

## Psycho-social Needs Impact on Hookah Smoking Initiation among Women: A Qualitative Study from Iran

Azam Baheiraei, Shirin Shahbazi Sighaldehy<sup>1</sup>, Abbas Ebadi<sup>2</sup>, Roya Kelishadi<sup>3</sup>, Seyed Reza Majdzadeh<sup>4</sup>

Community-Based Participatory Research Center, Iranian Institute for Reduction of High-Risk Behaviors, Tehran University of Medical Sciences, Tehran, Iran, <sup>1</sup>Department of Reproductive Health, Prenatal and Delivery, School of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran, <sup>2</sup>Behavioral Sciences Research Center and Nursing Faculty, Baqiyatallah University of Medical Sciences, Tehran, Iran, <sup>3</sup>Child Growth and Development Research Center, Isfahan University of Medical Sciences, Isfahan, Iran, <sup>4</sup>School of Public Health and Knowledge Utilization Research Center, Tehran University of Medical Sciences, Tehran, Iran

### Correspondence to:

Dr. Shirin Shahbazi Sighaldehy, Department of Reproductive Health, Tehran University of Medical Sciences, Tehran, Iran.  
E-mail: shahbazishirin@yahoo.com

**How to cite this article:** Baheiraei A, Shahbazi Sighaldehy S, Ebadi A, Kelishadi R, Majdzadeh SR. Psycho-social needs impact on hookah smoking initiation among women: A qualitative study from Iran. *Int J Prev Med* 2015;6:79.

### ABSTRACT

**Background:** In Iranian women, the use of hookah is the most common method of tobacco smoking. This study aimed to find the role of psycho-social needs and gaps as a possible risk factor for hookah smoking initiation in women.

**Methods:** This qualitative study was conducted during 2012–2013 in Tehran, Iran. Thirty-six women participated in the study. They were current or former users of hookah. Data were collected through in-depth individual interviews and was analyzed through content analysis.

**Results:** Four main categories were identified from the data. This study focused on the category: Psycho-social needs and gaps. This category has five sub-categories which explain why women begin to smoke hookah including curiosity; desire for non-feminine, forbidden, and negative activities; need for amusement and recreation; for others: To show off; attract attention; satisfy and join others and protection.

**Conclusions:** From this study, a variety of factors which contribute to the initiation of hookah smoking among women have been identified. Keeping young girls and women away from seemingly happy gatherings of hookah smokers; Providing appropriate recreational facilities for young women and training families on how to help their children in the event of a crisis-like intention to take up smoking behavior, can be some effective ways for reducing hookah smoking initiation among women.

**Keywords:** Galyan, hookah, qualitative research, smoking, tobacco, water-pipe, woman

## INTRODUCTION

Hookah smoking has gained popularity<sup>[1]</sup> in the Eastern

Mediterranean region and appears to be developing into a behavioral norm.<sup>[2]</sup> Historically, hookah tobacco smoking has been an activity enjoyed by men. However, in the past two decades, it has increased in popularity in other parts of the world<sup>[3]</sup> and has spread to women and youth.<sup>[4]</sup>

Hookah is a generic name for tobacco use methods that share a common feature: Passage of smoke through water before inhalation. It is recognized by different names in different cultures and countries, e.g., shisha, narghile, water-pipe, and hubble bubble.<sup>[2]</sup>

Access this article online	
<b>Quick Response Code:</b> 	<b>Website:</b> <a href="http://www.ijpvmjournal.net">www.ijpvmjournal.net</a> / <a href="http://www.ijpm.ir">www.ijpm.ir</a>
	<b>DOI:</b> 10.4103/2008-7802.163374

Generally, hookah consists of a pipe with a long, looping flexible tube attached to a container of water, with the other end of the tube containing a mouthpiece from which tobacco smoke is drawn after the smoke passes through water prior to inhalation by the smoker.<sup>[5]</sup>

Factors that promote hookah popularity may include its social acceptance as part of cultural heritage, easy accessibility, eye-catching designs, and flavored aromatic tobacco called “Mu'assel.”<sup>[6]</sup> Mu'assel is believed to have less nicotine-rich tobacco due to added stems and glycerin used to aid in fermentation. However, this composition does not decrease nicotine exposure relative to cigarettes.<sup>[7]</sup> Available evidence suggests that hookah smoking is addictive and is associated with smoking-related diseases.<sup>[8]</sup> According to a systematic review carried out by Akl *et al.* about the side effects of hookah smoking, hookah smoking is significantly associated with a number of deleterious health outcomes such as lung cancer, esophageal cancers, cardiovascular disease, and adverse pregnancy outcomes like low birth weight. In addition, the water-pipe device may expose its user to metals and cancer-causing chemicals via its non-tobacco components.<sup>[9]</sup> In spite of these deleterious health effects, hookah smoking is widely believed to be a less harmful form of tobacco smoking<sup>[5]</sup> and a safer alternative to cigarette smoking.<sup>[10]</sup>

