

## Evaluation of Factors Affecting the Tendency towards Cigarette Smoking in High School Students of Tehran

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### ABSTRACT

**Background:** Cigarette smoking is the first preventable death in the world. The number of cigarettes smoked per day and the years of smoking are considered as the main risk factors in causing the related disease, mortality, and morbidity.

Since it seems that the age at which smoking is started has decreased in our society, it is important to recognize the cause and factors that affect the tendency towards cigarette smoking in this period of life.

**Materials and Methods:** This research was conducted according to WHO questionnaire and Global Youth Tobacco Survey project (GYTS). A total of 1119 high school students were chosen randomly from different educational districts of Tehran from the year 2002 to 2003 and questioned in this regard.

**Results:** 28.2% of students (25.2% female and 30.8% male) smoked occasionally and 4.4% of them (1.5% female and 6.06% male) smoked daily. 67.7% of smoker students started smoking before the age of 15 and 88.7% of them before the age of 17. The most important reason for smoking among 55.3% of students was curiosity and leisurely smoking was observed in 19.3%. Also, presence of a smoker in the family is one of the effective factors that affects the initiation of smoking in students; this was statistically significant ( $p=0.000$ ).

**Conclusion:** According to the results of this research, students must be properly trained by appropriate methods in this regard in order to prevent the initiation of smoking in school-aged children. (*Tanaffos* 2004; 3(9): 41-46)

**Key Words:** Cigarette, Students, Tendency to smoke

### INTRODUCTION

Smoking is considered as the first preventable cause of mortality and morbidity in the world (1).

Cigarette smoking is responsible for 90% of lung cancers, 40% of other cancers, 50% of cardiovascular diseases, 75% of respiratory diseases, 12% of all mortalities and 30% of deaths occurring between the

age of 30 and 50 (2).

Smoking is usually started at young ages. Imitation of adult behavior is stated to be the most important factor in starting smoking in some researches. After that impertinent behavior is considered as the main factor (3).

This is while tendency towards smoking due to curiosity in young adults can be one of the important factors (4). Regular cigarette smoking which is

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initiated in the early teens gives a 50/50 chance of early death due to cigarette related diseases.

Smokers who quit at young age avoid all the risks. The sooner the child starts smoking, the greater will be the risk of continuing smoking throughout life. These individuals become heavy smokers and die because of the cigarette related diseases. Similarly, heart attacks and lung cancer occur at a younger age. Damages are not limited to long-term smoking (5).

Apparently, less cigarettes are needed to addict a child. For some, less than 5 cigarettes a day, or leisurely use of cigarettes for 4 weeks is sufficient to develop the classic signs of nicotine addiction like depression, irritability, withdrawal, anxiety, difficulty in concentration, and restlessness (6).

Eleven-year-old children show withdrawal symptoms and loss of control during the quitting period; both of which are dose and pack-year dependent.

If parents smoke, the children will act so. It is obvious that cigarettes are very much available in a smoker family.

They are also used to the smell and stimulating effects of the cigarette smoke which can addict them at least for the next several years.

Some parents even give their own cigarette to their children to smoke at a very young age (7).

Naturally, child tends to imitate their family members. In fact, some researches have demonstrated that sibling smoking (brother, sister) has even greater influence than parent smoking. However it has been shown that parents' disapproval, even if they are smokers, often decreases the risk of smoking in these children.

On the contrary, smokers who have quit usually have a positive role in encouraging their children to quit.

In many western countries, efforts are being undertaken to train children before the age at which smoking is started.

Almost all elementary school children (between the ages of 5 to 11) are strongly against smoking. However, at the ages of 12 and 13, when the children reach higher classes force of classmates and others will be increasingly irresistible.

If friends or elder children smoke at school, younger children tend to join them (8).

The aim of this study is to evaluate factors affecting the tendency towards cigarette smoking in young adults. Since according to National Health Survey results performed by Health Ministry in 1991 more than 60% of the smokers start smoking at the age of 15 years (9), high school students of Tehran were selected for this research.

