

Factors Affecting Hookah Smoking Trend in the Society: A Review Article

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Review Article

Abstract

Background: An increase in hookah smoking is considered to be a serious health problem in societies with different cigarette smoking patterns. Thus, determinants of increase in this behavior are needed to be identified. This study aimed to review the articles related to the causes of hookah smoking in the society.

Methods: This study reviewed the scientific references of authentic databases and journals, including Web of Science, PubMed, Iranian Databases, Elsevier, Embase, Scopus, MEDLINE, CINAHL, CDC, and World Health Organization (WHO). Overall, 84 scientific studies conducted during 1990-2015 were collected.

Findings: Several studies on the prevalence of smoking hookah and its associated factors in the society suggested that numerous factors played a role in interest in smoking hookah. The most common reasons for individuals' inclination to smoke hookah were positive viewpoints toward smoking hookah, wrong beliefs about its low risks, presumed lack of addiction, social acceptance, ease of access, wrong cultural habits, and regulative weakness.

Conclusion: Evidence indicated that a large spectrum of individual and social factors was effective in various levels of hookah consumption. Besides, it seems that single-component interventions and those solely based on individual factors could not result in effective prevention. On the other hand, interventions based on ecological approaches are suggested in this regard. Overall, it is essential to focus on the exclusion of positive viewpoints toward hookah, develop the ability to say "no," relaxation, and resistance against temptations to smoke hookah, culturalization, and regulation of strong laws.

Keywords: Hookah; Consumption of tobacco products; Risk factors

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Introduction

Today, consumption of tobacco products is considered as a globally prevalent health-related problem. It has been estimated that smoking will be the cause of one out of three death cases among adults by 2020.¹ Consumption of tobacco products is one of the significant contributing factors to disease, disability, and early death in the world. The risk of death in tobacco consumers is 80% higher compared to those who do not consume tobacco.²

Tobacco is consumed in different ways such as cigarette, hookah, and chewing.³ Hookah is an old method of consuming tobacco that dates back to 400 years ago and ancient India. It is called with different terms such as Narghile, Shisha, and Arghile in different parts of the world.⁴ Hookah is known as a common old method for consuming tobacco.⁵

Smoking hookah has numerous side effects because hookah smoke includes 4000 chemical materials, most of which are produced during burning process and are combined with more than 40 carcinogenic materials.⁶ Previous studies suggested that hookah smoke consists of large amounts of carcinogenic materials such as hydrocarbons and heavy metals.⁷ Besides, hookah produces significantly higher amounts of smoke compared to cigarette. A cigarette usually produces 500-600 ml smoke, while hookah produces 5000 ml smoke. Moreover, hookah smoke includes larger amounts of poisonous materials compared to cigarette. The amount of nicotine within the blood of a daily hookah smoker is equivalent to that of a cigarette smoker who smokes 10 cigarettes per day. Although more epidemiological studies are needed, it is evident that smoking hookah is associated with significant problems such as cancer, cardiovascular diseases, and addiction to nicotine.⁸ Nevertheless, the studies have shown that smoking water pipe tobacco (hookah) has turned into a social phenomenon that has become widely popular.⁹

In the recent years, smoking hookah has become popular among Asian and African adults, especially in the Middle East and Arab countries.¹⁰ Over 100 million individuals smoke hookah every day. The prevalence of this phenomenon in some parts of the world is even

more than smoking cigarette.¹¹ In a study, the prevalence of smoking hookah was 40.3% among students of state universities of Iran.¹² Another study also revealed that the prevalence of smoking hookah was 29.7% among students of higher education institutes located in Khorramabad, Iran.¹³ In another study performed by Almerie et al. in Syria, the prevalence of smoking hookah was 23.5% in students of medical sciences.¹⁴ Similarly, Fielder et al. conducted a cohort study in 2009-2010 and demonstrated that the prevalence of hookah smoking among students increased from 29.0% before entering the university to 45.0% after the 1st year.¹⁵ In Lebanon also, the prevalence of smoking hookah increased from 21.0% in 2004 to 28.2% in the recent years.⁹ In the same line, Poyrazoglu et al. carried out research in Turkey and reported the prevalence of hookah smoking to be 28.6% among medical students and 37.5% among non-medical ones.¹⁶ Anjum et al., too, showed that the prevalence of hookah smoking was 27.0% among students and 54.0% among university students.¹⁷

