

Attitude of University Students towards Waterpipe Smoking: A Study in Iran

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Abstract

Background: Tobacco is consumed in various forms, and there has been an increasing trend worldwide in the use of waterpipe. This study aimed to assess the university students' attitudes towards waterpipe.

Methods: This was a cross-sectional study; 1130 students randomly were selected from universities of Kerman, Iran. They were provided with a researcher-made questionnaire after obtaining the informed consent. The anonymous questionnaires were completed with ensuring about information confidentiality. In addition to the underlying questions, the questionnaires consisted of 10 attitude survey questions. Higher scores indicated more positive attitudes.

Findings: The obtained results indicated a significant difference of attitude of the students who were current or occasional smokers of waterpipe in comparison with the students who never smoked it towards addictiveness, social acceptance or rejection and its harmfulness; so that their attitudes were more positive ($P < 0.05$). Mean \pm SD of attitude score of the students who never consumed waterpipe before, those who had the history of consuming it at least once and those who were current smokers were 1.40 ± 0.40 , 1.50 ± 0.41 and 1.70 ± 0.43 , respectively ($P < 0.001$).

Conclusion: Waterpipe smoking was associated with false beliefs and positive attitudes among the students; therefore, the necessity of education and attitude changing is required in this regard.

Keywords: Tobacco, Attitude, Drugs, Student.

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Introduction

Tobacco is on the top preventable causes of the death. Based on the WHO report in 2005, five million deaths occurred due to the complications of tobacco and this will reach to 8 million until 2030; this increasing trend is associated mostly with developing countries.¹

Global expansion of waterpipe may be viewed as a public health crisis² because:

1. Smoke of waterpipe possesses the same toxic substances of the cigarette and in some instances imposes more toxins into the body.

2. It is associated with dependency.

3. Participation in waterpipe smoking causes transferring of some infections such as tuberculosis.

4. It can harm non-smokers in their own environment.

In recent decade, increasing trend in tobacco use amongst adolescents and youths has been perilous. There are many different reasons why they smoke it including social pressures, peer pressures, coping with stress, curiosity and enjoyment and pleasure seeking.³ During recent years, there has been a considerable increase in waterpipe smoking in comparison with cigarette smoking; particularly in Middle East, Europe, North and South American countries.²

There are many wrong beliefs about waterpipe smoking which would lead to increase in consumption among youths and also create health hazards. It is falsely believed that waterpipe smoking is associated with less harm; its addictiveness is not as highly as cigarette and it is in company with higher social acceptance and less obscurity; therefore, it is more common among girls than cigarette smoking, especially in Islamic countries.⁴

While waterpipe has higher values of carbon monoxide (CO) than cigarette and both have similar amounts of nicotine, according to the long trend of waterpipe smoking in every time, it considerably exposes individual with more smoke. Forty five minutes of waterpipe smoking would expose individual to the smoke as 40 times more.⁵ In a study, it was indicated that one session of waterpipe smoking is almost equal to four times of the carcinogenic polycyclic aromatic hydrocarbons (PAH), four times of volatile aldehydes and 30 times of carbon monoxide gas in comparison with one cigarette which can emit these. And one-hour session of waterpipe

smoking can emit toxics and carcinogenic substances equivalent to 2 to 10 cigarette smokers.⁶

In a review study, waterpipe smoking had significantly been associated with lung cancer, respiratory diseases, low birth weight and oral (gum) diseases.⁷ One of the wrong beliefs is that passing the smoke through the water via long tube can lessen the harms resulted by tobacco.

In a study on U.S. students, more than half of the respondents believed that waterpipe has less addictive effect than cigarette and also it has a higher social acceptance. About one-third of the respondents believed waterpipe is less harmless than cigarette and the important note here is that a considerable percentage of the waterpipe smokers do not smoke cigarette.⁸

In a study on Pakistani students, almost half of the participants smoked waterpipe and they mentioned curiosity -as the most common cause- and then pleasure seeking, peer pressure, stress and tiredness as the causes of consumption.⁹

In a study among the Danish, Sweden and German youths, waterpipe smoking had dramatically increased and there was an association between waterpipe smoking and progress towards the regular consumption of cigarettes in the students; and among the males, waterpipe smoking had been predictor of regular consumption of cigarette in an 8-month follow-up.¹⁰

In a study on Syrian students, male to female ratio about cigarette has been more than narghile waterpipe which indicated more social and family acceptance for females to consume waterpipe.⁴

Assessing the students' attitudes is of importance from two aspects: first, students serve as a role model for young people and their own peers; and second, many of these behaviors would be permanent in this age. This study aimed to review the students' attitudes towards waterpipe consumption.