## **MATERIALS AND METHODS**

This was a cross sectional and descriptive study. After obtaining the consent of Ministry of Education and confirming the questionnaire by the research center, list of 19 district offices of Ministry of Education was enlisted. By using EPI info 6 software and random numbers, districts 1, 2, 4, 14, and 19 were chosen.

By referring to above districts, in addition to informing those involved in the management, list of high schools of each district was obtained. Using random numbers, 10 high schools were selected in each district. The permit to enter the high schools was issued. In each high school, one classroom was selected. After being explained by physician, the students filled the questionnaire in a calm environment, without the presence of school authorities. The questionnaire was prepared according to WHO and Global Youth Tobacco Survey project questionnaire (10). Data were collected in regard to general information of the young adults, history of daily or occasional cigarette smoking, reason of smoking, and presence of a smoker member in the family.

Data forms were entered the SPSS-11.5 software and related data bank was analyzed. To explain the information in this research, crude and relative frequencies have been demonstrated in related tables.

To analyze the correlation between the variables, chi-square test (being significant if  $p < 0.05$ ) was used.

## RESULTS

A total of 1119 high school students of Tehran were questioned in this study; among those 718 (64.2%) were male. The age groups of students are demonstrated in figure 1.

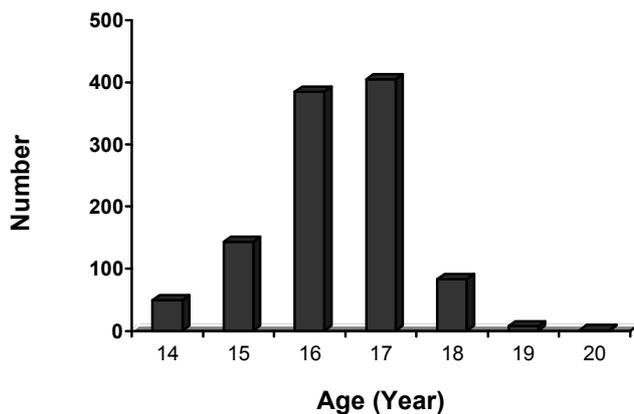


Figure 1. Age frequency of high school students of Tehran-2002.

Regarding the general information of the under study population we can mention the followings:

- 594 (53.1%) of students were pre-college students (Table 1)
- The number of the family members of the 391 students questioned (34.9%) was 4 (Table 2).
- 515 (46%) of the mothers have high school certificate (Table 3).
- 473 (42.3%) of the fathers have degrees higher than high school certificate (Table 4).

Table 1. Relative frequency distribution of educational field of the high school students of Tehran-2002

Educational field	Number of students	Percentage
Mathematics	397	35.5
Science	59	5.3
Arts	51	4.6
Pre college	594	53.1
Miss	18	1.6
Total	1119	100

Table 2. Relative frequency distribution of number of the family members of high school students of Tehran in 2002.

	Number	Percentage
2	8	0.7
3	49	4.4
4	391	34.9
5	359	32.1
6	167	14.9
7	64	5.7
8	19	1.7
9	5	0.4
10	6	0.5
13	1	0.1
14	1	0.1
Miss	49	4.4
Total	1119	100

Table 3. Relative frequency distribution of the educational level of the mothers of high school students of Tehran in 2002.

Educational level	Number	Percentage
Less than high school certificate	321	28.7
High school certificate	515	46
Higher than high school certificate	275	24.6
Miss	8	0.7
Total	1119	100

Table 4. Relative frequency distribution of educational level of the fathers of high school students of Tehran in 2002.

Educational level	Number	Percentage
Less than high school certificate	255	22.8
High school certificate	374	33.4
Higher than high school certificate	473	42.3
Miss	17	1.5
Total	1119	100

It was seen that 49 students (4.3%) had smoked at least one cigarette per day in the last 30 days before the questioning.

By using the chi-square test significant difference between the daily cigarette smoking in students and their gender was observed ( $p = 0.00$ ), while there was

no significant difference regarding occasional cigarette smoking between male and female students ( $p=0.07$ ).

Table 5 demonstrates the rate of smoking in high school students of Tehran according to sex and type of use.

