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Young Adult Perceptions Surrounding Hookah Use

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Abstract

Objective—We aimed to improve understanding of young adults’ perceptions and interpretations of the contexts surrounding use.

Methods—We conducted focus groups with young adult hookah users (ages 18–28) to examine hookah-use experiences and risk perceptions.

Results—Two dominant themes that emerged from the discussions were the social aspects of use (eg, “ending up” at a hookah café while out with friends), and the mental and physiological reactions to use (eg, relaxation and a “high” feeling). Participants often argued that because they only used hookah every few weeks, hookah use was much less dangerous than cigarette use.

Conclusions—Findings suggest that hookah research should account for heuristic processing and point to several areas where better health communication and stricter regulatory policies are needed.

Keywords

tobacco; hookah; hookah café; adult health behavior; focus groups; young adults

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Although practically unknown in the United States (US) before this century, use of hookah (also referred to as waterpipes) has sharply risen among US young adults. In one national sample of US adults, 28.4% of 18–28-year-olds reported ever using hookah.¹ Among college

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Human Subjects Approval Statement

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Conflict of Interest Disclosure Statement

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students, estimates of past 30-day hookah use range from 9%² to 22%.³ These high rates are likely encouraged by the hookah cafés in walkable proximity to college campuses^{4,5} and the independence provided by college attendance. Indeed, a freshmen student's transition appears to occur quickly; one study found that, within the first month of college, 14% of never users had tried hookah and 21% of ever users became current users.⁶

These prevalence estimates and trends are concerning given that hookah smoking has many of the same health risks as cigarette smoking⁷ and has been associated with lung cancer, respiratory illness, low birth weight, and periodontal disease.⁸ With every puff, a hookah user is inhaling high levels of nicotine, carbon monoxide, metals, and cancer-causing chemicals.^{9–11} There is also emerging US data suggesting that hookah may serve as a “gateway” to nicotine addiction and use of other tobacco products.^{12,13}

Given the dangers of hookah use and the alarming hookah trends among US young adults, research has begun to focus on prevalence and trajectories.^{14–16} Research also has identified individual-level characteristics associated with hookah use;^{15,17,18} for instance, hookah is generally used with friends,³ and many users believe that hookah is less harmful than cigarettes.^{19,20}

Despite this important groundwork, more information is needed about young adults' perceptions surrounding hookah use, such as the factors affecting hookah's appeal and risk perceptions. Better understanding how young adults think about and interpret the hookah context would provide a more comprehensive understanding of hookah use behavior, and help researchers identify the theoretical models that best capture the antecedents to hookah use. Therefore, the present study was conducted to improve understanding of young adult hookah use, with a focus on the context of the use experience. Given that hookah use in the US is still a novel area of research, we decided to use focus groups to gain a more in-depth understanding of young adults' perceptions.

METHODS

Recruitment occurred from a larger study on young adult health, and through word-of-mouth. To be eligible to participate, focus group members needed to be aged 18–28 years and to be an ever-user of hookah. Eligible participants were contacted by research staff and asked to participate in focus group discussion among young adults who have used hookah. Focus groups took place in university campus meeting rooms, and participants were compensated \$25. No demographic information was collected during the focus group session.

Prior to beginning the focus groups, we obtained written informed consent and permission to audio-record the session. Focus groups were facilitated by one or more members of the study team who guided participants through a series of semi-structured questions (Table 1) and used probes to elicit deeper discussion. The questions were developed based on a review of the literature and were designed to elicit descriptions of current and previous hookah-use experiences and risk perceptions, including perceptions about warning labels. Focus groups were run until saturation of information was achieved.

Analyses

Audio-recordings were transcribed verbatim. Using an inductive approach, the investigators then developed major codes and secondary codes based on an initial review of the transcripts. A statement from a participant could receive more than one code if multiple themes were contained in what the participant was saying. Two investigators (MR and BB) independently used the coding scheme to code all the transcripts. Coders then met to review the results of coding with a third investigator (AF), identifying new codes as necessary. We resolved any coding discrepancies through a consensus process.

