

Sociocultural factors contributing to waterpipe tobacco smoking among young women: a qualitative study in Iran

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Abstract

Background Waterpipe tobacco smoking (WTS) is currently a serious and growing public health threat in the world, especially in adolescents and young women. The aim of the study was to explore sociocultural factors contributing to WTS among young women in Iran.

Methods This qualitative study was conducted from August 2017 to January 2019 in Isfahan and Hamadan cities, Iran; it included 13-30-year-old females with experience of WTS. For data collection, in-depth semi-structured interviews were conducted at participants' preferred time and place. Concurrent with data collection, data were analyzed through conventional content analysis.

Findings In total, 34 main participants with mean (SD) age of 22.97(4.89) years and eight auxiliary participants with mean (SD) age of 34 (9.95) years participated in the present study. Sociocultural factors contributing to WTS were categorized into four main categories of waterpipe glamorization by its producers and sellers, media advertisement or silence, common sociocultural traditions, and governmental policies and regulations.

Conclusion WTS among young women in Iran is affected by a wide range of sociocultural factors. Therefore, interdisciplinary multidimensional strategies are needed for WTS management and prevention among young women. Public education, strict supervision of tobacco import, export, and selling, ample employment opportunities for young people and effective leisure time management are essential to reduce WTS.

Background

Tobacco smoking is a major health challenge accounting for more than seven million deaths throughout the world (1, 2). Waterpipe tobacco smoking (WTS) is a traditional method for tobacco smoking. Due to its progressively increasing prevalence, particularly among young people, WTS has turned into a serious public health threat in the world(3, 4). The highest prevalence of WTS among young people is in the Eastern Mediterranean region. Its prevalence in this region ranges from 2.5% in Oman to 37.2% in Lebanon. WTS prevalence in Europe also ranges from 2.2% in Romania to 22.7% in Lithuania. The lowest prevalence of WTS is in the United States, where it ranges from 1.0% to 11.4% (5).

WTS is associated with different negative outcomes such as lung and mouth cancers, cardiovascular disease, hyperglycemia, respiratory disorders, sex hormone disorders, osteoporosis, and low birth weight (6-8). It also predisposes women to cervical cancer, ectopic pregnancy, spontaneous abortion, premature delivery, and other reproductive problems (9, 10). Estimates show that tobacco smoking will cause 8.3 deaths in 2030 in the world, 70% of which will be in developing countries (1, 2).

Despite the serious health outcomes of WTS, its popularity has significantly boosted among adolescent and young women (11, 12). Studies reported that its prevalence among young women is 6.3% in the United States (13) and 41% in Pakistan (14). WTS is also a significant public health challenge in Iran and

is the most common method for tobacco smoking by adolescent and young women (15-17). Studies in Iran reported that WTS prevalence ranged from 7.1% (18) to 38.9% (19) among adolescents and was 11.5% among female university students (20).

The World Health Organization has emphasized on the identification of WTS gender-specific contributing factors (21); nonetheless, little efforts have been made so far in this area. A handful of studies in this area reported that WTS contributing factors include personal factors such as curiosity, positive attitude towards WTS, and personal pleasure, as well as interpersonal and environmental factors such as lack of emotional family support, WTS by family members, peer pressure, lack of healthy recreational activities, inexpensiveness and easy accessibility of WTS, and lack of public educations against WTS (22-29). The results of studies on women's perceptions of WTS were different from the results of studies on men. For instance, a multinational study in the Eastern Mediterranean region reported that the sexual allure associated with WTS and considering WTS as a symbol of emancipation were the main factors affecting WTS among women (30). Another study in Iran found that considering WTS as a weight-losing strategy contributed to girls' and women's resort to its use (31). These findings denote the wide variety of factors which may result in WTS among women. Moreover, there is limited information about the role of the society in WTS among women. Therefore, the present study was conducted to narrow these gaps. The aim of the study was to explore sociocultural factors contributing to WTS among young women in Iran.

Methods

Study design

This qualitative study was conducted from August 2017 to January 2019.