In Iran, women have more restrictions on cigarette consumption although hookah use is a traditional entertainment for many families and girls can easily make use of it at home and outside the home.<sup>[11]</sup> The results of a national survey in Iran in 2007 showed that more than half of tobacco smoking women (e.g., 1.9% of overall 3.2%) smoke tobacco employing hookah, and in Iranian women hookah smoking has become the most common method of tobacco smoking.<sup>[12]</sup>

Because of rapid increases in hookah use in Iranian women and the harmful effects of smoking on women's health including their reproductive health, more data are needed regarding the factors that influence hookah smoking initiation among women. This study is qualitative phase of a sequential exploratory mixed methods study which aims to explore the influence of different factors on the initiation of hookah smoking in women and then develop the “Hookah Smoking Initiation Scale for Women (HIWS);” and determine the psychometric properties of the HIWS. Most Iranian studies associated with smoking are carried out quantitatively. They have focused on cigarette smoking<sup>[13,14]</sup> and some scholars in recent years<sup>[15,16]</sup> have examined the causes of hookah smoking in both men and women. However, they used the same questions gathered from literature review, for measuring hookah smoking causes in both genders, despite the fact that risk factors for smoking may vary by gender<sup>[17]</sup> factors related

to smoking initiation or maintenance may be different in women from men,<sup>[15]</sup> and the culture of Iranian women is different from women in other countries. Thus, there is an urgent need to develop a questionnaire to measure the onset reasons of hookah use for Iranian women. The information of such questionnaire would help develop health promotion initiatives and interventions that specifically address women. Such understanding is also useful for the development of smoking cessation strategies that are appropriate for women.

In this article the role of psycho-social needs and gaps, as a risk factor associated with the initiation of hookah smoking among women, is discussed.

## METHODS

Qualitative methods are the preferred method for exploring people's perceptions of the factors that influence health behaviors and understanding the context in which choices are made. In this research, a qualitative approach was adopted using conventional content analysis in-depth interviews in Tehran during 2012–2013. In conventional content analysis coding categories are derived directly from the text data, without the guidance of a theory for initial codes, as in directed approach.<sup>[18]</sup> The inclusion criteria were: Being a woman, being a resident of Tehran, and having a history of hookah smoking even as much as one or two puffs. Interviews were carried out by an investigator who was familiar with the principles of the qualitative approach, and she had practical experience in qualitative research. Participants were recruited from different characteristics, in terms of age, education, marital status, occupation, and geographic region, to ensure that women from diverse demographic backgrounds are present in the interviews. These women had different patterns of hookah smoking, and we classified them as current and former user of hookah. In this study, each woman who had a history of hookah smoking at least once and wanted to continue hookah smoking after this was defined as a current smoker. Women who had a history of hookah smoking at least once and claimed that she had abandoned it was defined as a former smoker.

Women were also different in terms of age at onset of hookah smoking. Unlike in many Western countries where hookah smoking has gained popularity in recent decades, in Iran hookah has been used over the centuries. In the past, hookah was usually smoked by certain adult men and women but now all adults and youth smoke hookah. For this reason, the age limit for participant's entry into the study was not considered.

Participants were asked to describe their experience of the first use of hookah and what factors influence the

initiation of smoking. Although there is less of a stigma associated with hookah than with cigarette smoking in the Iranian women, women are simply not yet ready to talk about their hookah and preferred not to discuss it in any situation, but especially in public places. As experienced in this study, some women who were introduced to the researcher refused to participate in the interview because of the opposition of their parents/husband or because of personal disagreement with sound recording or appointment. If they do accept to talk, they prefer to do it in a private space rather than in a formal gathering like focus group discussion. Thus, only individual interviews were used to collect data in this study.

Participants were sampled purposively from universities, hospitals, through home visits, leisure centers, and cafes following a snowballing technique where one person would put the researcher in touch with her friends, colleagues, and other contacts who smoked hookah.

