

Beliefs Regarding Waterpipe Smoking Among Iranian Men of Turkmen Ethnicity

A qualitative study conducted in Golestan Province

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اعتقادات شائعة تتعلق بتدخين الشيشة لدى الإيرانيين من أصل تركماني دراسة نوعية أجريت في مقاطعة جولستان

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ABSTRACT: Objectives: Waterpipe or *hookah* smoking has grown considerably in popularity over the past two decades; however, consumers often have misconceptions regarding this practice. This study aimed to determine common beliefs related to waterpipe smoking among Turkmen in Iran. **Methods:** This qualitative study was conducted between February and June 2018 in Golestan Province, Iran, utilising data from a previously published study. A total of 26 male Turkmen waterpipe smokers of different ages, occupations and education levels underwent in-depth semi-structured interviews. A content analysis of beliefs regarding waterpipe smoking was performed. **Results:** Five categories of beliefs were extracted during the content analysis, including beliefs related to addiction, health-related beliefs, preferential beliefs for waterpipe versus cigarette smoking, beliefs related to the social function of waterpipe smoking and beliefs attributed to waterpipe smoking. Several misconceptions were identified, including the idea that waterpipe smoking was not addictive, prevented the use of other more dangerous drugs (i.e. cannabis and opium) and was not as harmful as cigarette smoking. **Conclusion:** The results of this study indicate that Turkmen in Iran hold several misconceptions regarding the use of waterpipe smoking. Educational programmes are essential to correct such misconceptions and to control the prevalence of this habit in Iran.

Keywords: Water Pipe Smoking; Addictive Behaviors; Health-Related Behaviors; Qualitative Research; Tobacco Use Cessation; Iran.

المخلص: ازدياد معدلات تدخين الشيشة بشدة في العقدين الأخيرين. غير أن مستخدميها كثيرا ما يحملون مفاهيم خاطئة عن تلك الممارسة. وتهدف هذه الدراسة لتحديد الاعتقادات الشائعة المتعلقة بتدخين الشيشة عند الرجال من أصل تركماني في إيران. **الطريقة:** أجريت هذه الدراسة النوعية بين فبراير ويونيو من عام 2018م بمقاطعة جولستان في إيران باستخدام معلومات مستقاة من ورقة سبق نشرها. وتم في الدراسة إجراء مقابلات معمقة وشبه منظمة مع 26 مدخنا إيرانيا من أصول تركية في مختلف الأعمار والمهن ومستويات التعليم. وتم إجراء تحليل للمحتوى الخاص بتلك الاعتقادات عن تدخين الشيشة. **النتائج:** وجد عند تحليل المحتوى الخاص بالاعتقادات استخلاص خمسة أنواع منها، تشمل الاعتقادات الخاصة بالإدمان، وبالصحة، والاعتقادات التفضيلية للشيشة في مقابل السجائر، واعتقادات منشئها الوظيفة الاجتماعية التي يؤديها تدخين الشيشة، واعتقادات مردها تدخين الشيشة. وتم الاستعراف على عدد من تلك المفاهيم الخاطئة، منها مثلا أن دخان الشيشة لا يفضي للإدمان، وأنه يمنع استخدام مواد أخرى مضرّة مثل الحشيش والأفيون، وأنه أقل ضررا من تدخين السجائر. **الخلاصة:** أوضحت هذه الدراسة أن الرجال من أصل تركماني في إيران يحملون عددا من المفاهيم الخاطئة عن تدخين الشيشة. ومن الضروري إصلاح تلك المفاهيم الخاطئة بإجراء برامج تعليمية لكبح انتشار هذه العادة في إيران.

الكلمات المفتاحية: تدخين الشيشة؛ السلوكيات الإدمانية؛ السلوكيات المتعلقة بالصحة؛ بحث نوعي؛ الإقلاع عن تدخين التبغ؛ إيران.

ADVANCES IN KNOWLEDGE

- This study found that Turkmen in Iran held several misconceptions with regards to waterpipe smoking, potentially influencing consumption patterns.
- The results of this study could be disseminated to government officials or research institutions to help in the design and implementation of preventative public health programmes to control the prevalence of waterpipe smoking in Iran.

