Tanaffos (2009) 8(2), 54-58

What Kind of Cigarettes Do Smokers Use in Tehran?

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ABSTRACT

Background: *Smoking is the first preventable cause of death in the world. Regulating the production, import, distribution and sell of cigarettes is the most prominent action for implementation of tobacco control programs. In this regard, it is necessary to know the smoker's choice in terms of different cigarette brands.*

This study has been designed before the implementation of Framework Convention of Tobacco Control (FCTC) and Iranian Comprehensive Tobacco Control Law.

Materials and Methods: *This cross-sectional study was conducted through questioning during the year 2006. Health-care personnel were chosen for conduction of this project and participated in training courses conducted with the cooperation of Health Departments of 3 major universities in Tehran.*

The Questionnaires were designed according to WHO and IUATLD questionnaires. Health-care workers distributed the questionnaires among smokers in specific areas.

Results: *A total of 3026 people participated in this study among which 2413 (79.7%) were men. Consumption of foreign-made cigarettes was 65.5% whereas consumption of locally-made cigarettes was 34.5%. Also, the use of legally-imported cigarettes was 55.9% compared to the use of illegally-imported cigarettes which was 44.1%. Consumption of foreign-made and illegally-imported cigarettes was higher among women (78.4% and 72.5%, respectively). Also, consumption of foreign-made cigarettes among the age group of under 25 years old was less than any other age group (52%).*

Conclusion: *Consumption of foreign-made and illegally-imported cigarettes was considerably high in our population and even higher among women. Therefore, it is recommended that the authorities make it hard for the people to access illegally-imported and smuggled cigarettes by complete implementation of tobacco control programs and by adopting effective anti-smuggling measures.* ***(Tanaffos 2009; 8(2): 54-58)***

Key words: *Cigarette, Illegal, Smuggling, Smoker*

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Received: 17 November 2008

Accepted: 15 February 2009

INTRODUCTION

Smoking is an important cause of death and is the first preventable cause of mortality in the world. About 5 million deaths occur annually due to smoking and this trend will reach to 10 million by the year 2030. Smoking related deaths show that smoking is shifting from developed countries to developing countries.(1)

To fight this issue and to promote society's health level, implementation of tobacco control programs is essential.(2,3) These programs consist of smoking cessation programs, preventing initiation of smoking among young adults and regulating the production and sell of cigarettes.(4,5)

Regulating the production, import, distribution and sell of cigarettes is the most prominent action for implementation of tobacco control programs. International experiments have shown that by applying some rules and limitations, smoking trend decreases in the society. Some of these regulations include applying health warning labels and governmental codes to cigarette packages and increasing the price of cigarettes through taxation and anti-smuggling campaigns.(6,7)

Framework Convention of Tobacco Control (FCTC) is a legal tool through which tobacco control objectives could be fulfilled in the society. Establishment of FCTC was finalized by the World Health Organization (WHO) in 2003 after four years of effort. To date, 168 countries (including Iran) have been signed the FCTC and 157 countries (including Iran) have ratified it.

Iran joined the FCTC in 2005 and Iranian Comprehensive National Tobacco Control Law was approved by the Parliament in 2006 and then after about one month it was noticed by the President. The law is now in the stage of processing for execution. Sell of cigarettes, pricing, anti-smuggling campaign, applying health warning labels on cigarette packages and related health hazards are among the issues covered by this law. To execute each part of the law, we need to know the existing status of smoking in the society. For instance, information on the brands and amount of consumed cigarettes, the attitude of smokers, pattern of provision and consumption and the availability of cigarettes are helpful for implementation of tobacco control programs.

Important baseline information is required for implementation of these programs. Therefore, the existing status should be analyzed to evaluate the changes after the execution of laws and necessary interventions. This study was designed to assess different brands of cigarettes in Tehran in order to provide productive programs for tobacco control, anti-smoking campaign and import and export of tobacco products.

MATERIALS AND METHODS

This was a cross-sectional study carried out through questioning in Tehran during 2005-2006. First, with the collaboration of Health Departments of three Medical Science Universities of Tehran, Shahid Beheshti and Iran, some health centers were chosen. Then with the collaboration of these centers, 30 health-care personnel were chosen for training. The selection was performed randomly and they were fairly distributed in the city in a way that at least one of them worked in each district. In this manner, thirty clusters were selected randomly in the city and the centers of clusters were the houses of health-care personnel. Each health care worker questioned about 100 smokers. The direction of questioning was from the right and upper side of each house.

The questionnaires were designed based on WHO

and IUATLD questionnaires. They were given to the health care workers to do the questioning in their residential districts.

The sample size was 400, calculated by using the formula below:

n= $Z^2_{1-\alpha/2}P(1-P)/d^2$

(P=0.50, α=0.05, d=0.90)

To be able to compare men and women, at least 400 cases from each group were questioned. The variations were described based on frequency distribution. The inclusion criterion was the history of cigarette smoking for a minimum of 1 year. The exclusion criterion was only substance abuse.

Age, gender, occupation, brands of cigarettes, the number of consumed cigarettes, daily smoking expenses and physical dependency were studied in this study.

Measurements:

Legally-imported cigarettes: with legal or specified governmental labels.

Illegally-imported cigarettes: with no legal or specified governmental labels.

Locally-made cigarettes: locally manufactured brands.

Foreign-made cigarettes: international brands.

Data were analyzed by SPSS software and STATA. We used relative frequency or standard deviation for describing the data and Chi-square test for assessment of the correlation of variables.

RESULTS

The following results were obtained from 3026 completed questionnaires:

79.7% of participants (n=2413) were males.

Most participants were between 30-40 years of age (especially 40 years old). The mean age of participants was 40±12.7 yrs (range 13-92).

