



The Impact of Smoking, Including Hookah, on the Human Body

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Abstract

Smoking is a social problem in society. For smokers, the problem is to quit smoking, for non-smokers-to avoid the influence of smokers and not "catch" their habit, and also-to maintain their health. Tobacco use is the only truly avoidable cause of death worldwide, with approximately half of all long-term smokers dying. World Health Organization (WHO) estimates that there are 1.3 billion people who smoke in the world and forecasts that the number of people who smoke will increase to 1.6 billion by 2025. Currently, 47% of men and 12% of women consume tobacco globally, while only in Europe about 30% of the adult population smokes. In recent decades, the growth of the tobacco epidemic is mainly due to an increase in the proportion of people who smoke in developing countries. At the same time, the smoking epidemic is growing among women and the younger generation. In Russia, the prevalence of smoking is one of the highest in the world. The increase in the prevalence of tobacco smoking in recent years in our country has been facilitated by freer trade in cigarettes, low prices for them and aggressive, widespread, large-scale advertising of tobacco products in all media.

Keywords: *Tobacco smoking, Hookah smoking, Health, Safety, Smoker.*

Introduction

Today, tobacco Smoking is widespread throughout the world. Basically, tobacco is used in two forms: as part of cigarettes and hookah. Tobacco Smoking (TS) leads to huge irreplaceable losses for public health. According to statistical calculations, TS is the cause of more than 17% of deaths in Russia; it is also shown that TS is associated with 43% of all deaths of men aged 35-69 years from malignant tumors and 89% from lung cancer. At the moment, cigarettes are increasingly taking a back seat among young people, preference is given to hookah.

This is due to the fact that smokers are sincerely convinced that, in comparison with cigarettes, hookahs will not harm their health, and even help to relax and relax in the company, to become more relaxed, advanced and stylish [1]. Recently, hookah Smoking is considered fashionable among young people [5, 13]. Hookah has become an integral attribute of holidays and dinner parties, girls and guys like to be photographed with a hookah and show off the

ability to exquisitely inhale and exhale tobacco smoke [2, 17]. Young people who are not educated in health issues believe that smoking cigarettes is harmful to health, but hookah is completely harmless. Fragrant smoke clouds of hookah, in their opinion, calms the nervous system and helps to relax the body. In addition, they claim that unlike cigarettes, hookah does not lead to addiction [5, 19, 21]. Youth hookah parties are also frequent, where alcoholic beverages (mostly wine) are used instead of water in the hookah, or cannabis is substituted for Smoking tobacco.

The danger of smoking hookah is also in the fact that this fashionable attribute is used most often in the company, it is smoked at parties, at celebrations, rarely alone [8, 10]. And hookah is a great way to exchange saliva between friends, but all participants in the circle of hookah smokers can be healthy [7, 14, 22]. Today, everyone knows that smoking hookah is harmful to human health.

According to experts of the World Health Organization, hookah smoking and its effects on the body are no less than the harm of smoking cigarettes. Of course, the hookah has a pleasant taste and aroma, provided by the mandatory addition of leaves of dry herbs and pieces of fruit to its tobacco. However, tobacco remains tobacco with all its impurities. Therefore, non-smokers who are addicted to hookah, just as easily get used to cigarettes [3, 20]. It is important to take into account not only active, but also passive TS, when non-smokers inhale tobacco smoke, being near or in the same room with people who smoke [6, 18, 23]. In any city in Russia, you can find cafes that serve hookah, thereby stimulating the growth of smokers.

The problem of passive smoking does not disappear [9, 24]. For non-smokers, being in the company of hookah smokers is just as harmful as being in the company of cigarette smokers. Not only carcinogens have a negative impact on health, but also the products of combustion of charcoal, which is a combustible substance in the hookah.

There are a large number of studies that prove the harmful effects of passive exposure to tobacco smoke from the environment for non-smokers. In particular, the risk of respiratory diseases in children of smoking parents has been shown to increase, as well as the risk of lung cancer and cardiovascular diseases in non-smoking subjects exposed to passive exposure to tobacco smoke [15, 16, 25].