The interview guide was pretested prior to data collection. A demographic and pattern of a hookah use questionnaire which was developed by the researchers was used before each interview. The questionnaire included questions about age at the time of the interview, age of first use of hookah, occupation, location, ethnicity, marital status, and current or past use of hookah. Interviews were based on topic guides, including a series of broad interview questions which the researcher considered to explore and probe with the interviews. The questions that were used to guide the participants in the interviews include: "Why do people start to smoke hookah?" In what circumstances and "where did you smoke a hookah for the first time?" "Who was with you at the first session of hookah smoking?" and "Did anyone encourage you to smoke hookah?"

Interviews were conducted in Farsi and translated into English by an accredited institution. They were recorded and took from 20 min to 1 h and a half. All interviews were audio-taped and transcribed verbatim with participants' permission, and then coded by the researcher. Development of codes and themes was inductive and arose from the interviews. Data collection was stopped when data saturation was reached, that is, no new themes or ideas were being generated during the discussions.

We analyzed the transcripts by identifying emergent themes using constant comparison of the interview transcripts. Data generation and analysis continued until no new themes or ideas were emerging. The final coding scheme consisted of 4 themes and 20 sub-themes. Code management was done with the help of MAXQDA 10 software R250412 comes from United States which is one of the best qualitative data analysis tools in the world. Credibility and conformability were enhanced through member checking (in this case, the transcripts and codes extracted from the interviews were returned to several

interviewees to verify their authenticity), and validation of emerging codes and categories in subsequent interviews, and also debriefing with two supervisors. To establish inter-transcripts reliability, two experts carried out a second review. Almost all of the transcripts, codes, and categories were rechecked and there was strong agreement among the study team and advisors. Cases of disagreement were discussed to reach a final consensus and resolved by discussion among the team members or by going back to the original transcripts.

### Ethical issues

Tehran University of Medical Sciences ethics committee approved the study protocol and all women were informed about the purpose of the study; what was involved in participating; confidentiality and anonymity issues; and the right to withdraw at any time without repercussion. Following their approval to participate in the interview, their consent, verbal or written, to record the interview was obtained.

## RESULTS

From 49 women who were invited to interview, 36 people agreed to participate in verbal interview and voice recording, and 12 women refused to participate in the study due to unwillingness to have face-to-face interview, not wanting sound recording, and also because they were too busy to be able to interview. From 36 women who participated in our study, 32 participants were current, and 4 participants were former user of hookah. The age of participants ranged from 15 to 51 years old, with a median age of 24 years. Age at onset of smoking hookah ranged from 7 to 42 years, with a median age of 25 years. Participants were married, single or divorced women belonging to different geographic regions of Tehran and were from different ethnic sub-groups. Most participants had a diploma or academic degree. Almost half of the women were employed. The characteristics of participants are presented in Table 1.

From this study, a variety of psycho-social factors which contribute to the initiation of hookah smoking among women have been identified as the main reasons why women begin to smoke hookah including curiosity; desire for non-feminine, forbidden and negative activities; need for amusement and recreation; for others: To show off; attract attention; satisfy and join others and Protection.

### Curiosity

One major reason why participants in this study began to smoke hookah, as they claim, was that they were curious to know what a hookah was exactly. Curiosity was aroused after they saw people smoking hookah at tea houses or at family gatherings. Hookah is used for recreation and amusement at family gatherings or parties, where friends get together. In such places, people pass the hookah to each other while they are making jokes and laughing.

This makes such gatherings look warm and friendly. On the other hand, those who are adept at smoking hookah can puff the smoke out in various shapes and try to do so simultaneously via the mouth and nostrils or blow the smoke into each other's face. They laugh and enjoy the hookah and can show off their smoking skills. This circumstance is attractive for women who have never seen such gatherings and have not smoked hookah before. In this way, they feel inclined to smoke a hookah in order to figure out the hidden secrets of it: "How do people feel when they smoke a hookah? What is there in a hookah that makes people joyful? How can people play with smoke like that?" These are questions that push young girls to try a hookah and to join the gatherings. The good smell of hookah also arouses the curiosity of women and tempts them to try it at least once. Interestingly, the curiosity pushed people ranging from a 6-year-old child to a 38-year-old woman to try the hookah, and it was not limited to a special age group. However, most women under the age of 25 stated the same reason for this. One participant said: "My family has a very negative view of smoking cigarettes, but this is not the case with hookah, they consider it an entertainment; they get together and smoke hookah. On that day, they all smoked, and I did too; I really enjoyed seeing what it was like."

