

Research Article

Knowledge, attitude and practices of hookah smoking among medical students in Gujarat, India: a cross sectional study

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ABSTRACT

Background: Tobacco is a preventable cause of morbidity and mortality across the world. Tobacco is used in different forms and among these hookah smoking is gaining immense popularity mainly because of youth appeal. Very few studies have been conducted to determine general smoking pattern and smoking habits among medical students. Objective of the study was to assess knowledge, attitude and practices of hookah smoking among medical students.

Methods: A cross-sectional study was conducted among medical students of AMC MET Medical College, Ahmedabad, Gujarat, India during April 2012 to August 2012. A simple random sampling technique was used. Inclusion criteria included all the students from MBBS program. Total 200 students from year one until year five was selected to participate in this study. Students were briefed about the topic of the study before the distribution of questionnaires. Predesigned, pretested and semi structured proforma was used to collect information regarding hookah smoking. The confidentiality of the study participants was ensured and informed consent was obtained. The study was approved by the ethics committee of the institute. The obtained data was analyzed using SPSS version 17 (Trial version).

Results: Out of 200 students, 21 (10.5%) the medical students smoke hookah. Average age of starting hookah smoking was 17.4 years. 38.1% of smokers preferred cigarette over hookah. 93.3% of the non-Smokers considered hookah smoking as injurious to health. Friends of the hookah smokers (peer pressure) were responsible for starting of hookah smoking in majority of the hookah smokers (85.7%). Out of 21 medical students who smoke hookah, only 5 students had tried to quit hookah.

Conclusions: Our study reveals the alarming situation of high practice of hookah smoking among medical students and thus that active measures should be taken to control this current condition especially among students by increasing awareness in them with the hazardous side effects of hookah smoking.

Keywords: Hookah, Smoking, Medical students, Tobacco, India

INTRODUCTION

Tobacco is a preventable cause of morbidity and mortality across the world. Low and middle-income countries are most severely affected. Estimates show that tobacco related deaths are expected to rise from 6.4 million in 2015 to 8.3 million in 2030.¹ Tobacco is used

in different forms and among these hookah smoking is gaining immense popularity mainly because of youth appeal.²⁻⁴ While most of research has focused on cigarettes, the increasing popularity of hookah has received much less attention. Hookah smoking has become to be fashionable and is widely used in developing country like India. The use of Hookah is a

400-year-old method of smoking in which tobacco is passed through a water pipe before being inhaled. It is now commonly practiced in commercial cafés, restaurants and even at homes. Even though hookah smoking may be perceived as less harmful compared to cigarettes,^{5,6} hookah contains tobacco; therefore, it contains many of the same toxicants as cigarette smoke including high concentrations of nicotine, carbon monoxide (CO), 'tar' and heavy metals.⁷ Nicotine content in hookah tobacco is documented to be 2-4%, whereas in cigarettes, it is 1-3%.⁸ Similarly, CO concentration in water-pipe smoke ranges from 0.34-0.40% compared to 0.41% in cigarette smoke.⁹ Water-pipe smoking has been linked to malignancy, cardiovascular disease, pulmonary dysfunction and nicotine dependence.¹⁰ It has potential to transmit infectious diseases since the same mouth-piece is passed from person to person during a session.

However, in the general population there exists a common belief is that hookah smoking is less harmful than cigarette smoking, in particular because the water "filters" the smoke. Although research is limited, the existing evidence suggests that hookah smoking associated health risks are similar to those of cigarette smoking. Very few studies have been conducted to determine general smoking pattern and smoking habits among medical students. The current cross-sectional study was conducted to assess knowledge, attitude and practices of hookah smoking among medical students in Gujarat, India.

METHODS

A cross-sectional study was conducted among medical students of AMC MET Medical College, Ahmedabad, Gujarat, India during April 2012 to August 2012. A simple random sampling technique was used. Inclusion criteria included all the students from MBBS program. Total 200 students from year one until year five was selected to participate in this study. Students were briefed about the topic of the study before the distribution of questionnaires. Predesigned, pretested and semi structured proforma was used to collect information regarding hookah smoking. The confidentiality of the study participants was ensured and informed consent was obtained. The study was approved by the ethics committee of the institute. The participants were given approximately 15 minutes to answer all the questions of the questionnaire and then, the completed questionnaires were collected. The obtained data was analyzed using the Statistical Package for the Social Sciences (SPSS) Program version 17 (Trial version).

RESULTS

Out of 200 students, 21 (10.5%) the medical students smoke hookah. Among hookah smokers, 19% were females. Average spending by hookah smokers on hookah is Rs. 286.19/- per month while their average pocket money is Rs. 6000/- per month. Hookah smokers

smoke hookah at an average of 2.5 times a month with average duration of 28.3 minutes per sitting. Average age of starting hookah smoking was 17.4 years. 38.1% of smokers preferred cigarette over hookah. 93.3% of the non-Smokers considered hookah smoking as injurious to health. Friends of the hookah smokers (peer pressure) were responsible for starting of hookah smoking in majority of the hookah smokers (85.7%) (Table 1). Out of 21 medical students who smoke hookah, only 5 students had tried to quit hookah and out of those, 4 students had considered hookah to be injurious to health. So, the tendency to quit hookah smoking increases with awareness. About 43% of the hookah smokers encouraged others to smoke hookah compared to just 4.5% of the non-smokers and this difference was significant (Table 2). As expected, majority of the smokers (81%) were against the ban of hookah bars by Government whereas majority of the non-smokers (61%) significantly support the Government action against hookah bars.