RESULTS

Twenty participants took part in 6 focus groups with a mean of 3 participants per group during October 2015 to January 2016. We identified 7 major themes that emerged from the focus group discussions: first exposures; regular use; risks and reasons for non-use; use experience; flavors; other tobacco use; and warning labels. As Table 1 shows and as the subsequent sections reveal, each theme contained multiple sub-themes.

First Exposures

When asked about their own or other people's first experience, participants overwhelmingly described the social nature of the situation. They talked about "ending up" at a hookah café with their friends, rather than necessarily planning to go there. They also frequently explained that people are often willing to try hookah at a party or café if their friends are also using it. Word-of-mouth generally informed them about a new or good café. One participant noted that hookah cafés are a place where 18–20-year-olds can go to hang out with their friends before they are old enough to go to bars.

Curiosity was also a commonly-cited reason for first use of hookah. Participants discussed wanting to see what hookah was like, wanting to experience what the "high" was like, and being intrigued by how a person could play with the smoke. Hookah use was often described as something that looked cool. Mental and physiological reactions were frequently discussed, with descriptions of the "nicotine buzz," "head rush," or "high." Participants generally described their first experience as fun, enjoyable and relaxing, although a few people described feeling sick afterwards. Five participants mentioned cultural or religious reasons for individuals using hookah.

Regular Use

When asked about the reasons for regular use, participants often described hookah use as a "social thing." It was described as something enjoyable to do with others, either as part of a party context or as part of a social group going to a hookah café. One person highlighted how it can be "a very intimate activity" that you share with a small group of friends. Participants also talked about the convenience and easy availability of hookah in their environment. In particular, they discussed how proximity was important when choosing a café, with preference for locations that were within walking distance of campus and near surrounding bars and restaurants. As with first experience, some noted that they might not actively seek out hookah, but "if it's in front of me, I would probably smoke it."

Participants talked positively about the “buzz factor,” “high buzz,” “head rush,” “head buzz,” or “the lightheadedness feeling” that came from smoking hookah. Participants described it as a very calm, relaxing activity. One stated that, compared to cigarettes, it was a healthier way for people to get their “nicotine high.” This same participant described the behavior of a roommate who smoked hookah 3 times a day at home. Yet, the clear majority believed they were not addicted because they could go for long periods of time without using hookah, and did not experience an urge to use. It was common for participants to emphasize a distinction between addiction and “habit” (believing their behavior was the latter).

Some discussed enjoying hookah as a secondary activity, such as when studying alone or watching TV as a group. Participants also discussed regular hookah use as it relates to a person’s culture or religion, enjoying the relaxing atmosphere that surrounds hookah use, using hookah when bored of other weekend activities, and having an interest in doing smoke tricks. A few discussed how hookah lacks the negative social aspects of cigarettes. Two participants also noted that in the US, hookah is “a young person’s thing” and implied that people will probably stop using hookah after college.

Risks and Reasons for Non-use

In terms of health risks and side effects, many mentioned that there are “harmful products,” “chemicals,” and “toxins” as well as nicotine in the tobacco or smoke. A few noted nausea or shortness of breath as a short-term effect, and one runner noted the difference in her performance after a night of use. Two participants talked about the long-term health consequences being like those of cigarettes (eg, throat and lung cancer).

Nevertheless, the belief that hookah use posed fewer risks than other tobacco products was also common. Participants perceived hookah to be healthier than cigarettes for many reasons: “it is less harsh to breathe;” “it feels light;” “it is filtered through water;” and “you’re not really burning tobacco, more just heating it up.” Some also reported being told about the safety of hookah from café staff.

When discussing the risk of hookah compared to cigarettes, 8 participants made points about frequency. Specifically, they often took into account the length of time using and how often one used. Some noted that a hookah session could last several hours – much longer than the time it took to smoke one cigarette. However, many others argued that because they only used hookah every few weeks, hookah use was much less dangerous than cigarette use (which they viewed as a daily activity).

Many discussed the difficulty of finding reliable information about hookah’s risks, especially as many hookah company websites provide questionable information. Three participants reported hearing something about “100 cigarettes” such as this individual: “I always hear that 1 hookah session is 100 cigarettes or something. I don’t know if that’s right, that’s the buzz thing you always hear.”

