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## Evaluation of Smokers' Attitudes about Tobacco Control Program and Obstacles to the Implementation of this Program in Tehran

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### ABSTRACT

This study aimed to assess the status of cigarette marketing in Tehran and the attitude of smokers toward smoking Behavior and tobacco control programs in smokers of Tehran. This cross-sectional study was conducted on 608 volunteer smokers in Tehran City. Using a stratified cluster random sampling method, the study population involved smokers who used at least one cigarette per day. The data collection tool was an anonymous self-administered questionnaire including basic information and questions related to participants' attitude toward smoking habits (Cronbach's alpha; 78.19%). (72.9%) of the participants started smoking at the age of 10 to 19 years and 72.2% used foreign cigarettes. Each person spends a daily average of 30690 riyals for cigarettes. Being tempted (28.0%), feeling euphoria (27.8%) and getting nervous (25.5%) were the most common reasons of restarting cigarette smoking after cessation. A majority of the participants believed that smoking in public places was a violation of the rights of others and smoking should be avoided in such places. 61 Iranian and foreign cigarette brands available in the market that some foreign cigarettes were smuggled. Most smokers start smoking as teenagers, then smoking prevention programs should focus on adolescents as the most vulnerable age group. Raising the retail price of tobacco products through increasing taxes can reduce consumption particularly among first starters and youth. increasing taxes and prices of tobacco products may be effective when simultaneous effective measures are implemented to eliminate all kinds of illicit trade in all forms of tobacco products.

**Key words:** Tobacco, Attitude, Smoking Cessation, Smoking, Health Policy, Tehran

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### INTRODUCTION

Non-infectious diseases comprise 43% of the disease burden around the world; and it is expected that in 2020 the diseases become responsible for 60% of the total disease burden

and 73% of all cases of death. Smoking is one of the factors commonly observed in many countries [1]. Tobacco smoking is one of the behavioral risk factors of Non-infectious diseases such as cardiovascular diseases [2]. Risks of mortality and morbidity from the tobacco consumption result not only from direct tobacco use, but also from exposure to second-hand tobacco smoke [3]. According to the WHO estimation, there are about 1.3 billion smokers worldwide that comprise one

third of the world population over the age of 15 years. If this pattern of smoking remains unchanged, this rate will reach 2 billion by the year 2030 [4]. The World Health Organization, Reported smoking prevalence in Iran 14% was estimated in 2011 that the rate among men was 29% and in women 1% [5]. Based on the Tehran Lipid and Glucose Study (TLGS), the prevalence of cigarette smoking was 10.6% (22% in men versus 2.1% in women) [6]. Previous studies indicate that approximately 43% of non smokers are exposed to cigarette smoke in various locations [7]. The WHO Framework Convention on Tobacco Control (FCTC) was developed in 2005 in response to the globalization of the tobacco epidemic [8]. At the same year, the parliament of the Islamic Republic of Iran legislated the accession of Iran to the WHO FCTC [9]. In 2013, the WHO provided an action plan for prevention and control of noncommunicable diseases. A 30% relative reductions in prevalence of current tobacco use in persons aged 15+ years was one the nine voluntary targets that were suggested in this guideline [10]. Several policy options have been suggested to reduce tobacco use and exposure to tobacco smoke. However, there is no single and comprehensive formulation of an action plan that fits for all population, because socioeconomic levels and Attitude and practice in societies are different. The FCTC's development was based on the best available epidemiologic and economic evidence on the impact of interventions and policies. This study was conducted on smokers in Tehran City to assess the characteristics of smokers and the status of cigarette marketing and to measure the attitude of the smokers toward the policies and tobacco control programs.

