**Introduction**

One of the objectives of healthy people by 2020 is to focus on quitting smoking (1). Hookah use is the second global epidemic after cigarettes (2). Further, it is one of the most important global issues today, especially in the Eastern Mediterranean countries such as the Arab countries, Turkey, and Iran (3) so that the eastern Mediterranean regions have the highest hookah use, which has had an increasing trend in the last two decades (4-6). Some systematic studies and meta-analyses reported the relationship between smoking-related diseases (i.e., leukemia, stomach cancer, lung cancer, oral cancer, cardiovascular disease, respiratory disease, and low birth weight) and hookah use (5, 7). In addition, the hazards of hookah use can be more significant than smoking (8, 9). In Iran, women are more restricted in smoking than hookah (10). The results of a large survey in 2007 in Iran showed that 82% of women smoke tobacco using hookah so that hookah use has become extremely common among Iranian women (11). In a study by Danaei et al in Kerman, most men intended to quit hookah and continue smoking (4). In Hormozgan a study reported that hookah use among women was higher than among men (12, 13). In an epidemiological study, the hookah use among women was 16.8%, 14.8%, and 10.3% in Sistan, Bushehr, and Hormozgan, respectively (14). Hookah use among Iranian women is 2-3 times higher than women in the Eastern Mediterranean (8.7%), Lebanese (4%), and Pakistani (4%) women (15-17).

The increasing trend of hookah use, given its side effects, has revealed the need for immediate and effective measures to reduce this unhealthy behavior more than ever. For this purpose, it seems that identifying factors affecting hookah use, including psychosocial factors, can help design effective strategies and interventions to reduce hookah use as much as possible. Although useful data can be obtained from conducting a study, they are not derived from the personal experiences of individuals.

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**A Qualitative Content Analysis of Psychosocial Needs Affecting Hookah Use by Women**

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**Abstract**

**Background:** Hookah use has become highly popular among Iranian women. The objective of the present study was to identify the psychosocial factors affecting hookah use by women during 2018-2019 using a conventional content analysis approach.

**Materials and Methods:** Participants were invited to participate in a semi-structured interview by the purposeful method with maximum diversity in terms of age, education, occupation, hookah use status, and geographical areas of the city. Data were collected through in-depth individual interviews and analyzed through content analysis. The interview continued until obtaining no new category. Software MAXQDA (version 10) was used for data analysis.

**Results:** In general, 36 participants were interviewed based on the study aim. In this study, the focus was on the category of psychosocial needs, including 9 subcategories of searching for peace of mind, inner gap, physical and psychological dependence, need for recreation, curiosity, tendency to express oneself, attraction, satisfaction, companionship and competition with others, leisure time, pleasure, and inexperience.

**Conclusion:** Several psychosocial factors were effective in hookah use among women. Providing the necessary recreational facilities for women and families and training life skills can be effective in reducing hookah use.

**Keywords:** Hookah, Qualitative research, Smoking, Tobacco, Water-pipe, Woman
It seems that accurate data derived from personal experience are needed to accurately identify psychosocial needs affecting the use of hookah. Thus, the present study aimed to determine the psychosocial needs affecting hookah use among women in southern Iran.

Materials and Methods
This study was conducted using conventional qualitative content analysis. Data were collected through face-to-face interviews. The data of this study are part of a larger study, and only categorizes and subcategories of psychosocial needs are provided in this study.

In total, 36 participants were included in the study. The inclusion criteria were hookah use for more than six months, no smoking other than hookah, native to Bandar Abbas, ability to communicate, and willingness to express information. On the other hand, the exclusion criteria included the reluctance of the interviewee to continue the interview at the time of the interview.

Interview Guide
The interview guide consisted of demographic information (i.e., site of interview, date of interview, age, marital status, employment status, level of education, residence, and duration of hookah use) and obvious and hidden reasons for psycho-social needs of hookah use.

Data Collection
First, demographic questions were answered by all participants. Then, the interview was started with general questions, and the questions became more detailed with the progress of the interview. Purposeful sampling and snowball techniques were used given the maximum diversity in characteristics such as age, occupation, level of education, and different geographical areas of the city such as beaches, coffee shops, homes, comprehensive health centers, hospitals, universities, and university site. Sampling was continued until data saturation so that no new data were obtained from the interviews. The duration of the interviews was 45-80 with an average time of 60 minutes.

