

Flavored Hookah abuse: An Alarming Toxicity of Concern among Youths

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Abstract

The hookah use among present day generation creates an alarming need considering its negative health effects. Hookah tobacco (also known as water pipe tobacco, maassel, shisha, narghile, or argileh) is a type of combustible tobacco that is smoked with a hookah (waterpipe). It is popular among the youths as these hookah smokers smoke at hookah lounges as well as in private homes, bars, cafes and restaurants. In all the flavored products of tobacco, nicotine is the most potent and one of the addictive drug present including hookah tobacco. The concentration show a variation although the average nicotine content ranges between 1.8–6.3% of 3.4 mg/g tobacco depends upon the brand. In this article efforts have been made to highlight the toxic effects of Flavored Hookah abuse among youths.

Keywords: Flavored Hookah; Toxicity; Youths; Tobacco; Alarming.

INTRODUCTION

The problem of smoking tobacco in form of cigarettes, hookahs is the major concern among youths in relation to its adverse effects on health. It is well known fact that tobacco being one of the most widely abused substance in the world because of presence of a highly addictive major alkaloid stimulant nicotine in it. This nicotine abuse leads to the problem of adverse health effects including cancer, pulmonary and cardiovascular diseases.¹

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The hookah use among present day generation creates an alarming need considering its negative health effects. Hookah smokers smoke at hookah lounges as well as in private homes. Hookah tobacco (also known as water pipe tobacco, maassel, shisha, narghile, or argileh) is a type of combustible tobacco that is smoked with a hookah (waterpipe). Water pipe tobacco smoking obsession has again spread worldwide. Especially, the younger generation is besotted with mu'assel (shisha) and avidly use these for smoking.^{3,8}

Flavors profiling in flavored hookah tobacco is an issue of increasing scrutiny for the health sector owing to its adverse effects on humans, especially being heated to produce smoke. Tobacco smoke comprises a large number of chemicals and brand-specific flavors included hundreds of volatiles complex mixture attributed towards its toxicity and carcinogenic properties. These additives added in commercial brands of mu'assel



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(shisha) imparts diverse taste with amusing aroma.⁴

Hookah (water pipe) smoking is the inhaling of hookah tobacco smoke that has been generated by heating hookah tobacco with burning charcoal and passed through a partially filled water jar. The mechanism of hookah tobacco smoking is unique. First, the tobacco is heated indirectly with charcoal, then the smoke passes through a water bowl and finally is inhaled by the smoker through a rubber hose fitted with a mouthpiece. Hookah tobacco products come in different flavors, such as apple, mint, cherry, chocolate, coconut, licorice, cappuccino, and watermelon, paan, raas, strawberry, orange, paan masala, etc.^{1,9}



Fig. 1: Hookah (water pipe) Smoking Apparatus.

Source: (Middha and Negi Egyptian Journal of Forensic Sciences (2019) 9:39 <https://doi.org/10.1186/s41935-019-0146-2>)

Toxic Effects on Human Health

Generally it is thought that smoking non-tobacco hookah is safe and does not causes toxicity but it is reported by researchers and scientists during their experimental studies conducted that even non-tobacco hookahs released smoke in the environment same like that of tobacco products.^{4,6}

In all the flavored products of tobacco, nicotine is the most potent and one of the addictive drug present including hookah tobacco. The concentration show a variation although the average nicotine content ranges between 1.8–6.3% of 3.4 mg/g tobacco depends upon the brand.

In contrast to the misleading false ingredient statement '0.05% nicotine' that is portrayed on most hookah tobacco packages. The hookah smokers smoke 10–20 g hookah tobacco head per one hookah smoking session which leads to an average amount from 36 to 126 mg.^{1,2}

The major chemicals attributed to toxicity are fragrances, synthetically derived from petroleum the smoking of them leads to major health hazards. The common signs of toxicity among youths involves cancer, birth defects, Central Nervous System (CNS) disorders and allergic reactions. Some of these chemicals are addictive in nature for ex-menthol which increases the nicotine receptor density.⁵

