

Access this article online

Quick Response Code:



Website:  
www.jehp.net

DOI:  
10.4103/jehp.jehp\_1099\_23

# A qualitative study to explain the determinants of naswār consumption from the point of view of its consumers

Mohammad-Rafi Bazrafshan, Amir Mansouri<sup>1</sup>, Behnam Masmouei<sup>2</sup>,  
Noureddin Niknam<sup>3</sup>, Fatemeh Zahedi<sup>4</sup>

## Abstract:

**BACKGROUND:** One of the health problems related to tobacco that is increasing in society is the consumption of naswār. This study aimed to investigate the determinants of naswār consumption from the point of view of its consumers.

**MATERIALS AND METHODS:** In this qualitative study, 47 men with an age range of 23- 54 years who consumed naswār from the southern cities of Fars province in Iran were selected and interviewed. These participants were selected using purposive and snowball sampling methods, and data was collected using semi-structured interviews. Data analysis was done using the conventional approach of qualitative content analysis.

**RESULTS:** Three main categories were extracted: (1) Individual factors and beliefs related to naswār consumption (Non-addictive, similar and replacement with smoking, Not causing confusion, Being relaxing and enjoyable, increasing the effect of using other substances, reducing fatigue, causing body aches due to lack of use, having long effect, not causing physical problems, not causing weakness, having fast effect, increasing energy to work), (2) Environmental factors (being available, Having the low price, being consumed anywhere, being easy to store and carry, Not understanding others), and (3) Social factors (as a hobby, lack of entertainment, relatives and friends of the consumer, lack of ban on the consumption of naswār, lack of family opposition).

**CONCLUSION:** As the results showed, there are many reasons for consuming naswār based on individual, environmental, and social factors. Formulation of laws, health policies, and education can be effective in adopting strategies to prevent and control the consumption of naswār.

## Keywords:

Iran, naswār, qualitative content analysis, smokeless tobacco

## Introduction

Drug and tobacco use has been one of the health and social crises in recent decades. Today, one of the types of tobacco consumption is the use of smokeless tobacco (SLT).<sup>[1]</sup> About 356 million people worldwide use smokeless tobacco. Of these, nearly 82% located beside in Southeast Asia. This problem is common among men and women and is particularly pronounced for young people.<sup>[2]</sup>

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow\_reprints@wolterskluwer.com

Smokeless tobacco exists in the form of traditional and industrial products and is used in different packaging and flavors. One of these products is naswār, a smokeless tobacco containing tobacco powder. Naswār is a green substance obtained from dried tobacco leaves; after pounding, producers mix it with a chemical such as lime and spread it. Naswār is used by sniffing with the nose or placing it under the tongue or cheek. This product has a high pH and contains nicotine and carcinogens which harm oral and dental health.<sup>[3]</sup>

**How to cite this article:** Bazrafshan MR, Mansouri A, Masmouei B, Niknam N, Zahedi F. A qualitative study to explain the determinants of naswār consumption from the point of view of its consumers. J Edu Health Promot 2024;13:499.

Department of  
Nursing, School of  
Nursing, Larestan  
University of Medical  
Sciences, Larestan,  
Iran, <sup>1</sup>Department of  
Paramedical School,  
Gerash University of  
Medical Sciences, Gerash,  
Iran, <sup>2</sup>School of Nursing  
Hazrat Zahra (P.B.U.H)  
Abadeh, Shiraz University  
of Medical Sciences,  
Shiraz, Iran, <sup>3</sup>Department  
of Public Health, Torbat  
Jam Faculty of Medical  
Sciences, Torbat Jam,  
Iran, <sup>4</sup>Department of  
Nursing School, Gerash  
University of Medical  
Sciences, Gerash, Iran

## Address for correspondence:

Dr. Fatemeh Zahedi,  
Department of Nursing  
School, Gerash University  
of Medical Sciences,  
Gerash, Iran.  
Email: zahedi.hf@gmail.  
com

Received: 24-07-2023  
Accepted: 14-10-2023  
Published: 28-12-2024

According to a systematic review conducted by Solhi *et al.* which investigated the amount of using smokeless tobacco in Iran in 2020, most of the consumers in Iran live in Sistan and Baluchestan (Zahedan and Chabahar cities) and Golestan provinces. About 11-45.7% of the students in these provinces use smokeless tobacco. They also expressed different types of STs used in Iran, which have been mentioned in various articles, such as Pan, Gutka, Nas, Naswar, Biti, and Supri.<sup>[4]</sup>

