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Explaining the determinants of hookah smoking cessation among southern Iranian women: a qualitative study

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ABSTRACT

Background: Hookah smoking has been increasingly popular in Iran within the last two decades. The present study aims to explain the determinants of hookah smoking cessation among southern Iranian women in Bandar Abbas.

Methods: The present study is a pioneering qualitative research that employed a conventional content analysis to explore factors affecting the hookah smoking cessation between 2018 and 2019. In total, 36 in-depth, semi-structured interviews were held with experienced individuals (15 women with successful cessation and 21 women with unsuccessful cessation) who 15 maximally diverged in terms of age, education, and occupation, from different geographical areas of the city. The interview process went on until the data were satiated. The required data were then analyzed qualitatively in MAXQDA.

Results: Overall, six major categories were extracted. They included incentive background, need for freedom, control of external stimuli, religious norms, self-efficacy, and political factors. **Conclusions:** As the results showed, there were many external factors affecting the decision to quit or cut down on the rate of smoking hookahs. Catering for the required conditions and factors to strengthen the promotive ones and perceived threats, spiritual support and self-efficacy can effectively help successful cessation or reduction programs of hookah smoking.

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Introduction

Hookah smoking has been increasingly used within the last years in Iran. This increasing rate has been even higher in the southern areas of the country (Danaei et al., 2017; Nemati et al., 2017). These southern areas include Hormozgan which is located in the southernmost borders of the country and lies near Saudi Arabia, Kuwait, and UAE and are known for the prevalence of hookah smoking (Tavafian et al., 2009). Hormozgan ranks third in the country for the prevalence of hookah smoking (Nemati et al., 2017). A comparison of male and female residents of Hormozgan Province showed that the rate of hookah smoking was higher in the latter (Aghamolaei et al., 2010; Ghanbarnejad et al., 2012).

In an epidemiological study, the prevalence of hookah smoking among Iranian women was estimated in Sistan (16.8%), in Bushehr (14.8%), and in Hormozgan (10.3%) (Nemati et al., 2017), which shows a two- to threefold increase in the use of hookah among Iranian women compared to 8.7% in Eastern Mediterranean Women (Azab et al., 2012), 4% in Lebanese women (Chaaya et al., 2004), and 4% in Pakistani women (Khan et al., 2015).

Hookah is not a safe alternative to cigarettes. Research suggests that hookah's complications are equal or even worse than cigarettes (Radwan et al., 2012; Sepetdjian et al.,

2012). Salameh et al. in a study showed that the effect of hookah in women is higher than in men (Salameh et al., 2012). Hookah smoking in women is associated with increased risk of early menopause, decreased bone density, infertility, ectopic pregnancy, increased infant mortalities and morbidity, intrauterine growth restriction, and increased chromosomal abnormalities (Sarokhani et al., 2017; Tansaz et al., 2016).

This increase in the rate of hookah smoking along with its complications makes it more necessary than ever to take urgent and effective measures to reduce this unhealthy behavior. In order to achieve this goal, identifying the effective factors in quitting and reducing the use of hookahs is essential and important. Identifying these determinants can be helpful in designing effective strategies and interventions to reduce the use of hookah. In general, very few studies have examined this unhealthy behavior, and yet these limited studies have focused on determinants of hookah smoking (Dadipoor, Kok, Aghamolaei, Ghaffari, et al., 2019; Nakkash et al., 2011). These two studies have not addressed the determinants of quitting/reducing hookah smoking, but rather they have addressed the determinants of using hookah. Based on our investigation and search of various databases, no study was found that quantitatively or qualitatively examined the determinants of cessation/reduction

of hookah smoking among women or other public populations. There is little information and knowledge about the factors associated with cessation/reduction of hookah smoking in research records. Therefore, conducting such research is inevitable and necessary to fill this gap in scientific research. It seems that there is a need for deep and accurate information derived from personal experiences of individuals in order to better identify the determinants of cessation/reduction of hookah smoking. Therefore, the present study is the first study that aimed to explain the determinants of hookah smoking cessation among women in Bandar Abbas, southern Iran.

