

Hookah hook ups: An insight

Simarpreet V Sandhu MDS*, N.Chaitanya Babu MDS**

*Professor and Head, Department of Oral Pathology, Genesis Institute of Dental Sciences and Research, Ferozepur, Punjab, India. Contact: drsimarpreetvirk@gmail.com **Professor and Head, Department of Oral Pathology, M.S.Ramaiah Dental College, Bangalore, Karnataka, India.

Abstract:

The World Health Organization Study group on Tobacco Product Regulation (TobReg) has issued in 2005 an “Advisory Note” entitled “Waterpipe Tobacco Smoking: Health Effects, Research Needs and Recommended Actions by Regulars”. This important report, the first ever prepared by WHO, has considered ‘waterpipe’ or ‘hookah’ smoking a global public health threat. The global tobacco epidemic may kill 10 million people annually in the next 20-30 years with 70% of these deaths occurring in developing countries. Current research, treatment and policy efforts focus on cigarettes, while many people in developing regions (Asia, Indian subcontinent, Eastern Mediterranean) smoke tobacco using waterpipes. Waterpipes or hookah are increasing in popularity and more should be learnt about them so that we can understand their effects on public health, curtail their spread and help their users quit. Medline search using keywords “Waterpipe”, “Hookah” and “Indian subcontinent” was conducted with special emphasis on chemistry of smoke, health related effects, smoking patterns, history, gender and under age use aspects, prevention, and research needs. Every identified published study related to water pipe was included. We found that research regarding water pipe epidemiology and health effects is limited. Hookah is increasing globally particularly in Indian subcontinent where perceptions regarding health effects and traditional values may facilitate use among women and children. We conclude that more scientific documentation and careful analysis is needed before the spread of hookah use, its health effects can be understood, and empirically guided treatment and public policy strategies can be implemented.

Key words: Hookah, Water pipe, Health hazards, World Health Organisation

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Figure 1: Hookah



Figure 2: Miniature painting of Akbar with hookah

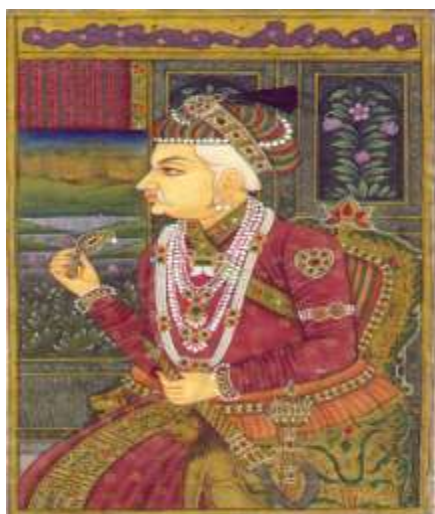


Figure 3: A plate depicting a royal lady with a hookah



Figure 4: Parts of Hookah (based on this PNG by Smackware, SVG version by User: Surachit 2007)

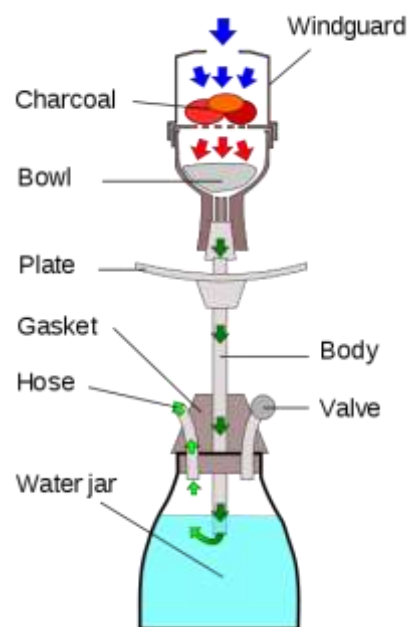


Figure 5: Community elders enjoying a hookah smoke



Introduction:

A hookah (Hindi: हुक्का, Urdu: حقہ *hukkah*), nargile in Turkish or shisha (Arabic: شيشة "shee-sha") is a single or multi-stemmed (often glass-based) water pipe for smoking shisha (a type of tobacco) (Fig 1). Originally from India,^{1,2} hookah has gained immense popularity, especially in the Middle East and is gaining popularity in the USA, UK, and elsewhere.³