There are three components to tobacco addiction: physical, psychological, and social. Physical dependence is associated with the effect of nicotine on the acetylcholine receptors of dopamine neurons located in the ventral capillary region of the midbrain. In addition to physical dependence, a smoker smokes in certain situations, when a stereotype of smoking behavior is formed on the basis of a conditioned reflex connection [11, 12, 26]. As in the case of any conditioned

reflex, tobacco smoking is associated with certain circumstances, objects, and behavior (the psychological or behavioral component of tobacco addiction). For example, a person lights up when they are agitated, stressed (the most common cause of smoking), when driving a car or waiting for transport, after lunch. Addition, the smoking environment supports and influences smoking behavior, and advertising and display of smoking in the media increase the urge to smoke (a social component of tobacco dependence). Most people who smoke have all three components (in varying degrees of severity), so help in giving up tobacco smoking should be carried out taking into account these components of tobacco dependence [27].

Materials and Methods

This work was done at Sechenov University with supported by the "Russian Academic Excellence Project 5-100". The analysis of domestic and foreign scientific publications on the problem of tobacco smoking was carried out.

At the stage of the study, the features of preventive activity of students, their attitude to their own dental health, the level of knowledge on tobacco smoking and hookah smoking were studied, for which 75 students of 2-5 courses were surveyed. The interview was conducted using the questionnaire method (a special questionnaire with 15 questions was developed).

The questions were prepared from the Global adult survey on tobacco use (GATS) questionnaire, which was developed by WHO (1998) as a global standard Protocol for sustainable monitoring of adult tobacco use (WHO/USA Centers for disease control and prevention, Questions about tobacco use for use in research). WHO recommends that when conducting research, select relevant questions from this list based on the Central topic or priority of a particular survey, or, if necessary, include a full set of them in the questionnaire (Table 1).

Table 1: Questioning

Question	Answer choice		
	Male	Female	-
1. Your gender is	Male	Female	-
2. Do you smoke cigarettes?	Yes, often	Yes, rarely	No
3. At what age did you start smoking cigarettes?	Before 16 years old	After 16 years old	I do not smoke
4. Does everyone in your company smoke?	Yes	No	-
5. Do you smoke hookah?	Yes, more than twice a month	Yes, less than two times a month	No, I do not smoke
6. At what age did you start	Before 16 years old	After 16 years old	I do not smoke

smoking hookah?			
7. Does everyone in your company smoke hookah?	Yes	No	-
8. Do your parents smoke?	Yes	No	One of my parents smokes
9. How do you feel about your friends who prefer not to smoke?	Positive, they are doing a good job.	Negatively	Neutrally
10. Do you find smoking a hookah harmful?	Yes	No	Difficult to answer
11. What do you think is more harmful: smoking a hookah or cigarettes?	Cigarettes	Hookah	Equally harmful
12. Do you consider smoking an addiction?	Yes	No	Difficult to answer
13. Does passive smoking affect people around you?	Yes	No	Difficult to answer
14. Have you tried to quit smoking?	Yes, I quit	Didn't try	Yes, but unsuccessfully
15. What measures could you suggest to prevent smoking?	Prohibit selling of cigarettes under the age of 21	To prohibit the advertising of cigarettes	Difficult to answer

Results and Discussions

We interviewed 75 people from 18 to 22 years old (40 women and 35 men). According to the questionnaire, the results of the survey were as follows:

Question 1 "Your gender" replied:

A) "Male" - 35 (47%)

B) "Female" - 40 (53%)

To question 2 "Do you smoke cigarettes? » replied:

A) "Yes, often" - 25 (33%)

B) "Yes, rarely" - 28 (37%)

C) "No" - 22 (29%) (Figure 1)

To question 3 "At what age did you start smoking cigarettes? » replied:

A) "Before 16 years" - 4 (6%)

B) "After 16 years" - 49 (65%)

C) "I don't smoke" - 22 (29%) (Figure 1)

To question 4 "Does everyone in your company smoke? » replied:

A) "Yes" - 38 (51%)

B) "No" - 37 (49%) (Figure 1)

On question 5 "Do you smoke hookah? » replied:

A) "Yes, more than twice a month" - 35 (45%)

B) "Yes, less than twice a month" - 34 (44%)

C) "No, I don't smoke" - 8 (11%) (Figure 2)

To question 6 "At what age did you start smoking hookah? » replied:

A) "Before 16 years" - 0 (0%)

B) "After 16 years" - 67 (89%)

C) "I don't smoke" - 8 (11%) (Figure 2)

To question 7 "Does everyone in your company smoke hookah? » replied:

A) "Yes" - 49 (79%)

B) "No" - 6 (21%) (Figure 2)

To question 8 "Do your parents smoke? » replied:

A) "Yes" - 26 (34%)

B) "No" - 17 (23%)

C) "One of my parents smokes" - 32 (43%) (Figure 1)

To question 9 «How do you feel about your friends who prefer not to smoke? » replied:

A) "Positive, they are doing a good job" - 17 (23%)

B) "Negative" - 7 (9%)

C) "Neutrally" - 51 (68%)

To question 10, " Do you consider hookah smoking harmful? » replied:

A) "Yes" -30 (40%)

B) "No" - 40 (53%)

C) "Difficult to answer" - 5 (7%) (Figure 3)

To question 11," What do you think is more harmful: smoking hookah or cigarettes? » replied:

- A) "Cigarettes" - 33 (44%)
- B) "Hookah" - 10 (13%)
- C) "Equally harmful" - 32 (43%) (Figure 3)

To question 12 "Do you consider smoking an addiction? » replied:

- A) "Yes" - 17 (23%)
- B) "No" - 28 (37%)
- C) "Difficult to answer" - 30 (40%) (Figure 3)

Question 13 "Does passive smoking affect people around you? » replied:

- A) "Yes" - 17 (23%)

- B) "No" - 25 (33%)
- C) "Difficult to answer" - 33 (44%)

On question 14 «Have you tried to quit smoking? » replied:

- A) "Yes, I quited" - 5 (7%)
- B) "Didn't try" - 26 (35%)
- C) "Yes, but unsuccessfully" - 22 (29%)

To question 15 «What measures could you suggest to prevent smoking? » replied:

- A) "Prohibit selling of cigarettes under the age of 21" - 28 (38%)
- B) "To prohibit the advertising of cigarettes" - 29 (39%)
- C) "Difficult to answer" - 18 (23%)