#### MATERIALS AND METHODS

This cross-sectional study was conducted on 608 voluntary smokers in Tehran city (capital city). According to the results of an epidemiological study conducted by Heydari *et al* [11] in Iran, about 60.1% of the smokers preferred foreign cigarettes. On the basis of this result we arrived at a sample size of 572 at 95% significance level and 0.07 error level and And was added to 608 people. We used a stratified cluster random sampling method. We tried to select a sample that was as much similar as possible to the general population. For this purpose, we selected the voluntary participants from the general population who were in drugstores, malls, banks, gyms, bus stations, healthcare centers, parks,

arrival/departure terminals, subway, dormitory, book fair, factories, workshops, mosque, university, government office, hospitals, clinics, barber shops, addiction cessation center, Tehran Book Fair, Azadi Stadium, and street passengers. The study population included smokers who smoked at least one cigarette per day, regardless of sex and age. The volunteer participants filled out an anonymous self-administered questionnaire. The data collection tool consisted of two parts. The first part of the questionnaire included basic information and demographic characteristics such as gender, marital status, educational level, age of start smoking, duration of cigarette smoking, the number of cigarettes smoked per day, type of cigarette (domestic, foreign), model of cigarette (light, regular), income per month, and paying for cigarette per day. The second part of the questionnaire included 20 five-choice questions (perfectly disagree/ disagree, no opinion, agree, perfectly agree) related to participants' attitude toward smoking habits. Each question was scored from one to five that made a total score ranged from a minimum of 20 to a maximum of 100 for each volunteer. The reliability of the second part of the questionnaire was evaluated through a pilot study including 50 individuals. The value of Cronbach's alpha was 78.19%. The software Stata version 11 (StataCorp, College Station, TX, USA) was employed for data analysis. We also used Microsoft Excel 2013 for drawing figures.

#### RESULTS

The analysis was based on data from the 608 participants. The acceptance rate was 89.2% this means we identified 681 eligible participants, but 73 persons refused to fill out questionnaires, or participants did not return questionnaires, or participants were excluded from the analysis because they did not complete questionnaires. The mean (SD) age of the participants was 29.5 (12.2) with a range of 12 to 75 years.

Of 608 participants, 560 (92.1%) were male and 48 (7.9%) were female. 412(68.7%) were single and 147 (29.3) were Married. Of total participants 295 (48.8%) were highly educated, and 40 (6.6%) have Primary education. The mean (SD) age of started smoking was 17.1(5.45) years. In meal The mean (SD) age of started smoking was 17.1 (5.3) and in female 17 (4.4). 443 (72.9 %) started smoking at the age of 10 to 19 years. 386 (63.5%) smoked for less than 10 years. Participants use

mean (SD) 15(11.5) cigarettes per day, 183 (30.7%) use 16-20 cigarettes per day and 43 (7.1%) use more than 30 cigarettes daily. 439 (72.2%) used foreign cigarettes and 50 (9.7%) used domestic cigarettes. 327 (54.4%) used light cigarettes, 235 (40.7%) had a monthly income between 1 to 2 million Rials. Participants spent mean (SD) 30960 (24300) Rial per day month for tobacco consumption (Table 1).

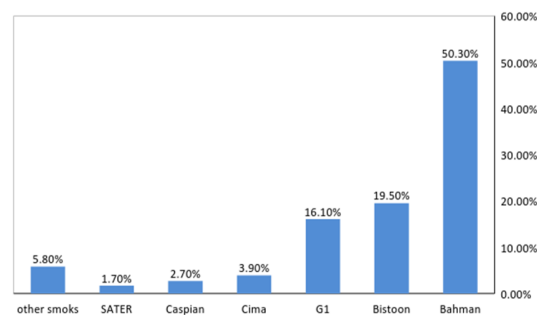
**Table 1: The characteristics of the study population (n=608)**

Variables	Number	Percent
<b>Gender</b>		
Male	560	92.1
Female	48	7.9
<b>Marital status</b>		
Single	412	67.7
Married	178	29.3
Divorced	14	2.3
Widow	4	0.7
<b>Educational level</b>		
Primary school	40	6.6
Secondary school	54	8.9
High school	216	35.7
Academic	295	48.8
<b>Age of start smoking (yr)</b>		
1-9	21	3.5
10-19	443	72.9
20-29	124	20.4
30-39	13	2.1
≥40	7	1.1
<b>Duration of cigarette smoking (yr)</b>		
1-9	386	63.5
10-19	133	21.9
20-29	43	7.1
30-39	28	4.6
≥40	18	2.9
<b>Number of cigarette smoking/day</b>		
1-5	135	22.2
6-10	167	27.5
11-15	43	7.1
16-20	183	30.7
21-30	33	5.4
≥31	43	7.1
<b>Type of cigarette</b>		
Domestic	50	9.7
Foreign	439	72.2
Both	110	18.1
<b>Model of cigarette</b>		
Light	327	54.4
Regular	185	30.7
Both	90	14.9
<b>Income per month (Rial)</b>		
<500,000	114	19.7
500,000-999,000	115	19.9
1,000,000-1,499,999	160	27.7
1,500,000-1,999,999	75	13.0
>2,000,000	114	19.7
<b>Payment for cigarette per day (Rial)</b>		
<10	158	26.1
10-19.9	254	41.9
20-29.9	111	18.3
30-39.9	33	5.5
≥40	50	8.2