The global rate of smoking hookah is increasing due to different factors such as misconceptions about its lack of health risks. This might also be due to its social acceptance, availability of different tastes, and its relatively low cost. The previous studies suggested that different viewpoints regarding lower negative effects of hookah compared to cigarette, easy access, and low cost influenced the prevalence of hookah smoking. In general, different theories and educational models are used for verification of conceptions of, beliefs about, and determining factors of smoking hookah and identification of the factors affecting quitting or continuation of this habit. This study aims to review the reasons for smoking hookah and the related educational interventions through review of the literature.

Methods

The present paper aimed to review scientific references derived from authentic databases and journals such as Web of Science, PubMed, Iranian Databases, Elsevier, Embase, Scopus, MEDLINE, CINAHL, CDC, and World Health Organization (WHO). Overall, 84 scientific papers conducted during 1990-2015 were collected. The inclusion criterion of the study was an emphasis on the determining factors of smoking hookah such as

viewpoint, motivation, and perception, as well as socioeconomic factors associated with this phenomenon in different countries and age groups. Considering the fact that hookah is known by different terms such as Naghile, Bubble, Goza, and Shisha; this study covered the keywords associated with these concepts.

Results

Hookah and its different side effects constitute a significant social concern and a major social disruption factor. The increasing trend of smoking hookah among the youth has added to this concern. Up to now, numerous studies have been done regarding the prevalence of smoking hookah and its associated social factors. The results of these studies showed that many factors influenced hookah smoking. In this study, some of these factors were reviewed based on the previous researches on the issue. Out of the 84 papers collected through keyword look-up, the results of 77 papers were reviewed and included in this study. Among these papers, 73 were original surveys and 4 were review articles. In addition, 4 out of the 73 surveys were intervention analyses.

Positive viewpoints

Among the youth, the most common reasons for the inclination to smoke hookah were having fun, getting rid of sadness, passing leisure time, curiosity, having a new experience, peer pressure, and social relationship.^{15,18-33} Some others also believed that smoking hookah gave the feeling of maturity and masculinity.^{34,35} In addition, scented tobaccos played a significant role in increasing the popularity and frequency of smoking hookah among the youth.^{9,15-31} Among other reasons for smoking hookah, one could point to feeling of calmness and reduction of stress and fatigue.¹⁸ Moreover, numerous studies suggested that the youth believed that smoking hookah had positive psychological effects such as releasing negative excitements and stress, reducing anger and depression, forgetting one's problems, and increasing concentration and self-efficiency.^{22,35-37}

Individual and psychological characteristics

Individual and psychological characteristics also played a determining role in smoking hookah. The results of the studies indicated that individuals with low self-confidence and self-

control were more frequently affected than others and were more easily encouraged to smoke hookah. A lack of ability to say "no" to friends' offer, inability to resist temptation for smoking hookah, and difficulty of ignoring hookah smoking in friendly settings were the reasons why some young adults continued smoking hookah.³⁸⁻⁴⁰

Lack of addiction to hookah

Presumed lack of addiction to hookah is a positive viewpoint for the continuation of smoking hookah among individuals.²¹ Usually, a high percentage of the youth believe that the probability of addiction to hookah is low and may even be none.^{23,41-43} In fact, most of the individuals who smoke are sure that they can quit smoking hookah at will and believe that compared to smoking cigarette, hookah smoking is not addictive.⁴¹⁻⁴³ However, there were some people within the statistical population who considered hookah smoking as addictive and quitting it as problematic as smoking cigarette.³⁰