Participants and data collection Main study participants were young women in Isfahan and Hamadan, Iran, who had the experience of WTS. Inclusion criteria were an age of 13–30 years and agreement to participate in the study and share WTS-related experiences. Auxiliary participants were family members, friends, WTS providers, teachers, and smoking control staff. Participants were selected with maximum variation from different educational levels, employment status, ethnic groups, and geographic areas in Iran. Sampling was done through both purposeful and snowball sampling and was continued up to data saturation. Less than 10% of eligible participants who had been invited to the study refused participation.

Data were collected via in-depth semi-structured interviews opened using questions on participants' demographic characteristics such as age, educational level, marital status, occupation, age at first WTS, family history of tobacco use, and WTS pattern. Then, interviews were continued using general open-ended questions about WTS such as "May you please explain about your WTS?" Based on participants' responses to such questions, probing questions were asked to collect more in-depth data. Examples of probing questions were, "May you please explain more about this?" and "What do you mean by this?". Interviews were conducted at participants' preferred time and place, including recreational facilities, hookah bars, workplaces, and dormitories. The length of interviews ranged from thirty to 65 minutes.

Data analysis

Concurrent with data collection, data analysis was performed through the three-phase conventional content analysis. In the data preparation phase, the interviews were transcribed word by word and reviewed for several times for data immersion. In the data organization phase, primary codes were inductively identified and grouped into categories according to their conceptual similarities. Categories were labeled based on their contents. Constant comparison of the data and the findings helped revise or combine the categories and develop new categories. This process of data reduction resulted in the identification of the final pattern in the data. Finally, the findings were reported in the data reporting phase (32).

Rigor

Transferability was ensured through maximum variation sampling, while credibility and dependability were ensured through prolonged engagement with the data. Member checking was also performed to ensure the congruence between findings and participants' experiences. Moreover, through peer and external checking, the transcripts of some interviews and their corresponding codes were appraised by several experts in qualitative research.

Ethical considerations

The Ethics Committee of Isfahan University of Medical Sciences, Isfahan, Iran, approved this study (IR.MUI.REC.1396.3.46). At the beginning of each interview, the aim and the methods of the study were explained to the intended participant and they were ensured of the voluntariness of participation in the study, confidentiality of the study data, and her freedom to unilaterally withdraw from the study. Informed consent was obtained from all participants.

Results

Overall, 42 persons participated in this study. Thirty four participants were women with WTS experience and with mean (SD) age of 22.97(4.89) years, on average.

Twenty nine of these women (85%) still smoked waterpipe tobacco at the time of the study, while five of them had ceased WTS. The remaining eight participants were two mothers, one girlfriend, and one boyfriend, two male waterpipe tobacco smokers who worked in hookah bars, one female teacher, and a male smoking control staff. Their mean (SD) age of years was 34 (9.95). Table 1 shows participants' demographic characteristics.

Sociocultural factors contributing to WTS were categorized into four main categories. These categories were waterpipe glamorization by its producers and sellers, media advertisement or silence, common sociocultural traditions, and governmental policies and regulations. Together with their subcategories, these categories are shown in Table 2 and are explained in the following.

1. Waterpipe glamorization by its producers and sellers

This main category consisted of two subcategories, namely innovative and tempting techniques for the continuous glamorization of waterpipe by its producers, and marketing and customer attraction techniques used by WTS providers.

1.1. Innovative and tempting techniques for the continuous glamorization of waterpipe by its producers

Waterpipe producers continuously attempt to design and produce as attractive as possible waterpipe and waterpipe accessories in order to tempt different individuals into WTS.

Using a single type of waterpipe is boring. I have two waterpipes. One of them is like the Eiffel tower and the other is smaller. I use them intermittently. Every day, they produce new types of waterpipe which I like. (Current smoker, 28year old)

The wide variety of tobaccos and their flavors is also a significant factor contributing to WTS among young women. Participants considered the different aromas used for tobaccos as a tempting factor for their WTS.

