

You Tube: An International Medium for Sharing Videos about Hookah Smoking

Christopher M. Seitz, MPH¹; Jeffrey J. Milroy, DrPH²; Muhsin Michael Orsini, EdD³; David L. Wyrick, PhD⁴; Jeremy Herring, BS⁵; Mike Koech, BS⁶

Authors¹⁻⁶ are affiliated with the University of North Carolina at Greensboro, Department of Public Health Education. **Contact author:** Christopher Seitz, of North Carolina at Greensboro, Department of Public Health Education, 437 HHP Building, Greensboro, NC 27402 Phone: 336-334-3244; Fax: 336-256-1158; Email: cmseitz@uncg.edu

Submitted June 30, 2011; Revised and Accepted October 26, 2011

Abstract

The hookah pipe is an ancient tool for smoking tobacco and is a growing public health concern at the global level. YouTube is a website that allows its members to post videos for people to watch and to share comments about the videos in an online forum. The purpose of the study was to investigate the types of videos about hookah on YouTube, their popularity, and the demographics of those who post and view the videos. YouTube was searched using the terms "hookah" and "shisha." Two independent reviewers watched each video and created categories based upon content, being Instructional, Review, Trick, Comedy, Commercial, or Health. Popularity was measured by viewer ratings and by the number of times each video was viewed in a 30-day period. Demographic information was obtained from YouTube. Findings suggested that hookah videos are viewed frequently, rated positively, most often feature and are viewed by young males in nearly every nation in the world, meaning, these videos are an international phenomenon and provides evidence of hookah's growing popularity across the globe. Health professionals should consider creating and posting videos that provide the YouTube audience with evidence-based information about the harmfulness of smoking hookah.

Key Words: *Internet, Smoking, Streaming Video, Health Education*

Introduction

Hookah Smoking

The hookah pipe is an ancient tool for smoking tobacco.¹ Users smoke hookah by placing smoldering charcoal on a sheet of aluminum foil, which covers a flavored tobacco mixture located within the pipe's head. As the charcoal heats the tobacco, the smoke is drawn from the head, down the pipe's body, through the water bowl, out of the hose, and into the user's lungs² (Figure 1). According to earlier texts, the hookah pipe was created for the purpose of forcing tobacco smoke through bubbling water in order to filter out the smoke's harmful elements.³⁻⁵

Research indicated that hookah tobacco smoking, also known as shisha, is related to lung cancer, respiratory illnesses, low birth-weight, periodontal disease,⁶ heart disease, and decreased pulmonary function.⁷ Studies also revealed that the amount of smoke from a typical hookah session contains addicting levels of nicotine^{8,9} and significantly higher levels of carbon monoxide as compared to cigarette smoke.^{8,10} Laboratory research suggested that hookah also contains dangerous levels of tar,¹¹ harmful aldehydes,¹² carcinogens,¹³ and heavy metals, such as arsenic, chromium, and lead.² Consequently, literature indicated that those who smoke hookah are exposed to some of the same health risks and toxins as those who smoke cigarettes.⁸

The use of hookah tobacco is a growing public health concern at the global level.¹⁴ Although hookah has been popular for centuries in Arab nations,¹⁵ survey research suggested that the prevalence of hookah smoking is increasing, especially among youth, in other locations throughout the world, including the United States, Canada, Australia, and throughout Europe.¹⁴ The increase in the number of hookah lounges is also an indication of the growing trend in hookah use. For instance, in the United States alone, the number of hookah lounges has grown 400% in the past 12 years.¹⁴

YouTube Videos

YouTube is a website that allows its members to post videos for people to watch¹⁶ and to share comments about the videos in an online forum.¹⁷ YouTube is the third most viewed website on the internet,¹⁸ with

24 hours of video being uploaded every minute and 2 billion videos watched everyday across the world.¹⁹ Previous research indicated that YouTube contains numerous videos regarding smoking. These videos have become popular and typically include content regarding anti-smoking messages, comedy, magic tricks, music videos, smoking fetishes, and videos of males and females smoking.²⁰⁻²⁷ Smoking content located within YouTube videos is a noteworthy issue, as research indicates that smoking imagery positively affects an audience's attitudes about smoking and intentions to smoke.²⁸

To the authors' knowledge, studies regarding smoking on YouTube have focused solely on cigarette consumption and have not examined the website's videos for the presence of hookah smoking. Therefore, considering hookah's effects on health, hookah's growing use, the popularity of YouTube, and the influence of smoking imagery on attitudes and intentions, the authors designed a content analysis of videos related to hookah smoking on YouTube in order to gain a deeper understanding of the presence and characteristics of these videos posted on the website. Specifically, this study aimed to answer the following research questions: (1) What types of videos about hookah are posted on YouTube? (2) How popular are the hookah videos? (3) What are the demographics of those featured in the videos and those who view the videos?