Individuals' perception of risks of hookah

The results of some studies suggested that the reason for the higher prevalence of hookah smoking might be a misconception of individuals, especially the youth, regarding the low risk of smoking hookah compared to cigarette. A group of hookah smokers thought that hookah had less nicotine and chemical materials. They thought that passage of smoke through water made it somewhat healthier.^{20,44-53} In one study, despite the fact that individuals knew smoking hookah was accompanied by some risks for their health, they continued smoking.³⁴ In some studies, on the other hand, individuals considered the risk of smoking hookah to be equal to or more than smoking cigarette.⁵⁴⁻⁵⁶ Individuals who smoke hookah insert a high volume of nicotine and other carcinogenic materials in tobacco into their body. All these materials significantly increase the risk of cancer and other chronic diseases. However, it is commonly believed that the water in hookah absorbs the poisons of burning tobacco and coal, and this wrong belief has led the consumers to think that hookah smoke is clean and healthy.^{20,44}

Culture

Another influential factor regarding smoking hookah was how it was viewed by the society's

culture. This factor is distinctively significant in the Middle East, including Iran, with regard to smoking hookah. Even some smokers considered it as a hereditary issue and a desirable way to get in touch with other tribes.^{30,57,58} Some hookah smokers, especially adults, also believed that smoking hookah was rooted in public culture and tradition and was a social sign of communication in familial and friendly gatherings.⁵⁹

Social acceptance

Social acceptance, as a cultural factor, also had a significant role in encouraging hookah smoking, especially when compared to smoking cigarette. In general, family and friends play a significant role in encouraging hookah smoking. The studies showed that a high percentage of hookah smokers considered it to be socially acceptable and believed that smoking hookah was positively viewed by others.^{20,23,41-44} In addition, the results of a study demonstrated that hookah smokers considered smoking as a sign of fashion in the society.⁶⁰ This social characteristic associated with hookah smoking was one of the determining factors in starting, continuing, and lack of tendency to quit smoking hookah.²³ On the other hand, some participants in another study considered hookah smoking as unacceptable and undesirable.³²

Role of family and friends

In one study, 90% of students stated that they smoked hookah for the first time at the presence of their family and friends.³⁷ The presence of individuals besides their families, especially parents, or having friends who smoked hookah was significantly associated with the youth's smoking hookah.⁶¹⁻⁶⁵ Moreover, the frequency of observing hookah smoking by relatives resulted in reduced embarrassment of smoking. This might even make it a desirable issue.²³ In another study, a high percentage of parents considered smoking hookah to be undesirable for their kids.³² One can rarely find a study concerning teenagers and tobacco smoking that has not alluded the effective role of friends and learning their habits. The previous studies also supported the significance of efforts made by peers in the formation of teenagers' psychological norms with regard to their decisions about smoking hookah. Peer pressure is, in fact, a strong stimulus for actions of teenagers during maturation. As a

result, teenagers are more inclined to select the friends or be accepted by the peers who smoke hookah.⁶⁶

Access

Ease of access to hookah was another reason for smoking.^{14,59,67} The prevalence of smoking hookah in families and coffee shops lead to young individuals' familiarity with hookah and offer them easy access. Some studies highlighted the role of society in beginning and quitting hookah smoking. The results of a study suggested that 59% of students at universities smoked hookah for the first time in traditional restaurants and coffee houses.¹⁸ Different studies on coffee house customers revealed fun and entertainment, social association with friends and family, peer pressure, and imitation as the most significant reasons for smoking hookah in coffee houses.^{20,68,69} In addition, promotions regarding hookah smoking on the internet and social networks are one of the factors in encouraging hookah smoking among the youth.²³ The findings of another study suggested that the students whose educational centers were near a coffee house that offered hookah were more likely to smoke hookah. Therefore, accessibility was another cause of the increase in the prevalence of smoking hookah. In fact, it seems that individuals who offer hookah in public places seek for more support and a phenomenon, such as smoking hookah, which is pleasant to consumers, will face prevailing consumption as the support is raised in the society.⁷⁰