In fact, research shows that waterpipe smokers may absorb even more of the harmful chemicals found in cigarette smoke because smoking sessions are typically longer. A typical one-hour hookah session involves inhaling 100–200 times the volume of smoke from a single cigarette.³ Hookah tobacco smoking has been associated with increased risk for lung and oral cancers, coronary heart disease, and pulmonary disease, cough, respiratory problems, reduced lung function and decreased fertility. The heating of charcoal not only create smoke but it also leads to production of highly toxic gases like carbon monoxide, certain metals and other carcinogenic chemicals which can increase the risk of cancers and heart problems.^{2,6}

The burning of these flavored items not only produces smoke but also releases a small amount

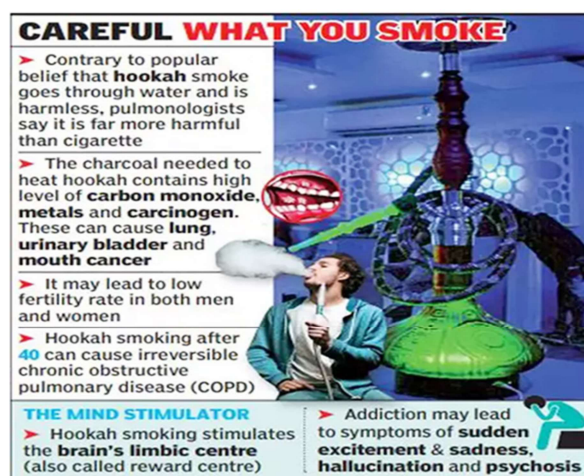


Fig. 2: Harmful Effects of Smoking Hookah

Source: (Doctors caution youngsters on peril of Smoking Hookah – By RryanRamanathan V) (http://timesofindia.indiatimes.com/articleshow/95900704.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)

of secondary smoke consisting of very fine particles spreading in air and pose serious toxicity to persons present in vicinity.

These Hookah pipes may leads to clotting in the pulmonary and coronary arteries and thereby obstruct the blood supply which results in Chronic Obstruction Pulmonary Disorder (COPD). The same pipe being used multiple times by multiple people may also increase the chances of oral herpes and other infectious diseases.⁹

Continuous Abuse leading Problems among Youths

The continuous and prolonged use of present day well known non-tobacco hookahs or flavored hookahs are prevalent among youths and adults. As per the data presented by National Adult Tobacco Survey (NATS) in year 2013–2014, 20.2% of the youth population between the age group of 18–24 years used hookah ‘every day’, ‘some days’, or ‘rarely’.⁸

The abuse of these items increased manifolds in the younger generation as per the report published on “Smoking and Tobacco Use” by Centre for Disease Control and Prevention, United States as the studies showing a vast increase between 22% to 40% from the past-year. There occurs a great upsurge in the abuse among youths aged from 19-30 years. The studies are not limited to this as the surveys conducted reveals a significant rise in the hookah abuse i.e. nearly 1 in every 13 (7.8%) high school students in the United States had used a hookah to smoke.⁷

The young adults who are not currently enrolled in college may also show similar behaviour and risk perceptions as do college students who are abusing it. Hence, young population are at the apex of abusing these addictive substances due to a large number of factors including motivational, socialization and many more which may pose an alarming threat to their life.

CONCLUSION

Researchers and scientist according to a report published on internet by Express News Service on 12th February, 2021 states that present day widely available substances in the form of herbal cigarettes, bidis, a blend of certain herbs rolled in tendu leaves etc. marketed with the tagline of ‘safety’ and considered as a healthier alternative to traditional cigarettes are unhealthier and poses serious risk to the user.⁵

Usually the packets of all the varieties of these flavored items of hookah does not contain any detail regarding the chemical constituents and other multiple flavoring additives.⁴

The chemical constituents of these products is not been completely known to the users because the manufactures remain silent about mentioning the chemical ingredients of the flavoring agents. The short falls in the measures owing to technical procedures for identification these additives are masking the data showing the presence of these carcinogenic flavored additives in such toxic herbal compounds and hookahs and thereby increase the hazard potential for human health. The need of the hour is to unequivocally establish a technique for chemical profiling of the flavoring additives using state of art.⁴

Henceforth, directives must be taken by various state and central bodies and conventions must be made, policies must be framed to regulate tobacco products production in form of these ***Flavoured Hookahs*** and their abuse especially among youths to protect public health because ***“Health is Wealth”***

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