I ceased WTS; but this new tobacco, which has a pleasant aroma, tempted me into its use, particularly with these new waterpipes. (Former smoker, 26 year old)

1.2. Marketing and customer attraction techniques used by WTS providers

The participating waterpipe tobacco smokers, hookah bar staff, and smoking control staff noted that hookah bars compete with each other for attracting more customers and hence, use different marketing and customer attraction techniques based on their customers' personal preferences. One of these techniques was to offer a wide variety of tobaccos with different flavors and waterpipes with different shapes.

There are different tobaccos with different fruit flavors. We offer them to our customers in order to satisfy them. (Worker in hookah bars, male, 27 year old)

Some participants referred to the beautiful interior decoration and the pleasant environment of hookah bars as significant factors contributing to WTS by young women.

Our hookah bar has a pleasant environment and nice atmosphere and hence, attracts many people, particularly families and women. (Worker in hookah bars, male, 27 year old)

Another participant said,

The interior decoration of hookah bars is really luxury. They use colorful or wooden decorations and use different colors for decoration. Such decoration tempts me into going there and smoking waterpipe. (Former smoker, 20 year old)

Some participants noted that special discounts on waterpipe, for instance discount for students, tempt even those people who do not intend to smoke waterpipe into WTS.

We had gone to a traditional restaurant for launch. We never intended to smoke waterpipe. However, they offered discount on waterpipe for students and hence, we tested waterpipe for the first time. (Current smoker, 22 year old)

In addition to waterpipe, hookah bars offer different services to attract customers. Examples of these services are traditional foods, different drinks, confections, nuts, free high-speed internet, and live music. Such holistic approach to service delivery satisfies different needs of customers at a single time and place and hence, causes them to refer to those places again.

Here, we both enjoy live music, use free high-speed internet, have our foods, and smoke a nice waterpipe after food. In addition, they serve us with confections and nuts. We also drink tea with candy in order to prevent blood pressure decline. With all these services at a single place, why should we go to another place? (Current smoker, 16 year old)

As another customer attraction technique, hookah bars also provide their customers with a safe and private place for other recreations such as group dance or intimate circles.

Bowers in hookah bars provide you with a private place to be with friends. There, you can hold celebrations and dance without any disturbance. Certainly, we also need to order waterpipe. (Current smoker, 17 year old)

Another customer attraction technique of hookah bars is to provide a place for hidden norm violation. Intimate relationships among friends of opposite genders are against social norms in Iran. Hookah bars attempt to attract more customers by offering private places for such relationships and WTS.

I cannot spend time with my boyfriend in the society because the society forbids me. Thus, I have to come here to have a private place to be with my boyfriend. Here, they offer us waterpipe and we have no option but to use it though my boyfriend and I are not interested in WTS. (Current smoker, 23 year old)

The other technique used by hookah bars is telephone-based waterpipe delivery services locally called "Hallo waterpipe". Such services make WTS easily accessible.

Hallo waterpipe is a new service which has recently introduced. You order a ready-to-use waterpipe over the phone and they bring it to your address. You can use it for several hours. (Current smoker, 16 year old)

2. Media advertisement or silence

The two subcategories of this main category were media advertisement for WTS and mass media silence respecting WTS.

2.1. Media advertisement for WTS

According to the participants, WTS advertisement, particularly in non-official media such as the Instagram and Telegram, is sometimes effective in tempting young women into WTS.

For the first time, I heard about the “Hallo waterpipe” service in the Instagram. Afterwards, whenever I was not in mood for going out, I called a “Hallo waterpipe” provider and they immediately brought me a ready-to-use waterpipe. (Current smoker, 18 year old)

2.2. Mass media silence respecting WTS

Some participants referred to mass media silence as another factor contributing to WTS by young women. They noted that there are no well-organized WTS-related educational programs in the national media.

The mass media has adequately covered addictive drugs such as marijuana so that the public has completely been informed about its harmful effects. However, there are limited educational programs on WTS in the television and they did not cover the whole reality of WTS in their movies. (Current smoker, 26 year old)

Participants noted that not only the mass media treats WTS with silence, but also shows movies and serials which promote WTS.