Although a familiar object for a billion people around the world the four hundred year old hookah seems to be struck by a strange silence. It is largely overlooked by mass media as a folkloric and inert object. It is however undeniable that this tool is used daily for hours on end, by over hundred million men and women in the world at local coffee shops and home. Formerly associated exclusively with older age group, water pipe smoking is now spreading to other segments of society and is particularly finding a favour among young men and women. There is an upsurge in recent years with hookah bars in major cities.(quote references and flavor hookah bars contains tobacco or not is important so specify it) Exotic allures of hookah and the misconception that hookah smoke is filtered and safe may be driving the trend. There is an urgent need to get across to people and counter this idea.

Historical prospective:

Hookah smoking has been practiced in India for over 400 years. The use of the hookah for tobacco smoking originated in the court of Emperor Akbar in the late 16th century, as a way of reducing potential harm from smoking, on the suggestion of royal physicians, as tobacco was then an unknown substance (Fig 2). In a small bowl at the top, tobacco, flavored with molasses was kept shouldering with burning charcoal. When the smoker puffed on the hookah, the smoke passed down through a tube and then through a jar of water before being inhaled. As the use of tobacco spread in India, the hookah became the most prevalent form of smoking tobacco (also used by some people for smoking opium and hashish). Different forms of hookah were created to suit all social classes. Used by both men and women, the practice of hookah smoking became popular in areas where the

Mughals had a strong influence and became a part of the culture (Fig 3).

The Indian hookah described as an elegant and expensive equipage of a very complex form found favour of the early English merchants as early as 1675. Hookah smoking became a favorite pastime by the middle of the 18th century and contemporary Raj literature carries interesting information(quote reference) about this luxurious habit which required the employment of a special servant "hookah burdar" whose duty was to be in readiness with his master's hookah whenever he may be called for and particularly after the meals. The fashion of smoking hookah was so well established that even the memsahibs(specify meaning) had got addicted to it.

From 1950 to the early 1980s in India, bidi and cigarette rose in popularity, as hookah smoking declined.⁴

A revival of the narghile has occurred from the late 1990s or even earlier in parts of West Asia, northern Africa and South East Asia (especially India and Indonesia) and has spread to parts of Europe, Russia and North America. This unique smoking experience is rapidly growing in popularity throughout the world with opening up of large number of hookah bars in major cities. The phenomenon of upsurge of hookah smoking can be attributed to the perception that water pipe is less dangerous; easily available; cheaper and not associated with a social stigma.

Purpose:

To learn about the mysterious artistic artefact with special emphasis on structural components; history; chemistry of smoke; health related effects; gender and underage user effects; prevention and research needs.

Parts of hookah (Fig 4)

Bowl: head of the hookah; holds tobacco and coal.

Hose: slender tube that allows smoke to be drawn.

Body: The body of the hookah is a hollow tube.

Valve: purge valve connected to the airspace in the water jar to purge stale smoke.

Gasket: Sealing point where the body meets the water jar.

Water jar: The body of the hookah sits on top of the water jar. The downstem hangs down below the level of the water in the jar. Smoke passes through the body and out the downstem where it bubbles through the water.

Plate: From dead coals from previous smoking sessions.

Three types of tobacco forms are used in hookahs

Maasel: tobacco + honey/molasses;

Tumbak/Ajami: pure tobacco paste; Jurak: fruits and oils

Other additives are alcohol; hashish and marijuana.

Side effects of hookah:

Research shows that each hookah session typically lasts from 20 – 80 minutes and consists of 50 – 200 puffs which range from 0.15 – 1 liter per puff. This exposes the hookah smoker to considerably more smoke over a longer time period compared with a cigarette which ranges from 0.5 – 0.6 liters per cigarette. While the water absorbs some of the nicotine in the tobacco smoke, the smoker can be exposed to enough nicotine to cause addiction. Furthermore, the water moisture induced by the hookah makes the smoke less irritating and may give a false sense of security and reduce concerns about true health effects.^{5,6,7}