Methods

This study was carried out using a qualitative content analysis approach. The present researcher used only individual interviews as, based on several interviews conducted as a pilot in order to assess the items, most of the participating women wanted to provide information in a private setting. Therefore, the focus group method was not used in this study, and the data were collected by face-to-face interviews.

Participants and recruitment

In total, 36 interviewees, 15 successful female quitters and 21 unsuccessful female quitters, who were also participants of a previous research (Dadipoor, Kok, Aghamolaei, Heyrani, et al., 2019), were the source of data in this study.

The criteria for entering the study included (1) passing of more than 6 months from successful hookah cessation or having the history of failure in hookah cessation attempt and (2) not using other tobacco products than hookah, being the native of Bandar Abbas, and having the ability to communicate and the desire to express personal information. The exit criteria included the interviewee's reluctance to continue the interview and the poor quality of the interviewee's information regarding the study subject.

Interview guide

In the interview procedure, a first draft of the interview guide was first designed which consisted of two parts, one enquiring about participants' demographic information and the other exploring the overt and covert causes of quitting or cutting down on hookah consumption. Having conducted the first five interviews, the feedback received from the participants was used to develop the final version of the guide. Then, the next interviews were held, each beginning with five primary questions in the guide along with several follow-up questions to look into the details. Moreover, there were certain probe questions aiming to look into the depth of the matter. Once the first draft of the guide was developed, a panel of five experts in qualitative research reviewed the guide to check the validity.

Data collection

The sample selection methods were snowball and purposive. It was attempted to include the highest variation in age, occupation, and education from different parts of the city.

At first, eight regions were selected located in different parts of Bandar Abbas (from the north, south, east, and west). These needed to be among the most famous regions for hookah smoking. Once permission was gained from the local council, the first woman participant was selected. The time and place of the interview were set and the interview was held accordingly. The interviews were concurrent with those conducted in our other research (Dadipoor, Kok, Aghamolaei, Heyrani et al., 2019) held in a quiet place such as a mosque or house and were voice-recorded. The interview content was tape-recorded. The data collection procedure was set in a quiet place such as a home or a mosque. The data collection continued until data satiation occurred and no new information was provided by the interviewee. To ensure there would be no more codes added, five interviews were made repeatedly. The interviews lasted between 45 and 80 minutes.

Methodological considerations

It was attempted to increase the validity of findings in three ways: (1) Allocating sufficient time to data collection (July 2018–May 2019), (2) Findings were reported back to a sample of participants for revision. After obtaining their feedback, no particular change was made to the data. (3) The data were sent to two colleagues (AH and MG) who were experienced in qualitative research. And their comments were used for the revision process of categories and sub-categories. To add to the validity of results, the categories, sub-categories, and exemplary codes were submitted to two scholars (Dr. Shirin Shahbazi Sighaldeh and YR), who were not in the main process of research. Their feedback was received to make further revisions. Their comments were occasionally different from those of the present researchers. The disagreement was attempted to be settled by referring back to the first interviews' content. Generalizability of the results was increased through a full description of the context of the study, full description of participants' features, data collection, and analysis procedure in systematic stages along with extracts from participants' accounts and a full description of the limitations and delimitations.

Analysis

All interviews were audio-taped and transcribed verbatim with participants' permission and then coded through the conventional content analysis method by SD. The interviews were reviewed independently by SD and TA line-by-line with an open coding approach to identify the overt and covert concepts in the comments of participants. With the advancement of the analysis process and the repeated study of the extracted codes and classes, the similarities and differences between them were distinguished and the classes were separated from each other according to their characteristics and dimensions. Finally, through the constant comparison of the classes, sub-categories were formed and some of them were integrated with each other and the main categories were extracted. The SD and TA reviewed all the extracted codes in several meetings and discussed and examined the extracted

categories and sub-categories. They had an agreement about the majority of categories and sub-categories, and there were only a few cases where their views were contradictory. They tried to solve this problem by referring to the initial interviews and reviewing the codes. The extracted codes were managed through MAXQDA software version 10.