Naswār users become physically and psychologically dependent on this substance. Therefore, when people use it, they feel relaxed and happy, and if they don't use it, they get a hangover, physical pain, and discomfort. Physical dependence is a condition in which abrupt or gradual drug withdrawal causes unpleasant physical symptoms such as leg pain, runny nose, severe bone pain, restlessness, nausea, etc. Psychic dependence refers to the tendency to repeat the euphoric experience of substance abuse. In other words, a person feels satisfied by consuming that substance. This joy makes the person repeat the experience.<sup>[5,6]</sup>

Some research suggests that the use of smokeless tobacco products, such as chewing tobacco and naswār, is less harmful and may serve as an alternative strategy for smokers. However, although smokeless products may be less harmful than regular cigarettes, they are associated with an increased risk of diseases such as oral, esophageal and pancreatic cancer; cardiovascular disease; high blood pressure; diabetes; reduction of bone density; and problems during pregnancy, delivery and after delivery.<sup>[7,8]</sup>

Among the important things that should be investigated are the causes and factors related to the use of smokeless tobacco. The causes and factors of smokeless tobacco use are important and are suggested to be investigated. Islam *et al.* conducted a study about the factors related to smoking and the use of smokeless tobacco in Bangladesh. This study, which was conducted on 2425 people, showed that the prevalence of smoking was higher in men and the use of smokeless tobacco was higher in women. Regardless of gender, factors such as laborious work and low literacy were also associated with a higher prevalence of smoking. Also, psychological distress was associated with at least twice the prevalence of smoking in women.<sup>[9]</sup>

Soltaninejad *et al.* conducted a qualitative study in 2015 to investigate the lived experiences of young people from consuming naswār. According to this study, the main themes of individual factors extracted were "sensory attractions, false belief, and risk and thrill-seeking". The main themes of social factors were "having family problems, being available, and being influenced by peers".<sup>[1]</sup>

It is difficult to find definite theories that can explain the causes of substance abuse in a conceptual framework. These theories explain that consumption occurs in a "multifaceted reaction" to individual, mental, and environmental factors.<sup>[10]</sup> Given the physical and psychological effects of smokeless tobacco abuse, it is necessary to investigate the causes of smokeless tobacco abuse to prevent it from becoming a social crisis and treat it.

The approach in this research was to determine the factors affecting the consumption of naswār qualitatively from the point of view of their consumers, which was not considered in previous studies of this type. Also, the few studies that have been done in this area are quantitative. Therefore, the current research with a qualitative approach can be a pioneering effort in the field of identifying these factors. Given the unique feature of qualitative studies in exploring and expressing human behaviors, as well as the original and significant information obtained from individuals, this approach was chosen as the current research method.

The purpose of this research was to explain the determinants of naswār consumption from the consumers' point of view, using the qualitative method, that is conducting interviews and extracting and analyzing the data from these interviews.

## Materials and Methods

### Study design and setting

In this study, according to the purpose of the study, the qualitative content analysis was used in a conventional method. In this view, the primary codes are pulled directly from the raw data without previous categories or theoretical views.<sup>[11]</sup> In this study, a semi-structured interview with open questions was used to collect information from the participants. The interview began with an explanation of the purpose of the research for the participants and continued with an open question "explaining the reason for using naswār". If necessary, the researcher used exploratory questions to gather more in-depth information, such as "Can you give an example of this case?". The type and order of the researcher's questions were also flexible based on different answers of the participants.

### Study participants and sampling

The researcher selected people who were willing to participate in the research and met the inclusion criteria by sending different messages via social messengers such as WhatsApp. The conditions for entering the study were being willing to participate in the research, residents, and natives of Larestan, Gerash, and Evaz cities, familiar with the Persian language, and able to share their experiences of the reasons for using naswār.

### Data collection tools and data analysis

Participants were selected using the purposive sampling method. Therefore, those who were willing to share their experiences about the reasons for using naswār were included in the study. If the participants did not intend to continue participating in the research, they were excluded from the study. Also, the researcher used the snowball sampling method to find the participants. Based on this type of sampling in the present study, the researchers asked the participants to help identify future samples. Therefore, the researcher first found a person who was a naswār user through social messengers and then wanted them to introduce the naswār users they knew; this process continued until we reached data saturation.

For data analysis, the interviews conducted with the samples were recorded and listened to for several times. Interviews were written in Microsoft Word and then entered into MAXQDA-10 software. After entering each interview into the software, we read each interview word for word; then, each text was broken into meaning units. Then, meaning units that had similar meanings were placed in the same category. Finally, based on the content and similarities, the main category was formed using the sub-category.