One of the participants who began smoking hookah in childhood described it as a childish experience that happened due to her curiosity: "Why did I begin smoking hookah? Just like other kids. A childish desire; feeling like experiencing (something); experiencing it myself; I was curious to see what it was that they were smoking."

### **Desire for non-feminine, forbidden, and negative activities**

Another reason why women begin smoking hookah is that they are influenced by their friends in thinking that any girl who does not smoke cigarettes or hookah is naïve and clumsy and that she is not attractive. Hence, girls have to smoke hookah at least to look a bit more attractive and they can keep their friends in this way. Such women prefer men and women who behave according to modern manners even if they do things that are at odds with norms and the women like to act that way themselves. They believe that when people experience what is against social norms, they can say that they have grown wiser: "You just feel like doing something wrong. I have been asked this question many times for a while now: So what have you done wrong? It's not very good for you to be a good girl, right? All people want to be friends with someone who is not like that. This would make you appear kind of attractive... and, a bit of wrongdoing helps open your mind. I guess I always liked bad guys better. I didn't like good guys who didn't smoke hookah or cigarette."

One participant believed that the Iranian youth show more desire for things that are banned in Iran or activities

that go against the norms. Since many parents ban hookah, the kids show a desire for it: "My understanding is that our youth including myself yearn for bad things more than good things. After all, many consider smoking hookah as bad and unacceptable. This may be due to our youth. Meanwhile, they will like anything that is banned."

### **Need for amusement and recreation**

Many women participating in this study, said that their need for recreation and entertainment made them turn to smoking hookah. The women believed that the existing recreations in Iran are not sufficient nor are they such that would satisfy them. Some recreations like going to swimming pools are expensive and not all people can afford them. Meanwhile, there are no recreational sites suitable for women other than tea houses that provide a cozy place for women. A 23-year-old female university student who began smoking hookah at the age of 15 said: "We enjoyed little recreations. Tea houses were the best places for me and my cousins for this purpose. This was because recreations are scarce here, and the only cozy places for this purpose are tea houses. You cannot find such a cozy place in parks."

A 29-year-old female engineer who began smoking hookah at the age of 26 said: "First of all, we do not have many choices for recreation in Iran; second, one place where you can stay for hours without anyone disturbing you and telling you "get outta here," is where they serve hookah. I guess it's no big deal. That's why I can't give you a reason why I smoke it. It's mere recreation for spending your leisure time. Look! I watch many movies, but we haven't got so much free time to do only one thing in our leisure time. I am like that. I want change; to be able to do several things."

Another participant said: "There are few recreations in our city. You know, wherever we go, we are harassed. I prefer amusing ourselves at home with friends to going out... and hookah is something that you can amuse yourself with at home and have fun."

### **For others: To show off; attract attention; satisfy and join others**

One motive for the girls to smoke hookah, as they said, was to show off and attract the attention of others and to prove to grownups that they have grown up, too. Another motive for women was to keep others content or to join them while they were smoking hookah. A 23-year-old female university student who began smoking hookah at the age of 15 said: "When we go to a tea house together, we feel great and prestigious. When we go to a tea house together, we think that it's prestigious and that smoking hookah is part of our prestige... One feels great, you know. Grownups do this; so you like to say "hey, I have grown up, too.""

A 35-year-old woman who first smoked a hookah at a party with her husband's relatives when she was 25, said:

“You feel that if you abstain from smoking people might think you are haughty and say now that everyone is smoking, she wants to show off and say she is too classy to smoke.”

A 26-year-old woman, who first learned to smoke a hookah from her neighbor’s son explained why she accepted to smoke when the boy offered: “I thought that it wouldn’t be polite to turn him down, and that’s why I accepted.”

A 32-year-old woman who first tried a hookah when she was 6 at a family gathering and then smoked it on a daily basis said that when she was an adolescent, she saw her peers in the family drinking alcohol and smoking cigarettes as well as the hookah, but she only went for the hookah: “I thought “these young people are drinking booze, smoking cigarettes. It’s better I go for the hookah to commit a lesser sin.” That’s why I started to smoke hookah. I wanted to kind of be with my cousins and not be alone.”

One motive for married women to smoke hookah with their husbands is to accompany them and to avoid leaving them alone. A 38-year-old woman who began smoking hookah at the age of 30 did so for the first time with her husband. She said: “The first time, it was the 13<sup>th</sup> day of Nowruz (Iranian new year holidays). On that day, we went out on a picnic. I didn’t smoke that much... maybe a couple of puffs... but later, my husband got a hookah... then once a week or every other week, for example on holidays, I fixed the hookah and then we smoked together....”