Methods

This cross-sectional survey was conducted as a part of a larger study investigating waterpipe smoking in university students in Kerman, Iran; its method is explained in more detail elsewhere.¹¹ Data collection tools consisted of a researcher made questionnaire including demographic characteristics and questions about

students' attitudes so that they had to announce their approval or opposition response. Ten attitudinal statements with four-degree Likert scale were asked from them (Completely Disagree = 0, Disagree = 1, Agree = 2 and Completely Agree = 3). Questions number 2 and 6 were encoded inversely (Table 1); thus, the higher the score of the students, the more it was indicated their agreement toward waterpipe smoking. Cronbach's alpha of the questions was 0.68. Factor analysis indicated factorability of the questions. In addition to calculating the mean attitude score, the response of the subjects also were divided into two categories of *agreement* and *disagreement*. In terms of consumption or non-consumption of waterpipe, students were divided into three groups: those who never before smoked waterpipe (never smokers), those who currently smoke it (i.e., during the past month as current smokers) and those who smoked it in a over the past year (recent smokers).

The students were randomly selected from the university students of all the years of the two main Kerman universities. The anonymous questionnaires were completed and collected with ensuring about data confidentiality.

To compare mean and percentages among

the three groups, ANOVA and chi-square tests were used, respectively.

Results

In this study, 1024 subjects (out of 1130 people who have been invited) participated in the study from whom 50.5% were females (517 people) and the rest were males.

Their mean age was 20.6 years with standard deviation of 2.3. In terms of consumption or non-consumption of waterpipe, students were divided into three groups; those who never before smoked waterpipe (never smokers, 589 subjects), those who currently smoked it during the last month (current smokers, 191 subjects) and those who smoked it in a range time over the past year (recent smokers, 244 subjects).

Mean \pm SD of attitude score of the students who never smoked waterpipe before, those who had at least one experience of smoking it and those who were the current smokers was 1.40 ± 0.40 , 1.50 ± 0.41 and 1.70 ± 0.43 , respectively ($P < 0.001$). Tukey test indicated the significant difference among the three groups. The obtained results showed a significant difference between the students' attitude towards harms, addictiveness and social obscenity of waterpipe (Table 1).

Table 1. Frequency of agreement with each one of the attitude survey questions in the students

Attitudinal statement	Current Smokers (%)	Recent Smokers (%)	Never Smokers (%)	P value
1. A large number of my peers smoke waterpipe.	143 (74.9)	150 (61.5)	264 (44.8)	< 0.001
2. My parents would be upset if they realize I smoke waterpipe.	121 (63.4)	171 (70.1)	541 (91.9)	< 0.001
3. Smoking waterpipe is a normal thing by students.	129 (67.5)	85 (36.5)	140 (23.8)	< 0.001
4. Quitting waterpipe is easier than cigarette.	129 (67.5)	167 (68.4)	312 (53)	< 0.001
5. Waterpipe has less harm than cigarette.	67 (35.1)	44 (18)	101 (17.1)	< 0.001
6. The cost of waterpipe is high per month for a student.	85 (44.5)	80 (32.8)	264 (44.8)	< 0.001
7. Waterpipe has less obscenity among the students than cigarette.	137 (71.7)	170 (69.7)	335 (56.9)	< 0.001
8. Recreational consumption of waterpipe does not cause dependency.	108 (56.5)	108 (44.3)	122 (20.7)	< 0.001
9. Waterpipe smoking would increase tendency toward addictive drugs.	85 (44.5)	161 (66)	490 (83.2)	< 0.001
10. I would bear someone who smokes waterpipe near me.	144 (75.4)	172 (70.5)	213 (36.2)	< 0.001

Discussion

This study showed that the opinion survey of the students who smoked waterpipe indicated less harmfulness, less addiction and higher social acceptance compared with cigarette.