As a deterrent to regular use, some discussed the cost of going out to hookah cafés too frequently. Likewise, buying one’s own hookah was only described as cost-effective for

those who wish to use very regularly. Others, however, described the activity as being “pretty cheap,” because you share a hookah among your friends at a café, it can work out to as little as \$3 or \$4 per person.

Some reported that they knew of friends stopping use because they had a hard time smoking anything, or because they disliked the feelings in their stomach and lungs. Concerns about germs were rarely cited as a reason for nonuse. Stigma ran both ways; some described friends who do not use because they are against smoking anything, whereas others reported a perception that stigma against cigarettes did not extend to hookah, which made them much less resistant to trying hookah than they would be to trying cigarettes.

Use Experience

Participants most commonly described the hookah café environment as “relaxing.” They described the dim lighting, nice music, and comfortable seating. They also described a range in what the environments were like; most cafés were quiet places to talk, but some could be loud; many were the quality of a coffee house, although some were fancy and some were “dingy” and “gross;” some were strict about carding those under 18, but some were lax.

Most participants described groups of 2 to 7 people sharing a hookah, and generally using the hookah for one or 2 hours. Depending on the café, participants either first ordered at a counter then were seated, or first sat down and waited for someone to take their order. They also described how orders were made from a menu (in print or posted behind a counter wall) that lists all the flavors, but does not provide information on the nicotine content. In cafés, the selection of tobacco is generally decided among friends, and led by the most experienced among them. However, some reported asking the staff for recommendations. One order of hookah was described as lasting a long time, but patrons can ask for refills. For café use, participants consistently stated that the staff prepared the hookah to smoke, including adding the tobacco.

Participants described their typical mental and physiological reactions when using hookah as generally positive – first feeling “buzzed,” then later “light headed” or “high” as well as “relaxed,” “mellow,” and “tired.” They also described other activities that occurred in conjunction with hookah use (eg, talking, ordering food or drinks, watching TV, or listening to music).

Flavors

The majority of participants expressed preferences for fruit flavors, such as mango, peach, watermelon, blueberry, and blue raspberry. They also enjoyed combining fruit and mint flavors, like strawberries and mint, and had fun making combinations of their favorite flavors. Five participants discussed asking for recommendations from staff at cafés or at shops where you can buy your own hookah tobacco. Most indicated that their flavor preferences had not changed since they first started using hookah. However, one participant reported some change: “through trial and error, then you change your preferences over time.” Most reported trying but disliking bizarre flavors (eg, bubblegum, cotton candy, licorice, chocolate fudge) although some reported liking unusual flavors (eg, Fruity Pebbles,

sex on the beach, coffee ice cream). Often, participants reported never coming across an unlikeable flavor.

All participants were unaware of the levels of nicotine in their various choices. A few reported knowing from experience that some flavor names (eg, “double apple”) indicate more nicotine, or that you will get a “stronger buzz” from that flavor selection. Some associated lower nicotine with being healthier, and thought that would be a good reason to list nicotine levels.

Other Tobacco Use

Some participants reported trying other products, such as cigarettes, e-cigarettes, chewing tobacco, and cigarillos, either before or after they first tried hookah. A few reported being more open to other products after trying hookah. Most participants reported that their use of other tobacco products had not changed since they started using hookah. However, 2 participants described situations where they lost access to hookah, and so began smoking cigarettes more.

Warning Labels

Some participants reported there were “probably” warning labels on the tobacco packages themselves. However, most reported never seeing a warning label. They also noted that at hookah cafés, the customer never sees the tobacco packages, and thus, has no way of seeing the warnings. A few noted seeing a hookah public service announcement in the form of a YouTube ad.

Most participants expressed doubt that warning labels would deter or change behavior, and believed that warning labels would be attended to most by new users, people with cautious personalities, or those concerned about their health. They suggested the tobacco warning labels be placed on the packaging, the menu, and the hookah pipe itself; others also suggested hanging a sign in the café or on the front door, because signs in those locations would have the highest likelihood of being viewed – even by those non-users who sit with their friends at a café and are exposed to the second-hand smoke. Several participants discussed the difficulties of requiring warning labels. For example, one person mentioned backlash from store owners, especially as restrictions could be interpreted as discriminatory against Arab-American store owners. Several participants pointed out that although the hookah pipe would be the most practical location for a warning label, the elaborate designs on the pipes would make it difficult to find a location for the label.