Role of religion

The results of different studies suggested that religious beliefs were reversely associated with the consumption of tobacco products, and religious reasons were found as the major factors in quitting or not smoking hookah.^{71,72} In fact, commitment to religious beliefs played a protective role against the consumption of tobacco products.⁷¹

Effect of state policies on hookah smoking

It seems that the legal articles about consumption of tobacco products do not sufficiently cover smoking hookah and are more concerned with smoking cigarette.⁷³ Although state regulations play a determining role in the consumption of tobacco products (e.g., effects of price on demand

for tobacco products), the studies suggested that price variation was an influential factor on demand for tobacco products.⁷⁴ For instance, the studies performed in Iran indicated that increase in the price of cigarette significantly reduced its consumption.⁷⁵ In addition, the participants of another study stated that passing legal codes by the government could be a significant step toward reduction of the prevalence of hookah smoking.⁷⁶

Interventions to reduce hookah smoking

Since the frequency of smoking hookah was low in the previous years and it was mostly regarded as entertainment, researchers did not consider this behavior in their interventional researches. Today, however, there are organized places in cities providing hookah services, which have increased people, particularly the youth, inclination to smoking hookah.

Undoubtedly, reducing the frequency of hookah smoking requires special strategies and distinctive interventions, particularly educational interventions, in the society. In this regard, the studies pointed to the role of educational interventions based on theories and paradigms of teaching health-related issues in changing hookah smoking behavior as well as evaluation of individuals' beliefs about quitting hookah and its associated factors. Among the advantages of using these theories in interventions for quitting hookah, one could point to the elimination of positive views toward smoking hookah, enhancing the ability to say no, and an increase of calmness and resistance against temptations for smoking hookah.¹⁸ A study on educational intervention based on BASNEF model demonstrated the effectiveness of this model in reducing the tendency to smoke hookah. The results of that study revealed a significant difference in the mean scores of viewpoint, subjective norms, and behavioral intention. The results also indicated that increase in the effect of subjective norms enhanced the participants' behavioral intention to reduce or quit smoking hookah.⁷⁷ In another study on the effect of an educational intervention based on the theory of planned behavior on changing hookah smoking behavior, the mean scores of behavioral intention and subjective norms increased in the intervention group after the training, which showed an increased inclination to reduce or quit smoking hookah.⁷⁸

Apart from theory, design, location, and content of the intervention are important for reducing smoking hookah among teenagers and young adults. Some studies emphasized the positive role of school- and university-oriented interventions in reducing students', especially the youth's, tendency to smoke hookah in the short term.^{73,79}

Discussion

Smoking hookah is one of the main concerns of both developing and developed communities. This study finding showed, that positive viewpoints toward hookah smoking encouraged the existing smokers to continue smoking, and that misconceptions have led to such positive viewpoints about smoking hookah. A viewpoint is an internal mood, which offers readiness for an action and is constituted by cognitive, emotional, and behavioral elements. The cognitive element refers to an individual's information and knowledge regarding an event, subject, or action. The emotional element refers to feeling good or bad, positive or negative, and useful or non-useful. Finally, the behavioral element refers to an individual's readiness to do an intended action. In other words, an individual's understanding and information about a certain subject influence one's feelings and develop a pleasant or unpleasant feeling about that subject. On the other hand, the positive or negative feelings and pleasant or unpleasant emotions influence the individual's understanding and lead to different perceptions. Each one of these understandings and feelings influences readiness for human actions. In general, humans receive their perceptions from three major sources. First, a person experiences or touches something and obtains an understanding of it. For instance, a person individually smokes hookah and a feeling is developed inside his mind. Second, a person directly obtains information from others' explanation; e.g., someone talking about hookah. Third, a person obtains an understanding through his personal inferences; e.g., watching an acquaintance while smoking hookah and developing a new perception.⁸⁰