In a study on U.S. students also half of the respondents believed that waterpipe has less addictiveness than cigarette that in this study, 56.6 percent of the current smokers had such a belief.⁸ In a similar study on Syrian students, it was indicated that youths do not consider waterpipe alone as smoking and this had been formed as a family acceptance form; more interestingly is that this type of smoking was associated with higher acceptance in females and this was despite their stronger belief about harmfulness of waterpipe compared to cigarette (49.7% vs. 30%).⁴ Peer pressure was considered as one of the risk factors toward waterpipe smoking. In a study in Isfahan (Iran), this was mentioned for starting and continuation of waterpipe smoking³ so that in the present study also students significantly believed that a large percentage of their peers do this and it can be due to different reasons such as obscenity reduction and replicating; on the other hand, it can be concluded that some individuals with similar behaviors would find each other more often in the friendly groups.

Furthermore, in various studies, reduction in anxiety and coping with stress and tiredness have been mentioned as causes to smoke waterpipe and this issue, about abusing all the addictive drugs, is considered as a risky cause and a factor for beginning and continuing addiction.

In the present study, belief in addictiveness of waterpipe had considerably been different among the consumer group and otherwise. The impact of friends and peers in a study in the U.S. have been shown in increasing trend of waterpipe smoking during academic years and also have been discussed as an acceptable social method.

In this study, waterpipe smokers are known as relax and calm people among the peers. This was one of the wrong beliefs that waterpipe smoking has less addictiveness which can increase its health risks. Sometimes people consume waterpipe as an alternative for cigarette due to underestimating waterpipe's harms and risks while waterpipe can be as the main gateway of cigarette smoking and ultimately other types of

addiction. This was also shown in a study among Danish, Sweden and German youths. In this study, waterpipe smoking had been the predictor of regular consumption of cigarette in the future months.¹⁰

In another study which was done on students of Kerman, accompanying cigarette smoking was determined with other substances like alcoholic drinks and having smoker friends; on the contrary, saying Prayer and better academic status had been associated with less cigarette smoking.¹²

In another study on students, there was a reciprocal interaction between waterpipe and cigarette smoking; moreover, these university students believed cigarette has less harm and less addictiveness.

Waterpipe smoking intolerance in the environment was the issue that the participants showed their disagreements with. Considering the harms of waterpipe, it seems that limitation policy for its consumption in some certain places would highlight its dangers in addition to reducing harms and damages for non-smokers who unwantedly are exposed to the smoke. It is interesting to note that 90 percent of the Syrian students in the mentioned study (including smokers or non-smokers) declared their agreement to ban smoking in public places.¹³ However, the other considerable issue is to substitute drugs with each other so that one of its reasons is the common roots of types of drug abuse which is related to psychological factors of drug abusers.

One of the limitations of the present study was the necessity of addressing gender factors. Psychological factors intervening in waterpipe consumption and accompanying with abusing other drugs can basically influence the attitude of the individuals consciously or unconsciously which has to be considered in further supplementary studies.

Since the students' attitudes toward waterpipe smoking might be related to their future practice, the false beliefs and positive attitude of them towards waterpipe smoking, which was revealed in the study should be regarded as a warning sign to further spread of waterpipe among university students.

Conflict of interest: The Authors have no conflict of interest.