Rigor of Results
The researcher attempted to confirm the credibility of the results by the following methods:

Adequate time was devoted to data collection. The results were provided to a number of them. After receiving feedback from the participants, no significant change was found in the data. Moreover, data were sent to two colleagues who had experience in qualitative research. The categories and subcategories were reviewed and corrected based on their feedback. To confirm the reliability of the results, categories, v and a sample of codes were sent to two out-of-study experts. Some of the opinions of these experts contradicted those of the researcher colleagues. Therefore, it was attempted to resolve the conflict by referring to the initial interviews.

Data Analysis
All interviews were recorded and then transcribed on paper after each interview. After a careful initial study and analysis of the text of each interview, it was planned to conduct the next interview. The interviews were independently and line-by-line conducted by the two authors using the open-ended coding approach to identify explicit and implicit concepts for participants' descriptions. As the process of repeated analysis and study of the extracted codes and categories progressed, the similarities and differences between them were identified and the categories were distinguished from each other in terms of features and dimensions. Finally, through a continuous comparison of categories, some categories were merged, and the main categories were extracted accordingly. All the extracted codes reviewed about the extracted categories and subcategories were discussed during the sessions. The extracted codes were managed by data management software MAXQDA, version 10 text.

Results
The participants' characteristics
The participants aged were between 15 and 75 years and age of starting hookah smoking between 10-40 years old. The majority of participants were married (44.4%). Other characteristic can be seen in Table 1.

One of the categories was psychological and social needs, which had 9 subcategories as follows (Table 2).

1. Searching for Peace of Mind
For the youth, as hookah is usually used in friendly and family gatherings, it is more motivated to be happier and have fun than to relieve discomfort and gain peace of mind. However, in middle-aged women, when hookah is used alone, it is to reduce feelings of stress and discomfort and achieve relaxation.

“When I was upset, I would argue with my husband, use hookah, or if I would have a problem, I would be upset, I would use hookah, I would feel better, it would calm me down somehow.”

“Sometimes, when something went wrong, I used hookah; for example, to calm down. It was calming.” (36 years old)

2. Inner Gap
The inner gap was another factor that was important in hookah use. Negligence by others, lack of love, low self-esteem, and nostalgia have led to an emptiness in women, and they have attempted to fill the gap using hookah.

“When I used hookah, I wanted to make my gaps less. I had some shortcomings. Anyway, my husband was addicted. He did not pay attention to himself. I had no
3. Physical and Psychological Dependence

According to previous women users, hookah use is nothing but an excuse for recreation, pleasure, and relaxation because the women have become physically and mentally addicted to hookah, and this dependence is justified by attributing to external factors.

“Women who say they use a hookah for recreation, it is all an excuse. They do not want to accept that the minds and bodies of these women have become accustomed to hookah.” (75 years old)

A number of women who have used it in the past cited long years of use and body habits as the reasons for hookah use. According to them, women have become accustomed to hookah after many years of use. In the meantime, a number of young women users have mentioned the low history of hookah use as a reason for not being dependent on hookah and have pointed out that can quit hookah easily because they do not use a hookah for a long time. This somehow shows the role of physical and psychological dependence on hookah use.

“Most women have a long history of hookah use. They became somehow addicted to hookah. I was like that myself. I had a history of 20 years. My body and soul really needed it.” (58 years old)

4. Need to Recreation

One of the most important reasons for hookah use in this study was smoking for recreation during leisure time. The need for a device for recreation, especially during friendly or family gatherings with hookah smoking, is eliminated because hookah can be used in groups.

“Well, anyway, everyone has leisure time for recreation.” (27 years old)

“It is more for recreation, you come out, well, now, the port does not have a proper park; most of the recreation is the hookah.” (34 years old)

“Hormozgan Province is a little different from other provinces. Maybe other places have a lot of recreational centers, but we do not have any. You can go to the sea, once or twice a day, but not every day.” (41 years old)

“In my opinion, the most important reason for hookah use is to recreate and pass leisure time.” (28 years old)

5. Curiosity

Another important reason for starting hookah use was hookah use for curiosity. For the first time, they want to try the hookah themselves to find “what is this hookah?”, “How does it make sense?”, “What does it taste like?”, and “How do smoke rings get made and hookah straws come out?”