For instance, a popular serial depicted an actress who was smoking waterpipe in a family circle. Such depiction of WTS by a woman promotes WTS among people, particularly girls. (Current smoker, 22 year old)

On the other hand, some participants referred to anti-WTS campaigns in media in which well-known artists and athletes give anti-WTS messages to the public.

The “Turn waterpipes into flowerpots campaign” was very good. The administrators of this campaign employed artists and athletes and I think it was effective in sensitizing people to WTS. These programs can broaden people’s knowledge about the harmful effects of WTS and thereby, can reduce WTS. (Mother, 42 year old)

3. Common sociocultural traditions

Another main sociocultural factor contributing to WTS was common sociocultural traditions. This main category included two subcategories, namely WTS as a norm transgression and social acceptance of WTS by women.

3.1. WTS as a norm transgression

Our participants’ experiences showed that WTS by girls and women is considered as deviation from social norms in some areas.

WTS by girls is not approved by our society; yet, some girls go to hookah bars for this deviant behavior. (Female teacher, 50 year old)

3.2. Social acceptance of WTS by women

In some communities in Iran, WTS is traditionally used in different parties and ceremonies. In fact, WTS is more acceptable than other tobacco-smoking methods in the Iranian society. Some participants noted that their WTS behavior was formed by such traditions.

When I was a child, I went to a religious memorial ceremony where there was a row of waterpipe for old women. There, I was tempted into WTS and smoked waterpipe for the first time. (Current smoker, 14 year old)

Some participants recommended the use of healthy entertainment activities in ceremonies as a strategy for reducing the social acceptance of WTS by women.

In our night parties, we play traditional games. Brain games are also good substitute for WTS. Such games can reduce the acceptance of WTS in the society and families. (Mother, 39 year old)

4. Governmental policies and regulations

Ineffective enforcement of WTS-related regulations and inadequate supervision of the production, import, and export of tobacco, along with inadequate control over WTS in hookah bars significantly contribute to the increasing prevalence of WTS among women. The two subcategories of this category were ineffective enforcement of WTS-related regulations and inadequate supervision of tobacco production, supply, import, and export.

4.1. Ineffective enforcement of WTS-related regulations

Some participants noted that the wide variety of WTS-related regulations and their ineffective enforcement have reduced WTS providers' and users' compliance to these regulations.

They enacted a regulation which forbade WTS. Then, another regulation was enacted to make WTS in hookah bars legal. After that, they re-forbade WTS. Such non-strict regulations cause both WTS providers and users not to take the regulations serious and thus continue WTS. (Smoking control staff, male, 33 year old)

According to the participants, WTS-related regulations are just enacted and are not effectively enforced.

Regulations forbid the selling of tobacco to people under eighteen. However, such regulations are not effectively enforced. (Boyfriend, 23 year old)

Non-strict regulations and their ineffective enforcement have significantly increased the number of hookah bars in Iran and made WTS services more easily accessible.

Hookah bars are available everywhere. For instance, there is several traditional hookah bars near our university, where we easily access and smoke waterpipe. Such easy access to WTS services has promoted WTS among us, the girls. (Current smoker, 19 year old)

Poor tax policies on tobacco has also made WTS less expensive than the other types of recreational activities in Iran.

WTS is the most cost-effective recreational activity. There is no high tax on WTS and most people can afford it, while not everybody can afford the costs of going to amusement parks. (Current smoker, 25 year old)

4.2. Inadequate supervision of tobacco production, supply, import, and export

Some participants attributed the increasing prevalence of WTS in Iran to governmental support for tobacco use.

The government can easily eradicate WTS like the eradication of many other things; however, it unfortunately supports it because tobacco is a domestic product. (Current smoker, 22 year old)

Ineffective supervision of the enforcement of regulations related to tobacco production, supply, import, and export also significantly contributes to the prevalence of WTS among young women.

We have fundamental problems. The easy and non-supervised import and export of tobacco increase WTS in our country. (Current smoker, 25 year old)

Moreover, regulations and supervisions of WTS by women are not effective and hence, stricter policies are needed to reduce WTS prevalence among women.