According to our results, 143 kinds of cigarettes were marketed in Tehran, including 38 (26.6%) domestic brands and 105 (73.4%) foreign brands. 61 of the foreign brands were imported (had hologram) and 44 are smuggled (did not have hologram). All (100%) domestic brands had health warning labels. The most commonly used domestic brands were Bahman (50.3%), Bistoon (19.5%), G1 (16.1%), Cima (3.9%), Caspian (2.7%) and SATER (1.8%) (Figure 1), and that of foreign brands were Winston (36.4%), KENT (20.2%), Montana (11.3%), Magna (9.6%), Marlboro (8.1%), Montana (7.3%), Camel (3.4%) (Figure 2).

Most of the participants (57.3%) were willing to stop smoking and 41.9% were ready to quit cigarette smoking if there would be smoking cessation centers that supported them free of charge. In addition, 3103 (89.2%) participants had attempted to quit smoking at least once in the past year. The causes of restarting after quitting smoking are given in Figure 2. Being nervous (26.8%), getting tempted (24.0%), and feeling euphoria (22.8%) were the most common reasons that participants reported for restarting cigarette smoking after cessation (Figure 3).

The attitude of participants toward smoking habits is given in Table 2. According to these results, 70.9% participants believed that if smoking in indoor public places was banned, they would avoid smoking in such places; 68.7% stated that they would never enter smoke-free environments with a burning cigarette; 69.7% acknowledged that they would always extinguish their cigarettes before entering public places; 70.4% believed that smoking in public places was a violation of the rights of others; 67.4% respected the law of banning smoking in public places; and 47.3% claimed that they would avoid smoking in workplaces.



**Figure 1: The most common brands of domestic cigarettes used by the study population**

Table 2: Attitude of the participants toward smoking habits (%)

Row	Items	Perfectly Disagree	Disagree	No opinion	Agree	Perfectly agree
1	If smoking in indoor public places is banned, I will avoid smoking in such places.	10.1	7.4	8.7	37.3	36.5
2	I will reduce cigarette smoking if the price of cigarettes increases,	20.0	27.4	11.8	26.9	13.9
3	I will never use foreign cigarette if the price of domestic cigarettes increases,	23.5	28.7	18.5	18.7	10.6
4	The adverse effects of domestic cigarettes are similar to that of foreign cigarettes.	16.3	27.4	17.0	25.7	13.8
5	The essence of domestic cigarettes is similar to that of foreign cigarettes.	25.5	33.3	14.2	17.9	9.1
6	Light cigarette is as harmful as conventional cigarette, although has less smoke.	11.2	24.9	15.1	29.0	19.8
7	Smoking seriously threatens my health.	6.3	8.1	13.8	29.2	42.7
8	My cigarette smoking will hurt my family members.	5.7	9.0	12.3	37.1	36.0
9	I avoid smoking at work place.	10.1	20.3	14.8	31.6	23.2
10	I will never enter smoke-free environments with a burning cigarette.	6.7	10.3	10.6	43.2	29.2
11	Smoking in public places is a violation of the rights of others.	4.4	9.4	13.1	38.2	34.9
12	I always extinguish my cigarette before entering public places.	5.2	11.6	12.4	42.5	28.3
13	I won't be upset if some reminds me for smoking in public places.	11.2	16.3	15.8	33.3	23.4
14	I respect the law of banning smoking in public places and I will perfectly follow it.	5.6	11.1	14.6	41.3	27.4
15	One reason for smoking is easy access to cigarettes.	11.9	17.8	13.6	30.4	26.3
16	Easy access to cigarettes can increase the prevalence of smoking, especially in adolescents and young adults.	8.6	16.0	11.9	34.8	28.7
17	Health warning messages by radio, TV, and other media are effective in reducing cigarette smoking.	16.3	27.4	16.1	25.6	14.6
18	Bans on all forms of tobacco marketing to persons aged under 18 years will reduce cigarette smoking.	12.6	16.3	14.4	31.6	25.1
19	The health warning labels on cigarette packs make me worry.	17.3	24.5	17.3	28.3	12.6
20	The health warning labels on cigarette packs make me smoke less.	20.3	30.1	14.3	21.2	14.1