Numerous factors might modify an individual's viewpoint toward a subject. Nonetheless, the noteworthy point is the stability

of the viewpoint since it is the outcome of hundreds of internal and external factors. Therefore, viewpoint has a sort of stability and persistence. However, this does not mean that a thorough change in one's viewpoint is impossible. This goal can be achieved through suitable ways and persistent endeavor. This highlights the necessity to gradually change a viewpoint. In this regard, using different theories and ideas could be effective. The findings of the studies by Momenabadi et al.⁷⁷ and Sohrabi et al.⁸¹ also demonstrated that model-based interventions and training based on healthy behaviors construction increased individuals' negative attitude toward drug abuse.

On the other hand, addiction to tobacco products has psychological dimensions. This implies that individuals with certain psychological characteristics such as low self-confidence, negative self-perception, and some personality types, might get involved in this phenomenon more than others. A large number of studies have disclosed that school-based education based on life skills was effective in the prevention of unhealthy behaviors such as drug abuse. One of these skills included the ability to say no and having self-confidence.⁸²⁻⁸⁵ It should also be noted that one should pay attention to individuals' psychological characteristics in public phenomena such as smoking hookah. Yet, mere emphasis on psychological status leads to an inability to justify most of the phenomena thoroughly and define certain arrangements to deal with them. Research in Hormozgan, Iran, revealed that individuals smoked hookah with others, making it a social behavior.⁸⁶ Hence, stating that someone has started smoking hookah due to certain negative psychological traits and ignoring the public aspects of smoking hookah is only offering a partial image of reality. In this regard, individuals should be encouraged toward public behaviors and sports activities.

In most cases, cultural perceptions behind smoking hookah were also among the most significant factors affecting hookah smoking. Hookah is a traditional method of drug abuse, dating back to more than 400 years ago. It is known as shisha, hookah, and arghile in different parts of the world.^{67,87} The traditional society of Iran also regards hookah as one of its traditional symbols. In fact, one can always trace the

presence of hookah in Iranian customs and traditions. If we pay enough attention, we might observe that hookah was offered to guests based on certain rituals in the past. Because smoking hookah has been common in many societies since long time ago, it has never been critically viewed and this has contributed to its prevalence. In this regard, communication between parents and children and the existence of calm and quiet atmosphere in the family could offer a protective role in preventing the youth from the inclination to smoke cigarette and hookah. The information offered by mass media and cultural promotions regarding the negative effects of hookah could be effective, as well.

Overall, it can be concluded that smoking hookah has turned into a social phenomenon. Social phenomena refer to the issues that are outcomes of collective human behaviors; i.e., they are made under the influence of collective factors and are done and thought in public.⁸⁸ The phenomenon of smoking hookah is observed in three generations, namely, grandparents, parents, and children. These three groups smoke hookah within familial and friendly gatherings in parks, parties, celebrations, and meetings. This means that this addictive substance is used during collective events or gatherings, chats, drinking, and entertainments. Sociologically speaking, we are faced with a collective action.⁸⁶ This collective action could satisfy the consumption and entertainment aspects in members of familial and friendly gatherings. Because this consumptive action occurs in collective manner, it is eligible and desirable from the viewpoint of those involved and reinforces belonging to the group in the members. In fact, the feeling of belonging to groups and a kind of social identity are developed through presence in collective works and actions such as individuals' participation in smoking hookah. In addition to entertainment and consumption, individuals desire to possess a feeling of membership in different groups. The reference group is the group that determines individuals' direction in life and its values are accepted by the members.^{89,90}

Family plays a critical role in the determination of the reference group and transfer of values to individuals.⁹¹ Therefore, family must have a healthy environment. In fact, families are required to be trained by school counselors or the

mass media regarding the dangers of drug abuse as well as about how to treat their children to prevent adolescents and young adults from getting involved in high-risk behaviors. In addition, families must be aware that they are the main models for their children; thus, smoking hookah in the family would lead to elimination of embarrassment of smoking hookah and getting used to nicotine.

