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Identifying the facilitators of Iran's alcoholic beverage black market and presenting solutions for harm reduction: a qualitative document analysis

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Abstract

Background Despite Iran's prohibition politics regarding alcoholic beverages consumption, marketing, and trading, there is a flourishing black market. Often, alcohol producers on this black market do not adhere alcohol production standards, resulting in a lot of deaths and significant consequences each year. Accordingly, this study was carried out to identify facilitators for the growth of the black market for alcoholic beverages in Iran and provide solutions for harm reduction.

Methods This study was a qualitative document publicly available analysis, in which online newspapers and Persian news websites about alcoholic beverages black market in Iran were reviewed. Documents were analyzed using thematic analysis.

Results After the completion of the analysis, 21 final codes, seven subthemes, and four themes were developed. Four themes are (1) political factors, including governance, regulatory rules and regulations, and awareness sub-themes (2) sociocultural factors, including culture change sub-theme (3) economic factors, including attractive market sub-theme, and (4) business factors, including manufacturing and marketing sub-themes.

Conclusions As a result of alcohol prohibition politics in Iran and a socioeconomically supportive environment, black market has developed. Several policies can be implemented to reduce alcohol black market harm. It is possible to reduce the demand for homemade alcohol by educating the public about its risks. The government should enforce stricter policies on trading and advertising alcohol to reduce the availability of homemade alcohol and shrink alcohol black market. To implement these solutions, clerics should be convinced that the alcohol black market poses a serious public health threat.

Keywords Alcoholic beverages, Underground market, Black market, Homemade alcohol, Non-commercial alcohol, Alcohol black market

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Introduction

Alcohol is a substance with dependence characteristics, which negatively affect health, behavior, society, and the economy. There are over 200 diseases and injury conditions associated with alcohol consumption [1]. Alcohol consumption was the seventh leading risk factor for both death and disability-adjusted life-years (DALYs) from 1990 to 2016 [2]. Alcohol consumption is the first, second, and ninth leading risk factor for attributable burden disease among those 25–49 years old, 10–24 years old, and all ages, respectively [3]. In economic terms, the consequences of alcohol use are considerable. The mean societal costs attributable to alcohol consumption were 817.6 Int \$ per adult, equivalent to 1.5% of the gross domestic product [4].

Countries and territories have different levels of alcohol consumption. European countries consume 15 L of alcohol per person per year, which is the highest in the world. In contrast, approximately 5–10% of Middle East and North African (MENA) people over 15 years old consumed alcohol in 2017, which is the lowest rate in the world [5]. A majority of MENA countries are Muslim, where alcohol consumption is strictly controlled or prohibited. Iran is located in the MENA region. Following the 1979 Iranian Revolution, the Islamic government prohibited the consumption, sale, and production of alcoholic beverages for Muslims. In Islamic rules alcohol consumption is considered a crime, demanding punishments. In Iran, over 99% of the population is Muslim. A number of punishments are specified for consumption, sale, and production of alcoholic beverages in Article 704 of the Islamic penal code, including whipping, imprisonment, and hanging. Despite these bans, alcoholic beverages are widely accessible in form of both illegal domestic production and illegal importation from the borders [6]. In 2016, Iran ranked 161 in the world in terms of alcohol consumption per capita with 1 L of pure alcohol, according to the World Health Organization (WHO). Despite low estimates of population-wide alcohol consumption, drinkers in Iran have among the highest levels of total alcohol per capita consumption globally [7]. The figures were obtained despite the existence of a national document designed to prevent, treat, and reduce alcohol-related toxicity from 2011 to 2015 [8].

A few studies have been assessed the prevalence of alcohol consumption in Iran. According to a study published in 2022, alcohol consumption among participants during lifetime and 12 months before of the study was 8% and 4.04%, respectively [9]. According to a systematic review and meta-analysis published in 2020, the overall pooled prevalence of alcohol consumption among Iranian participants during lifetime was 13%. This figures were respectively 12% and 15% for the general population and youth during the past year [10].