### Protection

Participants in the present study were women from different age groups. Hence, a number of them were mothers who smoked hookah with their children. They said, they did so for the purpose of protecting their kids against the dangers awaiting them outside the home. They believed that, if their children went to tea houses with their friends, it would pave the way for them to gradually use drugs. For this reason, they preferred to fix hookah for their kids at home to keep them away from places where they might be pushed toward drug use, and thus felt safe about their future. In this way, the women smoked hookah along with their children at home to prevent them from going out with their friends: “When I realized that my son had gone out with his friends a couple of times to smoke hookah, I proposed after 1 or 2 years that he could smoke at home from then on instead of going out. Thus, the hookah made its way to our house. Just to prevent them from smoking a lot. This was meant to lessen the damage to their health... I thought that if I smoke half of the hookah, their health would suffer less damage.”

## DISCUSSION

Understanding of any behavior must be based on a comprehensive analysis of the broad social environment or

cultural milieu surrounding the behavior, the immediate social situation or context in which the behavior occurs and the characteristics of the person performing the behavior.<sup>[19-21]</sup> This study is one of the few from the Middle East that focuses on the factors of hookah smoking behavior among Iranian women and girls. In the available literature, few studies have considered investigating or discovering the reasons, why women have started smoking hookah. Although understanding the factors that influence the initiation of tobacco smoking and understanding the different factors for boys and girls is necessary for optimum designing of tobacco control guidelines.<sup>[17]</sup>

In the present study, one reason given by the majority of the participants (21 out of 36 people) for hookah smoking initiation was curiosity. A similar study was conducted by Labib *et al.*<sup>[22]</sup> on 196 female students in Cairo which found that curiosity is a main factor in pushing women to smoke. A recent systematic review has shown that curiosity was an additional motive for university and school students’ hookah smoking for people in the Middle East, and for people of Middle Eastern descent in Western countries.<sup>[23]</sup> According to our study, girls, and young women are curious to know what a hookah is and what it feels like to smoke a hookah. They view smoking hookah as something they would like to try themselves.

In many developing countries, like Iran, cigarette smoking by men is seen as common and “normal” but smoking by women may be considered inappropriate and shameful,<sup>[24]</sup> but according to some scholars the current high prevalence of cigarette smoking among girls may be attributed to glamorizing tobacco as a tool of women’s emancipation.<sup>[25]</sup> According to the present study, this incentive can be effective for hookah smoking initiation too. As in this study, a motive behind some women’s desire for hookah were that they consider hookah smoking as a manly habit and by smoking hookah they wanted to act in a manly manner. According to participants, hookah smoking is a violation but they do not feel bad about it, because it shows that they are as strong as men and with hookah smoking, they can claim that they have grown wiser. According to Morrow *et al.*’s<sup>[26]</sup> study on Vietnamese women, hookah smoking is used for appearing strong; looking attractive to men and rebelling against society.

The other motive behind hookah smoking initiation by women, in our study, was recreation and amusement. This finding is concordant with other qualitative studies.<sup>[3,27]</sup> Majdzadeh *et al.*,<sup>[28]</sup> (2002) in a qualitative study on 160 Iranian men and women concluded that one reason for all focus-orientations to smoke hookah were being deprived from recreation and resorting to hookah for entertainment. Ghafouri *et al.*<sup>[29]</sup> reported that the recreational aspect of the smoking hookah were effective on both beginning

and continuing use of hookah. Hammal *et al.*'s<sup>[30]</sup> study on 16 adult hookah smokers and 16 adult cigarette smokers in Syria showed that, unlike cigarette smokers who used cigarettes to manage stress, hookah smokers used it for entertainment, leisure, and escape. In another study Roohafza *et al.*<sup>[15]</sup> (2011) found that one of the main reasons why people turn to hookah is their desire for recreation and entertainment. However, their finding demonstrated that entertainment, leisure, and enjoyment are the factors that have been more likely to be associated with hookah smoking initiation in males than in women.