Methods

Data collection & analysis

On May 23, 2011, YouTube (www.youtube.com) was searched using the terms "hookah" and "shisha." These broad terms were used to retrieve both positive and negative videos regarding hookah smoking. Based on the assumption that a typical viewer would not watch more than 50 videos from a single search term,²⁰ the first 50 videos resulting from each search term were included in the study. Two independent reviewers watched each video and created categories based upon content. After discussing and agreeing upon categories, the reviewers independently watched each video a second time to place videos into their respective categories. Discrepancies between video categorization were resolved by an independent third reviewer.²⁹

Popularity was measured by viewer ratings and by the number of times each video was viewed in a 30-

day period. YouTube allows members the option to rate videos by clicking on a video's "like" or "dislike" button. The total number of likes and dislikes are displayed beneath each video on the website. On May 23, 2011, the total number of likes and dislikes for each video in the study were recorded into a spreadsheet. Similar to video likes and dislikes, YouTube displays the total number of times each video has been viewed. The total number of views for each video was recorded into a spreadsheet on May 23, 2011 and June 21, 2011. Likes, dislikes, and views were analyzed with descriptive statistics.

Demographic information of viewers was obtained by clicking on each video's "show video statistics" button, which retrieves data on viewer sex, self-reported age range (as defined by YouTube, e.g., 13-17, 18-24, 25-34), and nationality. This information pertains only to registered YouTube members who have watched the videos. Demographic information of those appearing in the videos was based upon the estimation of the researchers.

Results

Types of Videos Posted

After watching video content, reviewers placed each video into one of six categories: Instructional, Review, Trick, Comedy, Commercial, and Health. Instructional videos feature hookah users who instruct viewers about various issues relating to hookah, including hookah pipes, tobacco, smoking etiquette and tricks. In terms of Instructional videos about hookah pipes, viewers are taught how to assemble and clean a hookah pipe, make a hookah pipe's head out of hollowed-out fruit, and create home-made hookah pipes and hoses. Regarding tobacco, Instructional videos teach viewers how to purchase hookah tobacco and create mixtures of tobacco flavors. Instructional videos also teach viewers the etiquette of smoking hookah (e.g., using personal mouth-tips, sharing a hose) and how to perform smoking tricks (e.g., smoke rings, smoke bubbles).

Videos within the Review category feature hookah users that test various hookah products and concoctions on camera and then give an opinion of the product's quality. Hookah products tested in Review videos include hookah tobacco, pipes, hoses, and brands of coal. The most common product tested in Review videos is hookah tobacco. In these videos, users smoked a specific brand and flavor of hookah

tobacco and then give a description of the smoke's taste, texture, smell, and thickness of smoke puffs, also known as "clouds." Nearly all Review videos had positive feedback of products used on camera. Review videos also feature users' ideas for replacing the pipe's water with other flavorful liquids, such as fruit juices or coconut milk.

In Trick videos, hookah users performed smoking tricks, as compared to Instructional videos that not only perform a trick but also teach users how to execute the trick. The most common tricks shown in videos include users making smoke rings (via mouth or cardboard tube) and "hookah bubbles," which are made by exhaling hookah smoke into a sawed-off 2-liter bottle that is dipped in soap water. Other tricks in the videos involved various ways of inhaling and exhaling hookah smoke.

Comedy videos involve users that participate in funny challenges regarding hookah smoking. For instance, in one video, users competed in a "hookah Olympics," where participants must quickly assemble a pipe and blow a certain number of smoke rings in order to win a race. In another video, each user attempted to inhale and exhale hookah smoke from a Halloween mask while onlookers watch and laugh.

The content of Commercial videos serves as advertising for hookah lounges. These videos displayed attractive groups of people at hookah lounges drinking, dancing, conversing, and smoking hookah. The videos also featured people who describe the location of the hookah lounges and what a customer would expect if visiting a lounge.