Drinkers in Iran access alcoholic beverages in three ways: Black market for alcohol where production processes are unclear, making alcoholic beverages at home by consumers, and by buying commercial alcoholic beverages from bartenders who act as intermediaries between smugglers and consumers. According to informal surveys, more than 50% of consumed alcoholic beverages are made in Iran. Commercial alcohol dominates only 20% of the alcoholic beverage market in Iran due to the prohibition of alcoholic beverages and the high foreign exchange rate. It is difficult to distinguish between commercial and homemade alcohol produced on the black market in Iran due to the complete prohibition on the trade of alcoholic beverages. The sellers of homemade alcoholic beverages often claim their products are commercial and smuggled into Iran [11]. Since some producers in black market don't follow basic principles in producing alcohol, a large number of deaths and significant consequences occur. For example, they use components such as methanol instead of ethanol that may be intentional or accidental due to negligence. It was rumored in Iran that alcohol consumption (ethanol) could prevent or cure COVID-19. As a result, consumption of non-standard alcoholic beverages surged. Therefore, Iran had experienced a horrific increase in methanol poisoning deaths following the COVID-19 pandemic [11]. According to the head of Iran's Forensic Medicine Organization, 644 people died due to alcohol poisoning consumption in 2022, an increase of 30% from the previous year. Additionally, methanol in home-made alcohol causes many people to lose their eyesight permanently [12]. Even though the number of deaths and significant consequences is based on the reports of public centers, these figures may be higher due to the fear of punishment for alcohol consumption. The economic impact of alcohol remains unmeasured in Iran due to the prohibition, however, anecdotally, it appears to be consequential.

Alcoholic beverages black market has created a public health issue in Iran. Identifying factors in the growth of alcoholic beverages black market can be helpful for policymakers until they can control these uncontrolled markets. If this goal is achieved, many deaths and significant consequences can be avoided, as well as the economic costs associated with them. As a result, this study aims to identify facilitators of black market for alcoholic beverages in Iran, as well as presenting solutions for harm reduction.

Methods

Study approach and data collection

This study is a qualitative document analysis of online newspapers and Persian news websites. Document analysis is a type of qualitative research that aims to provide voice and meaning to the topic under investigation [13].

Document term is used for a wide variety of texts and materials including books, newspapers, academic journal articles, institutional reports, and visual sources such as video, photograph, and film without a researcher's intervention [13–16].

Two researchers independently reviewed Persian news websites as well as online newspapers to conduct this study. Based on the ratings conducted by the Ministry of Culture and Islamic Guidance in 2023 we searched the top 20 newspapers (Javan, donya-e-eqtesad, Hamshahrai, Farhikhtegan, Khorasan, Quds, Jam-e Jam, Shahrivand, Hammihan, Vataemrooz, Etemad, Shargh, Smt, Arman-meli, Saazandegi, Jahanesanat, 7sobh, Taadol, Mardomsalari, Resalat) and top 20 online Persian news websites (Shafaqna, Parsine, Javanonline, Tabnak, Asriran, Jamaran, Alef, Jahannews, Mashregh, Fararu, DidbanIran, 598, Afkarnews, Nasr, Asreesfahan, Ensafnews, Dana, Etemadonline, Zangekhatar, Akharinkhabar) [17, 18]. We excluded newspapers and news websites that only published unrelated news, such as sports stories. The Persian news websites that act outside Iran were also searched, including BBC Persian news, Iran International, Iran Open Data, and Independent Persian. To complete our research, we searched Google for newspapers and news websites that evaluated Iran's black market for alcoholic beverages. In our search strategy, we used the following key words as Boolean searches in the search engines of each newspaper and Persian news website: handmade alcoholic beverages or homemade alcoholic beverages, or handcraft alcoholic beverages, non-standard alcoholic beverages or non-commercial alcoholic beverages or fake alcoholic beverages, and alcohol black market or alcohol underground markets. Searches were conducted in Persian language. A search of documents was conducted from 2019 (the COVID-19 pandemic) to March 2024. Many media outlets highlighted the black market for alcoholic beverages during the COVID-19 pandemic and the high number of methanol poisoning victims in Iran.

Inclusion criteria and document evaluation

Researchers independently read the obtained documents. First, documents were screened by title, and if relevant, the entire text was read. If a document described homemade alcohol in Iran, it was included in the document analysis stage. In our study, articles that investigated the laboratory and clinical aspects of non-standard alcoholic beverages were excluded. The study excluded articles that only covered death and poisoning news, related to other countries, or addressed religious or criminal issues.