References

1. Mathers CD, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. *PLoS Med* 2006; 3(11): e442.
2. Maziak W. Commentary: The waterpipe--a global epidemic or a passing fad. *Int J Epidemiol* 2010; 39(3): 857-9.
3. Roohafza H, Sadeghi M, Shahn timer M, Bahonar A, Sarafzadegan N. Perceived factors related to cigarette and waterpipe (Ghelyan) initiation and maintenance in university students of Iran. *Int J Public Health* 2011; 56(2): 175-80.
4. Maziak W, Eissenberg T, Rastam S, Hammal F, Asfar T, Bachir ME, et al. Beliefs and attitudes related to narghile (waterpipe) smoking among university students in Syria. *Ann Epidemiol* 2004; 14(9): 646-54.
5. Eissenberg T, Shihadeh A. Waterpipe tobacco and cigarette smoking: direct comparison of toxicant exposure. *Am J Prev Med* 2009; 37(6): 518-23.
6. Daher N, Saleh R, Jaroudi E, Sheheitli H, Badr T, Sepetdjian E, et al. Comparison of carcinogen, carbon monoxide, and ultrafine particle emissions from narghile waterpipe and cigarette smoking: Sidestream smoke measurements and assessment of second-hand smoke emission factors. *Atmos Environ* 2010; 44(1): 8-14.
7. Akl EA, Gaddam S, Gunukula SK, Honeine R, Jaoude PA, Irani J. The effects of waterpipe tobacco smoking on health outcomes: a systematic review. *Int J Epidemiol* 2010; 39(3): 834-57.
8. Primack BA, Sidani J, Agarwal AA, Shadel WG, Donny EC, Eissenberg TE. Prevalence of and associations with waterpipe tobacco smoking among U.S. university students. *Ann Behav Med* 2008; 36(1): 81-6.
9. Jawaid A, Zafar AM, Rehman TU, Nazir MR, Ghafoor ZA, Afzal O, et al. Knowledge, attitudes and practice of university students regarding waterpipe smoking in Pakistan. *Int J Tuberc Lung Dis* 2008; 12(9): 1077-84.
10. Smith-Simone SY, Curbow BA, Stillman FA. Differing psychosocial risk profiles of college freshmen waterpipe, cigar, and cigarette smokers. *Addict Behav* 2008; 33(12): 1619-24.
11. Sabahy AR, Divsalar K, Bahreinifar S, Marzban M, Nakhaee N. Waterpipe tobacco use among Iranian university students: correlates and perceived reasons for use. *Int J Tuberc Lung Dis* 2011; 15(6): 844-7.
12. Nakhaee N, Divsalar K, Bahreinifar S. Prevalence of and factors associated with cigarette smoking among university students: a study from Iran. *Asia Pac J Public Health* 2011; 23(2): 151-6.
13. Almerie MQ, Matar HE, Salam M, Morad A, Abdulaal M, Koupsi A, et al. Cigarettes and waterpipe smoking among medical students in Syria: a cross-sectional study. *Int J Tuberc Lung Dis* 2008; 12(9): 1085-91.

نگرش دانشجویان نسبت به مصرف قلیان: مطالعه‌ای در ایران

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چکیده

مقدمه: تنباکو به اشکال مختلفی مصرف می‌شود. استفاده از قلیان در سراسر دنیا روندی رو به افزایش دارد. هدف از این مطالعه، ارزیابی نگرش دانشجویان نسبت به قلیان بود.

روش‌ها: این مطالعه به صورت مقطعی انجام گرفته است، تعداد ۱۱۳۰ دانشجویان دانشگاه‌های شهر کرمان به صورت تصادفی انتخاب شدند و پس از کسب رضایت آگاهانه، پرسش‌نامه‌های محقق ساخته به آنان داده شد. پرسش‌نامه‌ها بدون نام و با اطمینان از محرمانه بودن اطلاعات تکمیل شدند. پرسش‌نامه‌ها علاوه بر سؤالات زمینه‌ای شامل ده سؤال نگرش سنجی بودند. نمره بالاتر علامت نگرش مثبت‌تر بود.

یافته‌ها: داده‌های به دست آمده نشانگر مثبت‌تر بودن معنی‌دار نگرش دانشجویانی که مصرف کننده متداول یا گاه‌گاهی قلیان بودند نسبت به دانشجویانی که هیچ وقت استعمال قلیان نداشتند، در برخی حیطه‌ها بود؛ این حیطه‌ها شامل اعتیادآوری، پذیرش یا عدم پذیرش اجتماعی و مضر بودن می‌شد ($P < 0/05$). میانگین (انحراف معیار) نمره نگرش دانشجویانی که اصلاً سابقه مصرف قلیان نداشتند، آن‌هایی که سابقه حداقل یک‌بار مصرف قلیان داشتند و آن‌هایی که Current smoker بودند به ترتیب $(0/40/1)$ ، $(0/41/50/1)$ و $(0/43/70/1)$ بود ($P < 0/001$).

نتیجه‌گیری: مصرف قلیان با وجود مضرات شناخته شده آن همراه با باورهای غلط اجتماعی در میان دانشجویان است. بنابراین ضرورت آموزش و تغییر نگرش در این مورد را ایجاب می‌نماید.

واژگان کلیدی: تنباکو، نگرش، مواد، دانشجویان.

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