In the Health video category, Pro-hookah and Anti-hookah messages are shared in terms of the health effects of using hookah. In Pro-hookah videos, users discussed in a monologue-like speech how hookah is a healthy alternative to smoking cigarettes. Several themes emerged from Pro-hookah videos regarding the health effects of hookah (Table 1). Users perceived that hookah is less harmful than cigarettes because of its "natural" ingredients, labeling of low levels of nicotine and tar, effective water-bowl filter, cool smoke temperature, harmless "baked" tobacco, and non-credible research about the harmful effects of hookah on users' health. In a few Pro-hookah videos, users also mentioned that hookah is calming and acts as a tool to provide people with an atmosphere to be social with others. There were 2 Anti-hookah videos that provided accurate harmful health effects of hookah. The first video simply presented images and text regarding the harms of

using hookah. The second video was from a local news station in Chicago that interviewed a doctor regarding his thoughts about a new hookah lounge that opened in the city. Each video presented the harms of hookah, which included the potential to spread viral infections by sharing hookah mouthpieces, the increased smoke inhalation of using hookah, and an increased exposure to carbon monoxide and nicotine.

Popularity of Videos

On May 23, 2011, the number of video “views” ranged from 293 to 2,163,465 ($M = 74,471$, $SD = 239,386$, $Mdn = 14,490$) with a combined total views of 7,447,102. The range of views increased at the 30-day follow-up by 311 to 2,258,407 ($M = 79,469$, $SD = 253,799$, $Mdn = 15,014$) and had a combined total views of 7,946,856. On average, each video was viewed 4,998 times ($SD = 22,271$, $Mdn = 644$) within the study’s 30-day period.

On May 23, 2011, the number of video “likes” ranged from 0 to 5,602 ($M = 164$, $SD = 595$, $Mdn = 32$), with a combined total likes of 16,390. The number of video “dislikes” ranged from 0 to 683 ($M = 27$, $SD = 90$, $Mdn = 4$), with a combined total dislikes of 2,674 (Table 2).

Demographic Information of People Featured in Videos

Video content was analyzed for basic demographic information (sex and age) of those featured in the videos. Of the videos, 82 featured only males, 6 featured only females, 10 featured both males and females, and 2 videos did not physically show the person, thus not allowing for the person’s sex to be estimated. Within the sample, 64 of the videos featured people who were estimated to be between the ages 20 to 29, 30 videos showed people ages 30 to 39, 4 videos depicted people ages 40 to 49, and 2 videos did not show the person in the video, thus not allowing for the person’s age to be estimated.

Demographic Information of Viewers

YouTube’s “show video statistics” button allowed the researchers to collect demographic information about YouTube members who view the videos. In this study, those who most often viewed hookah videos were males ages 18 to 44. The study’s sample of videos was watched in nearly every nation in the world; however, the most viewers were located in the

United States, Canada, Australia, the United Kingdom, Germany, India, Norway, Finland, and Sweden.

Discussion and Conclusion

Our findings suggest that there are various types of videos regarding hookah on YouTube. The most common types of video related to hookah on YouTube were from categories of Instructional, Trick, and Health. Instructional videos encourage viewers to actively practice fun variations of hookah use, such as using hollowed-out fruit for a pipe head, using tasty fruit juices within the pipe’s water-bowl, or practicing newly learned smoking tricks. In Trick videos, hookah users perform smoking tricks. The most common tricks shown in videos included users making smoke rings and hookah bubbles. In Health videos, Pro-hookah and Anti-hookah messages are shared in terms of the health effects of using hookah. The majority of these videos were Pro-hookah, whose message is consistent with prior research that users perceive hookah to be less addictive and harmful than cigarettes.^{1,30-35} Videos in all of these categories encourage viewers to not only watch the content, but also to practice what is shown in the videos.

The study findings also suggest that hookah videos are popular. The videos are viewed frequently and rated positively. The sample of videos received close to a half million views during the study’s 30-day period. Furthermore, videos are “liked” by viewers six times more often than “disliked.”