A quality assessment of the documents was conducted at the next stage. Documents were evaluated according to Scott's four criteria: authenticity, credibility, representativeness, and meaning [19]. A text's authenticity depends on its authorship. Credibility is determined by

the document's accuracy and veracity. A document's relevance to the research area determines its representativeness. The meaning of information is determined by the content of the text and its understanding, as well as by evaluating the clarity of the information presented. Two researchers conducted the document appraisal process through discussion.

Data analysis

We conducted a thematic analysis, which is an ideal method for document analysis [15]. The documents were analyzed manually and inductively. The thematic analysis consists of six steps: data familiarizing by reading and re-reading data and understanding of patterns, initial coding based on the answer to the research question, generating themes through combination, themes review, themes naming and defining, and writing up [20].

An analysis of the documents was conducted during the screening process. A maximum of two documents were analyzed per day. To analyze the data, two researchers coded documents word-by-word based on explicit and implicit responses to the study purpose. Following that, initial codes were merged into final codes based on proximity. The final codes were merged into sub-themes in the next phase. Finally, themes were developed by discovering the constructed pattern between the sub-themes. Theme generating was conducted inductively [21]. Up to this point, two researchers conducted separate analyses. Document review continued until data saturation was reached.

In the final stage, researchers discussed codes, final codes, sub-themes, themes, and how they are supported by data, in an iterative process. A final set of codes, sub-themes and, themes was then developed. There was a third researcher who was consulted when disagreements arose.

Trustworthiness

To ensure trustworthiness, we used four criteria recommended by Lincoln and Guba: credibility, transferability, dependability, and confirmability [22]. Two researchers discussed and agreed on all stages of the study, including document inclusion, coding, and generating themes. As a part of our attempts to increase transferability, we explained the study and analysis process in detail. In order to enhance dependability, we discussed the final codes, sub-themes, and themes with two researchers outside the study. Researchers disclosed their reflexivity to improve confirmability. Two researchers had no experience with alcohol black market.

Results

A total of 230 documents were retrieved, of which 110 were reviewed. We reviewed 65 newspaper articles and 45 Persian news articles. As shown in Fig. 1, we included 53 documents in the study. Researchers conclude that their data are saturated after analyzing 53 documents. Neither researcher was able to gain any new insight from the two additional documents analyzed. Therefore, data saturation was confirmed by two researchers.

The number of initial codes was 156. Initial codes were merged so that 21 final codes were extracted. In the next stage, 7 sub-themes were developed from the final codes including governance, regulatory rules and regulations, awareness, culture change, attractive market, manufacturing, and marketing. Finally, four themes were

developed, namely political factors, sociocultural factors, economic factors, and business factors (Table 1).

Theme 1: Political factors

The political environment in Iran has created an opportunity for the alcohol black market to flourish. There are three sub-themes in this theme: governance, regulatory rules and regulations, and awareness.

Sub-theme 1.1: Governance

Iran's alcohol black market is heavily influenced by government policies. A severe punishment is imposed on Iranians who consume alcohol or trade in it. Despite this, informal statistics indicate that the number of consumers has increased, especially among the young. The popularity of alcohol and inaccessibility of commercial alcoholic