Ethical consideration

This study is approved by the Ethics Committee of Hormozgan University of Medical Sciences with the code: IR.HUMS.REC.2018.249. Before conducting the interviews, the interviewer tried to make an appropriate relationship with the interviewees by giving an introduction about herself, her education, the purpose of the research, the confidentiality of participants' names and the recorded conversations, the reason for selection of the interviewee, and the reason for obtaining informed consent from the interviewee and the recording of their voices.

Result

The participants' characteristics

Of the 47 women invited to be interviewed, 36 agreed to participate in the study and 11 refused to participate in the study because of their disagreement with the recording of their voices and their opposition of their spouses. The participants aged between 15 and 67 years with an average age of 40 ± 16.20 years and had a history of hookah smoking between 6 months and 46 years. Other information can be seen in Table 1.

Table 1. Demographic characteristics of sample.

Variable	Years	(Number, percentage)
Age of the participant	15–25	9 (25)
	26–35	7 (19.4)
	36–45	3 (8.3)
	46–55	6 (16.7)
	55–65	10 (27.8)
	66–75	1 (2.8)
Marital status	Single	4 (11.1)
	Married	16 (44.4)
	Divorced	8 (22.2)
Occupation status	Widowed	8 (22.2)
	Housekeeper	25 (69.4)
	Employed	10 (27.8)
Education	Retired	1 (2.8)
	Illiterate	8 (22.2)
	Primary school	6 (16.7)
Residence	High school	5 (13.9)
	Diploma	9 (25)
	University degree	8 (22.2)
Successful cessation	North	11 (30.6)
	South	10 (27.8)
	West	6 (16.7)
	East	4 (11.1)
	Center	5 (13.9)
Unsuccessful cessation	Less than one year	2 (13.3)
	1–3 years	4 (26/66)
	3–5 years	3 (20)
	5–10 years	5 (33.33)
	Over 10 years	1 (6.66)
Unsuccessful cessation	Less than a month	3 (14/28)
	1–3 months	10 (47/61)
	3–6 months	7 (33.33)
	More than 6 months	1 (4.76)

Initially, 494 codes were extracted. When they were compared and those alike were omitted or integrated, they finally made 271 codes, 16 sub-categories, and 6 categories.

In total, six main categories were extracted: (1) Incentive backgrounds; (2) The need for liberation; (3) Control of external stimuli; (4) Religious norms; (5) Self-efficacy; and (6) Political factors. Since there was a high volume of data in this study, addressing all categories were not possible in a single study, so only four categories were discussed in this paper. The other two categories (Control of external stimuli and Political factors) will be discussed in another paper.

The quotes were described based on the age and type of cessation (successful, unsuccessful) and the duration of cessation.

Category 1: Incentive backgrounds

This category was one of the broadest and most important categories in cessation/reduction of hookah smoking, which included several sub-categories, such as the existence and advice of influential people, family support, meeting psychosocial needs, and increasing knowledge. Each of these sub-categories was supported by the quotes of the participants in (Appendix 1).

Category 2: The need for liberation

Another main category that emerged from this research was the need for liberation, which consisted of two sub-categories of perceived risk and being tired of the present situation, which were supported by the quotes of the participants in (Appendix 1).

Category 3: Religious norms

Another important factor contributing to the cessation and reduction of hookah smoking was religious norms. The participants believed that strong belief in God and Relying on the Imman helped them in the successful quitting of the hookah. The majority of women contributed their successful hookah cessation to God's will and help. They stated that they failed each time they attempted to quit hookah, but by believing in God and asking for his help, they found more power within themselves and were able to successfully quit hookah.