The study findings further suggest that hookah videos are most often viewed by young males. Most videos also featured males. This finding is consistent with prior research that there was a greater prevalence of young people that use hookah,¹⁴ and that males use hookah more often than females.^{30,32} Additionally, the study’s sample of videos were watched in nearly every nation in the world, meaning, these videos are an international phenomenon and provides evidence of hookah’s growing popularity across the globe.¹⁴

The presence of hookah videos on YouTube is disconcerting, as nearly each video in the study’s sample contains smoking imagery and portrays hookah in a positive light. There were only 2 videos identified as expressing an anti-hookah message. Considering the popularity of both YouTube and hookah videos, health professionals should consider creating and posting videos that provide the YouTube

audience with evidence-based information about the harmfulness of smoking hookah.

There are limitations that need to be considered when interpreting the study results. First, it is possible that the search terms used to locate videos may not have located all videos concerning hookah. Consequently, it is possible that the study's results may not be representative of all hookah videos on YouTube. Second, viewer statistics data available on YouTube describes only registered YouTube members. Therefore, the findings presented in this paper do not represent all viewers and number of views, suggesting that our results are an underestimation of the popularity of these videos. Third, the search for videos related to hookah on YouTube resulted in videos that were presented in the English language only, indicating that those responsible for posting and viewing these videos are proficient in the English language. This limits our ability to claim that videos about hookah smoking on YouTube are a global phenomenon; however, these videos were viewed by people residing throughout the world, suggesting that creating videos on YouTube are no doubt an international concern. Finally, those who view hookah videos may do so out of mere curiosity or entertainment without intending to smoke hookah. Therefore, the increase in the number of views during the study's timeline does not necessarily reflect an increase in the practice of smoking hookah.

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Table 1 *User perceptions of hookah’s effect on health as shown through YouTube videos*

User perception	Description	Quotes from videos
Hookah is natural	Users perceive that hookah tobacco contains natural ingredients, making it less harmful than cigarettes.	“It (hookah) doesn’t have over the four hundred chemicals that cigarettes have. It has four chemicals. It has molasses, flavored oils, the natural tobacco leaf, and the blend of that natural fruit that’s blended in there with it.”
Low nicotine and tar	Users trust label information on hookah tobacco products, which state hookah contains virtually zero levels of tar and nicotine. Therefore, users perceive that high smoke volume inhaled during a hookah session is irrelevant to one’s health.	“Okay, [hookah has] more smoke inhalation [than cigarettes]. I get that, but that’s smoke volume. That has nothing to do with nicotine. That has nothing to do with tar. Because you can inhale as much as you want...but you’re not going to get any nicotine and you’re not going to get any tar from it.”
Effective water filter	Users view the hookah pipe’s water-bowl to be effective in filtering out harmful tobacco elements.	“Because of the [water] filtering, it doesn’t get the same particles [as cigarette smoke] in the lung.”
Cool smoke	Users consider hookah smoke to be harmless because of the cooled smoke from the water-bowl.	“A lot of the harshness from cigarettes, why it’s so bad for you, a lot of it has to do with drawing in that heat. And that heat gets into your lungs and it burns your lungs. Well this [hookah water-bowl] cools it down so that doesn’t happen.”
“Baked” tobacco	Users believe that hookah tobacco is not burned, but rather “baked” or heated, resulting in low levels of tar.	“There’s no tar in shisha. You could argue that when it burns it makes tar, but dude you’re baking it, you’re not burning it. It’s being baked. It’s being heated.”
Non-credible research	Users do not deem research on the ill-effects of hookah to be credible.	“We’ve all heard it. We’ve all seen the news reports, the reports on the internet regarding, ‘Oh my God, hookah must be so much more dangerous than cigarettes, oh no!’ Actually, if you really sit down and think about the actual, you know, the scientific laws and other stuff that goes into it, there’s no way the hookah can be worse than a cigarette.”

Table 2. Views, likes, and dislikes of hookah videos on YouTube

Video Category (n=)	Total views in 30-days	Likes	Dislikes
Instructional (n=33)	300,904	9,526	1,209
Review (n=47)	13,055	1,470	154
Trick (n=9)	160,360	3,617	977
Comedy (n=2)	6,900	398	59
Commercial (n=2)	1,731	37	3
Health			
Pro-hookah (n=7)	15,582	1,309	272
Anti-hookah (n=2)	1,222	33	131
Total	499,754	16,390	2,674

Figure 1: Components of a hookah pipe