To improve the trustworthiness of the findings, the criteria provided by Lincoln and Guba (1986) were used.<sup>[12]</sup> Therefore, in this study, to ensure the credibility of the data, the following criteria were used: constant and prolonged involvement of the researchers with the subject under study, as well as long involvement with the data, allocation of enough time to conduct interviews, and use of experts in qualitative studies to interview the participants and analyze qualitative data. Also, to ensure the dependability of the data, we used the following criteria: rich description of the study methods, continuous review and comparison of the codes in terms of similarities and differences and re-examination of the findings with the presence of participants; provision of detailed data analysis and in-depth, rich explanations of the research for the readers; use of the corrective opinions of the members of the research team and two qualitative research experts about the interview process, its analysis and the extracted data; and collection of diverse information by using various questions in the interviews. To ensure the confirmability of the data, the researchers tried to provide a rich description of the findings. Finally, to ensure the transferability of the data, the researchers attempted to continue the sampling until reaching the data saturation.

### Ethical considerations

In this research, regarding ethical considerations, the researchers tried to keep the information collected from the participants confidential; the participants had the right to withdraw from the study at every stage of

the research, and the final results were available to the participants. Also, this study obtained an ethics code (IR.GERUMS.REC.1401.009) from the Gerash University of Medical Sciences.

## Results

Overall, interviews with 47 participants (8 Afghan men and 39 Iranian men) with a mean age of  $33.98 \pm 6.995$  years who used naswār led to data saturation. The demographic characteristics of the participants are summarized in Table 1. Then, the codes were placed in 3 categories: personal factors and beliefs related to the use of alcohol, environmental factors, and social factors [Table 2].

### A. Individual factors and beliefs related to naswār consumption

This category includes 18 subgroups, which include Non-addictiveness, Similarity and replacement with smoking, Not causing confusion, Relaxing and enjoyable, Increasing effect of using other substances, Fatigue reducer, Body aches due to lack of use, Long effect, Lack of physical problems, Lack of weakness and thinness, Fast effect, Increased energy to work, Pain reliever, Reduced anxiety, Reduced sadness, A good feeling and peace, Curiosity, and Increased concentration.

#### 1. Non-addictiveness

Some participants stated that the use of naswār did not have addictive effects; therefore, there was no problem

**Table 1: Demographic characteristics of the participants**

Variable	Number	Percent
Age (year)		
<30	14	29.8
30-40	25	53.2
41-50	7	14.9
>50	1	2.1
Nationality		
Iranian	39	82.98
Afghan	8	17.02
Marital Status		
Single	12	25.5
Married	32	68.1
Divorced	3	6.4
Level of Education		
Illiterate	1	2.1
Elementary School	2	4.3
Middle school	16	34
High School and Diploma	17	36.2
Academic	11	23.4
Job		
Self-employed	39	83
Government job	3	6.4
Unemployed	4	8.5
University student	1	2.1

**Table 2: Extracted categories and sub-categories**

Categories	Sub categories
Individual factors and beliefs related to naswār consumption	Non-addictiveness- Similarity and replacement with smoking- Not causing confusion- Relaxing and enjoyable- Increasing the effect of using other substances- Fatigue reducer- Body aches due to lack of use- Long effect- Not causing physical problems- Not causing weakness and thinness- Fast effect- Increased energy to work- Pain reliever- Reduce anxiety- Reduce sadness- Giving a good feeling and peace- Curiosity- Increased concentration
Environmental factors	Availability- Having a low price- Consumption anywhere- Easy to store and carry- Not understanding others- Easy and hassle-free use- Preparation by the person himself
Social factors	As a hobby- Lack of entertainment- Relatives and friends of the consumer- No ban on the consumption of naswār- No family objection

with using it. A 37-year-old man stated: *"Naswār is not addictive and does not cause dependence."*

## 2. Similarity and replacement with smoking

Some participants used naswār as a substitute for quitting smoking, and this is probably due to the misconception of these participants that naswār use is harmless or less harmful than cigarette smoking. A 30-year-old man said: *"I used to smoke, but now I use naswār. The feeling after using naswār is like a cigarette."*

## 3. Not causing confusion

Some participants also thought that using naswār was without serious side effects, which indicates the importance of informing this group. A 35-year-old man stated: *"After using it, you are not confused, which means that one's intellect is not lost."*

## 4. Relaxing and enjoyable

Some participants used naswār like other drugs because of the euphoric feeling after taking it. A 28-year-old man explained: *"Naswār use gives me relaxation and pleasure."*

## 5. Increasing effect of using other substances

Some participants also used naswār to increase the effect of drugs, and this is in the case that the simultaneous use of naswār with drugs can increase their side effects. A 33-year-old man maintained: *"It increases the effect of taking other things; for example, if you take naswār after using opium, the effect increases, and it reduces the amount of opium used."*

## 6. Fatigue reducer

Some people also thought that using naswār would reduce the amount of fatigue caused by work. A 54-year-old man said: *"It reduces my fatigue from work"*.