APPLICATION TO PATIENT CARE

- The findings of this study may inform future intervention strategies for reducing the prevalence of waterpipe smoking in Iran, thereby decreasing the prevalence of health problems associated with this practice.
- Doctors and healthcare practitioners in Iran are encouraged to assess beliefs regarding waterpipe smoking correct any misconceptions and educate patients regarding associated health risks.

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GLOBALLY, WATERPIPE OR *HOOKAH* SMOKING is rapidly increasing in prevalence, especially among young people; according to the results of a survey, this practice has overtaken cigarette smoking among 13–15-year-olds in 17 countries in the Eastern Mediterranean region, including Iran.¹ This increase in popularity is due to various factors, including the use of aromatic tobacco, the social dimension associated with *hookah* consumption, a thriving ‘café culture’, the emergence of social media and the lack of national policies overseeing *hookah* consumption in many countries.²

Contrary to common misconceptions, waterpipe smoking has both short- and long-term harmful effects, including chronic bronchitis, emphysema, coronary heart disease, oesophageal, stomach and lung cancers, periodontal diseases, fertility problems, osteoporosis and mental illness.³ According to a meta-analysis by Primack *et al.*, smokers inhale up to 74.1 L of smoke during a waterpipe smoking session in comparison to 0.6 L of smoke from a single cigarette, with the former practice resulting in a greater accumulation of tar (619 mg versus 24.5 mg), nicotine (4.1 mg versus 1.8 mg) and carbon monoxide (192 mg versus 17.7 mg) in the body compared to cigarette smoking.⁴ Understanding of the factors and underlying causes that encourage users to smoke *hookah* can help policymakers to develop appropriate preventative interventions and anti-tobacco initiatives.⁵

In Iran, individuals of Turkmen ethnicity live in the northern and north-eastern provinces of Golestan and North Khorasan. Golestan Province is located in North Iran, southeast of the Caspian Sea, and is home to approximately 1,868,819 individuals living in 14

cities [Figure 1].⁶ Approximately 40% of the population in Golestan Province are of Turkmen ethnicity, with the majority living in the cities of Maraveh Tappeh, Kalaleh, Gonbad-e Qabus, Aqqala, Gomishan and Bandar Torkaman. As cultural, ethnic and social differences can play a role in shaping health-related behaviours, this study aimed to determine beliefs regarding waterpipe smoking among Turkmen in Golestan Province.

Methods

This explorative qualitative study was conducted between February and June 2018 in Golestan Province, Iran, utilising data from a previous study conducted by the same research team.⁶ The aim of the original study was to discover factors influencing the onset of waterpipe smoking among Iranian men of Turkmen ethnicity.⁶ Individuals from all educational, occupational, social and geographical backgrounds were selected for inclusion, regardless of age or patterns of consumption, in order to ensure a representative sample. The recruitment of participants continued until the point of data saturation.⁶

Data were collected during in-depth semi-structured interviews conducted in a location that was convenient for the participants, such as workplaces, homes and local cafés serving *hookah*.⁶ A series of standardised questions were designed, focusing on factors influencing participants to engage in waterpipe smoking [Table 1]. The interviews were conducted in the local Turkmen language by a researcher fluent in both Farsi and Turkmen and with extensive experience in qualitative data collection interviews. The participants’



Figure 1: Map showing the location and distribution of cities in Golestan Province, Iran.

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responses were recorded, transcribed and translated *verbatim* into Farsi by the interviewer, after which the transcribed responses and extracted codes were presented to some of the participants for their validation and approval. The duration of the interviews ranged from 30–90 minutes.⁶

Subsequently, content analysis was performed to obtain an exploratory description of the study phenomenon; this entailed extraction of coding categories derived directly from the text of the transcribed interviews.⁷ The qualitative data analysis was based on methods described by Graneheim and Lundman.⁸ For each interview, the transcript was read several times to obtain a holistic sense of the participants' beliefs and attitudes. The results of the content analysis were sent to other research team members for discussion and consensus regarding the management of semantic units.

The units of analysis and meaning units were considered the transcript of the entire interview and those parts concerning the experiences of participants with regards to waterpipe smoking, respectively. Next, the meaning units were condensed, abstracted and labelled with codes. The codes were compared in terms of similarities and differences. The analysis units (semantic units) were then identified. Subsequently, the semantic units (i.e. sentences or statements containing the same content) were summarised and shortened until their main content was not abstracted. The summarised semantic units were labelled with a code. Then, the codes were compared based on their similarities/differences and were categorised.