In confirmation of the above statements, a participant with successful cessation (15 years) stated:

I quitted many times and again I was tempted to smoke, until I went to Hajj and I prayed and begged Allah to help me get away from hookah temptation. I believe in God's and Imams, so when I came back from pilgrimage of the Hajj until now, it is 15 years that I have stooped hookah smoking. I am sure without God's help I would have been tempted again.

Category 4: Self-efficacy

Another major category that emerged from data analysis was the self-efficacy. Most participants considered the ability and skills of people in hookah cessation as important. They believe that hookah cessation is done only with confidence in the ability and skills of individuals. The participants believed that

women should be more stubborn and serious in stopping hookah and should believe in their abilities.

You must be willing to quit hookah, otherwise nothing and nobody can force you to quit it. You must first trust yourself that you can do it. I saw my friend smoking hookah for a long time, but she could quit it, so I told myself I can quit it too. I have the ability to do it. The first and second days were hard, but I did it thanks to God." (43 years old, successful cessation, 7 months)

Discussion

The present study is the first study that identified the determinants of hookah smoking cessation with a qualitative approach. In the present study, four categories were discussed and analyzed: incentive backgrounds, the need for liberation, religious norms, and self-efficacy in cessation or reduction of hookah smoking.

As shown by the results, the advice of loved ones had led to the quitting of women. It seems that these loved ones have succeeded in creating a motive in the participants for quitting hookah. Also, most women who have had long periods of unsuccessful quitting attempt pointed to the advice of mother and spouse to quit hookah. In this regard, a study reported the advice of others as one of the most important factors in smoking cessation (Shamsipoor et al., 2013). Perhaps one can claim that one of the important factors that can persuade people to stop hookah is to create strong motivation in them by the advice of their loved ones. A study found that those who are motivated to stop smoking are four times more likely to quit it than those with low motivation (Levshin & Slepchenko, 2017).

Parent and spouse was another factor in encouraging women to quit or reduce the use of hookah. Perhaps one can argue that family support and care is, in some way, an expression of the concept of social protection, which is one of the main theoretical concepts used in smoking cessation in families (Westmaas et al., 2010). The family's supportive or unsupportive behavior has a significant effect on the individual's intention to desire or quit smoking (Hubbard et al., 2016). In this regard, many studies have considered the family support in smoking cessation as a major contributor (Echer & Barreto, 2008; Hubbard et al., 2016). It seems that social support can play a vital role in smoking cessation. In explaining this finding, it can be said that, in cases where an individual faces difficulty or stress, the social support of the people in an informal setting can help the person in coping with the problems and stresses, and as a result, the person would be able to manage his or her stress and problems.

Most participants considered good economic status to be effective in helping to quit or reduce the use of hookah. Studies have highlighted the high economic status as one of the most important predictors of tobacco cessation (Van Loon et al., 2005). Another study showed that smoking cessation is more successful in women with higher economic status (Alam et al., 2010). It may be argued that economic deprivation, by increasing emotional stress, is an important factor in reducing the incentive toward quitting of hookah. In other words, economic deprivation can be an obstacle to the successful cessation of hookah.

The results of this study showed that high self-esteem was one of the most effective factors in quitting or reducing the use of hookah. In explaining this finding, we can say that people with higher self-esteem are more likely to be respectful of their valuable health. On the other hand, low self-esteem may well create a ground for committing high-risk behaviors, such as the use of hookah. Studies have confirmed the impact of low self-esteem on tobacco use (Khosravi et al., 2016; Saari et al., 2015).

Women's amusement was another factor that encouraged them to quit or reduce the use of hookah. In this regard, a study has shown that unemployment reduces the chances of smoking cessation, and contrary, engagement in a professional job can increase the chances of smoking cessation (Waldron & Lye, 1989). In explaining this finding, we can argue that people who are unemployed are more likely to experience more free time, so they are more likely to go to hookah houses to spend time.