## 7. Body aches due to lack of use

Physical side effects caused by not using naswār, such as body pain, also forced some participants to continue

using it, which can indicate addiction to naswār use. A 40-year-old man said: *"If I don't take it, I get body pain."*

## 8. Long effect

Some participants also preferred using naswār instead of smoking as an alternative to the long-term effects of naswār consumption on the body. According to a 27-year-old man: *"After using naswār, I feel calm throughout the day and it's not like smoking cigarettes, where I need to smoke several times to calm down."*

## 9. Lack of physical problems

The participants' lack of knowledge about the side effects of naswār was one of the reasons for their use of naswār. A 30-year-old man: *"Cigarettes cause headaches and coughs and irritate my eyes, but I don't have these problems with naswār"*.

## 10. Lack of weakness and thinness

Misconceptions about naswār use were found throughout the participants' conversations. According to a 31-year-old man: *"Opium causes weakness and thinness, and the body is messed up, but my appetite also improves."*

## 11. Fast effect

Some participants thought that the use of naswār had rapid effects on the body and this would cause them to turn to this addictive substance. A 27-year-old man said: *"When I'm tired and dull, I feel better as soon as I take naswār."*

## 12. Increased energy to work

This idea was often observed among the participants, especially Afghans, that consuming naswār increased their physical strength while working. A 37-year-old man stated: *"It gives me energy to work. I put it in my mouth during work and do energetic activities."*

## 13. Pain reliever

The pain-relieving effects caused by the consumption of naswār also caused the desire to consume it among the participants. A 35-year-old man said: *"I have done physical work since I was young and put a lot of pressure on my body and took all kinds of painkillers. Naswār decreases my pain."*

## 14. Reduced anxiety

The psychological effects of using naswār, such as reducing anxiety, reducing the feeling of discomfort, feeling calm, and increasing the power of concentration were also mentioned by the participants as important reasons for using naswār. A 33-year-old man maintained: *"I know that my anxiety level is high, and I even take diazepam. I have experienced that Nās reduces my anxiety."*

## 15. Reduced sadness

Some participants also used naswār as an ineffective coping method to deal with problems. In this case, a

25-year-old man said: *"After my parents separated, I was very upset and sad. One of my friends introduced naswār to me. By consuming it, I get out of my thoughts to some extent and I can deal with my sorrow."*

#### 16. A good feeling and peace

In this case, a participant (a 37-year-old man) said: *"Taking it gives me euphoria, a buzz. It's like my brain goes into a state of relaxation."*

#### 17. Increased concentration

There may be a misconception among people that using naswār increases the power of concentration while studying. A 23-year-old man said: *"I use naswār more during exams because it improves my concentration."*

#### 18. Curiosity

As seen in other causes of addiction to drugs, curiosity was also one of the other reasons for the consumption of naswār. A 29-year-old man explained: *"I was wondering what Nās was and what effects it have. It felt good when I tried it a few times."*

### B. Environmental factors

Certainly, a person's living environment and surrounding factors have positive and negative effects on society. This category includes 7 sub-categories: Availability, Low price, Consumption anywhere, Easy storage and carry, Lack of understanding of others, Easy use, and Preparation by the person himself/herself.

#### 1. Availability

We all know that the availability of drugs and tobacco increase the likelihood of abuse among people in society. A 29-year-old man stated: *"Naswār is easy to find, even in some grocery stores."*

#### 2. Having a low price (Cheapness???)

The low price of naswār was also mentioned as one of the other reasons for the tendency to consume naswār. A 46-year-old man said: *"I also smoke cigarettes, but because the price of naswār is cheaper, I prefer to use naswār."*

#### 3. Possibility of consumption everywhere

The lack of smell and the possibility of using naswār secretly from the eyes of other people in the community were mentioned as other reasons. A 44-year-old man said: *"It is easy to use naswār in cars, buses, offices, anywhere; there is no prohibition, and no one understands."*