The protocol for this study received ethical approval from the Tehran University of Medical Sciences, Tehran, Iran (#IR.TUMS.95-02-99-31488). Before the beginning of the interview, participants provided verbal informed consent following an explanation of the purpose, methods and potential benefits and outcomes of the study.

Table 1: Interview guide developed to assess beliefs regarding waterpipe smoking during in-depth semi-structured interviews with Turkmen in Iran (N = 26)

Questions
1. Do you think smoking <i>hookah</i> can cause addiction?
2. Do you think <i>hookah</i> is harmful for your health? What are the health risks of <i>hookah</i> smoking?
3. What do you think about the attractiveness of <i>hookah</i> smoking? Why do people continue to smoke <i>hookah</i> ?
4. What is the difference between <i>hookah</i> and cigarettes? What about other tobacco products?
5. You are welcome to add anything else that we might have missed asking you.

Results

A total of 26 Turkmen participated in the study. The mean age at the time of the interview was 29.23 ± 5.86 years old (range: 20–45 years), while the mean age at the time of first engaging in waterpipe smoking was 18.03 ± 2.50 years (range: 14–25 years).⁶ In terms of education, most of the participants (30.8%) were high school dropouts, while one person (3.8%) had completed primary school, six had completed secondary school (23.1%), seven (26.9%) had high school diplomas, three (11.5%) had university degrees and one (3.8%) held a Master's degree. With regards to occupation, six people (23.1%) were unemployed, six (23.1%) were drivers, two (7.7%) were labourers, two (7.7%) were hairdressers, two (7.7%) were furniture-makers, one (3.8%) was a soldier, one (3.8%) was a mason, one (3.8%) was a mechanic, one (3.8%) was a skilled worker, one (3.8%) was a retailer and one (3.8%) was a governmental employee.⁶ Two participants (7.7%) stated they were clients at *hookah* cafés without revealing their occupations. Other demographic characteristics of the sample have been previously published elsewhere.⁶

Extracted codes from the content analysis were organised into five categories [Table 2]. In terms of beliefs related to addiction, 24 participants (92.5%) believed that waterpipe smoking was not addictive and could easily be set aside. For example, one participant stated: "*This hookah does not have addiction. I mean, I have not been smoking hookah for 10 days now and I feel OK. It does not seem to be like other materials such as opium and methamphetamine, and you do not go cold turkey. You just come and sit here and talk about things.*"

In addition, participants also believed that waterpipe smoking had a preventative effect on consuming other more harmful substances and that the closure of *hookah* cafés would encourage smokers to turn to cannabis, opium or tobacco cigarettes. Another participant claimed: "*It prevents the use of other drugs. Now, you do not go out to see what's going*

Table 2: Categories of beliefs regarding waterpipe smoking extracted during a content analysis of transcripts from in-depth semi-structured interviews with Turkmen in Iran (N = 26)

Categories
1. Beliefs related to addiction
2. Health-related beliefs
3. Preferential beliefs for waterpipe versus cigarette smoking
4. Beliefs related to the social function of waterpipe smoking
5. Beliefs attributed to waterpipe smoking

on. *What else do the people take? You are just sitting down and smoking hookah.*

With regards to health-related beliefs, four participants (15.4%) were convinced that the passing of the tobacco smoke through water was somehow purifying, especially when they saw that the water in the waterpipe slowly became less transparent over time. However, most men (84.6%) also believed that waterpipe smoking held certain health disadvantages and that it caused shortness of breath, coughing and digestive problems. One participant noted: *“But it also has some disadvantages. For example, to me personally, it has reduced my appetite.”*

Most men also believed that waterpipe smoking did not control stress and anger and that such beliefs were formed as a kind of inculcation due to the collective effects of *hookah* consumption. As one participant elaborated: *“No, hookah does not make you calm. You come here and see couple of friends, and you talk to them, listen to them and your concern will be reduced.”*

Participants also reported preferential beliefs for waterpipe smoking compared to cigarette smoking. All of the participants were of the opinion that, unlike cigarettes, *hookah* did not have many side-effects, despite the spread of negative propaganda against waterpipe smoking. One of the participants explained: *“It has less risk than cigarette, I think. Take someone who smoke cigarette for 10 years and someone else who smoke hookah for 10 years. Then, compare the two... which one’s liver and lung has been damaged more? There is even sulphur in cigarette smoke, but hookah does not contain sulphur. Medical science falsely says that the hookah is more harmful because it wants to keep everyone away from the hookah.”*