In our study, another reason behind hookah smoking initiation by women was that they want to attract the attention of others, prove that they have grown up, and satisfy or join those who smoke the hookah. The young girls and women who behave according to modern manners attract the attention of other people, particularly young men. Therefore, since smoking a hookah is fashionable in Iran, it can attract the attention of others and make young girls and women look fashionable. In the Middle East, from a cultural perspective, tobacco use is a means of showing adulthood and hospitality<sup>[31]</sup> and youth and adolescents consider tobacco smoking as means of transition from childhood to adolescence period and to achieve social acceptability.<sup>[32]</sup> From a psychological perspective, because of the profound physical, behavioral and social demands during both the exit from middle childhood into adolescence and during the exit from adolescence into adulthood, and more notably, individuals are inclined to initiate or increase health risk-taking behaviors,<sup>[33]</sup> and central to the youth's development and formation of identity is the creation of a self-image. Within this process of construction, tobacco is often used to facilitate the creation of self-image.<sup>[34]</sup> In Iran, like Arab countries, people are more concerned with how other people see them than with how they see themselves, and they are taught to maintain an acceptable social image.<sup>[31]</sup> Furthermore, according to our study, the fact that some girls and women smoke hookah just for the purpose of attracting other people's attention can be due to their desire to portray an effective image of themselves.

Willingness to satisfy friends and family members is another reason behind young women accepting offers to smoke hookah. In Iranian culture, turning down other people's offer, particularly close friends, spouse or relatives, may make them upset or be construed as disrespect or haughtiness. Hence, some women accept other people's offer to smoke hookah to satisfy them. This may be due to the norm that "if you don't smoke, you are not part of our culture."<sup>[35]</sup> Smith-Simone *et al.*<sup>[36]</sup> in a cross-sectional internet survey on 411 college freshmen to determine the association between psycho-social risk factors and hookah, cigar, and cigarette smoking found that the freshmen perceived their peers to look coolest when using hookah.

According to a new finding of our study, in adult women, a motive for beginning to smoke hookah is accompanying children. These mothers said they started hookah smoking when they bought a hookah for a home in order to prevent their kids from going to the hookah cafes or keep them away from smoking with their friends. The reason behind this was their fear that their children may turn to drugs at hookah cafes or learn the use of other drugs from friends. This can be justified by studies that have proven the relationship between smoking hookah and other risky behaviors including smoking cigarettes, drinking alcohol, using hashish, etc. Many researchers believe that hookah use among youth serves as a "gateway" for the use of other tobacco products or psychoactive substances.<sup>[7,10,37,38]</sup>

## CONCLUSIONS

Curiosity; Desire for non-feminine, forbidden, and negative activities; Need for amusement and recreation; To show off, attract attention, satisfy and join others and Protecting the kids against the danger of drugs, are a variety of factors which contribute to the initiation of hookah smoking among young girls and women. Keeping girls (young women) away from seemingly happy gatherings of hookah smokers; Providing appropriate recreational facilities for them and training mothers (middle-aged women) on how to help their children in the event of a crisis-like intention to take up smoking behavior, can be some effective ways for reducing hookah smoking initiation among girls and women.

## Implications

So far the majority of studies on hookah have been conducted quantitatively in order to examine its outbreak and also people's awareness and views (e.g., risk perception) about hookah and few studies have focused directly on the determinants of beginning to smoke hookah. This is because when people are asked about their views on hookah, questions focus on why they were smoking at the time (reason behind the continuation of smoking) rather than why they began to do so. From this study, a variety of factors which contribute to the initiation of hookah smoking among women have been identified as the main reasons why women begin to smoke hookah. Thus, policy makers and health providers working for women can use the results of this study to design and inform prevention messages for them and their families. Limiting hookah offer at family gatherings and avoiding distributing hookah in public places; teaching teens the skill of "saying no" to friends or other close family members; providing appropriate recreational facilities for young women, especially employed women; training families on how to help their children in the event of a crisis-like intention to begin smoking behavior can be some effective ways for reducing hookah smoking initiation among women.

**Table 1: Demographic characteristics of sample**

	Number	Percentage
Age of participant (years)		
15-25	11	30
26-35	13	36
36-45	6	16
46-55	4	12
56-65	2	6
Age of initiation (years)		
5-15	6	17
16-25	19	52
26-35	6	17
36-45	4	11
46-55	1	3
Ethnicity		
Fars	24	67
Tork	4	10
Lor	6	17
Kord	2	6
Marital status		
Single	15	42
Married	15	42
Divorced	5	14
Widow	1	2
Occupation status		
Employed	17	47
Unemployed	19	53
Pattern of use		
Current user	32	88
Former user	4	12
Education		
Academic	16	44
Diploma	12	33
High-school	6	17
Elementary	2	6
Residence		
North of Tehran	2	6
South of Tehran	4	11
West of Tehran	11	30
East of Tehran	16	44
Center of Tehran	3	9