#### 4. Easy to store and carry

Also, the ability to easily carry and hide naswār while carrying was another reason for wanting to use naswār. A 35-year-old man said: *"The size of a pack of naswār doesn't take up much space; you can put some in a plastic bag and in the corner of your pocket."*

#### 5. unnoticeable for others

In this case, a 25-year-old man said: *"It's not like cigarettes and hookah that you hold in your hand and smoke and others notice that you are smoking."*

#### 6. Easy and hassle-free use

In this case, a 28-year-old man said: *"Naswār is easy to use; you quickly put it under the tongue or next to the gums and wait for it to be absorbed."*

#### 7. Preparation by the person himself/herself

It seems that participants are looking for substances that are convenient and less troublesome to use. A 41-year-old man stated: *"I prepare the ingredients myself and make them easily at home."*

### C. Social Factors

Social problems were also among the important reasons expressed by naswār consumers. This category included the 5 sub-categories: As a hobby, Lack of entertainment, Relatives, and friends of the consumer, No ban on the consumption of naswār, and No family objection.

#### 1. As a hobby

One of the reasons for using naswār was that they considered it a hobby. A 40-year-old man stated: *"I use it with my friends, and it makes me feel good. It is a kind of hobby and pastime among other my hobbies."*

#### 2. Lack of entertainment

Some of the participants stated the lack of recreational facilities in small towns as the reason for the tendency towards junk food consumption. According to a 36-year-old man: *"Honestly, our city doesn't have any special entertainment and I have to entertain myself. One of them is getting together with friends, and drinking naswār."*

#### 3. Relatives and friends of the consumer

In this case, a 30-year-old man said: *"My older brother uses naswār, and several of my friends also use it"*.

#### 4. No ban on the consumption of Naswār

It seems that the government should impose restrictions on the consumption of naswār to reduce its consumption. A 47-year-old man said: *"A 30-year-old man is not a drug that should be considered banned for carrying, keeping, and consuming."*

#### 5. No family objection

Families' lack of knowledge about the harmful and addictive effects of narcotics was also mentioned as another reason for the participants' willingness to use naswār, and this shows the importance of informing people in the community about the side effects of naswār use. A 35-year-old man stated: *"Interestingly, my family doesn't have a problem with me taking naswār because they*

*don't think it's addictive, but if I try to smoke cigarettes and hookah, my family treats me harshly."*

## Discussion

The findings of this research are classified into three categories. The most findings were in the field of individual factors with 18 sub-categories and the lowest were related to social factors with 5 sub-categories. Also, environmental factors were categorized into 7 sub-categories. Based on these three categories, the discussion of this article is also raised in three areas.

The demographic information obtained from the study showed that most of the participants were in their third decade of life. More than 76% of the participants had no academic education. This finding was also observed in other studies. For example, in the study of Ali *et al.*, it was shown that 66% of the participants had no education or had elementary education, which can be a reason for their lack of knowledge about the side effects of naswār.<sup>[13]</sup> A study also conducted in Iran shows that most people who use naswār do not have a university education, which is consistent with the results of the present study.<sup>[14]</sup> This finding has been confirmed in a study conducted in Bangladesh, India, and Pakistan.<sup>[15]</sup>

### Individual factors and beliefs

In an article conducted in Pakistan, the results showed that more than 42% of the participants underestimated the harmful effects of naswār or did not believe that it was harmful.<sup>[13]</sup> The same result was also found in the present study; that is, the participants believed that naswār did not have side effects such as dependence, confusion, and negativity. It was also found that naswār consumers were unaware of its side effects. The participants in the present study thought that naswār was a harmless substance and did not cause any complications. Although in this study, the participants mentioned naswār as a substance with antimicrobial properties that destroy the microbes in the mouth and stomach cavity, this finding was not observed in the present study. In the current research, it was also found that naswār increased concentration and energy for work. Similarly, a study on taxi drivers in India revealed that more than 62 percent of drivers use smokeless tobacco, which is the most important reason for this increased focus on work.<sup>[16]</sup> Other studies have also confirmed that smokeless products were used to increase energy and concentration. For example, a study in India found that more than 28% of computer engineers who had a sedentary lifestyle used these products.<sup>[17]</sup>

In the present study, it was found that naswār was used as a factor to increase the effectiveness of other types of drugs such as cigarettes; this finding has also been seen in other studies, such as a study published in 2017 which

showed that smoking cigarettes was usual among people who use smokeless tobacco products.<sup>[18]</sup> In the current study, the participants used naswār to reduce pain and increase pleasure and sedation. This is contrary to the finding of a study in 2015 in Pakistan that showed that the use of naswār increased pain in the teeth and gums when chewing; this increases the risk of bleeding from the gums.<sup>[19]</sup>