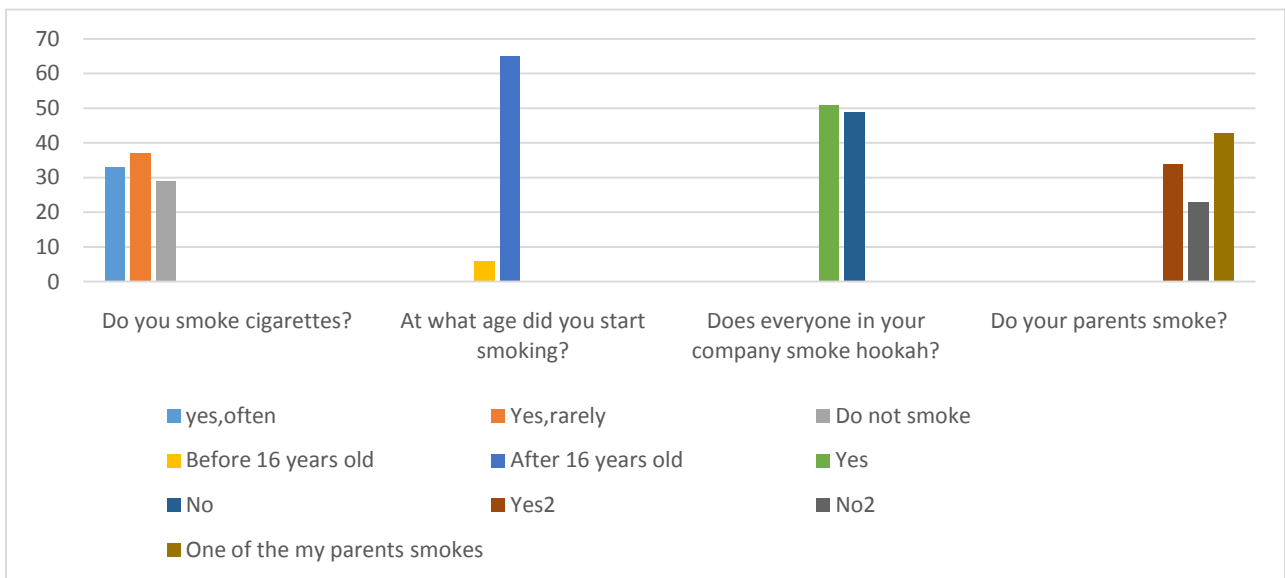


Figure 1: Smoking cigarettes

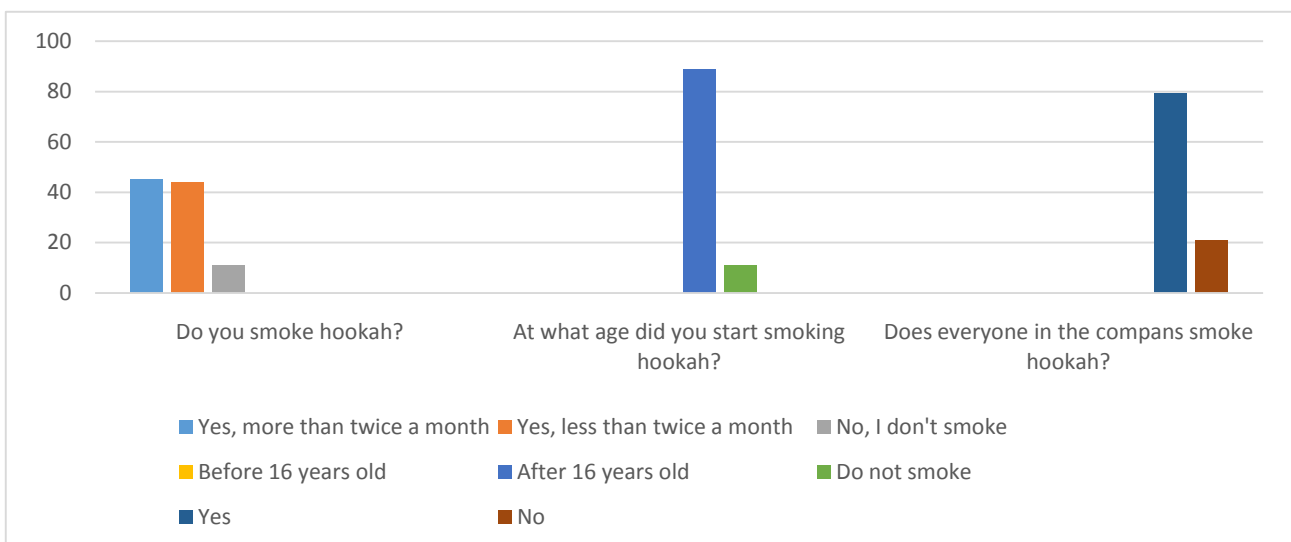


Figure 2: Hookah Smoking

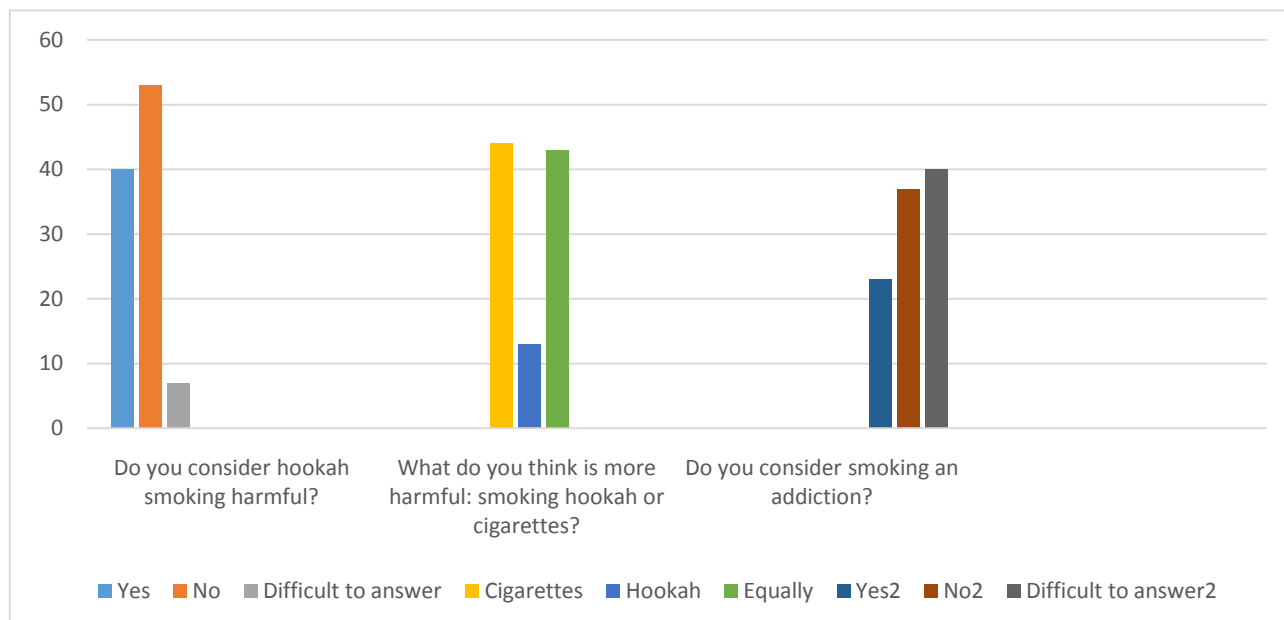


Figure 3: The dangers of hookah

Smoking hookah and cigarettes differs significantly from each other. When smoking a hookah, a special coal is used as an external heat source. Smoke is formed as a result of the distillation of tobacco components [4]. Thus, before getting to the smoker, the air flow first passes through the smoldering coal, then through the perforation of the foil and the layer of tobacco. The smoke moves along the shaft, through the water, gets into the flask and then along the hose with the mouthpiece-to the smoker. When smoking cigarettes, there is no such complex scheme. A cigarette is lit with a match or lighter and the first puffs are taken to start the tobacco smouldering. Next, tobacco smoke gets to the smoker.

Conclusion

Smoking hookah is quite a long process. A hookah smoker can inhale as much tobacco smoke as is contained in more than 100 cigarettes during a normal one-hour session. Of course, the smoke inside the flask is filtered, but the smoker inhales a volume of smoke that is significantly higher than the volume that is inhaled when smoking a cigarette. Thus, the harm from one hookah session is equal to the harm from smoking a

pack of cigarettes [16]. As in tobacco, hookah smoke, according to research by the world health organization, contains a large amount of carbon monoxide, heavy metal salts, beryllium, chromium, cobalt, cottonine, nickel, and chemical compounds that cause cancer. However, even after passing through a water filter, the content of these substances in hookah smoke is many times higher than in cigarette smoke. The main difference is the quantity and quality of tobacco smoke inhaled by the smoker. The water filter retains some of the nicotine, but does not guarantee the safety of smoking and does not prevent addiction.

It takes 20-80 minutes to satisfy the nicotine hunger when smoking a hookah. If a cigarette smoker takes about 8-12 puffs for 5-7 minutes and inhales 0.5-0.6 liters of smoke, then when smoking a hookah, 50-200 puffs are made, each of which contains 0.15–1.0 liters of smoke [7]. The smoke enters the mouth hot. With frequent smoking, it contributes to the expansion of capillary vessels of the mucous membrane of the cheeks, palate, and gums and causes its chronic irritation, which can lead to an inflammatory process.

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