Awareness about the harms of hookah was another factor that encouraged women to quit hookah. In this regard, a study has shown that the increase in hookah smoking among women is due to the lack of awareness about hookah's harms (Saeed Firoozabadi et al., 2015). Another study showed that pregnant women in their second pregnancy showed a greater tendency to quit smoking than nulliparous women, as they were more aware of the harms of hookah (Yunis et al., 2007). It can be said that raising awareness about the harmful consequences of hookah smoking or the beneficial effects of hookah cessation can facilitate hookah cessation.

Most participants with successful cessation, in particular older women, managed to stop smoking hookah by learning about the complications of hookah. It can be argued that those who understand the harmful effects of hookah are more likely to have a stronger motive to stop it. In this regard, it can be said that hookah consuming women have experienced more physical problems at older age, which have been complemented with the negative complications of hookah. As a result, health concerns have led to an increase in their motivation to quit hookah. In a study, health concerns were the most important factors in smoking cessation, so that nearly 64.3% of smokers with chronic illnesses have been trying to quit smoking, which almost 21.0% of them successfully quitted (Im et al., 2015).

Getting tired of the current situation was another factor that affected the successful hookah cessation in women. Often the women, after smoking hookah for years and missing the short fun that come from smoking hookah and also making several attempts to quit the hookah, had come to a point where they were tired of everything and everyone and were filled with hopelessness and despair. Therefore, in such situation, they were looking for a way to escape from these conditions, and the thought of quitting hookah was forming in their mind.

According to the results of the present study, religious norms have also played an important role in quitting hookah. The women referred to relying on God and believing in the Imams as an important factor in quitting hookah smoking. A study found that the majority of people consume less tobacco during religious activities (Sharma, Suman, Manjula, Marimuthu, & Ahmad, 2011). Another study showed that spiritual support overcomes nicotine dependence (Echer & Barreto, 2008). It can be argued that spiritual beliefs can be a facilitator to

smoking cessation. In this regard, it can be said that probably people who have strong religious beliefs, as a result of their closeness to God, experience more calmness that results in less anxiety and depression in them, and in situations of psychological pressure, they rely on God and take less high-risk behaviors such as smoking.

According to the results of this study, self-efficacy was another factor affecting the cessation of hookah. Self-efficacy is defined as one's belief in own ability to perform a successful behavior and is a vital and influential structure, which has been emphasized in educational theories (Bandura, 1977). Studies by Dadipoor, Kok, Aghamolaei, Heyrani, et al. (2019), Kim (2006), and Bashirian et al. (2019) investigated the factors that affect continuous consumption of hookah and cigarette using various behavioral theories and showed that self-efficacy was an important factor in predicting smoking cessation, and also, it has a significant relationship with nicotine dependency behavior.

Limitations and future research

There were some limitations to this study. Since the interviews were face-to-face, the participants might have provided responses that were socially acceptable. An experienced interviewer with high social skills and interviewing in a private environment could have somewhat reduced the risk of socially acceptable responses. Like other qualitative studies, researchers' beliefs might have influenced the process of study from conceptualization to engagement with participants and interpretation of data (Kuper et al., 2008). However, in this study, the researcher used an exploratory inductive approach and allowed the extraction of classes and sub-classes to be directly derived from the participants' statements. On the other hand, it is possible that the interviewees' views have not covered all the factors affecting the smoking of hookah, so in order to eliminate this limitation the interviews were continued until data saturation. It can also be pointed out that extracted classes may not be generalizable to populations of other regions. Failure to compare the results of this study with similar studies due to the lack of related studies was another limitation of the present study. The need for further research to extend the study results to other people with a different cultural and environmental context is suggested. It is also suggested that researchers in future studies investigate the factors affecting the ongoing attempts of hookah cessation and examine the deterrent factors that affect unsuccessful hookah cessation.

Conclusion

The results of this study indicate that external facilitators have a significant influence on the decision to stop or reduce the consumption of hookah. Providing conditions that enhance motivation and increasing perceived threat, spiritual support, and self-efficacy can be effective in reducing or quitting hookah successfully.

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