**Table 5.** Rate of smoking according to sex and type of use

	Daily smoker	Occasional smoker	Non smoker	Total
Male	43 (6.06%)	219 (30.8%)	456 (64.1%)	718 (64.2%)
Female	6 (1.5%)	97 (25.2%)	298 (74.3%)	401 (35.8%)
Total	49 (4.3%)	316 (28.2%)	754 (67.3%)	119 (100%)

The most frequent age at which smoking started was 15 years (24.6%) and it should be noted that 88.9% of the students had started smoking before the age of 17.

The most important reason for smoking among students was curiosity in 55.3% (178 persons) and leisurely smoking was observed in 19.3% (56 persons).

Other reasons such as offering by others, sadness, craving for nicotine and etc... are very rare.

261 (23.3%) of the fathers and 25 (2.2%) of the mothers smoked. Based on the presence of a smoker among the family members, cigarette smoking in students was analyzed using chi-square test. Results are demonstrated in the table 6.

**Table 6.** Relative frequency of occasional cigarette smoking in high school students according to family members smoking-2003.

	Smoker (%)	Non smoker (%)	Total(%)
None (of them)	165 (23.61)	534 (76.39)	699 (100.00)
Father	83 (31.80)	178 (68.20)	261 (100.00)
Mother	10 (45.45)	12 (54.55)	22 (100.00)
Sibling (brother or sister)	19 (50.00)	19 (50.00)	38 (100.00)
More than 1 member	39 (53.42)	34 (46.58)	73 (100.00)
Total	316 (28.91)	777 (71.09)	1093 (100.00)

\*  $P= 0.000$

## DISCUSSION

The prevalence of cigarette smoking in GYTS study (in 1999) that was conducted among the youth of 13 countries was between 10 and 33 percent. This rate was higher in western countries (11). Our study rate of 28% was slightly higher in comparison with that of similar countries.

In this study, the prevalence of cigarette smoking in women is obviously less than men. This result is similar to the researches performed in Mediterranean countries. As an example, the rate of smoking in women and men of Egypt is 5% (women) and 20% (men), while in Mediterranean countries these rates are 20% (women) and 60% (men)(12, 13). In a research conducted among the pre-college students of Tehran (in regard to the prevalence of cigarette smoking), 35% of boys and 26.9% of girls had experienced smoking. The mean ages of starting smoking in boys and girls were 14.36 and 14.29 respectively (14).

In a study performed in Isfahan (from the year 1988 to 1989) among the pre-college male students, 22.5% of the students questioned were smokers and had smoked the first cigarette between the age of 10 and 13 (15). However, according to the National health and disease survey of Iran conducted from the year 1991 to 1999, the prevalence of cigarette smoking has decreased (9).

In the second health survey conducted by Ministry of Health in the year 1999, the figure quoted was 25% of men and 2.5% of women who were smokers. These figures are similar to ours.

Occasional cigarette smoking in 28.2% of high school students of Tehran must be taken seriously. In comparison with the figures of other countries, specific similarity is noted (12, 13). Also, 4.4% in the same age group are daily smokers. Although this rate is less than those of other countries, it should prompt us for starting special training courses to avoid increases. In future, 43.1% of students will smoke before the age of 15 and 67.7% before the age of 16. This figure will reach to 88.9% before the age of 17.

These rates are very important and it should prompt us to start training programs at earlier ages during junior high school and high school studies.

According to the results of this research occasional cigarette smoking occurs equally in both male and female students. However, male students smoke more cigarettes per day.

This means that addiction to cigarette smoking is more significant in boys in this period of life. Presence of a smoker among the family members is an important factor in provoking cigarette smoking in students; as 58.8% of students whose mother or father smokes are smokers. However only 22.8% of students who do not have a smoker in their families have experienced smoking which shows significant statistical difference.

Comparing the results of this study with that of others (3,4), shows that curiosity and imitation are the important factors in initiation of cigarette smoking in young adults. Hence, to prevent initiation of cigarette smoking in this age group we have to perform serious training programs in regard to smoking, its related harmful effects and addiction. Also quitting programs must be initiated in the family and society.

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