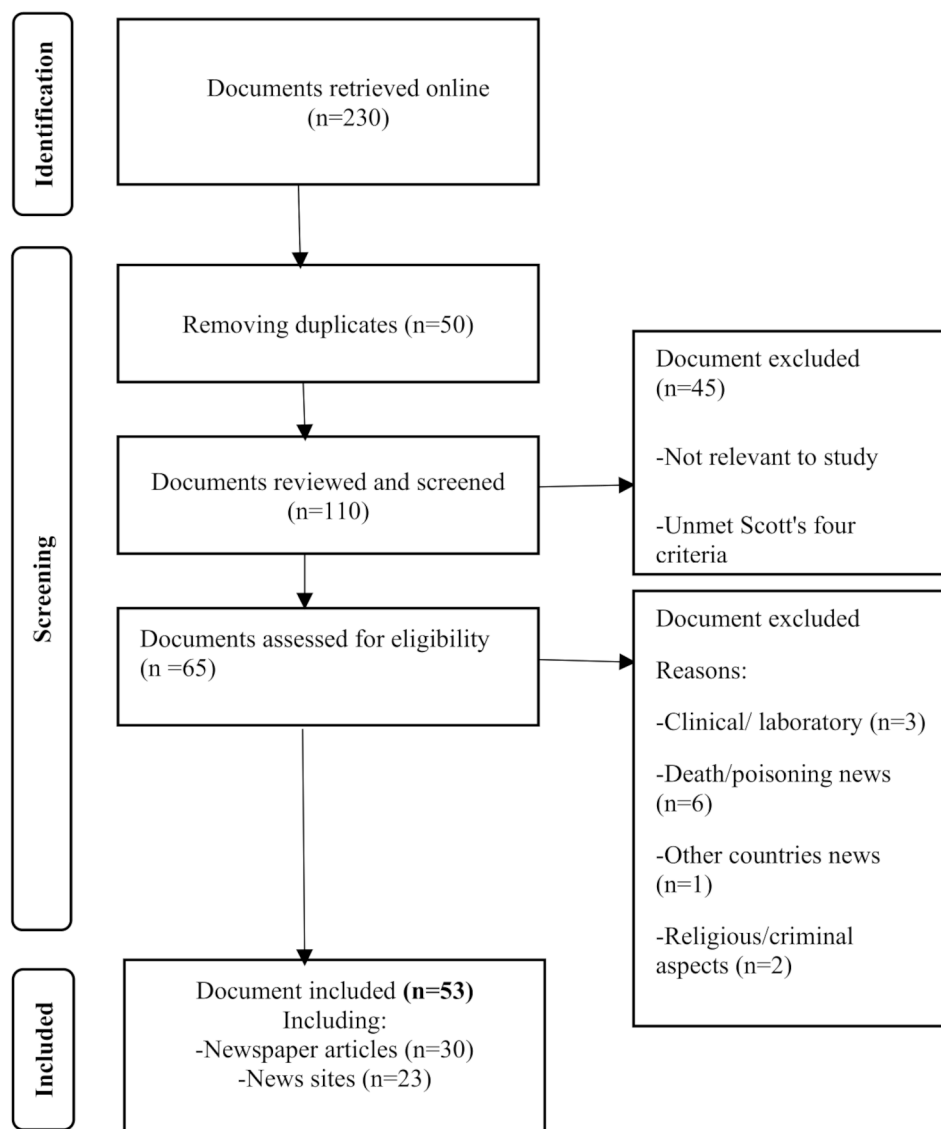


Fig. 1 Flow diagram

Table 1 Develop themes, subthemes, and final codes related to Iran's flourishing black market for alcohol

Themes	Sub-themes	Final codes	Formulated meanings
Political factors	Governance	Prohibition	There is a harmful market without commercial drink trade.
		Coercive measures	Black market develops as a result of penalties against trading commercial alcohol.
	Regulatory rules and regulations	Lack of regulatory authority	Alcohol prohibition prevents government regulation of the industry.
		Lack of supervision of legal factories	Industrial alcohol is sold to producers by some factories with alcohol quotas. In legal alcohol factories, production and sale of alcohol are not controlled or monitored.
Socio-cultural factors	Awareness	Lack of education	The national media and educational organizations do not inform the public about the dangers of non-commercial alcohol consumption.
		Denial	Some religious and political authorities in Iran deny alcohol consumption.
		Fading faith	Even though Islamic teachings forbid alcohol consumption, it is consumed.
		Breaking the alcohol taboos	Alcoholic beverages are widely used in parties and families.
Economic factors	Attractive market	Ease of entry	A license is not required for alcohol producers on the underground market. Liquidity and initial capital are not required.
		High profits margin	Alcohol can be produced cheaply on the underground market, and it generates a lot of income. In comparison to the initial capital, the interest rate is high.
		No competition	Due to legal prohibitions in the production and distribution of alcoholic beverages, the market is not competitive.
		Tax fraud	The trade in alcohol is hidden, and taxes are not paid.
Business factors	Manufacturing	Market size	There is a large trade in alcohol despite severe punishments.
		Easy access to primary equipment	There are many online stores that sell alcohol production equipment.
		Access to alcohol production training	On the Internet, you can find many films that explain how to make alcoholic beverages.
		Access to printing technologies	By printing bottles and cans, producers sell their products as commercial alcoholic beverages.
	Marketing	Ease of access to the raw material	Ease of access and plenty of raw materials such as grapes.
		Lack of quality control	A product's quality is determined by its producers, not by experts.
		Access to quick delivery services	Despite the prohibition of alcohol, alcohol is delivered within a short time after ordering.
		Online advertising	Direct advertising in social media and virtual networks.
		Diversity in selling channels and delivery services	Various channels can be used to sell and deliver alcoholic beverages, including online stores, direct-to-consumer shipping and freight, and intermediaries.

beverages have flourished a black market. A news source writes: "Prohibition of commercial alcohol only benefits profiteers who endanger people's lives." Independent Persian [23].