Participants also believed that the higher price of *hookah* would encourage cigarette smoking. One of the participants declared the following: *“Do you know why the rate of hookah consumption is reducing? Because, about three months ago, the price of tobacco (that was about 4,000 tomans) suddenly increased to 8,000 tomans. Then people said that, instead of smoking hookah for 8,000 tomans, we smoke cigarette which is only 1,000 tomans.”*

All of the participants believed that waterpipe smoking had a social dimension and was a form of entertainment, encouraging friends to spend time together. One individual stated: *“You see, hookah creates love between the kids. That’s enough. Currently, in Iran, who can have fun with 4,000 tomans? Look at all the kids in the café, they are all having fun in some way. Hookah creates entertainment for them.”* Another participant expressed a similar perspective: *“It is five of us; we come here in the café, talk about here and there,*

and that lifts our spirit. A cosy place like this lifts your spirit and morale.”

Moreover, according to the participants, the social stigma associated with waterpipe smoking was less intense compared to other habits such as cigarette smoking, thus making the practice more socially acceptable within the community. Some participants considered it a better alternative to more dangerous drugs: *“In general, I would like to say that hookah does not harm you. Other materials, such as methamphetamine and opium destroy you, but this is not the same.”*

Some of the participants held beliefs that were attributed to waterpipe smoking. The most common attribution was that *hookah* increased efficiency. One person claimed: *“For example, when the battery is running empty it makes a beep sound and you come and connect it to a charger; well, the hookah works like that.”* However, others did not believe this and considered such statements to be another form of inculcation. Another attribution was that *hookah* smoke was less irritating to the smoker in comparison to other substances. One of the participants described it in the following words: *“The smoke of other substances is bitter, but the smoke of hookah is sweet. It’s not bitter. Cigarette smoke makes me cough, but I don’t cough due to hookah smoke.”*

Discussion

Qualitative research methods are designed to showcase variations in opinions, feelings and experiences within a target population.⁹ Using data from a previously published study, this qualitative analysis identified five categories of beliefs regarding waterpipe smoking among Turkmen in Iran, including health-related beliefs, beliefs related to addiction, belief attributed to waterpipe smoking, beliefs related to the social function of waterpipe smoking and preferential beliefs for waterpipe versus cigarette smoking.⁶ In terms of perceived health risks, while participants believed that *hookah* could cause health problems, they believed the risks to be less hazardous compared to cigarettes. Some of the participants believed that this was proved by the gradual disappearance of water transparency as a result of the smoke passing through the water, the sweetness and coldness of the smoke and the lack of irritation to the throat.

Maziak *et al.* reported that waterpipe smokers often believe that *hookah* smoke is ‘cleaner’ than cigarettes, usually as a result of watching the passage of smoke through the waterpipe, with the gradual clouding of the water thought to be indicative of a

filtration process.¹⁰ A qualitative study by Griffiths *et al.* also found that young students who smoked *hookah* believed that waterpipe smoking was 'cleaner' than cigarettes, with this cleanliness attributed to the smell of *hookah* tobacco in combination with medicinal herbs as well as the 'lightness' of *hookah* smoke in comparison with cigarette smoke.¹¹ In Egypt, 74.1% of female students believed that waterpipe smoking was less harmful than cigarettes.¹² In another study from Iran, 40.6% of students believed that waterpipe smoking was a healthier and more hygienic method of tobacco consumption.¹³ Research in Saudi Arabia similarly showed that the majority of participants believed that harmful substances in *hookah* could be purified by their passage through water.¹⁴

Interestingly, most of the Turkmen in the present study believed that waterpipe smoking was not directly relaxing or a method of controlling stress and anger; instead, they believed that the process of seeing friends and chatting with them while smoking *hookah* resulted in the reduction of these negative emotions. However, this finding contradicts those reported by other studies, in which the consumption of *hookah* was directly linked to reduced stress and increased calmness.¹⁵⁻¹⁷ Jawaid *et al.* suggested that smoking *hookah* reduces fatigue can promote its consumption.¹⁵