According to the study results, friends are another important factor in smoking hookah. Introduction of the modern society and less control of families over their youths and adolescents enhance the likelihood of being influenced by friends. This influence is mostly in terms of anti-social behaviors, such as smoking hookah. The previous studies have confirmed the effect of others and friends, as effective social factors, in the incidence and prevalence of harmful social behaviors, such as alcohol consumption^{92,93} and drug abuse.^{94,95} Similarly, Teraghhijah et al.,¹² Repetti et al.,⁹⁶ and Khader and Alsadi.⁷² stated that having smoker friends increased individuals' tendency toward smoking cigarettes. This shows the necessity to train adolescents and adults regarding not befriending with unsuitable individuals and learning the ability to say no against peers' pressure.

According to what was mentioned above, filling the youth's free time with healthy activities, such as sports, is a preventive and protective measure against smoking hookah. If proper planning for filling the leisure time is not done, one might start smoking hookah and drugs in one's leisure time. Therefore, one of the significant strategies for preventing the youth from smoking hookah is planning alternative activities for those who smoke hookah in their free time.

Based on the results, another reason for smoking hookah was individuals' wrong perception of its harmlessness. WHO also mentioned wrong understanding about harmlessness of hookah smoking as one of the reasons for increase in tendency toward this behavior among adolescents and young adults. This wrong belief has resulted in an increase in the popularity of hookah in the 21st century.⁹⁷ Considering the new strategies of drug production companies also, adolescents who have wrong information about harmlessness of tobacco and its impact on health are the main victims of

hookah smoking.⁹⁸ Hence, such incorrect thoughts and beliefs should be taken into account and individuals' knowledge should be increased through mass media and educational interventions. On the other hand, some people consider hookah as a strategy for getting rid of cigarette, while smoking hookah has similar serious health threats. The amount of carbon monoxide resulting from hookah is also similar to that of cigarette.

The results of various studies have shown that religion plays a protective role against smoking tobacco products and reduces the probability of getting addicted to cigarette.^{72,99,100} This can be justified by the fact that religion somehow reinforces the meaning of life for human beings. Religion guides individuals toward selecting more balanced values and behaviors to attain a healthy life. In addition, because religious commitment is recognized as a strong and persistent factor against negative behaviors, embedding spiritual and religious dimensions in preventive and treatment plans might reduce the frequency of dangerous behaviors. Incorporation of religious programs in schools may also play a significant role in the prevention of high-risk behaviors among adolescents and young adults. In fact, religion and mental health protect human personality and dignity, while addictive drugs act against moral principles and human dignity. Evidence has indicated that reduction of religious beliefs among the youth could provide the ground for high-risk behaviors. On the other hand, commitment to religious principles could prevent social damages, moral deviations, and impacts of cultural invasion. It can also decrease inappropriate behaviors indirectly through increasing self-esteem, improving the relationship between family members, and increasing parents' supervision.¹⁰¹

Based on the study findings, a lack of embarrassment about smoking hookah and its social acceptance led to an increase in the prevalence of this behavior.⁹⁸ Social acceptance refers to a reference viewpoint, which shows the opinions of a wide social system. It is regarded as a norm that can be effective in selection of behaviors among society members.¹⁰² Therefore, the society must act in a way that individuals view smoking hookah as inappropriate behavior, similar to smoking cigarette, and come to the conclusion that smoking hookah

does not improve their social personality among the society members.