“I wanted to see how it was.” (18 years old)

“I wanted to see how I would feel.” (21 years old)

“The first time I smoked, it was with my friend. My mom was not home. I also secretly used hookah. I smoked with my friend. My mom would not allow me. When she was out, I prepared and used the hookah. They used it, and I was curious. I love the smell. I like to experience.” (25 years old)
6. Tendency to Express Oneself, Attract Attention, Satisfaction, Companionship, and Competition With Others

Some women, especially married women, experience hookah for the first time in a family gathering with their husbands or families. When a woman’s husband starts smoking a hookah or a hookah is smoked in their family gatherings, the woman starts smoking the hookah with her husband or their family gathering, and thinks of this as a kind of respect and expression of love for her husband and family. She does this because he is afraid that she will upset them by rejecting their compliments. This is more likely to happen early in the marriage when she is still not very familiar with her husband’s family and is more afraid of being upset, although it may happen years after the marriage, in which case, she is more committed to being with her husband leads to the adoption of this behavior.

The tendency to attract the attention of others and/or to prove oneself to one’s peers or one’s abilities to men was expressed as another reason for hookah use. According to the opinions of some participants, a lack of self-confidence caused by attention to disabilities and a lack of achievement of a strong identity are involved in adopting hookah use behavior because this behavior allows women to express their regrets that negatively affect their self-esteem with behaviors that attract the attention of others. Of course, some participants also believed that the tendency was to attract attention to an inner need that anyone might have in this regard.

7. Leisure Time

Hookah is typically used for family or friendly gatherings during leisure time (i.e., the hookah has become a means of passing leisure time). The following quotes are provided in this respect:

“In my opinion, one of the most important reasons for hookah use is passing leisure time.” (44 years old).

“When we were doing our work, we were sitting, we had nothing to do, we were preparing hookahs, and we were smoking together.” (52 years old).

8. Pleasure

“You know their body needs. They think of nothing just to enjoy the moment.” (32 years old)

“Because of that, you feel good for a few moments, you try something. Most pleasure that individuals experience is short, but because of that, they do it.” (37 years old)

9. Inexperience

“Sometimes it is for inexperience. For example, like me, my husband gave it to me. I did not think about anything. Because I had not thought about what he wanted to do.” (29 years old)

“Young age is very effective because we were at the age of puberty. We were in a situation where we could not even distinguish between good and bad. This is bad. You should not use it.” (46 years old)

Discussion

The present qualitative study was conducted to investigate psychosocial needs affecting hookah use. According to the results of the present study, internal gaps were among the psychosocial needs affecting hookah use. It can be imagined that women who feel emptiness from within attempt to fill it in various ways such as hookah use and create a feeling of inner satisfaction. In this regard, the findings of a study demonstrated that a significant percentage of respondents considered the feeling of frustration at the beginning of drug use to be important (18).

Another psychosocial factor influencing hookah use was the physical and psychological dependence on the hookah. In other words, they believed that hookah was addictive. Very few qualitative studies have addressed this issue, the results of which are consistent with a study by Afifi et al (19).

Another reason for using hookah was the need for recreation. For confirming our results, recreation was among the reasons for hookah use among women in some studies (10, 20). Majdzadeh et al in a qualitative study on 160 men and women showed that one of the reasons for individuals focusing on hookah is the deprivation of recreation and thus resorting to hookah for recreation (13). Ghafouri et al reported that the recreating aspect of hookah affected both the onset and continuation of hookah use (21). It seems that when women cannot have healthy recreation, they engage in this harmful behavior indoors, underground, and in public spaces.

In the current study, another reason for hookah use was curiosity. Participants wanted to know what it felt like to use a hookah. Consistent with the results of the present study, some other studies indicated that curiosity was one of the reasons for hookah use among women (10, 22). In a systematic review, curiosity was also one of the reasons for hookah use among women (23). Accordingly, professional hookah users are likely to exhale hookah smoke in various forms to show off their hookah smoking skills. This situation may be interesting for those who have never used a hookah and motivate them to join such groups to find if they can play with hookah smoke themselves. In addition to the design of hookah smoke, the smell of hookah stimulates their curiosity to try this fragrant recreation at least once (i.e., the smoke and smell of hookah and the desire to find out the secret of happiness by individuals while using hookah are the reasons for individuals to be curious to try hookah). In this study, the smoke and smell of hookah had tempted and curious individuals to use hookah. Khor et al cited the pleasant smell of hookah as one of the reasons for the tendency to use hookah (24).
Another effective factor in hookah use among women was spending leisure time, pleasure, and relaxation. A review has also mentioned leisure time as one of the reasons for hookah use (25). If individuals do not meet the need for happiness, hookah use can deviate from the need for individuals to be happy. In this regard, the trustees should be highly active and provide sufficient facilities and motivation, especially in deprived areas. This result can be analyzed as follows:

A person who has nothing to do is more likely to experience leisure time, as a result of which he is more likely to use hookah to spend his leisure time. Moreover, working women, due to work at certain times of the day and more limited leisure time, have less time and as a result, are less inclined to use hookah. Providing banking facilities for the development of sewing, embroidery, and confectionery workshops in neighborhoods can be an extremely effective step for reducing hookah use among those women who use hookah in their neighborhoods to spend their leisure time.

Limitations
The present study had some limitations. The interviews were conducted face-to-face, thus participants may have provided answers that are socially desired. Like other qualitative research, the researcher’s ideas and beliefs may have influenced the process of reading and interpreting the data. On the other hand, the opinions of the interviewees may have not covered all the factors affecting the use of hookah. To resolve this limitation, the interviews were continued until reaching data saturation. It should be noted that the extracted categories may not be generalizable to the population of other parts of the country.

Conclusion
The study results revealed that many psychosocial factors affect hookah use among women. Demonstrating the side effects of hookah use, training life skills, increasing the ugliness of hookah, and providing the necessary conditions and factors to increase recreational facilities can be helpful in successfully reducing hookah use.

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Authors’ Contributions
AA designed the study, supervised data collection, analyzed the data, and reviewed the manuscript. SD designed the study, collected data, analyzed the data, drafted the manuscript, and critically reviewed the manuscript. MMA designed the study and reviewed the manuscript. SSS analyzed the data and reviewed the manuscript. All authors read and approved the final manuscript.

Conflict of Interest Disclosures
The authors declare that they have no competing interests.

Ethical Statement
The present study is part of a PhD dissertation in the field of health education and health promotion, which was approved by the Ethics Committee of Bandar Abbas University of Medical Sciences with the code IR.HUMS.REC.2018.249. Before conducting the interview, an appropriate relationship was established with the interviewees (introduction of the researcher, level of education, the objective of the research, confidentiality of the name and recorded conversations, the reason for selecting the interviewee, obtaining the interviewee’s consent to record the voice, and the like).

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Informed Consent
The present study was carried out after obtaining informed consent.

References
1. Tworek C, Schauer GL, Wu CC, Malarcher AM, Jackson KJ, Hoffman AC. Youth tobacco cessation: quitting intentions and past-year quit attempts. Am J Prev Med. 2014;47(2 Suppl 1):S15-27. doi: 10.1016/j.amepre.2014.05.009.
2. Eshah NF, Froelicher ES. Knowledge, attitudes, beliefs and patterns of waterpipe use among Jordanian adults who exclusively smoke waterpipes. Eur J Cardiovasc Nurs. 2018;17(1):85-92. doi: 10.1177/1474515117719592.
3. Mosharraf S, Allahdadin M, Reyhani M. Comparison of adverse Pregnancy Outcomes between Hookah and Non-smoking Women. J Midwifery Reprod Health. 2019;7(1):1506-12. doi: 10.22038/jmrh.2018.27116.1292.
4. Danaei M, Jabbarinejad-Kermani A, Mohebbi E, Momeni M. Waterpipe tobacco smoking prevalence and associated factors in the southeast of Iran. Addict Health. 2017;9(2):72-80.
5. Jawad M, Charide R, Waziry R, Darzi A, Ballout RA, Akl EA. The prevalence and trends of waterpipe tobacco smoking: a systematic review. PLoS One. 2018;13(2):e0192191. doi: 10.1371/journal.pone.0192191.
6. Tucktuck M, Ghandour R, Abu-Rmeileh NME. Waterpipe and cigarette tobacco smoking among Palestinian university students: a cross-sectional study. BMC Public Health. 2017;18(1):1. doi: 10.1186/s12889-017-4524-0.
7. Waziry R, Jawad M, Ballout RA, Al Akeel M, Akl EA. The effects of waterpipe tobacco smoking on health outcomes: an updated systematic review and meta-analysis. Int J Epidemiol. 2017;46(1):32-43. doi: 10.1093/ije/dyw021.
8. Grinberg A, Goodwin RD. Prevalence and correlates of hookah use: a nationally representative sample of US adults ages 18-40 years. Am J Drug Alcohol Abuse. 2016;42(5):567-76. doi: 10.3109/00952990.2016.1167214.
9. 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(4):963-8. doi: 10.1037/a0028344.
10. Baheiraei A, Shahbazi Sighaldeh S, Ebadi A, Kelishtadi 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. doi: 10.4103/2008-7802.163374.
11. 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
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of Non-Communicable Diseases (SuRFNCD-2007). Tob Control. 2010;19(2):125-8. doi: 10.1136/tc.2009.030759.