One important misconception noted in the present study was the belief that waterpipe smoking was not addictive, with all of the participants stating that they could quit the habit at any time if they so desired. Griffiths and Ford also found that *hookah* consumers believed they could stop smoking at any time, especially since they smoked occasionally and only in social situations.¹¹ Other researchers have reported comparable findings.^{18,19} Indeed, most waterpipe smokers believe that *hookah* is less addictive than cigarettes, with participants perceiving themselves to be autonomous and having control over the habit due to the casual nature of their consumption.^{20,21} However, the consumption of a large amount of nicotine during a single waterpipe smoking session increases the risk of dependence for users.¹¹ The presence of nicotine in any tobacco product causes addiction and, unfortunately, the harmful effects of this alkaloid and other substances in *hookah* tobacco are not negated by its passage through water.^{22,23}

The lack of social stigma associated with waterpipe smoking compared to other practices was a common theme mentioned by participants in the present study. The social dimension of the habit is one of the most important aspects leading to its consumption. Participants in the current study believed that waterpipe smoking brought them together, encouraged kindness and was generally more

pleasant and fun when performed in a group setting. The positive social dimension of *hookah* consumption and lack of stigma concerning its use in comparison to other substances has been reported by many studies worldwide.^{20,21,24} Based on a systematic review of 58 studies, Akl *et al.* concluded that *hookah* consumption formed part of the Arab cultural identity, with this practice apparent even among Arabs living in Western countries.²⁰ Primary motivations for waterpipe smoking include socialisation, relaxation, pleasure and recreation. Novelty appeal is another factor associated with *hookah* use among people of other cultures who reportedly find the environment of *hookah* cafés to be 'charming'.²¹ A qualitative study from Syria found that people considered waterpipe smoking to constitute a leisure activity, without considering the harmful effects of waterpipe smoking on their health.²⁴

Another category identified in the current study were beliefs attributed to waterpipe smoking, such as enhanced efficacy following consumption and the 'sweetness' and 'lightness' of *hookah* smoke. However, other participants disagreed that waterpipe smoking increased efficacy and performance, stating that such beliefs were a form of indoctrination or justification for continuing to take part in the habit. As part of a systematic review of qualitative studies conducted to determine perceptions and experiences associated with aromatic tobacco products, Kowitt *et al.* observed that many waterpipe smokers perceive the taste and smell of *hookah* to be pleasant.²⁵ Indeed, participants in two studies conducted in Lebanon and Canada attributed these sensory experiences to be their primary reason for smoking.^{5,26} In another study from the UK, young people believed that they had become addicted to *hookah* due to its pleasant smell and taste.²⁷

Based on these findings, future public health interventions in Iran should be designed in order to educate waterpipe smokers and their families regarding the health risks of *hookah* consumption. Such intervention strategies could be based on the various belief categories identified in this study. In addition, the relevant authorities in Iran should consider developing and promoting other recreational activities, such as sports or other pastimes, to serve as an alternative to the social dimension associated with waterpipe smoking.

This study was subject to certain limitations. The results cannot be generalised to the general population due to the possible effect of ethnicity on factors influencing waterpipe smoking. Nevertheless, recruitment in the present study was continued to the point of data saturation.⁶ Second, involving a comparison group of a different ethnicity (such as individuals of Persian or Arab ethnicity) would

have provided a better understanding of the beliefs of Turkmen with regards to *hookah* consumption. Unfortunately, a comparison group could not be included in the study due to budget and resource constraints. Another limitation of the present study was the absence of participants from cities such as Maraveh Tappeh and Kalaleh as well as individuals from North Khorasan Province. Further studies involving comparison groups and individuals from the aforementioned regions are recommended to continue the research begun in this study.

Conclusion

In addition to the usual beliefs regarding *hookah* consumption, Turkmen in Iran did not believe that *hookah* could control stress and other negative emotions, instead attributing these effects to the social dimension of waterpipe smoking and the friendly atmosphere of *hookah* cafés. However, while the participants were aware of certain negative consequences of *hookah*, such as shortness of breath, coughing and digestive problems, they nevertheless had several misconceptions regarding the habit, including the notion that waterpipe smoking was not addictive and was not as harmful as cigarette smoking. Preventative public health programmes are necessary to correct such misconceptions and to help control the prevalence of waterpipe smoking and its associated health risks.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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