

Hookah Use Among Youth and Young Adults: A Public Health Challenge

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Dear Editor,

Hookah or waterpipe smoking is a traditional method of tobacco use, especially in the Eastern Mediterranean region (1). Using hookah is spreading worldwide, particularly among students and youths (1-3). Hookah smoking is often considered a fun, harmless, and lighter version of smoking without its risks. There is an idea that hookah is safer than cigarette smoking and consequently, the hookah smoking has been steadily spreading among the youth and college students (3-5). On the other hand, the attraction of this tobacco use method for the youth is due to its pleasant smooth smoke, social acceptance, appealing flavors, its relatively low cost, and the perception of reduced harm (6). The epidemiologic studies have shown that the hookah smoking is probably the second global tobacco epidemic after the cigarette smoking (6, 7); however, the previous assessments showed that the prevalence of current (ie, preceding month) hookah smoking ranges from 5% to 17% among American adolescents, 6% to 34% among Middle Eastern adolescents, and 15.6% among Iranian adolescents (5, 6, 8). Although both the long-term and short-term health consequences of hookah smoking are brought in the literature, the information about its negative short-term and long-term effects on health has not been provided adequately to the general population (4, 7, 8). However, to provide information with regard to alarming and harmful effects of hookah using, it should be determined whether it is safe or not.

1.1. Is the Hookah Inhaling Smoke Less Harmful Than Cigarette Smoking?

Hookah smokers believe that their practice is safe because toxic elements are filtered out by the water. In a survey of 235 hookah users, 58.3% believed that hookah was less harmful than cigarette smoking (7-9). It has been shown that in a single hookah smoking session (typically 15 g of tobacco for 45 minutes), smokers were exposed to three to nine times more carbon monoxide (CO) and 1.7

times more nicotine in comparison to cigarette smoking. Another meta-analysis compared six different studies and showed that daily use of hookah smoking (an average of 20 g of tobacco per pipe at least once a day) produced a nicotine absorption rate of about ten cigarettes a day. Moreover, people who smoked hookah occasionally (ie, average of 20 g of tobacco per pipe in a four-day period), absorbed a nicotine level of about two cigarettes a day (7, 10). In fact, the blood level of nicotine increased up to 250% after a 40- to 45-minute session (7, 8, 11). Generally, the hookah use is associated with greater CO, similar nicotine, and dramatically more smoke exposure in comparison with cigarette smoking. Therefore, the two tobacco-smoking methods likely share some of the same health risks (7). In the following, some detriments of hookah using are discussed.

1.2. Harmful Effects of Hookah

Several studies demonstrated the harmful effects of hookah (7, 8, 12-14). The delivered tar in a single session of hookah smoking (about an hour) is as much as the tar in an entire pack of cigarettes (7, 12). The hookah consumers inhale nicotine, carbon monoxide, benzene, toluene, arsenic, lead, formaldehyde, and other carcinogens (7, 8, 12). In comparison to the abstainers, pregnant women who use hookah are more likely to give birth to babies with low birth weights, low Apgar scores, and respiratory distress syndrome. In addition, hookah smoking increases the chances of periodontal disease, and may be associated with adverse cardiovascular effects such as tachycardia and increased blood pressure and cancer (14).

1.3. Hookah Use: Exposure to Carcinogenic Compounds

Using hookah may increase exposure to carcinogens because smokers use a waterpipe over a much longer period, often 40 to 45 minutes, which is much longer than the five to ten minutes it takes to smoke a cigarette. Due to the longer and more sustained period of inhalation and

exposure, a hookah smoker may inhale as much smoke as consuming 100 or more cigarettes during a single session (7, 8, 11). Laboratory tests have suggested risks from hookah. The World Health Organization (15) and the American Lung Association (16) have released advisory statements indicating many long-term adverse consequences of hookah smoking, including increased risk for cancer.

1.4. Public Health Implications of the Hookah or Waterpipe Epidemic

Hookah smoking is a threat to public health; therefore, understanding the hookah features and how it influences users smoking habit will be essential for developing policy and treatment interventions to prevent the global and local hookah epidemic (14). In addition, it requires assessing effective policy options such as factual and visible health warnings on all its parts as well as youth access and indoor smoking restrictions. Investment in research and policy initiatives to understand and curb hookah use should become a public health priority (1, 2, 6). This is one of the important issues for the young adults, with increasing number of reports warning about smoking hookah or waterpipe. The central role of parental smoking on their children's attitudes toward smoking is in line with previous studies in Iranian youths. The role of less associated stigma with smoking hookah than with cigarette, even for girls in family gatherings, should be underscored (5, 12, 13). A broad range of strategies are needed to prevent the accelerating trend of hookah use. According to the American Lung Association (16), the following recommendations might work all of the words:

1) Closing loopholes for places that offer hookah; it will prevent increasing the hookah bar places.

2) Deputy of food and drug at universities of medical sciences should assert authority over tobacco used in hookahs; this deputy can apply needed regulations to these products to protect public health.

3) Prohibiting flavorings in hookah tobacco; local laws/regulations should be used to eliminate flavorings in hookah tobacco.

4) Conducting national surveys to provide data on hookah use for the public health community; national surveys should include questions about hookah smoking so that better estimates of national incidence and prevalence would be available for policymakers and public health professionals.

5) Implementing and enforcing laws that prohibit the sale of hookah tobacco and its paraphernalia to minors; the varying definitions of smoking in some jurisdictions allow minors to be admitted to establishments where hookahs are used and/or where its paraphernalia is sold.

6) Using licensure requirements or zoning rules to regulate hookah establishments; license and zoning requirements for the sale of tobacco, hours of operation, and age of patrons can be tools of restricting hookah bars and lounges.

However, other measures to discourage hookah use should be considered too. Prohibiting advertising in college newspapers or websites can help to discourage college students from frequenting hookah establishments. Furthermore, public awareness about the detrimental effects of hookahs on health and myths about lower harmful effects in comparison to cigarette smoking could help to build public support for more effective regulations. On the other hand, the physicians should inform their patients that hookah smoking exposes them to almost the same toxicants and carcinogens as cigarette smoking.

However, future studies should be conducted to:

1) Provide data to calculate the prevalence and incidence of hookah using among youth and young adults, which helps to assess trends over time and to indicate the magnitude of the problem.

2) Assess the knowledge, attitudes, and perceptions about hookah use and its perceived safety in comparison to cigarette smoking to find out why young people smoke hookahs.

3) Assess the health risks of hookah smoke and smoking and the causes of tendency to this tobacco use method.

5) Facilitate the development, implementation, and evaluation of cessation products and programs to help users to quit.

Finally, the aforementioned policies and landmarks should be localized to be used in both developed and developing countries including Iran.

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