Another reason for the high prevalence of hookah smoking is its ease of access. Provision of tobacco products and hookah in traditional restaurants and coffee houses together with traditional architecture and music has caused individuals to get together in these places, which increases their tendency toward smoking hookah.^{77,103} Thus, preventive programs against hookah smoking in the society requires planners, policymakers, and the related organizations to avoid establishment of such centers in the society and reduce this behavior among the youth by considering limitations for the provision of such services in restaurants and coffee houses. One of the outstanding measures to reduce consumption of tobacco products, such as hookah, might be increasing the price of tobacco along with assigning more taxes to its manufacturing. Moreover, planners and authorities have to pay more attention to the youth's recreational activities. In some countries, including Iran, offering hookah is legally prohibited in public places. Therefore, the increasing number of restaurants and coffee houses that offer hookah should be taken into account by health planners and policymakers.

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Conclusion

Experience gained in the recent years has indicated that public and private sectors lack the sufficient and essential ability to deal with hookah smoking, because this phenomenon has penetrated through different cultural layers of the society and assigning legal fines does not work against culture and might even reinforce this phenomenon in the society. The findings of the current study revealed that various personal, interpersonal, and organizational factors were effective in the prevalence of smoking hookah. Therefore, preventive interventions should be planned and implemented at social or ecological levels using health promotion theories and models. Using non-governmental organizations (NGOs) and public entities could also contribute to the prevention of tobacco consumption.

Conflict of Interests

The Authors have no conflict of interest.

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عوامل مؤثر بر گرایش به مصرف قلیان در جامعه

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مقاله مروری

چکیده

مقدمه: رشد فزاینده مصرف قلیان در جوامع، با الگوی مصرف متفاوت از سیگار یک معضل بهداشتی بزرگ به شمار می‌آید که نیاز به تحقیق برای شناسایی تعیین کننده‌های افزایش این رفتار جهت پیشگیری پیشنهاد می‌شود. مطالعه حاضر با هدف مروری بر مقالات مرتبط با علل مصرف قلیان در جامعه تدوین شد.

روش‌ها: این تحقیق با استفاده از مرور منابع علمی در پایگاه‌ها و مجلات معتبر شامل Iranian databases, PubMed, Web of Science, Elsevier, Embase, Scopus, MEDLINE, CINAHL, CDC و WHO (World Health Organization) انجام گردید و در مجموع ۸۴ مقاله علمی- پژوهشی طی سال‌های ۲۰۱۵-۱۹۹۰ جمع‌آوری شد.

یافته‌ها: مطالعات متعددی در ارتباط با شیوع مصرف قلیان و عوامل مرتبط با آن در جامعه صورت گرفته است که بررسی نتایج آن‌ها نشان می‌دهد، عوامل متعددی در گرایش به مصرف قلیان نقش دارند. بیشترین دلایل تمایل افراد به مصرف قلیان عبارت از نگرش‌های مثبت، باورهای غلط در خصوص کم‌خطر بودن، اعتیادآور نبودن تنباکو، پذیرش اجتماعی، سهولت دسترسی، فرهنگ غلط و ضعف قوانین بود.

نتیجه‌گیری: در مجموع، شواهد حاکی از طیف عوامل تأثیرگذار بر مصرف قلیان در سطوح مختلف درون فردی تا اجتماعی می‌باشد. بر این اساس، به نظر می‌رسد که مداخلات تک جزئی و مبتنی بر عوامل فردی، به تنهایی کفایت لازم را برای پیشگیری اثربخش ندارد، بلکه مداخلات در سطوح متعدد مبتنی بر رویکردهای اکولوژیک پیشنهاد می‌شود. بنابراین، به منظور پیشگیری از مصرف قلیان بر حذف نگرش‌های مثبت به قلیان و پرورش مهارت‌های نه گفتن، آرام‌سازی و مقابله با وسوسه‌های کشیدن قلیان، فرهنگ‌سازی و تدوین قوانین محکم ضروری است.

واژگان کلیدی: قلیان، مصرف مواد دخانی، عوامل خطر

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