Table 1: Distribution of medical students who smoke hookah according to their influencer for smoking.

Influencer for smoking hookah	No. of medical students (n=21)	Percentage
Friends	18	85.7%
Family	2	9.5%
Newspaper	1	4.7%
Siblings	2	9.5%

Multiple response obtained

Table 2: Distribution of medical students according to their encouragement for hookah smoking to others.

Encourage others for hookah smoking?			
Smoke hookah	No	Yes	Total
No	171	8	179
Yes	12	9	21
Total	183	17	200

p<0.001 (Highly significant)

Table 3: Distribution of medical students according to their opinion regarding Government action to ban hookah bar.

Smoke hookah	Don't Care	Bad	Good
Yes	3	17	1
No	39	31	109

p<0.001 (Highly significant)

DISCUSSION

In our study prevalence of hookah smoking among medical students was 10.5%. Analysis of available information indicates that there are marked differences between countries in the prevalence of hookah smoking. Taha et al.¹¹ reported that the prevalence of hookah

smoking among male medical students in Saudi Arabia was 8.6%. However, in an Jordanian study conducted by Dar-Odeh et al.¹² it has been found that as many as 44.1% of medical students smoked hookah and that 25% of them used hookah smoking on a daily or weekly basis. Likewise, in a study conducted in central Saudi Arabia by Al-Turki et al.¹³ it has been revealed that among medical students 44.1% of the students smoked hookah and that 23.7% smoked both cigarettes and hookah.

In our present study, 93.3% of the non-smokers considered hookah smoking as injurious to health. Opposite findings reported by Maziak et al.⁴ who reported that 89% of the participants thought that hookah smoking was less harmful than cigarettes. A study from Egypt by Labib et al.¹⁴ revealed that 74% of female students believed that hookah smoking was less harmful than cigarette smoking. There is a false perception that hookah smoking is safer than cigarette smoking, perhaps because the invention of hookah smoking involves the passage of smoke through water that is presumed to filter the smoke and remove toxic agents.¹⁵ In terms of the perceived health risk, 7% of the respondents in the present study indicated that they believe that hookah was harmless. This finding was in line with a number of previous studies by Shafagoj et al.¹⁶ and Ward et al.¹⁷ In reality, hookah smoke is just as dangerous as cigarette smoke. As compared to a single cigarette, hookah smoke contains even higher level of metals such as arsenic, lead, and nickel, 36 times more tar, 15 times more carbon monoxide and nicotine as revealed by Knishkowsky and Amitai et al.¹⁸

In our study friends of the hookah smokers (peer pressure) were responsible for starting of hookah smoking in majority of the hookah smokers (85.7%). In studies by Ward et al.¹⁷ and Smith-Simone et al.¹⁹ showed that most of the shisha users started with friends in café restaurants. Curiosity and peer pressure were cited as the main reasons for the initiation and popularity of hookah smoking along with its use having become fashionable. The hookah bars were the most common location for hookah smoking. The increase in the shisha bar outlets might be another reason for the high prevalence. Hookah smokers were likely to smoke for the first time with friends. This shows the influence of peer pressure on hookah smoking. Several studies like Maziak et al.⁴ and Mohammed et al.²⁰ have shown that hookah smokers were significantly more likely to have hookah smokers as friends.

Although in our study average age of starting hookah smoking was 17.4 years, recent work from Karachi found a mean starting age of 14 years among adolescent hookah smokers.²¹ Approximately 64% of university students started shisha smoking at the ages 16 to 18 years. This result is consistent with the Maziak et al.⁴ study in which the mean (SD) age of initiation of shisha smoking was 19.2 years. It was also consistent with the Mohammed et al.²⁰ study in Kuwait where 30% started shisha smoking

at ages 14 to 17 years. These findings show that shisha smoking is becoming more popular among adolescents. The harmful consequences of shisha smoking will soon hit the productive sector of the population.

There are several limitations of the study that must be taken into account. Even though the sample size was large, the research was carried out at one institution where all the participants were medical students. As these students are from the same profession and may be well informed about the health effects of hookah, the study's findings may not be generalizable to non-healthcare students and the general population. There is a dire need for population-based research on hookah smoking and risk factors associated with it.

CONCLUSION

There is a high prevalence of hookah smoking, poor knowledge and misconception about its impact on health among medical students. Our study reveals the alarming situation of high practice of hookah smoking among medical students and thus that active measures should be taken to control this current condition especially among students by increasing awareness in them with the hazardous side effects of hookah smoking. Increased surveillance and additional research are necessary to address this growing threat to public health.

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