Due to the heavy penalties for commercial alcohol smuggling, and the ease of making and selling hand-crafted drinks inside Iran, black market has developed. There is a quote from a member of parliament in a news website: "Alcohol consumption needs more effective interventions than coercive measures, especially home-made alcohol, which can be fatal." DidbanIran [24].

Sub-theme 1.2: Regulatory rules and regulations

Two final codes were included in this sub-theme: lack of regulatory authority and lack of supervision of legal factories. Due to alcohol prohibition, there is no government regulation of alcoholic beverages production, distribution, or sale. Due to this matter, the black market for alcohol has grown. A newspaper reported: "There are two ways in which alcohol is produced in Iran: at home or

at the workplace. Because there is no supervision, some producers use methanol instead of ethanol." Hammihan [25].

Due to the legal gap in controlling the use of alcohol quotas by licensed factories, some factories have sold alcohol to alcohol producers. An article in a newspaper reported: "a hair spray and cosmetics manufacturer sold industrial alcohol to alcohol producers." Etemadonline [26].

Sub-theme 1.3: Awareness

Under this sub-theme, there are two final codes: lack of education and denial. Because alcohol consumption is prohibited and criminalized by the Iranian government, neither the national media nor educational institutions raise awareness of alcohol consumption in the country. It is a fact that the media overlooks that alcohol consumption is a health problem beyond crime and sin. Profiteers will expand their operations in the underground economy as long as there is a shortage of education. A news

website wrote: "The silence of the media has led to an increase in the sale of alcoholic beverages." Fararu [27].

Alcohol consumption by Iranians is rejected by some Iranian officials. When the alcohol issue is denied, paradoxical results have occurred, and black market has expanded. A news website wrote: "Iranian authorities find it unbelievable that alcohol consumption has increased so much." Iranopendata [28].

Theme 2: Sociocultural factors

Physical and social factors play a key role in expanding Iran's alcohol black market. Iran is a country where alcohol consumption is on the rise despite being a Muslim country. Iranian society appears to be going through a period of transition socioculturally. This theme has one sub-theme, culture change.

Sub-theme 2.1: Culture change

For this sub-theme, there were two final codes: fading faith and breaking the alcohol taboos. According to the results of several studies in Iran, the prevalence and intensity of alcohol consumption have been growing in recent decades [29]. Consumption of alcohol is contrary to Islamic teaching, suggesting that religious beliefs are fading. Because alcohol trading is prohibited in Iran, consumers find alcohol in unusual places. It is under these circumstances that Iran's black market for alcohol flourishes. A newspaper wrote: "The consumption of alcohol is even prevalent in some religious cities. In these cities, there are sometimes very unfortunate news reports." Hammihan [25].

Alcohol taboos are breaking down, attitudes are changing, and drinkers are on the rise, creating excellent opportunities for underground alcohol producers. A news website quoted the deputy interior minister of the Islamic Republic of Iran in 2021: "Alcohol consumption attitudes have changed. Among those aged 15–64, alcohol consumption is 9–10%." Entekhab [30].

Theme 3: Economic factors

There is a high turnover rate in the underground alcohol market. The market is also uncontrolled, making it easy to get into. As a result of these circumstances, the black market for alcohol will flourish and expand. There is one sub-theme in this theme: attractive market.

Sub-theme 3.1: Attractive market

There are significant differences between the Iranian market for alcoholic beverages and the global market for alcoholic beverages. Entry into the market is not subject to any requirements. Because alcohol is prohibited, there is minimal competition, and taxes are not due. As a result of this matter, Iran's alcoholic beverages black market has flourished. It is written in a newspaper: "Producers who

are different from alcohol producers around the world. They do not have factories or industrial sheds, nor do they have registered and official brands and prices. The only things we can see are a basement, a yard, a vacant apartment, a few gallons, a pot, a cooler lock, and distilling glasses." Farhikhtegan [31]. The underground economy of alcoholic beverages in Iran, however, has a very high turnover. An article in a national newspaper estimates this figure to be 2.24 billion dollars [31].