Discussion

This study produced valuable, novel insights about young adults’ perceptions of the hookah context. Two of the clearest themes that emerged as key to the use experience were the social aspects of use, and the mental and physiological reactions to use. Participant reports of the relaxing response to hookah is noteworthy given the work showing that relaxation and dizziness in response to first cigarette use are strong predictors of dependence and continued use.^{21,22} Likewise, the relaxing hookah café environment, the proximity of cafés to campus, and the endless number of available flavors seem key to the appeal of hookah.

The type of social influence described by participants aligns well with the concept of *willingness* described by Gibbons and Gerrard in the Prototype/Willingness Model. This dual-process model defines willingness as “an openness to risk opportunity”²³ among individuals with little or no experience with the behavior, and specifies that it can occur without specific intentions or analytical decision making.²⁴ In line with this model, rather than the result of deliberative planning, young adults described hookah experiences guided by heuristic decision making, where they “ended up” at hookah café or used hookah when it was conveniently available.

In contrast, risk perceptions appear to be only modestly driving behavior. Thus, whereas there seems to be a general state of low perceived risk, the importance of risk appeared secondary to discussion of the social aspects of use. Nevertheless, by unpacking their risk perceptions, our participants revealed interesting nuances. In particular participants focused on frequencies of use when weighing the comparative risk of hookah to cigarettes. Yet, they appeared to have no basis by which to compare either the puff-to-puff danger of the 2 products or the longer length of a hookah session in contrast with the greater frequency of cigarette smoking.

The risk perceptions held by participants were, in several cases, inaccurate. Some reported thinking that hookah is healthier than cigarettes because it feels lighter and less harsh, despite the research showing the extremely harmful content of hookah smoke.^{8–11} Participants also incorrectly believed that nicotine levels could be used as a proxy measurement for health risk. Most believed they had little nicotine dependence and had experienced little change in their tobacco-use behaviors – whether these perceptions are also false are questions for future empirical research.

Although our focus groups provided relatively unbounded, in-depth information on our topics of interest, they lacked the empirical certainty of quantitative research. A limitation to this study was that, as demographic information and tobacco-use history were not assessed, findings could not be examined separately by participant characteristics. We also cannot say whether the heterogeneity of the group influenced discussion. Although focus groups were run until saturation of information was achieved, it is possible our sample was not large enough to generate an adequate breadth of discussion. Present findings represented just one college community, and other communities may have variations based on the population, proximity of hookah cafés to campus, or other geographic factors. Further research is needed to confirm these themes among similar populations in other parts of the US.

Implications for Health Behavior or Policy

The US Food and Drug Administration (FDA) extended its authority to regulate hookah with its 2016 “deeming rule.”²⁵ Our findings point to several opportunities for regulatory policy to help reduce young adult hookah use. For example, the FDA could set thresholds for the various toxic constituents in hookah products.²⁶ Participants in our focus groups seemed poorly informed about the risks of hookah, and expressed trouble finding reliable information about the risks. Clearly, better risk communication is required, including providing more information about nicotine content and warning labels that are in a place

where all users will be able to see them. The FDA also should consider revising its text-based hookah warnings to tap into young people's heuristic-based processing. Several participants reported that warning labels would have no influence on hookah behavior, although there is substantial evidence that graphic warnings for cigarettes have major population-level impacts.^{27–29} The FDA should further consider implementing the same strict regulations on “characterizing flavors” for hookah as it has for cigarettes, because sweet and fruity flavors are clearly a key risk factor for hookah uptake among young people.

Given the considerable appeal of hookah expressed in this study and its growing popularity among young adults – and particularly college students – timely action by state and local governments, which can move more rapidly than the FDA, is also critical. As the social setting and the convenience of hookah cafés appear to be contributing to experimentation and use, effective interventions might include licensing or zoning laws that restrict the number and location of hookah establishments (particularly those close to K-12 schools and universities) and the elimination of loopholes that exempt hookah from smoke-free laws. Many cities and towns now are electing to raise the minimum age for purchasing tobacco to 21; as one of our participants noted that hookah cafés are an option for those not old enough for bars, the impact on curbing hookah use should be evaluated.