### Limitations

While this study provides important information about the factors influence on the hookah smoking initiation in women, there were some notable limitations. Some women did not agree to participate in our qualitative research. This may introduce bias and women who participated in our study might express only desirable social experiences and avoid expressing their real experiences due to the cultural sensitivity of research issues. In addition, the lack of comparison between the correlate of hookah and cigarette smoking initiation can be a limitation. Another

limitation of this study was about study sampling, which may not have the necessary distribution, and the study participants may not be representative of the actual population of Iranian women. Another limitation was the possibility of bias in gathering and analysis of data. Further, it should be noted, since the researcher was not familiar with any of the study participants before the interviews and also extensive research on factors affecting the hookah smoking was not conducted, she could claim that her feelings and experiences are unaffected on data collection and analysis or this impact might have been at minimum. Furthermore, during data collection, the interviewer tried not to say any word or use nonverbal cues to avoid interfering and during the analysis, an attempt was made to consider and include the views of all members of the research team for constructing the coding scheme. Therefore, the results of this study should be interpreted with caution.

### ACKNOWLEDGEMENTS

This study was part of a PhD thesis supported by Tehran University of Medical Sciences (TUMS); grant No:91-04-62-20189.

**Received:** 08 Jun 14 **Accepted:** 13 Apr 15

**Published:** 24 Aug 15

### REFERENCES

1. Azab M, Khabour OF, Alzoubi KH, Anabtawi MM, Quttina M, Khader Y, et al. Exposure of pregnant women to waterpipe and cigarette smoke. *Nicotine Tob Res* 2013;15:231-7.
2. Maziak W, Ward KD, Afifi Soweid RA, Eissenberg T. Tobacco smoking using a waterpipe: A re-emerging strain in a global epidemic. *Tob Control* 2004;13:327-33.
3. Martinasek MP, McDermott RJ, Martini L. Waterpipe (hookah) tobacco smoking among youth. *Curr Probl Pediatr Adolesc Health Care* 2011;41:34-57.
4. Salameh P, Waked M, Aoun Z. Hookah smoking: Construction and validation of the Lebanon hookah dependence scale (LWDS-11). *Nicotine Tob Res* 2008;10:149-58.
5. Maziak W, Eissenberg T, Ward KD. Patterns of waterpipe use and dependence: Implications for intervention development. *Pharmacol Biochem Behav* 2005;80:173-9.
6. Amin TT, Amr MA, Zaza BO, Kaliyadan F. Predictors of waterpipe smoking among secondary school adolescents in Al Hassa, Saudi Arabia. *Int J Behav Med* 2012;19:324-35.
7. Eissenberg T, Shihadeh A. Waterpipe tobacco and cigarette smoking: Direct comparison of toxicant exposure. *Am J Prev Med* 2009;37:518-23.
8. Maziak W. The global epidemic of waterpipe smoking. *Addict Behav* 2011;36:1-5.
9. Akl EA, Gaddam S, Gunukula SK, Honeine R, Jaoude PA, Irani J. The effects of waterpipe tobacco smoking on health outcomes: A systematic review. *Int J Epidemiol* 2010;39:834-57.
10. Primack BA, Sidani J, Agarwal AA, Shandel WG, Donny E, Eissenberg TE. Prevalence of and associations with waterpipe smoking among U.S. university students. *Annu Behav Med* 2008;36:81-6.
11. Kelishadi R, Mokhtari MR, Tavasoli AA, Khosravi A, Ahangar-Nazari I, Sabet B, et al. Determinants of tobacco use among youths in Isfahan, Iran. *Int J Public Health* 2007;52:173-9.
12. Meysamie A, Ghaletaki R, Haghazali M, Asgari F, Rashidi A, Khalilzadeh O, et al. Pattern of tobacco use among the Iranian adult population: Results of the national Survey of Risk Factors of Non-Communicable Diseases (SuRFNCD-2007). *Tob Control* 2010;19:125-8.