Theme 4: Business factors

Business subjects are a major factor contributing to Iran's flourishing black market for alcohol. Alcohol can be produced, sold, and marketed in a number of ways. Cyberspace has greatly impacted this issue. This theme has two subthemes: manufacturing and marketing.

Sub-theme 4.1: Manufacturing

The Internet and online stores have made it easier to access information and primary instruments for alcohol production, which have contributed to the growth of the underground alcohol market. A newspaper has written: "It is possible to obtain training on alcohol production online, and even on Iranian networks and platforms. It is strange that the necessary equipment for alcohol production, such as breathalyzers, airlocks, and cocktail kits are also easily accessible and sold in online stores." Farhikhtegan [31].

The producers have deceived consumers by using copying and printing services. There are also online stores that only sell popular alcoholic beverages. A newspaper wrote: "Producers fill a bottle with their product and sell it as a commercial alcoholic beverage." Tabnak [32].

Also, due to alcohol prohibition in Iran and a lack of quality management systems, these producers have no control over the quality of their alcohol. In the absence of quality control, it will become easier to work on black market. A newspaper wrote: "Alcohol quality and composition are determined by producers." Farhikhtegan [31].

Sub-theme 4.2: Marketing

Alcohol producers advertise, sell, and deliver their products in different ways. This subject presents a golden opportunity for producers. This leads to the growth of black market for alcohol in Iran. Postage and freight deliver alcoholic beverages to cities in high volumes. A newspaper writes: "It takes less than half an hour to find an alcohol seller in recreational areas." Fars [33].

Cyberspace has greatly benefited producers in terms of marketing. As a result, alcohol black market has flourished. It is evident from a social media search that alcohol is advertised and promoted by numerous online stores. The products are usually sold as commercial alcoholic

beverages. According to social media users with common experiences: "It is easy to find pages that advertise and sell fake alcohol online. Because fake alcohol looks like commercial alcohol, consumers aren't aware of its dangers until they are poisoned." Fararu [32].

There are several methods for selling and delivering alcohol in Iran. A newspaper wrote: "Alcoholic beverages are delivered directly to consumers. It can even be sent by post or by freight." Fars [33].

Discussion

The purpose of this study was to identify facilitators of alcohol black market in Iran and providing solutions for harm reduction. The Iranian black market for alcohol is flourishing due to political, sociocultural, economic, and business factors.

Political factors have been identified as a theme. Islamic governance in Iran, which prohibits alcohol entirely, has created a thriving black market. Similarly, the consumption of homemade alcohol leads to deaths and hospitalizations in a country like India, where alcohol is prohibited in some states or people cannot afford commercial alcohol [34]. Although prohibition allows for a greater prevalence of abstinence in a population, it has adverse results for harm reduction and treatment access for those that choose to drink or are dependent on alcohol. Since Islamic laws make alcohol trading a crime, the Iranian government enacts coercive measures to prevent alcohol trading. On the other hand, policies that relate to alcohol consumption in adolescents have been greatly influenced by ideological approaches, stigma, and policymaking based on anecdotes rather than evidence [35]. Although coercion can be effective in the short run, it will fail in the long run [36]. Alcohol issues can therefore be addressed by trusting people, not only by coercive measures from the government. It is best to ask consumers, producers, sellers, and families for ideas, since they are directly involved with the problem and can give more specific suggestions. By allowing people to bargain their way to a solution, the government can help solve this problem [36].

Globally, regulatory agencies such as the Alcohol and Tobacco Tax and Trade Bureau (TTB) and the Food and Drug Administration (FDA) require producers to follow label requirements [37]. Because alcohol manufacturing is prohibited in Iran, producers are not required to follow certain regulations. Therefore, alcohol production cannot be controlled and managed. Additionally, it allows some licensed factories to misuse their licenses [26]. As a result, many people are interested in entering this market [38].

It is evident from the analysis that national media do not provide adequate education about adverse alcohol consumption, even neglecting the issue, unlike the drug

issue, for which national media provide wide awareness [39]. This contradicts the content of a national document from 2011 to 2015, which encourages adequate education about alcohol in order to prevent, treat, and reduce alcohol-related toxicity in the country [8]. On the other hand, authorities ignore the problem of alcohol consumption in Iran, which leads to the growth of black market for alcohol. Consequently, the media and educational organization should be used to educate people about non-standard alcohol consumption [40], along with how to distinguish real from fake alcohol, with a focus on no alcohol consumption.