The cancellation of WTS in hookah bars and restaurants is impossible. The government needs to develop more effective policies. For instance, the creation of more employment opportunities for young people by the government can help reduce WTS prevalence. (Current smoker, 26 year old)

Discussion

This was among the handful of qualitative studies which explored sociocultural factors contributing to WTS among young women in Iran. Findings revealed that the main sociocultural factors contributing to WTS among young women in Iran were waterpipe glamorization by its producers and sellers, media advertisement or silence, common sociocultural traditions, and governmental policies and regulations.

Findings indicated that waterpipe producers use different techniques to glamorize waterpipe and its accessories in order to tempt people into WTS. Similarly, a former study reported that the key success factor of tobacco industry is innovations in tobacco products and tobacco-using devices (26). Factors such as innovative designs for tobacco packing and flavoring are also effective in attracting young

people and women to tobacco smoking (33, 34). These findings denote that the tobacco industry use subtle and innovative techniques to attract women's attention and tempt them into WTS.

Besides innovative techniques used by waterpipe producers, our findings indicated that WTS providers also use different techniques to market WTS, attract more customers, and tempt young women into WTS. In line with these findings, previous studies found that the owners of restaurants and coffee shops consider WTS as a profitable business and hence, use different techniques to compete with each other for attracting more customers (26, 34). Our participating young women referred to the beautiful interior decoration and the pleasant environment of hookah bars as factors tempting them into WTS. Previous studies also reported the role of environmental decoration and lighting in attracting people to hookah bars and tempting them into WTS (26, 33).

Our findings also showed that hookah bars attempt to attract more customers through providing other services such as traditional foods, different drinks, confections, nuts, free high-speed internet, and live music. This is in line with the findings of two studies in the United States which showed that hookah bars provide their customers with services such as different music, foods (33, 35), alcoholic drinks, coffee, tea, free internet services, dancing opportunities, and computer services for student customers to do their homework (35). The "Hallo waterpipe" service was another factor contributing to WTS among young women in the present study. An earlier study also reported the same finding (34). Special discounts on waterpipe, particularly for students, were another finding of the study. To the best of our knowledge, none of the previous studies in this area reported waterpipe discount for students.

Some of our participants attended hookah bars and smoked waterpipe in order to violate social norms. For instance, they chose hookah bars because these places provided them with private places for dancing or spending time with their intimate friends along with offering waterpipe. Evidence also confirms that going to traditional restaurants and coffee shops increases the likelihood of WTS (30, 35). Some of our participants considered WTS by women as a norm transgression. Similarly, a former study reported that WTS by women is a shameful deviant behavior which is against social norms and noted that women who smoke waterpipe are not dignified (30).

Findings showed that media advertisement was another factor contributing to WTS among young women. Some TV shows depict women who smoke waterpipe and thereby, promote WTS. Moreover, non-official media, such as Instagram and Telegram, displays advertisements for WTS. A study reported that the image of waterpipe advertised by media was attractive, sexy, and soothing (26). Another study showed that the Instagram and other social networks promote WTS through depicting positive images and relating it to glamorous lifestyle, disco attendance, alcohol consumption, and sexual allure (36). Moreover, compared with videos on cigarette smoking, WTS-related videos are more commonly watched, liked, and commented in YouTube (37). In social networks, waterpipe smokers share posts about their WTS and are exposed to WTS posts shared by their friends (38). Tobacco and waterpipe companies also resort to non-official media for advertising their products. At the same time, official media silence about

WTS fuels misconceptions about the fewer harmful effects of WTS compared with cigarette smoking (23, 39), and thereby, promotes its use by different people, including women.

Although some of our participants considered WTS by women as a violation of social norms, some other participants noted that the traditional use of waterpipe in some areas promotes WTS by women. Our participants also referred to WTS in some family circles and parties. WTS is also common in both wedding and burial ceremonies in some other countries, where lots of young people are present (39). Many Iranians view WTS as a recreational activity and do not have negative attitudes toward it. Similarly, a study in Syria reported that although cigarette smoking is a social taboo, WTS is considered as a socially acceptable traditional experience (40).