The World Health Organization Study Group on Tobacco Product Regulation (TobReg) presented an advisory note in 2005 on waterpipe (hookah) tobacco smoking and concluded that “waterpipe smoking is associated with many of the same health risks as cigarette smoking, and may, in fact, involve some unique health risks” and recommends that “waterpipes and waterpipe tobacco should be subjected to the same regulation as cigarettes and other tobacco products.” According to the World Health Organization, in one smoking session, the average hookah smoker inhales the equivalent of roughly 100 cigarettes.^{8,9}

The fuel used in a hookah pipe releases carbon monoxide, toxins, carcinogens and metals. All these chemicals increase a hookah smoker's risk of developing cancer, respiratory disease and heart diseases etc. (Table 1)¹⁰

Table 1 : Chemicals found in hookah smoke versus cigarette smoke. (Adapted from Shihadeh and Saleh*)

Chemical	Yield from : gm hookah tobacco	Yield from cigarette smoke 1 gm tobacco	Multiple of average cigarette smoke value
“Tar”, mg	802	Range : 1-27 Average : 11.2	100 fold
Nicotine , mg	2.96	Range : 0.1-2 Average: 0.77	4 fold
Carbon monoxide CO, mg	143	Range: 1-22 Average: 12.6	11 fold
PAH Phenanthrene, µg(cocarcinogen)	0.748	0.2-0.4	2.5 fold
Fluranthracene, µg (co-carcinogen)	0.221	0.009-0.099	4-fold
Chrysene, µg (tumor initiator)	0.112	0.004-0.041	5-fold

*Shahadeh A. and Saleh R. (2005). Polycyclic aromatic hydrocarbons, carbon monoxide,” tar”, and nicotine in the mainstream smoke aerosol of the argile water pipe. Food & Chemical Toxicology, 43:655-661.

Hookah tobacco contains all the carcinogens and chemicals that cigarette tobacco does, thus hookah smokers have the same risks of developing cancer, respiratory disease and heart disease. In fact, the long hookah smoking sessions may pose a greater health risk because it exposes hookah smokers to higher amounts of carcinogens and chemicals than smokers receive from a cigarette. that hookah smoking is an even more powerful cause of lung damage and chronic bronchitis than cigarette and bidi smoking.

Various health effects are:

- Staining of teeth¹¹
- Increased risk of periodontal disease¹²
- Dry socket¹³
- Squamous cell carcinoma and keratoacanthoma (lower lip)¹⁴
- Chronic bronchitis and lung damage¹⁵
- Lung cancer^{16,17}
- Cardiovascular disease and heart attacks⁹
- Low birth weight among women^{18,19}
- Bladder cancer²⁰
- Oesophageal and gastric cancers²¹
- Infections like herpes; hepatitis and tuberculosis²²

Water pipe smoking poses a significant hazard of suspended particulates to non-smokers by way of second hand smoke. Many articles suggest that there is simply not enough research to provide answers to determine the effects of hookah smoking. Research is under way by Fogarty International Center-funded Syrian Center for Tobacco Studies, Egyptian Smoking Prevention Research Institute, Research for International Tobacco Control-funded Tobacco Prevention and Control Research Group at the American University of Beirut, Lebanon.

Research needs: Need to carry out surveys to document the characteristics, knowledge, beliefs and attitudes of hookah users in the Indian scenario. Need to standardize exposure measurements for proper assessment of health hazards related to this particular kind of tobacco exposure. Need to study the effects of hookah in exclusive smokers who have not indulged in any other form of tobacco like cigarettes, bidi etc.

Prevention: Education of primary care providers and general population. Public campaign in the form of advertisements in different media tools. Regulation on limitation of hookah sessions per person in hookah bars. Encourage use of disposable mouth pieces to prevent cross contamination.

Conclusion: The global tobacco epidemic may kill 10 million people annually in the next 20-30 years with 70% of these deaths occurring in the

developing countries.⁵ Current research, treatment and policy efforts focus on cigarettes while many people in the developing regions smoke tobacco using water pipe. Research shows that smoke from hookah contains many of the harmful and carcinogenic components as cigarette smoke.¹⁰ Hookah should not be considered a safer alternative to cigarette smoking. The report issued by The World Health Organization Study Group on Tobacco Product Regulation (TobReg) in 2005 considered 'water pipe or hookah smoking a global public health threat'.⁸ The world really didn't for see the epidemic of water pipe tobacco smoking and now is the time to pay attention.⁵

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