One of the factors contributing to the flourishing of alcohol black market in Iran is sociocultural factors. Social factors can be defined as the immediate physical and social environment in which people live or within which something occurs or develops [41]. It has been shown that cultural norms and beliefs are powerful predictors of current drinking and frequent heavy drinking [42, 43]. The increase in alcohol consumption in Iran shows that attitudes toward alcohol consumption have changed in society and families. As alcohol consumption has been prevalent in Islamic countries such as Saudi Arabia, Pakistan, Egypt, and Jordan [44]. Due to the increase in demand for alcoholic beverages in Iran, demand-side interventions are necessary. The media and social networks must provide extensive education on the harms of consuming homemade alcoholic beverages [45].

Economic factors were also identified as a theme. It is attractive to enter a market with a high revenue level where no tax payment or registration is required. There is also a lack of quality control in these markets, which facilitates entry [38]. As a solution, Iran could officially recognize its alcohol producers. By addressing this issue, the supervision of alcohol production processes and the standardization of alcoholic beverages will be facilitated. In China, relevant officials have developed a wine standard system based on in-depth studies about the Chinese wine industry and pivoted on the food safety law, the standardization law, and other relevant regulations to ensure the safety of wine products and the industry's healthy growth [46]. Iran's Islamic context makes this recommendation challenging, but abandoning these markets may be more difficult.

Another identified theme is business factors. Whenever an industry is completely prohibited, new entrepreneurs will improve techniques and expand output in the underground economy [47]. With advances in information and communication technology, training, required instruments, and channels for alcohol production, sale, and advertisement are now widely available. With respect to the failure of the alcohol prohibition politics in Iran, it appears rational to find alternative solutions in order to ensure consumer health. Therefore, knowing the fact that

there is no safety for any level of alcohol consumption [48], controlling and managing the alcohol black market in Iran is necessary. Considering that social media is an important tool for promoting and selling home-made alcohol, it seems necessary for the government to restrict the activities of alcohol stores on social media to limit the supply [45]. With regard to the consequences of non-standard alcohol consumption, freeing commercial alcoholic beverages in Iran may be beneficial. Since Iran follows Islamic rules and alcohol consumption is considered a crime, it seems inapplicable to repeal the prohibition of alcohol completely. On the other hand, Iran may face a lot of alcoholics among alcohol consumers. Therefore, restricted alcohol freeing is recommended until alcohol consumers are protected from the unfortunate consequences of non-standard alcohol consumption. This can be justified by considering alcoholism a disease rather than a criminal offense. This requires a consensus between health experts and clerics. It is possible for policy entrepreneurs to take steps to obtain the approval of clerics and politicians similar to what happened with the treatment of substance use disorder in Iran [49].

Strength and limitations.

In this study, facilitators of Iran's alcoholic beverage black market are identified for the first time. The study's major limitation is that we could not enrich our findings with other data sources because of the low probability of finding rich-information individuals, ethical concerns, and the sensitivity of the issue. Furthermore, documents about alcoholic beverages in Iran are published with caution and do not provide comprehensive information.

Conclusions

Iranian alcoholic beverages black market flourishes as a result of political, sociocultural, economic, and business factors. In order to control the alcohol black market and homemade alcohol harm reduction, three actors must be considered: the demander, the supplier, and the governance and regulatory system (government). It is possible to reduce alcohol black market harm by intervening on the supply side, on the government side, and accordingly indirectly on the demand side. On the demand side, teenagers and young people can be educated about the dangers of consuming homemade alcohol by providing extensive training. The government can shrink the alcohol black market by enforcing and implementing stricter policies. Iran's Islamic context, however, makes repealing alcohol prohibitions impossible, but freeing commercial alcoholic beverages for regular consumers and alcoholics could reduce black markets. Clerics need to be convinced by health experts that the black market for alcohol is a serious public health problem in order for these solutions to be implemented.

Author contributions

"F.G and R.K were involved in data analysis. F.G wrote up the manuscript and R.K edited it. Researchers read the final version of the manuscript and approved it."

Funding

None.

Data availability

No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Received: 4 September 2024 / Accepted: 20 December 2024

Published online: 28 December 2024

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