Study findings also indicated ineffective enforcement of WTS-related regulations and inadequate supervision of tobacco production, supply, import, and export as factors contributing to WTS among young women. In line with these findings, a study reported that despite protective policies and regulations for limiting adolescents' access to tobacco, these policies and regulations were not effectively enforced because tobacco sellers had close relationships with some governmental authorities and were able to conduct their illegal business(39). Another study reported that unclear, unstable, and non-strict WTS-related regulations in different countries have facilitated people's access to WTS and have given them misconceptions about WTS safety (41). The World Health Organization introduced the Framework Convention on Tobacco Control (FCTC) in order to control tobacco use throughout the world. Although many countries, including Iran, accepted to adhere to this convention, not all these countries show close adherence to it. Moreover, tobacco control policies in the Eastern Mediterranean region mostly focus on cigarette smoking control (42).

Most participants referred to the low price of WTS as a significant factor contributing to their WTS. One of the reasons for the inexpensiveness of WTS in Iran is low tax on tobacco products. Comparison of the Eastern Mediterranean countries respecting tobacco control programs revealed that Iran obtained the highest score for the MPOWER six policies on tobacco control; nonetheless, Iran has not completely been successful in enforcing the smokeless environment law and imposing tax on tobacco products (43). In line with our findings, a study reported that the low price and the easy accessibility of WTS significantly contribute to its high prevalence (34). However, a study on students at a university in the United States reported the expensiveness of WTS as a barrier to its use (35). This finding confirms our findings regarding the significant contribution of WTS low price to its wide use in Iran.

Strengths and weaknesses

Some hookah bar owners were reluctant to participate in the study because they were concerned with the negative effects of their participation on their business. Moreover, participating women might have shared mostly their socially desirable experiences and avoided to share some aspects of their real-world experiences due to the sensitivity of the study subject matter. On the other hand, one of the strengths of the study was the wide diversity of the study participants respecting their ethnicities, educational levels, and sociocultural status. This wide diversity improved the generalizability of the study findings.

Conclusion

This study concludes that WTS among young women in Iran is affected by a wide range of sociocultural factors, including waterpipe glamorization by its producers, different customer attraction techniques used by WTS providers, common WTS-related sociocultural traditions, people's misconceptions and lack of knowledge about WTS due to media advertisement and silence, and governmental policies and regulations. The diversity of WTS-related factors highlights the importance of using interdisciplinary context-based multidimensional strategies for its prevention. These strategies may include public education through media, strict supervision of tobacco and waterpipe import, export, and selling, ample employment opportunities for young people, careful planning for young people's leisure time, high tax on tobacco, and strict regulations for banning tobacco provision to adolescents, preventing WTS in public places, and preventing tobacco advertisement.

Abbreviation

WTS: Waterpipe Tobacco Smoking

MPOWER: Monitor tobacco use and prevention policies, Protect people from tobacco smoke, Offer help to quit tobacco use, Warn about the dangers of tobacco, Enforce bans on tobacco advertising, promotion and sponsorship, Raise taxes on tobacco

Declarations

Ethics approval and consent to participate

This study has been reviewed and approved by the Ethics Committee of Isfahan University of Medical Sciences (No.IR.MUI.REC.1395.3.46).

Informed consent forms were obtained from the participants in written form. Also informed verbal consent was obtained from a parent or guardian for participants under 16 years old.

Consent for publication

Consent for publication was included in the consent for participation form.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

ZM contributed to development of research protocol, conducted and transcribed interviews and data-analysis and drafted the manuscript. FZA supervised the study and scientific integrity of data collection and analysis, critical review and revision of the manuscript. FM and SB was advisor to the study, contributed to the interpretation of data and revising the manuscript. Contributed in the study design, led the data analysis and provided feedback on the manuscript. All authors read and approved the final manuscript. RK was involved in critical review, intellectual content, and revisions of the manuscript. All authors have read and approved the final manuscript.

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Tables

Due to technical limitations tables 1 and 2 are available as a download in the Supplementary Files.

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