12. Ahmadizadeh Fini A, Rafizad E, Dasthivaran M, Ahmadizadeh Fini E. The study of smoking in population 15-64 in urban and rural area in Hormozgan province. J Prevent Med. 2015;2(2):62-7. [Persian].

13. Majdzadeh S, Zamani G, Mousavi Kazemi SH. Qualitative survey on the factors affecting tendency to hookah in Hormozgan province and appropriate campaign methods against it. Hakim Res J. 2002;5(3):183-8. [Persian].

14. Nemati S, Rafei A, Freedman ND, Fotouhi A, Asgary F, Zendehdel K. Cigarette and water-pipe use in Iran: geographical distribution and time trends among the adult population; a pooled analysis of national STEPS surveys, 2006-2009. Arch Iran Med. 2017;20(5):295-301.

15. Azab M, Khabour OF, Alzoubi KH, Anabtawi MM, Quttina M, Khader Y, et al. Exposure of pregnant women to waterpipe and cigarette smoke. Nicot Tob Res. 2013;15(1):231-7. doi: 10.1093/ntr/nts119.

16. Chaaya M, Jabbour S, El-Rouiebeh Z, Chemaitelly H. Knowledge, attitudes, and practices of argileh (water pipe or hubble-bubble) and cigarette smoking among pregnant women in Lebanon. Addict Behav. 2004;29(9):1821-31. doi: 10.1016/j.addbeh.2004.04.008.

17. Khan MT, Hashmi S, Zaheer S, Aslam SK, Khan NA, Aziz H, et al. Burden of waterpipe smoking and chewing tobacco use among women of reproductive age group using data from the 2012-13 Pakistan Demographic and Health Survey. BMC Public Health. 2015;15:1113. doi: 10.1186/s12889-015-2433-7.

18. Fahoumdian A, Sadr Alsadat SJ, Mohammad F, Manoukian A, Jafari F, Sadeghi M, et al. A survey on the knowledge and attitude of a group of Christian minorities in Tehran toward addiction and substance abuse. Adv Cogn Sci. 2008;10(2):9-20. [Persian].

19. Afifi R, Khalil J, Fouad F, Hammal F, Jarallah Y, Abu Farhat H, et al. Social norms and attitudes linked to waterpipe use in the Eastern Mediterranean Region. Soc Sci Med. 2013;98:125-34. doi: 10.1016/j.socscimed.2013.09.007.

20. Martinasek MP, McDermott RJ, Martini L. Waterpipe (hookah) tobacco smoking among youth. Curr Probl Pediat Adolesc Health Care. 2011;41(2):34-57. doi: 10.1016/j.cppeds.2010.10.001.

21. Ghalouri 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. doi: 10.1186/1756-0500-4-496.

22. Labb 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. Nicot Tob Res. 2007;9(5):591-6. doi: 10.1080/14622200701239696.

23. Dadipoor S, Kok G, Aghamolaei T, Heyrani A, Ghaffari M, Ghanbarnezhad A. Factors associated with hookah smoking among women: a systematic review. Tob Prev Cessat. 2019;5:26. doi: 10.18332/tpc/110586.

24. Khor FY, Harun NB, Ishak FB, Mohd Anuar NA, Karim NA, 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(1):80-4.

25. Momenabadi V, Hossein Kaveh Ph DM, Hashemi SY, Borhaninejad VR. Factors affecting hookah smoking trend in the society: a review article. Addict Health. 2016;8(2):123-35.