In a review study published by Nakhai Moghadam in 2019, which investigated the addictive dimensions of naswār, the results showed that most young people used this drug for pleasure and euphoria, and some young people considered it a mouth freshener, but their main intention was joy and happiness.<sup>[6]</sup> Also, in a study conducted in the USA, the reason for consuming smokeless products was the pleasure and ease of use.<sup>[20]</sup> It has also been confirmed in the present study that one of the individual factors for turning to the consumption of naswār is that it is relaxing, enjoyable, and a hobby. In a study, the participants used drugs as a part of entertainment and a supplement to celebrations and events, which is consistent with the results of the present study.<sup>[21]</sup>

In the present study, curiosity was one of the reasons for using naswār, which was found in a qualitative study conducted by Solhi in Iran, showing that one of the reasons for using naswār, especially for the first time, is curiosity about this substance, which is in line with the findings of the present study.<sup>[22]</sup>

In a review study published in 2021, the reasons for using smokeless tobacco were classified into two categories: socio-cultural and belief factors. In this study, it was found that some people used smokeless tobacco to reduce stress and anxiety and others used it to relieve fatigue and boredom. Also, this study showed that some people used smokeless tobacco products to reduce toothache and headache; these findings are in line with those of the present study.<sup>[23]</sup>

From the findings of the present study, the use of naswār is due to its similarity and replacement with cigarettes; this was also shown in another study, indicating that smokers sometimes use other nicotine products such as smokeless products or electronic cigarettes.<sup>[24]</sup>

### Environmental factors

In this context, the participants stated availability as the reason for using naswār, which has been indicated in other studies. In a study conducted in Pakistan in 2021, it was also seen that the sellers of this product expressed that the attractive packaging of this product, its availability in urban areas, and the feeling of coolness in using the naswār were the factors that make people switch to using it.<sup>[25]</sup>

Acceptability, preparation, and ease of use of naswār were mentioned by the participants of the present study, which were also seen in other studies. A study in Bangladesh showed that between 21 and 26% of adults use smokeless tobacco products; this has also been shown in a study that most people who are addicted to nicotine use smokeless forms, so these statistics in Bangladesh are more than 50% and it is more than 70% in India. As mentioned, one of the reasons for using naswār is the availability of this drug, and this finding has shown in this study as well, so that the more people are exposed to the market of trading smokeless tobacco, the more likely they are to become involved in this type of substance.<sup>[15]</sup>

In the present study, one of the participants stated that the use of naswār was not the same as the use of cigarettes and hookahs, which are perceived by others from the smell or smoke. This finding has also been seen in other studies. For example, considering that smoking is considered taboo in some societies, the use of naswār can be an alternative option. Some research has shown that due to the ban on smoking among Pakistani women and teenagers, the use of smokeless tobacco products has become acceptable.<sup>[26,27]</sup>

Reasonable price is one of the other environmental factors for the use of naswār, which is consistent with the result of a review study conducted in Pakistan, showing that a reasonable price is one of the factors for consumption and it makes naswār more popular than cigarettes.<sup>[28]</sup> Although the availability, reasonable price, and the possibility of consumption anywhere are mentioned as reasons for naswār addiction, a study conducted in Iran showed that these reasons alone were not motivations for consumption. Other factors such as the influence of significant others, culture of acceptance of use in a region, and a positive opinion about smokeless tobacco products are other reasons for using them.<sup>[22]</sup>

In the findings of the current study, participants stated that it easy preparation by the individual was one of the factors influencing the use of naswār. However, a study showed that one of the reasons for the high use of smokeless products by young people in Sri Lanka was the popularity of commercial preparations of smokeless tobacco among the youth.<sup>[29]</sup>

### Social factors

In the current study, the participants stated that one of the reasons for using naswār was its consumption by people among friends and family, and this finding has been shown in other studies. In a study conducted in Iran, the results showed that 56% of people who used naswār lived in a family where one of the family members was addicted to this drug. However, a study has shown that 59% of people who use naswār do not have a close friend

who uses naswār. This finding was contrary to what was said by the participants of the present study. It seems that the role of the family in promoting the consumption of naswār may be more than that of friends.<sup>[14]</sup> Of course, in a study published in Pakistan in 2018, the researcher investigated the social reasons for the tendency of adolescents to use drugs, showing that the dormitory life of adolescents as well as peer pressure can be the factors that cause young people to be involved in drugs.<sup>[21]</sup> Lack of entertainment was mentioned as another social factor of dipping naswār, and this finding is consistent with that of a study which showed that people turn to hookah because of a lack of entertainment.<sup>[30]</sup>