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Table 1

Themes and Sub-themes that Emerged from the Focus Groups, Sample Quotes from Participants, and the Moderator Questions that Elicited Responses along these Themes (Sub-themes Listed from Most- to Least-frequently Coded)

Theme	Sub-themes	Sample Quotes	Question(s) asked by Moderator
1. First Exposures	Social; Curiosity; Mental and Physiological Reactions; Cultural/Religious; Proximity	<i>I think whenever you come to college, especially as a freshman, you are looking to try a bunch of new things and that [hookah] becomes one of the things you probably want to try if you have the opportunity.</i>	1. What influences a person's decision to smoke hookah for the first time? 2. Can you describe your first experience using a hookah? 7. How do you find out about new hookah cafés?
2. Regular Use	Social; Convenience; Mental and Physiological Reactions; Addiction; Secondary Activity; Cultural/Religious; Atmosphere; Nothing Else to Do; Less Stigma; Interest in smoke tricks; Age	<i>Hookah is seen as more of a social thing, cigarettes are more of a habit thing.</i>	3. Why do you think people continue to smoke hookah on a regular basis? 6. What influences your decision about where to go for hookah use? Are there things that you look for in a hookah café?
3. Risks and Reasons for Nonuse	Health Risks and Side Effects; False Beliefs; Cost; Frequency Arguments; Not liking the Mental and Physiological Reactions; Stigma; "100 Cigarettes;" Germs	<i>I feel like just anytime you are inhaling anything, that's not a natural thing—definitely can have adverse effects. I know a lot of people die from smoking cigarettes and I don't really know of anyone who has died from smoking hookah. You hear it's a lot worse [than cigarettes] but I think with the frequency that I smoke hookah, I don't necessarily get a harmful effect from hookah.</i>	4. Why do some people not use hookah? How would you describe the type of person who uses hookah? 11. Do you think hookah smoking is harmful to your health? Do you know if hookah smoking is associated with any negative health outcomes? 12. Probe if they say it's less harmful: Do you think hookah smoking is less harmful than cigarette smoking?
4. Use Experience	Overall Impression of Environment; Amount of People; Where You Order; How Long You Stay; Mental and Physiological Reactions; Other Activities; Who Prepares the Tobacco; Who Chooses the Tobacco; How many Orders You Make	<i>Most lounges I have been to have big couches, very comfy couches to try to keep you to stay there and be comfortable, and it works. I kind of feel a little high sometimes when I smoke [hookah]. ...to me it is kind of relaxing because of that—not necessarily because of the atmosphere—because I start to feel that way and we mentioned that we got lightheaded. For me, that's when I know that it is time and I have smoked too much and that I want to stop. But I definitely start to feel a buzz and I start to feel a lot more relaxed after being there for even 5–10 minutes.</i>	5. When at a hookah café, how many people are in your typical group? How long does your group stay in a hookah café? Can you walk us through a typical experience in a hookah café?
5. Flavors	Preferences for Fruit and Mint Flavors; Nicotine Indicators; Bizarre Flavors; Preferences Remaining Stable; Staff Recommendations; Liking Most Flavors	<i>I like fruity flavors: peach, mango, and strawberries. I have no idea how much nicotine is in the tobacco.</i>	8. How do you make decisions about what to order from the hookah menu? Which flavors of tobacco do you like most/least? 9. Have your flavor preferences changed since you first started smoking hookah? If so, how?
6. Other Tobacco Use	Use of Other Products; Lack of (short-term) Change; Changes to Cigarettes	<i>At least, like, I wouldn't try a cigarette by myself. I wouldn't go and, just because I tried hookah, buy cigarettes and smoke them by myself.</i>	10. Has your use of other tobacco products or e-cigarettes changed since you first started smoking hookah? If so, how?
7. Warning Labels	Noticing Warnings; Lack of Warnings; Suggestions on Where to Place Label; Lack of Effectiveness of Warning Labels; Difficulty of Requiring Warning Labels; Other Types of Warnings	<i>You don't see any of that [warning labels] when you are going to a hookah bar.</i>	13. Have you ever seen any warnings about the dangers of hookah smoking? What type of person do you think looks at the warnings? 14. If a warning was required on hookah, where do you think a written warning should be placed?