Educational level of 49.2% (n=1439) of participants was below high school diploma; 36.7% of participants were employees, 34.3% were businessmen, 1.7% were students, 9.4% were housewives, 10% were workers, 4.6% were unemployed and 3.2% had other occupations.

Age of starting smoking in 35.8% (the highest frequency distribution) was between 16-20 years. Most of them started smoking at the age of 13 (17.5%). The mean age of initiation of smoking was 21±8.19 yrs.

One thousand two hundred eighty-eight cases (43.4%) had been smoking for more than 20 years. The minimum history of smoking was 1 year and the maximum was 80 yrs. Most of the participants had a smoking history of 10 years with a mean of 19±11.69 yrs.

Of the participants, 1609 cases (54%) smoked 11-20 cigarettes a day. Minimum consumption was 1 cigarette and maximum consumption was 80, but they mostly consumed 20 cigarettes a day. The mean number of cigarettes smoked daily was 16.81±10.16;

1241 cases (55.9%) consumed legally-imported cigarettes while 980 cases (44.1%) consumed illegally-imported cigarettes; 953 cases (34.5%) consumed locally-made cigarettes while 1818 cases (65.5%) consumed foreign-made brands.

Smoking frequency of legal, illegal, local and foreign- made cigarettes according to the gender and age is summarized in tables 1, 2, 3 and 4.

Table 1. Frequency distribution of the use of locally and foreign made cigarettes based on gender

Cigarette / Gender	Local	Foreign	Total
Male	822 (37.5%)	1372 (62.5%)	2194 (100%)
Female	115 (21.6%)	418 (78.4%)	533 (100%)
total	937 (34.4%)	1790 (65.6%)	2727 (100%)

P=0.000

Table 2. Frequency distribution of the use of locally and foreign made cigarettes based on age

Cigarette / Age group (yrs)	Local	Foreign	Total
< 25	286 (48%)	309 (52%)	595 (100%)
25-40	322 (29%)	783 (71%)	1105 (100%)
41-55	110 (26%)	310 (74%)	420 (100%)
> 56	152 (30%)	353 (70%)	505 (100%)
Total	870 (33%)	1755 (67%)	2625 (100%)

P=0.000

Table 3. Frequency distribution of the use of legally and illegally imported cigarettes based on gender

Cigarette / Gender	Legal	Illegal	Total
Male	1098 (63%)	646 (37%)	1744 (100%)
Female	126 (27.5%)	332 (72.5%)	458 (100%)
Total	1224 (55.6%)	978 (44.4%)	2202 (100%)

P=0.000

Table 4. Frequency distribution of the use of legally and illegally imported cigarettes based on age

Cigarette / Age group (yrs)	Legal	Illegal	Total
< 25	330 (76.4%)	102 (23.6%)	432 (100%)
25-40	395 (41.5%)	557 (58.5%)	952 (100%)
41-55	187 (54.7%)	155 (45.3%)	342 (100%)
> 56	251 (61%)	160 (39%)	411 (100%)
Total	1163 (54.5%)	974 (45.5%)	2137 (100%)

P=0.000

DISCUSSION

Anti-smoking campaign is more productive through the implementation of lawful programs. International experiments show that increasing the tax on cigarettes results in a decrease in consumption. Also, the ban on selling cigarettes to under 18 years old costumers resulted in lesser consumption among this age group.(8,9) Other strategies in tobacco control programs consist of using pictorial health warning labels on the cigarette packs and severe campaigns against cigarette smuggling.(10,11)

To fight against smuggling, it is necessary to know the brands of cigarettes smoked in the society. Smoking control programs can be better designed by considering the trend of using locally- or foreign-made cigarettes and smokers' inclination towards illegally-imported brands. In our country, a few studies have been carried out in this realm but some studies by Heydari et al. showed that 36% of participants (988 cases) consumed full-flavored cigarettes, 47.4% (1311 cases) consumed mild cigarettes and 16.6% (453 cases) consumed both regular and mild cigarettes. Frequency distribution of cigarette smoking according to gender showed that 71.8% of women (n=387) and 41.8% of men (n=924) consumed mild cigarettes ($p<0.001$). The mean of daily smoking expense in Rial was 4,680±390 (range: 1000-63000). The median was 4,500 and the mode was 4,000 Rials. (12, 13) (1 Dollar~10,000 Rials)

As it was shown in this study, consumption of foreign brand cigarettes is high in our population. This trend is more significantly seen among women. However, these cigarettes are less frequently used by young adults. This issue failed the researchers' expectations and may be due to the high prices of these cigarettes. However, further studies are required to prove this theory.

In this study, 45% of smokers used illegally-imported cigarettes. This rate is different from the one reported by the government and Iranian Tobacco Company which was about 15-20% in 2007. It is necessary to perform complementary studies to prove these trends. However, the important point is the significant increase of the use of illegally-imported cigarettes among women (about 3 times) while the consumption of legally-imported cigarettes is higher among men. Temptation towards foreign-made cigarettes caused by the indirect tobacco advertising implying the higher quality of these brands may play

a role in this trend. As shown in this study, young adults have less inclination to use illegally-imported cigarettes and as it was mentioned earlier high prices of these cigarettes might be one of the main reasons in this regard which should be evaluated in further studies.

This study was conducted when FCTC and National Comprehensive Tobacco Control Law were not completely implemented in Iran and this is one of the advantages of this study because it shows a panorama of cigarette market in Iran. It is recommended that a similar study is carried out after the enforcement of this law to compare the results. By implementing legal tobacco control programs in the future, we hope to decrease the trend of using foreign-made and illegally-imported cigarettes in Iran.

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