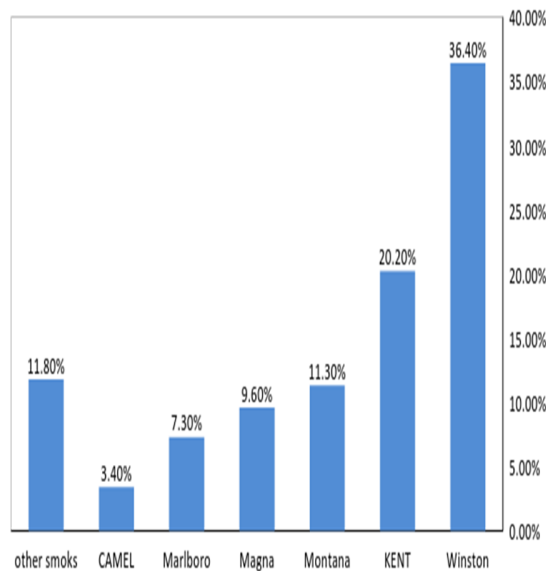


Figure 2: The most common brands of foreign cigarettes used by the study population

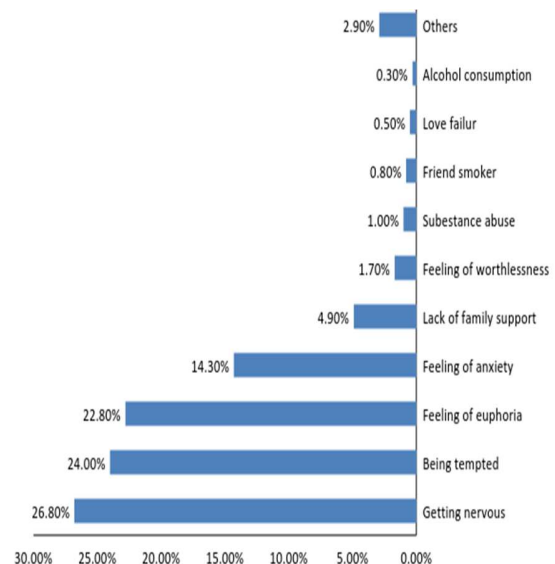


Figure 3: Causes of restart cigarette smoking after cessation

About 55.7% of the participants believed that one reason for tobacco epidemic was easy access to cigarettes; 54.1% acknowledged that bans on all forms of tobacco marketing to persons aged under

18 years would reduce cigarette smoking; and 60.7% stated that easy access to cigarettes could increase the prevalence of smoking, especially in adolescents and young adults.

Only 38.4% of the participants stated that the health warning labels on cigarette packs made them worry and just 30.8% claimed that health warning labels on cigarette packs made them smoke less; and only 34.2% expressed that health warning messages by radio, TV, and other media were effective in reducing cigarette smoking.

### DISCUSSION

Smoking is still a universal leading cause of preventable morbidity and premature mortality, especially in low and middle-income countries [12]. About half of all life-long smokers will die prematurely, losing on average about 10 years of life. Smoking as a direct cause of cardiovascular, cancer and respiratory diseases [13,14]. Despite differences in smoking prevalence in different parts of the world, the age at onset of smoking is fairly similar and most smokers begin smoking before 18 years of age [15]. Age at smoking initiation is one of the most important determinants of future tobacco dependence, chance of cessation and risk of adverse health outcomes [16]. The prevalence of smoking among young Iranian males varies from 15% to 35% in different studies [17]. We indicated that a majority of people started smoking at the age of 10 to 19 years. Cigarette smoking and is common among adolescent and young adults. One study reported that about 36.1% of the high-school students have used hookah at least once in the past [18]. That means policies and prevention programs should focus on adolescents and young adults as the most vulnerable age group and keeping in mind the need for age-specific tobacco control strategies. For instance, warning secondary and high school students about the dangers of tobacco use through effective health programs may be helpful. Furthermore, bans on all forms of tobacco marketing to people aged under 18 years may reduce the prevalence of cigarette smoking.