One of the social factors affecting the use of naswār is the lack of prohibition in society. In a study, it was observed that the lack of laws and the imposition of taxes on the purchase and sale of naswār in Pakistan had caused a large number of people to prepare and sell this product, which, of course, can be reduced by adopting efficient laws.<sup>[25]</sup>

### Limitations and recommendation

One of the limitations of this research is the reluctance of some consumers to fully answer the questions. It seems that the qualitative research method has obtained the most relevant results related to this research, but these findings can have limitations. Therefore, one should be careful in generalizing the findings. Also, since the use of naswār is hidden among most Iranian women, it is difficult to access female samples. This issue has been mentioned in other studies conducted in Iran,<sup>[4]</sup> and the researchers used the men who used naswār for sampling. Also given that almost all the studied samples were under 50 years, it is suggested that elderly participants should be studied in future research.

### Conclusion

Naswār consumption is high in Fars province and other southeastern provinces of Iran, and among Afghan immigrants the consumption of naswār is also high. Despite the harmful effects of naswār on people, unfortunately, there is no legal bans on using it. Therefore, different parts of society and authorities should take measures and implement serious laws to reduce the consumption of naswār. Accordingly, there is a need for macro-government policies and careful coordination between executive trustees. Also, with individual and family education and sufficient information about the side effects of using naswār, the consumption of this substance will be reduced.

### Acknowledgment

The authors would also like to thank all the research participants who have contributed to the study. This

study was approved by the Ethics Committee of Gerash University of Medical Sciences (IR.GERUMS.REC.1401.009). The authors would also like to thank Shiraz University of Medical Sciences, Shiraz, Iran, and also Center for Development of Clinical Research of Nemazee Hospital and Dr. Nasrin Shokrpour for editorial assistance.

### Ethics consideration

In this research, to regard ethical considerations, the researchers tried to keep the information collected from the participants confidential, the participants had the right to withdraw from the study at every stage of the research, and the final results were available to the participants. Also, this study has an ethics code (IR.GERUMS.REC.1401.009) from the Gerash University of Medical Sciences.

### Financial support and sponsorship

This research was done with the financial support of the Gerash University of Medical Sciences (Code NO: 99000074).

### Conflicts of interests

There are no conflicts of interest.

