

## ORIGINAL ARTICLE

# Hookah Use among High School Children in an Indian City in Gwalior, Madhya Pradesh

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## ABSTRACT

**Background:** Hookah use and hookah bars are on the rise among youngsters. A growing body of evidence suggests that these youth are experimenting with this form of tobacco.

**Aims:** The study was carried out to know the prevalence of hookah use and related factors associated among school students.

**Methodology:** A cross-sectional survey of 2000 students from high schools was conducted to find hookah users and factors associated with its use.

**Results:** Hookah users in this study population were 32%. These children believed that hookah was safer and more socially acceptable than cigarettes.

**Conclusions:** Misconceptions of hookah use among the younger generation are cause for concern. Prevention activities are necessary to prevent this rising public health concern, especially youth.

**Keywords:** Hookah, High school children, Tobacco

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## INTRODUCTION

Hookah use or water pipe appears to be on the rise among youth in India who smokes tobacco available

in a variety of flavors. In recent years, there has been a resurgence of hookah use around the world, most notably among young adults and young professionals.<sup>[1]</sup> Similar to cigarettes, hookah is also related to various preventable diseases including coronary heart disease, adverse pulmonary effects, and cancers of the lung, mouth, and bladder.<sup>[2-6]</sup> In addition, hookah smoke contains many of the same carcinogens and heavy metals as cigarette smoke. A typical 1-h-long hookah smoking session involves inhaling 100–200 times the volume of smoke inhaled from a single cigarette.<sup>[7-9]</sup> Due to the mode of smoking, including frequency of puffing, depth of inhalation, and length of the smoking session, hookah smokers may absorb higher concentrations of the toxins found in cigarette smoke.<sup>[1]</sup> Second-hand smoke from hookahs poses a serious risk for non-smokers, particularly as it contains smoke not only from the tobacco but also from the heat source (e.g., charcoal) used in the hookah.<sup>[1,9]</sup> Sharing a hookah may increase the risk of transmission of tuberculosis, viruses such as herpes or hepatitis, and other illnesses.<sup>[9,10]</sup> The Indian Government prohibits the use of tobacco in public places and places of employment. There is an increase in the number of “hookah lounges,” which are commercial establishments where individuals may gather to socialize and smoke hookah, usually in the proximity to colleges and universities.<sup>[11]</sup> Since lifetime tobacco use is frequently established by the age 18,<sup>[12]</sup> it is significant to evaluate hookah use among those aged 18 years and younger in more detail. The current study investigates the use of hookah by high school students by examining prevalence estimates and factors associated with it.

## METHODOLOGY

Data were collected from a survey of high school students from ten public schools in Gwalior. A cross-sectional survey of 2000 students from high schools was conducted to find hookah users and factors associated with its use. A questionnaire was designed to assess the use of hookah. Specific questions were asked to evaluate a hookah use profile, including initiation/cessation factors and patterns of current hookah use and to determine its relevance to perceptions and behaviors about hookah.<sup>[13]</sup> All subjects were directly asked about

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the presence of hookah lounges near their schools and residence allowing for direct measurement of hookah lounge awareness among students. The questionnaire also inquired about the relative harm perception of hookah use.<sup>[13]</sup> Participants were personally interviewed and were assured of confidentiality.

## RESULTS

Of the 2000 subjects surveyed, the mean age of the sample was 14 years. In the total population, 32% were users of both hookahs. Most students first learned about hookah from friends (70%). Gender-wise male users of hookah were two times more in number than female users. It was found that 15% of hookah users were from 9<sup>th</sup> grade, 20% from 10<sup>th</sup> grade, 30% from 11<sup>th</sup> grade, and 35% were from 12<sup>th</sup> grade. The mean age at initiation of smoking the hookah was 14 years. 25 % of the children had smoked hookah only once, some a few times (46%), and others once in a month (29%). The hookah users reported that they first learned of hookah use from friends (70%) followed by siblings (24%) and relatives (16%). More than 97% knew about the hookah lounges in their locality, and most of them smoked at these lounges (89%). All the hookah users shared the common water pipe. They reported smoking sessions that averaged 30 min. Among them, 96% thought that the use of hookah was socially unacceptable. The study reported that 97% did not know about the tobacco content of hookah. 85% believed that the hookah was significantly safer than the cigarette and was unaware of its harmful effects.

## DISCUSSION

Hookahs originated in ancient Persia and India and have been used extensively for approximately 400 years.<sup>[13,14]</sup> The hookah/water pipe is used to smoke especially made tobacco by indirectly heating the tobacco, usually with burning embers or charcoal. The smoke is filtered through a bowl of water (sometimes mixed with other liquids such as wine) and then drawn through a rubber hose to a mouthpiece. The discovery and popularity of hookahs and establishments that rent hookah pipes have increased greatly in the past 10 years in India. Hookah smoking is commonly viewed as a social activity and is often done in groups who share one pipe and try different flavors. Hookah smoking is seen as a relatively inexpensive way to "get together and have fun." Previous studies of young adults have indicated that subjects believed hookah to be safer than cigarettes because they felt that the water in the hookah pipe filters out harmful substances. Our study also found the use of hookah among minors (under 18 years of age). Therefore, the

legality of hookah lounges in India should be considered, and the future studies of hookah use should incorporate this variable in their questionnaires.

## CONCLUSION

Hookah use is increasing among adolescents and young adults who are unaware of the tobacco content of hookah and its harmful effects. This study shows that the hookah is attracting adolescents at a very early age and that they were first introduced to its use because of the presence of hookah lounges in their locality. Prevention activities such as restricting/banning hookah lounges are necessary to prevent this rising public health concern.

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