Our findings showed that most of smokers had a good attitude toward tobacco control programs. Most smokers believed that smoking in indoor workplaces and public places was a violation of the rights of other people and agreed that smoking in such places should be avoided. 7.0% of the burden of disease in 2004 due to smoke in non-smokers was 61 percent occurred in children [19].

This finding indicates that if governments create by law completely smoke-free environments in all indoor workplaces, public places and public transport, a majority of smokers are likely to follow the law. This will offer help to people who want to reduce their exposure to second-hand smoke, especially pregnant women. Heydari *et al*, study which was conducted in 2005 in Tehran showed that about 40% of smokers used smuggled cigarettes [20]. According to our results, a majority of the smokers used foreign cigarettes. 143 kinds of cigarettes were marketed in Tehran, including 38 (26.6%) domestic brands and 105 (73.4%) foreign brands. 58.0% of the foreign brands were imported (had hologram) and 42.% were smuggled (did not have hologram). All (100%) domestic brands had health warning labels. Even a major part of those cigarettes had hologram and was supposed to be imported formally, but was really smuggled, because some holograms were illegally printed and installed on the cigarette packets. In such situation, increasing tobacco taxes and prices could reduce the affordability of tobacco consumption when simultaneous effective measures are implemented to eliminate all kinds of illicit tobacco products. A review estimated that 16.8% of cigarettes used in low-income countries, 11.8% in middle-income countries, and 9.8% in high-income countries were smuggled [21]. Therefore, cooperative action is necessary to eliminate all kinds of illicit trade in all forms of tobacco products, including smuggling, illicit manufacturing and counterfeiting as was confirmed in the preamble of the WHO FCTC (8). One steps of global action plan for the prevention and control of noncommunicable diseases is, packets and packages of tobacco products should carry health warning labels describing the harmful effects of tobacco use [2]. This graphical health warning labels are associated with increased awareness of the smokers about smoking-related risks and harm to the health. In our study, only 40.9% of the participants believed that health-warning labels on cigarette packs and health warning messages from the media might be effective in reducing cigarette smoking. Unawareness of the participants about the serious consequences of tobacco may be a reason. However, comprehensive educational and public awareness programs about the health risks of tobacco use and exposure to tobacco smoke, and giving information about the benefits of the cessation of smoking may promote public awareness of the serious consequences of tobacco consumption. A majority of the participants had



attempted to quit smoking, but unfortunately, they restarted smoking. Most of the participants stated that they were willing to quit tobacco use if there were smoking cessation centers that supported them free of charge. This indicates that providing and promoting tobacco cessation centers should be an important component of national efforts to provide facilities for those who want to stop smoking.

### CONCLUSION

More attention should be paid to cigarette smoking, as a fatal habit with severe physical, mental, and financial consequences, in youth, and particularly in students. This population group is highly susceptible to smoking, due mainly to different types of stressors such as burden of educational and uncertainty of future work, on one hand, and the pressure from friends combined with ease of access, on the other hand. Although the prevalence of cigarette smoking has been reported to be lower among the students of the medical sciences compared to non-medical majors, these rates were still high; taking into consideration the fact that they will be in charge of delivering health services to the society, their smoking can negatively impact the attitudes towards this habit. Raising the price of tobacco products especially cigarettes may be effective when simultaneous effective measures are implemented to eliminate all kinds of illicit trade in all forms of tobacco products.

Furthermore, most of the participants had a good attitude toward tobacco control strategies and believed that smoking in indoor workplaces and public places is a violation of the rights of other people. Therefore, it is expected that legislation of completely smoke-free environments in all indoor workplaces, public places and public transport may effectively reduce the exposure to second-hand smoke. Finally, providing smoking cessation centers that support smokers free of charge may be an effective measure to help smokers who are willing to quit cigarette smoking.

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