13. Rahmanian K, Jafarzadeh A, Khalouei A. Determinants of cigarette smoking among high school students in Jahrom city. *J Paramed Tehran Univ Med Sci* 2011;4:88-96.
14. Mojahed A, Bakhshani NM. Prevalence of smoking and drug abuse in students of Zahedan high schools. *Tabibe Shargh* 2003;6:59-64.
15. Roohafza H, Sadeghi M, Shahnam M, Bahonar A, Sarafzadegan N. Perceived factors related to cigarette and waterpipe (ghelyan) initiation and maintenance in university students of Iran. *Int J Public Health* 2011;56:175-80.
16. Sabahy AR, Divsalar K, Nakhaee N. Attitude of University Students towards Waterpipe Smoking: Study in Iran. *Addict Health* 2011;3:9-14.
17. World Health Organization. Gender, women, and the tobacco epidemic: 4. impact of tobacco use on women's health. Geneva, Switzerland: World Health Organization; 2010.
18. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qual Health Res* 2005;15:1277-88.
19. Frankenhaeuser M. The psychophysiology of workload, stress, and health: Comparison between the sexes. *Ann Behav Med* 1991;13:197-204.
20. Jessor R, Donovan JE, Costa FM. *Beyond Adolescence: Problem Behavior and Young Adult Development*. New York: Cambridge University Press; 1991.
21. DeKay WT, Buss DM. Human nature, individual differences, and the importance of context: Perspectives from evolutionary psychology. *Curr Dir Psychol Sci* 1992;1:184-9.
22. Labib N, Radwan G, Mikhail N, Mohamed MK, Setouhy ME, Loffredo C, et al. Comparison of cigarette and water pipe smoking among female university students in Egypt. *Nicotine Tob Res* 2007;9:591-6.
23. Akl EA, Jawad M, Lam WY, Co CN, Obeid R, Irani J. Motives, beliefs and attitudes towards waterpipe tobacco smoking: A systematic review. *Harm Reduct J* 2013;10:12.
24. Khattab A, Javaid A, Iraqi G, Alzaabi A, Ben Kheder A, Koniski ML, et al. Smoking habits in the Middle East and North Africa: Results of the BREATHE study. *Respir Med* 2012;106 Suppl 2:S16-24.
25. Sinha DN, Gupta PC, Pednekar M. Tobacco use among students in Bihar (India). *Indian J Public Health* 2004;48:111-7.
26. Morrow M, Ngoc DH, Hoang TT, Trinh TH. Smoking and young women in Vietnam: The influence of normative gender roles. *Soc Sci Med* 2002;55:681-90.
27. Nakkash RT, Khalil J, Afifi RA. The rise in narghile (shisha, hookah) waterpipe tobacco smoking: A qualitative study of perceptions of smokers and non smokers. *BMC Public Health* 2011;11:315.
28. Majdzadeh RS, Zamani G, Kazemi HS. Qualitative study of people's attitudes to smoking hookah and the ways to combat it in Hormozgan city. *Hakim* 2011;5:183-7.
29. Ghafouri N, Hirsch JD, Heydari G, Morello CM, Kuo GM, Singh RF. Waterpipe smoking among health sciences university students in Iran: Perceptions, practices and patterns of use. *BMC Res Notes* 2011;4:496.
30. Hammal F, Mock J, Ward KD, Eissenberg T, Maziak W. A pleasure among friends: How narghile (waterpipe) smoking differs from cigarette smoking in Syria. *Tob Control* 2008;17:e3.
31. Baker OG, Rice V. Predictors of narghile (water-pipe) smoking in a sample of American Arab Yemeni adolescents. *J Transcult Nurs* 2008;19:24-32.
32. Corbett KK. Susceptibility of youth to tobacco: A social ecological framework for prevention. *Respir Physiol* 2001;128:103-18.
33. Graber JA, Brooks-Gunn J. Developmental transitions: Linking human development with tobacco prevention research. *Nicotine Tob Res* 1999;1 Suppl 1:S73-7.
34. Lloyd B, Lucas K, Holland J, McGrellis S, Arnold S. *Smoking in Adolescence: Images and Identities*. London: Routledge; 1998.
35. Yen KP, Harun NB, Ishak FB, Anuar NA, Abdul Karim N, Azman A, et al. Contributory factors to the smoking of shisha among teenagers in the Perak City of Ipoh: A preliminary qualitative survey. *Int J Public Health Res* 2012;2:80-4.
36. Smith-Simone SY, Curbow BA, Stillman FA. Differing psychosocial risk profiles of college freshmen waterpipe, cigar, and cigarette smokers. *Addict Behav* 2008;33:1619-24.
37. Fielder RL, Carey KB, Carey MP. Predictors of initiation of hookah tobacco smoking: A one-year prospective study of first-year college women. *Psychol Addict Behav* 2012;26:963-8.
38. Noonan D, Kulbok PA. Beliefs and norms associated with smoking tobacco using a waterpipe among college students. *J Addict Nurs* 2012;23:123-8.

**Source of Support:** Nil, **Conflict of Interest:** None declared.