hookahs.

The survey results showed that freshmen and males were more likely to use hookahs, and that there was an association between those individuals who used hookahs and those who smoked cigarettes, smoked marijuana, had a history of other illegal drug use, and had drunk alcohol in the 30 days prior to the survey.

It was also clear from the results that hookah users, in general, shared a mistaken perception that somehow smoking from a hookah was less harmful than smoking a cigarette.

The full study appears online in *Drug and Alcohol Dependence*.

Originally from India, a hookah, or water pipe, is a single or multi-stemmed smoking instrument, often made of glass, consisting of a smoke chamber, a bowl, a pipe and a hose. The instrument uses charcoal to heat specially made tobacco that has been soaked in molasses or honey and is highly flavored. Most hookah cafes offer a wide variety of flavorings on their menu -- everything from chocolate to bubble gum, mango to jasmine, mint to rose petals. In addition to the sweet smell and taste, the smoke produced by a hookah is "smoother" than cigarette smoke because it is cooled by water before passing through a rubber hose to a mouthpiece, where it is inhaled.

"The smoke produced by hookahs is a very mild smoke that may be appealing to non-cigarette smokers as a starter product," Sutfin said. She added that 22 percent of respondents who identified as hookah users had never tried a cigarette, suggesting that hookahs may be their first tobacco product. Cigarette smoke, by comparison, is a very harsh smoke, which can be irritating, Sutfin explained.



Hookah. (Credit: iStockphoto/Olena Kuznetsova)

"Likely because of the pleasant aroma and taste, users may inhale more deeply over a longer period of time," she said. "This results in hookah smokers actually inhaling a larger volume of tobacco smoke than cigarette smokers do."

Perhaps not surprisingly, the survey showed that students who attended a college located within 10 miles of a hookah venue were more likely to use. This is the first study to look at "availability," or the association between the location of commercial hookah venues and use among college students in the area.

The data for this study were collected before the smoke-free ban went into effect in North Carolina, banning tobacco smoking from restaurants and bars, and there is no exemption for hookah smoking. However, Sutfin said, there are ways for hookah venues to get around the ban, such as by not serving food or alcohol and/or by serving non-tobacco, herbal products for smoking.

"Results from this study highlight the need for policies related to hookah use," Sutfin said. "First, college administrators need to be aware of hookah use and include hookahs in strong campus tobacco-free policies. Second, state smoke-free bans need to include hookahs in their policies. Several states with strong smoke-free policies have exemptions for hookahs. Hookah cafes create the perception that this is a safe activity. It is not."

One of the many health concerns about hookah cafes, Sutfin added, is that hookah pipes used in hookah bars and cafes may not be properly cleaned, creating an environment conducive to the spread of infectious diseases.

While research about hookah smoking is still emerging, evidence shows that it poses many of the same dangers that smoking cigarettes does. Among those dangers, hookah smoke contains high levels of toxic compounds, including tar, carbon monoxide, heavy metals and cancer-causing chemicals. In fact, smoking from a hookah exposes an individual to more carbon monoxide and smoke than cigarette smokers are exposed to. Hookah smoking also delivers about the same amount of nicotine as cigarette smoking does, which could lead to tobacco dependence. Health effects include lung cancer, respiratory illness, low birth-weight (among infants whose mothers smoked hookah during pregnancy) and periodontal disease.

"This study highlights hookah smoking as a considerable public health concern, especially among young adults," Sutfin said. "Going forward, we need to develop interventions to address this risky behavior."

Co-authors on the study, funded by the National Institute on Alcohol Abuse and Alcoholism, include Thomas P. McCoy, M.S., Beth A. Reboussin, Ph.D., Kimberly G. Wagoner, Dr.P.H., John Spangler, M.D., and Mark Wolfson, Ph.D., all of Wake Forest Baptist.

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### Journal Reference:

1. Erin L. Sutfin, Thomas P. McCoy, Beth A. Reboussin, Kimberly G. Wagoner, John Spangler, Mark Wolfson. **Prevalence and correlates of waterpipe tobacco smoking by college students in North Carolina.** *Drug and Alcohol Dependence*, 2011; DOI: [10.1016/j.drugalcdep.2011.01.018](https://doi.org/10.1016/j.drugalcdep.2011.01.018)

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