## References

- Soltaninejad A, Barshan A, Baniasad A, Shamsadini S, Sadeii A. The lived experiences of Naswār abuser adolescents. *Quarterly J Social Work* 2018;7:23-31.
- Mehrotra R, Yadav A, Sinha DN, Parascandola M, John RM, Ayo-Yusuf O, et al. Smokeless tobacco control in 180 countries across the globe: Call to action for full implementation of WHO FCTC measures. *Lancet Oncol* 2019;20:e208-17.
- Basharat S, Kassim S, Croucher R. Availability and use of Naswar: An exploratory study. *J Public Health* 2012;34:60-4.
- Solhi M, Fattahi E, Barati H, Mohammadi M, Kasmaei P, Rastaghi S. Smokeless Tobacco Use in Iran: A Systematic Review. *Addiction Health* 2020;12:225-34.
- Kosten TR, Baxter LE. Effective management of opioid withdrawal symptoms: A gateway to opioid dependence treatment. *Am J Addict* 2019;28:55-62.
- Moghaddam TN, Mobaraki F, Moghaddam MRD, Bonjar MJ. A review on the addictive materials paan masala (Paan Parag) and Nass (Naswar). *SciM edicine J* 2019;1:64-73.
- Adkison SE, O'Connor RJ, Bansal-Travers M, Cummings KM, Rees VW, Hatsukami DK. Validation of a measure of normative beliefs about smokeless tobacco use. *Nicotine Tob Res* 2016;18:801-8.
- Adkison SE, Bansal-Travers M, Smith DM, O'Connor RJ, Hyland AJ. Impact of smokeless tobacco packaging on perceptions and beliefs among youth, young adults, and adults in the US: Findings from an internet-based cross-sectional survey. *Harm Reduct J* 2014;11:2.
- Islam FMA, Walton A. Tobacco smoking and use of smokeless tobacco and their association with psychological distress and other factors in a rural district in Bangladesh: A cross-sectional study. *J Environ Public Health* 2019;2019:1424592.
- Amaro H, Sanchez M, Bautista T, Cox R. Social vulnerabilities for substance use: Stressors, socially toxic environments, and discrimination and racism. *Neuropharmacology* 2021;188:108518.
- Hsieh H-F, Shannon SE. Three approaches to qualitative content analysis. *Qual Health Res* 2005;15:1277-88.
- Lincoln YS, Guba EG. But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *New directions for evaluation*. 1986 (30):73-84.
- Ali S, Wazir MSK, Qadir S. NASWAR: What do (a form of smokeless tobacco) users know about its harmful effects? *Professional Med J* 2017;24:386-91.
- Mahmoodabad SSM, Jadgal MS, Zareban I, Fallahzadeh H. Smokeless tobacco consumption awareness, attitude and behavior among guilds of Chabahar, Iran. *Med Sci* 2019;23:262-8.
- Zhao L, Mbulo L, Twentyman E, Palipudi K, King BA. Disparities in smokeless tobacco use in Bangladesh, India, and Pakistan: Findings from the global adult tobacco survey, 2014-2017. *PLoS One* 2021;16:e0250144.
- Kakodkar PV. Smokeless tobacco use among online app-based cab drivers in Pune city and recommended measures for tobacco cessation from the literature. *Med J Dr DY Patil University* 2022;15:202-5.
- Malhotra S, Singh P, Dubey H, Mishra G, Agarwal N. Awareness of smokeless tobacco among professionals with sedentary lifestyles- A cross sectional study. *J Indian Assoc Public Health Dentistry* 2021;19:55-60.
- Cheng Y-C, Rostron BL, Day HR, Stanton CA, Hull LC, Persoskie A, et al. Patterns of use of smokeless tobacco in US adults, 2013-2014. *Am J Public Health* 2017;107:1508-14.
- Al-Hamoudi N, Mokeem S, Jabbar TA, Akram Z. Self-perceived oral symptoms and periodontal inflammatory conditions in habitual naswar dippers. *Pak J Med Sci* 2018;34:1272.
- Chaffee BW, Urata J, Couch ET, Gansky SA. Perceived flavored smokeless tobacco ease-of-use and youth susceptibility. *Tob Regul Sci* 2017;3:367.
- Bakhsh A, Zakir M. A sociological study of factors that involve adolescence towards drugs. *Balochistan Rev* 2018;2:163-174.
- Solhi M, Mehrabian F, Nazari SSH, Fattahi E, Barati H, Zareban I, et al. Investigating the reasons for using smokeless tobacco among adults: A qualitative study based on the grounded theory approach. *Int J High Risk Behav Addict* 2022;11.
- Solhi M, Fattahi E, Manzari ZS, Gupta PC, Kargar M, Kasmaei P, et al. The reasons for using smokeless tobacco: A review. *Iran J Public Health* 2021;50:492.
- Felicione NJ, Ozga-Hess JE, Ferguson SG, Dino G, Kuhn S, Haliwa I, et al. Cigarette smokers' concurrent use of smokeless tobacco: Dual use patterns and nicotine exposure. *Tob Control* 2021;30:24-9.
- Ahmad F, Boeckmann M, Khan Z, Zeeb H, Khan MN, Ullah S, et al. Implementing smokeless tobacco control policy in Pakistan: A qualitative study among Naswar supply chain actors. *Tob Control* 2021;30:548-52.
- Azhar N, Sohail M, Ahmad F, Fareeha S, Jamil S, Mughal N, et al. Risk factors of Oral cancer- A hospital based case control study. *J Clin Exp Dent* 2018;10:e396-401.
- Mohiuddin S, Fatima N, Hosein S, Hosein M. High risk of malignant transformation of oral submucous fibrosis in Pakistani females: A potential national disaster. *J Pak Med Assoc* 2016;66:1362-6.
- Khan Z, Suliankatchi RA, Heise TL, Dreger S. Naswar (smokeless tobacco) use and the risk of oral cancer in Pakistan: A systematic review with meta-analysis. *Nicotine Tob Res* 2019;21:32-40.
- Mahees M, Amarasinghe HK, Usgodaarachchi U, Ratnayake N, Tilakarathne W, Shanmuganathan S, et al. A sociological analysis and exploration of factors associated with commercial preparations of smokeless tobacco use in Sri Lanka. *Asian Pacific journal of cancer prevention*. *APJCP* 2021;22:1753.
- Bazrafshan M, Mansouri A, Delam H, Masmouei B, Shokrpour N. Factors affecting hookah tobacco smoking among females in the Islamic Republic of Iran: A qualitative study. *East Mediterr Health J* 2020;26:1493-501.